

# 6. Arms production

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## I. Introduction

Global arms production continued its increasing trend in 2007, in line with the continuing rise in military expenditure.<sup>1</sup> Arms sales by the 100 largest arms-producing companies outside China (the SIPRI Top 100) totalled \$347 billion in 2007, an increase of 11 per cent in nominal terms and 5 per cent in real terms compared with the Top 100 for 2006. US companies account for a clear majority of the arms sales of the Top 100 companies, with West European companies accounting for most of the remainder.

Merger and acquisition activity in the Euro-Atlantic arms industry slowed somewhat in 2008, with four deals worth over \$1 billion ('mega-deals') compared to seven in 2007.<sup>2</sup> British companies continued to be disproportionately active, especially in transatlantic acquisitions, but for the first time a continental European company was able to make a major acquisition of a US company.

Section II of this chapter presents and analyses the main trends in the SIPRI Top 100 companies for 2007, including the high rate of growth of companies producing armoured vehicles, companies providing military services, British companies and some Russian companies. Section III discusses the impact of the global financial crisis on the arms industries in the United States, Western Europe and Russia. Company acquisitions during 2008 in the arms industries of members of the Organisation for Economic Co-operation and Development (OECD) are discussed in section IV. Section V presents the conclusions. Appendix 6A lists the SIPRI Top 100 arms-producing companies in 2007, and appendix 6B lists the major acquisitions in OECD arms industries in 2008.

## II. The SIPRI Top 100 arms-producing companies, 2007

The sales in 2007 of the world's largest arms-producing companies continued the steady rise of the past few years. The value of the combined

<sup>1</sup> Stålenheim, P., Perdomo, C. and Sköns, E., 'Military expenditure', *SIPRI Yearbook 2008: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2008). The delay in publishing the accounts of many of the companies discussed here means that 2007 is the earliest year for which arms sales figures are available. Discussion of merger and acquisition activity refers to developments during 2008.

<sup>2</sup> Perlo-Freeman, S., 'Major arms industry acquisitions, 2007', *SIPRI Yearbook 2008* (note 1).

**Table 6.1.** Trends in arms sales of companies in the SIPRI Top 100 arms-producing companies in the world excluding China, 2002–2007

	2002	2003	2004	2005	2006	2007	2002–2007
<i>Arms sales at current prices and exchange rates</i>							
Total (\$ b.)	196	235	274	289	312	347	
Change (%)		20	17	5	8	11	77
<i>Arms sales at constant (2007) prices and exchange rates</i>							
Total (\$ b.)	252	283	309	317	331	347	
Change (%)		12	9	2	5	5	37

*Note:* The figures in this table refer to the companies in the SIPRI Top 100 in each year—they thus refer to a different set of companies each year, as ranked from a consistent set of data. For example, this means that the above figures shown for 2006 differ from those in table 6.2.

*Source:* Appendix 6A; and the SIPRI Arms Industry Database.

arms sales of the 100 largest arms-producing companies in the world apart from China was \$347 billion in 2007 compared to \$312 billion for the Top 100 for 2006. This represents an increase of 11 per cent in nominal terms and 5 per cent in real terms, a similar growth rate to 2006.<sup>3</sup> The total arms sales of the Top 100 has increased each year since 2002, by a total of 37 per cent in real terms (see table 6.1). Table 6.2 presents the arms sales in 2006 and 2007 of the companies in the SIPRI Top 100 for 2007. These companies increased their combined arms sales by 12 per cent in nominal terms and 6 per cent in real terms in 2007.<sup>4</sup>

The SIPRI Top 100 is dominated by companies based in the USA: 44 US companies account for 61 per cent of the Top 100's arms sales in 2007. West European companies increased their share slightly, to 31 per cent, largely due to exchange rate changes. Of the remaining countries covered, Russia, Japan, Israel and India had the highest company arms sales. Eight companies entered the Top 100 in 2007, seven of them for the first time.<sup>5</sup>

<sup>3</sup> Perlo-Freeman, S. and Sköns, E., 'Arms production', *SIPRI Yearbook 2008* (note 1), p. 258. SIPRI data on arms-producing companies is continuously revised, which means that it is not strictly comparable between editions of the SIPRI Yearbook. Some figures for individual companies are revised when improved data is obtained. Also, the coverage may differ due to problems of obtaining data or making satisfactory estimates for all companies every year. Thus, the data used here on the SIPRI Top 100 for 2006 may differ from that published in *SIPRI Yearbook 2008*. However, the data set used for each edition of the Yearbook is consistent as far as possible across countries and over time.

<sup>4</sup> The 6% real-terms growth rate compares the sales of the Top 100 companies for 2007 with the same companies' arms sales in 2006. The 5% figure compares the Top 100 for 2007 with the different group of companies that formed the Top 100 for 2006. The first figure will almost always be higher, as new entrants to the Top 100 must have grown faster than those companies that left. If the companies in the Top 100 had not changed, the 2 figures would be identical.

<sup>5</sup> The 8 companies which appear in the Top 100 for 2007 but did not appear in the Top 100 for 2006 as published in *SIPRI Yearbook 2008* are: Alion Science and Technology, Force Protection, Hyundai Heavy Industries, LIG Nex1, Navistar, Vertolety Rossii, Vought and VSE Corporation.

The companies in the SIPRI Top 100 account for the great majority of the financial value of military goods and services—in particular, high-technology systems and services—supplied by the global arms industry.<sup>6</sup> A lack of comparable financial data means that the SIPRI Top 100 does not cover all arms-producing countries. In most cases, the volume of arms production in omitted countries is believed to be small. The most significant omission is China: Chinese companies would almost certainly appear in the Top 100 were satisfactory data available.<sup>7</sup> Nevertheless, an analysis of the companies in the SIPRI Top 100 is sufficient to capture the major trends in the modern global arms industry outside China.

### **Companies that increased their arms sales the most in 2007**

In 2007, 11 companies increased their arms sales by more than \$1 billion, while 21 increased their sales by more than 30 per cent (including three that also increased sales by more than \$1 billion; see table 6.3). A variety of factors lies behind these growth rates. In some cases, especially for British companies, mergers and acquisitions have accounted for most of the revenue increases. The dollar value of the revenues of European companies increased due to the falling value of the US dollar in 2007—this largely accounts for the increase in the dollar value of the sales of Thales and Finmeccanica. However, in many cases the growth rates given in table 6.3 reflect actual sales increases.

In a continuation of previous trends, sales increases were high for armoured vehicle manufacturers and military service providers.<sup>8</sup> While some companies specializing in high-tech electronics and communications also had significant sales increases, this trend was less apparent in 2007

Alion Science and Technology is a newly identified arms-producing company. See appendix 6A and note 19 below.

<sup>6</sup> A rough estimate suggests that the arms sales of the SIPRI Top 100 companies in 1995 accounted for about three-quarters of global arms production. This share is now likely to be higher because of the continuing consolidation process in the industry since 1995. Sköns, E. and Dunne, J. P., 'Economics of arms production', ed. L. Kurtz, *Encyclopedia of Violence, Peace, and Conflict*, 2nd edn (Elsevier: Oxford, 2008).

<sup>7</sup> Among Chinese companies that would almost certainly be in the Top 100 are AVIC I (China Aviation Industry Corp. I, now part of AVIC), maker of the J-10 combat aircraft, and NORINCO (China North Industries Corp.), a maker of land systems, missiles and small arms. Although it is impossible to make even rough estimates of their arms sales, these would probably rank in the top 50 of the SIPRI Top 100, but not the top 10. More discussion of the Chinese arms industry may be found in previous editions of the SIPRI Yearbook. See also Surry, E., 'An estimate of the value of Chinese arms production', Paper presented at the 11th Annual Conference on Economics and Security, University of the West of England, 5–7 July 2007, <<http://www.sipri.org/contents/milap/milex/publications/unpublished.html>>; Chinese State Council, *China's National Defence in 2004* (Information Office of the State Council of the People's Republic of China: Beijing, Dec. 2004); and Medeiros, E., 'Analyzing China's defense industries and the implications for Chinese military modernization', Testimony presented to the US–China Economic and Security Review Commission, 6 Feb. 2004, RAND Corporation, Santa Monica, CA., <<http://rand.org/pubs/testimonies/CT217/>>.

<sup>8</sup> See Perlo-Freeman and Sköns (note 3), pp. 258–60.

**Table 6.2.** Regional and national shares of arms sales for the SIPRI Top 100 arms-producing companies in the world excluding China,<sup>a</sup> 2007 compared to 2006

Arms sales figures are in US\$ b., at current prices and exchange rates. Figures do not always add up to totals because of the conventions of rounding.

Number of companies	Region/ country <sup>b</sup>	Arms sales (\$ b.)		Change in arms sales, 2006–07 (%)		Share of total Top 100 arms sales, 2007 (%)
		2007	2006 <sup>c</sup>	Nominal <sup>d</sup>	Real <sup>e</sup>	
<b>45</b>	<b>North America</b>	<b>213.0</b>	<b>196.8</b>	<b>8</b>	<b>5</b>	<b>61.4</b>
44	United States	212.4	196.3	8	5	61.2
1	Canada	0.6	0.5	14	6	0.2
<b>32</b>	<b>Western Europe</b>	<b>107.6</b>	<b>89.7</b>	<b>20</b>	<b>7</b>	<b>31.0</b>
10	United Kingdom	45.3	35.9	26	11	13.1
6	France	23.4	19.5	20	8	6.7
1	Trans-European <sup>f</sup>	13.1	12.6	4	-6	3.8
4	Italy	11.6	10.2	15	3	3.4
5	Germany	7.4	6.0	24	11	2.1
1	Sweden	2.8	2.3	23	10	0.8
2	Spain	2.3	1.9	21	8	0.7
1	Switzerland	0.6	0.5	7	2	0.2
1	Finland	0.6	0.5	33	19	0.2
1	Norway	0.5	0.5	20	9	0.2
<b>7</b>	<b>Eastern Europe</b>	<b>8.2</b>	<b>5.6</b>	<b>48</b>	<b>28</b>	<b>2.4</b>
7	Russia	8.2	5.6	48	28	2.4
<b>9</b>	<b>Other OECD</b>	<b>8.2</b>	<b>8.1</b>	<b>2</b>	<b>0</b>	<b>2.4</b>
4	Japan <sup>g</sup>	4.8	5.2	-8	-7	1.4
4	South Korea	2.9	2.3	24	18	0.8
1	Australia	0.5	0.5	6	-7	0.2
<b>7</b>	<b>Other non-OECD</b>	<b>9.9</b>	<b>8.3</b>	<b>19</b>	<b>6</b>	<b>2.8</b>
3	Israel	5.0	4.1	22	12	1.4
3	India <sup>h</sup>	3.7	3.3	12	-4	1.1
1	Singapore	1.1	0.9	25	16	0.3
<b>100</b>	<b>Total</b>	<b>346.9</b>	<b>308.4</b>	<b>12</b>	<b>6</b>	<b>100.0</b>

OECD = Organisation for Economic Co-operation and Development.

<sup>a</sup> Although it is known that several Chinese arms-producing enterprises are large enough to rank among the SIPRI Top 100, a lack of comparable and sufficiently accurate data makes it impossible to include them. There are also companies in other countries, such as Kazakhstan and Ukraine, that could be large enough to appear in the SIPRI Top 100 list were data available, but this is less certain.

<sup>b</sup> Figures for a country or region refer to the arms sales of Top 100 companies headquartered in that country or region, including those in its foreign subsidiaries. They do not reflect the sales of arms actually produced in that country or region.

<sup>c</sup> Arms sales figures for 2006 refer to companies in the SIPRI Top 100 for 2007 and not to companies in the Top 100 for 2006.

<sup>d</sup> This column gives the change in arms sales 2006–2007 in current US dollars.

<sup>e</sup> This column gives the change in arms sales 2006–2007 in constant (2007) US dollars.

<sup>f</sup> The company classified as trans-European is EADS. See appendix 6A.

<sup>g</sup> Figures for Japanese companies are based on contracts with the Japanese Ministry of Defence.

<sup>h</sup> Figures for India include a rough estimate for Ordnance Factories.

Source: Appendix 6A.

than in recent years. Some Russian aerospace companies also saw large arms sales increases.

### *Armoured vehicles*

For the third consecutive year, companies producing armoured vehicles—which are in demand for US and other foreign armed forces in Afghanistan and Iraq—saw high growth rates in their revenues. The growth is particularly strong among companies that supply mine-resistant ambush-protected (MRAP) vehicles, which are designed to counter the improvised explosive devices (IEDs) that have caused heavy casualties amongst these forces.<sup>9</sup> MRAPs are credited with greatly reducing the number of US military deaths caused by IEDs since their large-scale introduction began in 2007.<sup>10</sup> The acquisition of MRAP vehicles has been a major area of spending by the US Department of Defense (DOD) over the past few years: in 2007, the DOD requested an addition of \$5.34 billion to its 2008 budget for MRAP vehicles.<sup>11</sup> By the end of 2007 orders had been placed for 11 900 MRAP vehicles, with over 15 000 planned in total.<sup>12</sup>

Three companies have been the major recipients of MRAP contracts from the US DOD: BAE Systems (United Kingdom), Force Protection (USA) and Navistar (USA). BAE Systems' acquisition in 2007 of Armor Holdings made it a major supplier of MRAP vehicles to the US DOD. By the end of 2007 BAE had received orders for 3485 vehicles, worth a total of \$2.2 billion.<sup>13</sup> Force Protection and Navistar both entered the arms industry in response to the new demand for MRAP vehicles, and appear in the

<sup>9</sup> According to the US Department of Defense, by Feb. 2009, explosive devices had caused 63% of US deaths and 68% of injuries due to hostile action in Iraq. US Department of Defense, Statistical Information Analysis Division, 'Global war on terrorism by reason October 7, 2001 through February 28, 2009', <<http://siadapp.dmdc.osd.mil/personnel/CASUALTY/castop.htm>>.

<sup>10</sup> Brook, T. V. 'Roadside bombs decline in Iraq', *USA Today*, 22 June 2008. See also US Department of Defense, Statistical Information Analysis Division, 'Global war on terrorism Operation Iraqi Freedom by month March 19, 2003 through February 28, 2009', <<http://siadapp.dmdc.osd.mil/personnel/CASUALTY/castop.htm>>; and US Department of Defense 'DoD news briefing with Gen. Conway from the Pentagon', News transcript, 17 May 2007, <<http://www.defenselink.mil/transcripts/transcript.aspx?transcriptid=3965>>.

<sup>11</sup> US Department of Defense, 'FY 2008 budget amendment for global war on terror (GWOT) request budget justification: mine resistant ambush protected (MRAP) vehicles', 31 July 2007, <<http://www.defenselink.mil/comptroller/defbudget/fy2008/fy08GWOT.html>>. See also Stålenheim, Perdomo and Sköns (note 1), pp. 179–85.

<sup>12</sup> Miles, D., American Forces Press Service, 'MRAP deliveries to top year-end goal', Department of Defense, 19 Dec. 2007, <<http://www.defenselink.mil/news/newsarticle.aspx?id=48471>>.

<sup>13</sup> BAE Systems, *Annual Report 2007: Delivering Global Growth* (BAE Systems: London, n.d.), pp. 15, 30.

**Table 6.3.** Companies in the SIPRI Top 100 with the largest increase in arms sales in 2007

Figures are in US\$ m., at current prices and exchange rates.

Rank 2007	Company	Country	Sector	Arms sales (\$ m.)		Change, 2006–2007	
				2007	2006	\$ m.	%
<i>Companies with the largest absolute increase in arms sales (by more than \$1 b.)</i>							
2	BAE Systems	UK	A Ac El MV Mi SA/A Sh	29 850	24 060	5 790	24
5	General Dynamics	USA	A El MV Sh	21 520	18 770	2 750	15
6	Raytheon	USA	El Mi	19 540	17 610	1 930	11
14	SAFRAN	France	El Eng	5 230	3 780	1 450	38
3	Lockheed Martin	USA	Ac El Mi Sp	29 400	28 120	1 280	5
8	L-3 Communications	USA	El Ser	11 240	9 980	1 260	13
35	Babcock International <sup>a</sup>	UK	Ser	1 920	760	1 160	153
9	Finmeccanica	Italy	A Ac El MV Mi SA/A	9 850	8 640	1 210	14
41	Sukhoi	Russia	Ac	1 710	600	1 110	185
11	United Technologies	USA	Ac Eng	8 760	7 650	1 110	15
10	Thales	France	El Mi SA/A	9 350	8 240	1 110	13
<i>Companies with the largest relative increase in arms sales (by more than 30%)</i>							
77	Navistar	USA	MV	620	30	590	1967
61	Force Protection	USA	MV	890	200	690	385
41	Sukhoi	Russia	Ac	1 710	600	1 110	185
35	Babcock International <sup>a</sup>	UK	Sh Oth	1 920	760	1 160	153
55	TRV Corp.	Russia	Mi	1 050	650	400	62
54	EDO Corp. <sup>b</sup>	USA	El	1 060	660	400	61
96	VSE Corp.	USA	Ser	540	340	200	59
25	AM General	USA	MV	2 670	1 700	970	57
68	LIG Nex1	S. Korea	El	690	450	240	53
30	Dassault Aviation	France	Ac	2 380	1 570	810	52
31	URS Corp.	USA	Ser	2 290	1 530	760	50
72	Alion Science and Technology	USA	Ser	660	450	210	47
23	Almaz-Antei	Russia	Mi	2 780	1 950	830	43
42	Krauss-Maffei Wegmann	Germany	MV	1 690	1 190	500	42
70	Meggitt	UK	Oth	670	480	190	40
14	SAFRAN	France	El Eng	5 230	3 780	1 450	38
36	Elbit Systems	Israel	El	1 910	1 400	510	36
33	QinetiQ	UK	Ser	2 160	1 610	550	34
37	VT Group	UK	Sh Ser	1 870	1 400	470	34
74	Patria	Finland	Ac MV SA/A	640	480	160	33
29	Rheinmetall	Germany	A El MV SA/A	2 400	1 810	590	33

A = artillery; Ac = aircraft; El = electronics; Eng = engines; Mi = missiles; MV = military vehicles; SA/A = small arms/ammunition; Sh = ships; Sp = space; Ser = services; Oth = other.

<sup>a</sup> Babcock's arms sales figure are an estimate based on pro forma results calculated as if Devonport Management Ltd (DML), which Babcock acquired on 1 Aug. 2007, had been part of Babcock from the beginning of 2007.

<sup>b</sup> EDO was acquired by ITT on 20 Dec. 2007. It has not been included in ITT's accounts. As the acquisition took place so close to the end of the year, EDO is treated as an independent company during 2007.

Source: Appendix 6A.

SIPRI Top 100 for the first time. By July 2008 Force Protection had received orders for 2884 of its Cougar family of MRAP vehicles, worth a total of \$1.8 billion. By the end of 2007 Navistar had received orders for 4500 of its MaxxPro family of MRAP vehicles, valued at \$2.5 billion; subsequent orders took the total to \$3.5 billion.<sup>14</sup>

By collaborating with BAE Systems and Force Protection, General Dynamics (USA) also benefits from the USA's MRAP programme.<sup>15</sup> For example, Force Protection's Cougar MRAP vehicles are made in a 50–50 work-share partnership with General Dynamics.<sup>16</sup>

Other producers of military vehicles with high arms sales growth include AM General (USA), producer of the High Mobility Multipurpose Wheeled Vehicle (HMMWV or 'Humvee'); Krauss-Maffei Wegmann (Germany), producer of the Dingo All Protected Vehicle (similar to an MRAP) used by the German Army; Rheinmetall (Germany); and Patria (Finland). This reflects a general high level of demand for land warfare systems in Afghanistan and Iraq, as well as a specific demand for IED-resistant vehicles.

The current high level of demand for armoured—in particular MRAP—vehicles is tied to the ongoing involvement of Western armed forces in major counter-insurgency operations in Afghanistan and Iraq. Companies whose revenues are highly dependent on these products are thus likely to be vulnerable to these conflicts ending or reducing in intensity. It should also be noted that, while the USA's MRAP programme has produced some remarkable one-year arms sales growth for Force Protection and Navistar, the sums involved are small compared to other programmes such as those for major combat aircraft and warships.

### *Other growth areas*

There is a long-term trend for military establishments to outsource many of their former roles to military services companies, which have grown

<sup>14</sup> Navistar, *Form 10-K Annual Report under Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Fiscal Year ended October 31, 2007* (US Securities and Exchange Commission: Washington, DC, 29 May 2008), p. 4; and 'More MRAPs: Navistar's MaxxPro retains the pole position', *Defense Industry Daily*, 14 Dec. 2008.

<sup>15</sup> 'General Dynamics wins MRAP orders of its own', *Defense Industry Daily*, 4 Dec. 2008.

<sup>16</sup> Force Protection, *Form 10-K Annual Report under Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Fiscal Year ended December 31, 2007* (US Securities and Exchange Commission: Washington, DC, 15 Sep. 2008), pp. 4–6, 11.

rapidly as a result.<sup>17</sup> These trends continued in 2007, and a number of service-focused companies appear in table 6.3. Outsourced military services include research and development, analysis and consultancy, maintenance, repair and overhaul (MRO), operation of specialized military equipment, information technology (IT) services, facilities management, logistics, training, intelligence services and armed security.<sup>18</sup> The Top 100 for 2007 includes 21 primarily service-focused companies, compared to 19 for 2006.<sup>19</sup> Major military services companies include KBR (USA), which provides logistics services to the US Army worldwide, especially in Iraq; SAIC (USA) and CACI International (USA), which provide a range of research, analysis, intelligence and systems support services to the US DOD; EDS (USA), which provides IT services to the US and other militaries; and QinetiQ (UK), a military research and consultancy company.

Some companies that provide high-tech electronics and communications systems—especially those related to ‘network-centric warfare’—saw strong growth in 2007, including L-3 Communications, EDO Corporation and Raytheon (all USA), SAFRAN (France), Elbit Systems (Israel) and LIG Nex1 (South Korea). Aside from these major growth sectors, Dassault Group (France) saw a large increase in arms export sales.<sup>20</sup>

### *British companies*

The high level of (mostly transatlantic) merger and acquisition activity by British arms-producing companies in 2007 is reflected in their revenue figures.<sup>21</sup> Of the British companies listed in table 6.3, BAE Systems, QinetiQ, Babcock International Group and Meggitt were all active in the acquisitions market, although there was also organic growth in their arms sales. While BAE, QinetiQ and Meggitt all made major US acquisitions, the big increase in Babcock’s arms sales revenues was due to its acquisition (from a US company) of Devonport Management Ltd (DML), which runs the largest British naval base.<sup>22</sup> Thus, to some degree, the increase in arms sales represents an increase in British ownership of arms-producing enterprises

<sup>17</sup> On this trend see Perlo-Freeman, S. and Sköns, E., ‘The private military services industry’, SIPRI Insights on Peace and Security no. 2008/1, Sep. 2008, <[http://books.sipri.org/product\\_info?c\\_product\\_id=361](http://books.sipri.org/product_info?c_product_id=361)>.

<sup>18</sup> ‘Services’ are now listed for the first time as a separate sector of the arms industry in the SIPRI Top 100. See appendix 6A and table 6.3.

<sup>19</sup> The figure of 19 for 2006 includes 1 company, Alion Science and Technology, which was not listed in *SIPRI Yearbook 2008* as it has only subsequently been included in the SIPRI Arms Industry Database.

<sup>20</sup> Dassault Aviation, *Rapport Annuel 2007* [Annual report 2007] (Dassault Aviation: Paris, Apr. 2008), p. 7.

<sup>21</sup> See Perlo-Freeman and Sköns (note 3), pp. 268–70; and section IV below.

<sup>22</sup> Although Babcock acquired DML on 1 Aug. 2007, Babcock’s arms sales revenues are estimated on a pro forma basis as if it had owned DML throughout 2007.



in the USA and the UK rather than growth in the arms industry based in the UK.

### *Russian companies*

The revenue of several Russian companies operating in the aerospace sectors—aircraft, missiles, engines and subsystems—grew strongly in 2007. Sukhoi, a manufacturer of military aircraft, more than doubled its arms sales following deliveries to Venezuela, India and Malaysia in 2007 and major new orders from India.<sup>23</sup> Almaz-Antei, which produces the S-300 and S-400 series of air defence systems, remained the largest Russian arms producer in 2007, and continued the rapid rate of growth seen in 2006. This is the result of both increased sales to the Russian armed forces and the continuing popularity of its systems with export customers worldwide.<sup>24</sup> The strong growth in the arms sales of TRV Corporation also appears to be a combination of export and domestic success, as Russia commences its 5 trillion roubles (\$189 billion) programme to re-equip much of its armed forces by 2015.<sup>25</sup>

Both Almaz-Antei and, especially, TRV have had several consecutive years of increasing arms sales. Almaz-Antei's arms sales have increased by 132 per cent since 2004, rising from \$1194 million in 2004 to \$2779 million in 2007, while TRV's have almost quintupled, from \$217 million in 2004 to \$1055 million in 2007.<sup>26</sup> Other sectors of the Russian arms industry did not share in this growth; indeed, the aerospace sectors now account for all the Russian companies in the SIPRI Top 100.

### **Companies whose arms sales fell the most in 2007**

Twelve companies that were in the SIPRI Top 100 for 2006 saw their arms sales fall, nine of them by over 10 per cent (see table 6.4.). Reasons for falling company arms sales are not always readily available, but in a few cases some explanations can be given. MiG (Russia) has been facing severe financial difficulties since 2007 caused in particular by the collapse of a major deal with Algeria, which even returned 15 MiG aircraft, claiming they were

<sup>23</sup> SIPRI Arms Transfers Database, <<http://armstrade.sipri.org/>>.

<sup>24</sup> 'Almaz-Antey producing at full capacity', *Kommersant*, 25 Aug. 2007.

<sup>25</sup> Gavrillov, Yu., [The army has made the order: Sergei Ivanov has selected priority weapon for the next three years], *Rossiiskaya gazeta*, 12 Sep. 2007; and Saradzhyan, S., 'Russia prepares for "wars of the future"', *ISN Security Watch*, 12 Feb. 2007, <<http://www.isn.ethz.ch/news/sw/details.cfm?ID=17240>>. TRV Corporation (Korporatsiya Takticheskoe Raketnoe Vooruzhenie) is also known in English as the Tactical Missiles Corporation.

<sup>26</sup> Only a small part of this rise can be attributed to the appreciation of the rouble against the dollar.

**Table 6.4.** Companies in the SIPRI Top 100 for 2006 with the largest fall in arms sales in 2007

Rank		Company	Country	Arms sales (\$ m.) Decrease,		
2007	2006			2007	2006	2006–2007 (%)
–	76	MiG <sup>a</sup>	Russia	. <sup>b</sup>	570	>95
–	91	Severnaya Verf <sup>a</sup>	Russia	. <sup>b</sup>	510	>94
–	40	Smiths Group <sup>a</sup>	UK	350	1 480	77
85	51	Kawasaki Heavy Industries	Japan	580	1 120	48
16	12 <sup>c</sup>	KBR	USA	5 000	6 630	25
64	53	Mitsubishi Electric	Japan	820	1 010	19
79	65	NEC	Japan	610	710	14
–	97	Doosan Group <sup>a</sup>	S. Korea	410	480	14
65	55	Nexter	France	800	900	11

<sup>a</sup> These companies are not in the SIPRI Top 100 for 2007.

<sup>b</sup> These companies are not listed as one of the 20 largest Russian arms-producing companies in 2007 by the Centre for the Analysis of Strategic Technologies (CAST), the source of SIPRI's data on most Russian companies. The 20th company in the list had arms sales of \$30 million in 2007.

<sup>c</sup> The ranking of KBR is that of its former parent company Halliburton. Halliburton's arms sales consisted entirely of those of KBR.

Source: SIPRI Arms Industry Database.

substandard.<sup>27</sup> Smiths Group (UK) sold their main military division, Smiths Aerospace, to General Electric (USA) in 2007. KBR's revenues from their services to the US military in Iraq—the main source of their arms sales—declined significantly in 2007.<sup>28</sup>

### Continuity and change in the arms industry

The same five companies have appeared at the top of the SIPRI Top 100 since 2002, only the order has changed. The only change in the top 10 companies since 2002 has been the replacement of United Technologies by L-3 Communications. This is a symptom of the high degree of continuity that has prevailed in the structure of the Euro-Atlantic arms industry in recent years.

An earlier period of top-level consolidation in the global arms industry largely ended in 2002 with the acquisition of TRW (USA) by Northrop Grumman (USA).<sup>29</sup> Since then, the concentration process has essentially

<sup>27</sup> Komarov, A., 'Outflanked', *Aviation Week & Space Technology*, 1 Dec. 2008; and 'Algeria to return 15 MiG aircraft to Russia over inferior quality', *Ria Novosti*, 18 Feb. 2008, <<http://en.rian.ru/russia/20080218/99490063.html>>.

<sup>28</sup> KBR, *Positioning for Growth: 2007 Annual Report* (KBR: Houston, TX, Feb. 2008), p. 43.

<sup>29</sup> See also Dunne, J. P. and Surry, E., 'Arms production', *SIPRI Yearbook 2006: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2006), pp. 399–405.

**Table 6.5.** Concentration in the SIPRI Top 100, 2002–2007

Figures are percentages of the total arms sales of the SIPRI Top 100 accounted for by the top 5, 10 or 20 companies in the Top 100.

Year	2002	2003	2004	2005	2006	2007
Top 5 share	44.1	42.5	40.9	41.1	40.1	39.2
Top 10 share	60.3	59.9	58.5	59.1	58.4	57.3
Top 20 share	72.9	73.1	73.0	74.0	73.6	73.2

Source: SIPRI Arms Industry Database.

halted. In fact, as measured by the share of the arms sales of the Top 100 that is accounted for by the top 5 firms, the process has gone slightly into reverse (see table 6.5). While part of the fall shown in table 6.5 is accounted for by the decline of the US dollar and the rise of the euro (with four US and one British firm in the top 5), even in constant 2007 US dollars the share has declined from 42.7 per cent to 39.2 per cent. By both measures, the top 5 share has declined in every year since 2002 but one. (As table 6.5 shows, the share of the top 10 has also declined, but the share of the top 20 is largely unchanged.)

This decline—or at least levelling-off—in the concentration process is largely explained by considering the companies involved in the arms industry sectors that have grown the most in recent years: military service and high-tech electronics and communications. While some of the companies at the top of the Top 100, especially Northrop Grumman, are involved in military services, the gradual rise of this sector has led to the rapid growth in the arms sales of a number of companies other than the traditional equipment producers. The growing importance of high-tech electronics and communications linked to network-centric warfare has provided opportunities for companies with niche capacities to enjoy very high rates of growth. The revival of certain sectors of the Russian arms industry has also led to modest increases in these companies' share of the total arms sales of the Top 100. Thus, while some major mergers and acquisitions have continued to take place at lower tiers of the arms industry and in the service sector—and 2007 was a year of high merger and acquisition activity<sup>30</sup>—this has been more than matched by the rapid growth of certain companies at lower levels.

That this period of relative continuity at the top of the traditional arms industry should largely coincide with a period of rapid growth in US military spending and rising or stable military spending elsewhere is unsurprising.<sup>31</sup> A period of growing demand enables all players in an industry to

<sup>30</sup> Perlo-Freeman (note 2).

<sup>31</sup> On US military expenditure see chapter 5, section III, in this volume.

enjoy comfortable levels of revenue growth without the need to engage in aggressive competitive behaviour or in the sort of fundamental industry consolidation that occurred in the US and West European arms industries following the deep budget cuts of the post-cold war era.

### III. The arms industry and the global financial crisis

The global financial crisis, which triggered a worldwide economic downturn in 2008 and led to widespread losses across many areas of industry, has also had an impact on the arms industry.<sup>32</sup> However, the arms industry has been affected in different ways to other industries and in different forms in different countries.

Because the arms industry is ultimately dependent on government spending for its revenues, rather than that of consumers or private businesses, its response to general economic conditions differs from those of other industries. In addition, the long lead times associated with major weapon acquisitions tend to increase the stability and predictability of arms industry revenues. Of course, many arms-producing companies also have significant volumes of civil business—especially, in many cases, in the civil aerospace sector—and these companies are therefore vulnerable to downturns in those markets.

The impact of the financial crisis cannot be seen in the figures given in appendix 6A, which are based on revenue data for 2007. However, the revenues and profits of most major arms-producing companies did not fall in 2008; they remain buoyed by the high level of US military spending and stable or rising European military budgets (see table 6.6).<sup>33</sup> Furthermore, most arms-producing companies have large backlogs of orders, which indicates that revenues will continue to be high in the next year or two.

While both companies and many analysts expect a slowing in the rate of growth of US military spending, few expect drastic cuts.<sup>34</sup> This continued

<sup>32</sup> The 'global financial crisis' refers to the severe economic deterioration experienced in most developed and many other economies from 2008 onwards, which resulted from a rapid reduction in the general availability of credit from banks and other financial institutions. While the roots of the crisis may be traced back much earlier, it became most visible in Sep. 2008 with the failure of a number of prominent financial institutions. This was followed by heavy falls in stock markets around the world and further bank failures. The root causes of and appropriate responses to the crisis are widely debated, and fall outside the scope of this chapter. For a presentation of some of the key events see 'Timeline: global credit crunch', BBC News, 16 Jan 2009, <<http://news.bbc.co.uk/2/7521250.stm>>.

<sup>33</sup> See chapter 5 in this volume.

<sup>34</sup> E.g. Boeing's financial report for the third quarter of 2008 states: 'Boeing expects total US defense spending growth to moderate'. Boeing, 'Boeing posts lower third-quarter results on reduced commercial deliveries', News release, 22 Oct. 2008, <[http://www.boeing.com/news/releases/2008/q4/081022a\\_nr.html](http://www.boeing.com/news/releases/2008/q4/081022a_nr.html)>, p. 6. Lockheed Martin's 2007 annual report states: 'Although the ultimate size of future defense budgets remains uncertain, current indications are that overall defense spending will continue to increase over the next few years, albeit at lower rates of growth.' Lockheed Martin, *2007 Annual Report 2007* (Lockheed Martin: Bethesda, MD, n.d.), p. 18.

growth in US military spending has led some analysts to conclude that the arms industry represents a 'safe haven' for investors during the current financial turbulence.<sup>35</sup> However, as shown in table 6.6, the share prices of major arms companies have fallen in line with falling share prices across the stock exchanges of most countries.<sup>36</sup> There are a number of other ways in which arms-producing companies might be affected by the crisis even though there are no signs as yet of diminishing revenues and orders from their governmental clients.

First, the loss of tax revenues caused by the global recession will put heavy strain on government budgets. Many governments have also initiated major fiscal stimulus programmes, which will further increase budget deficits. Military spending—and in particular major weapon procurement, which does not create jobs quickly—is not typically a focus of such stimulus programmes. For example, in the USA the \$800 billion package put forward by President Barack Obama did not include proposals for additional arms procurement.<sup>37</sup> Thus, military spending may come under pressure as budget deficits rise. However, falling military spending will take some time to feed through into arms industry revenues due to the long lead times associated with major weapon projects.

Second, the crisis has made it increasingly difficult for companies to obtain credit. While most major arms-producing companies (especially in the UK and the USA) have relatively strong cash positions and low levels of debt, this may not be true further down the supply chain and appears to be a particular problem in continental Europe.<sup>38</sup> EADS and Thales, for example, have expressed concerns that many of their suppliers are struggling in this respect.<sup>39</sup>

<sup>35</sup> Boessenkool, A., 'Experts: Wall St. turmoil won't hurt defense firms', *Defense News*, 19 Sep. 2008.

<sup>36</sup> Standard & Poor's S&P 500 index of leading US shares fell by 38.5% in the year to 31 Dec. 2008, while the S&P Europe 350 index fell by 44.5%. Standard & Poor's, 'S&P Equity indices', <[http://www2.standardandpoors.com/portal/site/sp/en/us/page.family/indices\\_ei/2,3,2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0](http://www2.standardandpoors.com/portal/site/sp/en/us/page.family/indices_ei/2,3,2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)>.

<sup>37</sup> US Office of the President Elect, 'Remarks of President-elect Barack Obama', Transcript of radio address, 6 Dec. 2008, <[http://change.gov/newsroom/entry/the\\_key\\_parts\\_of\\_the\\_jobs\\_plan/](http://change.gov/newsroom/entry/the_key_parts_of_the_jobs_plan/)>; Donnelly, J. M., 'Defense firms seek insulation from cutbacks associated with stimulus', *CQ Politics*, 8 Jan 2009, <<http://www.cqpolitics.com/wmspage.cfm?docID=news-000003005341>>. The Secretary of the British Defence Industries Council, Ian Godden, expressed disappointment that the arms industry did not play a significant role in the UK's stimulus package, announced on 24 Nov. 2008. Anderson, G. and Wagstaff-Smith, K., 'Can defence industry re-ignite the economy?', *Jane's Defence Weekly*, 3 Dec. 2008. An exception is the French stimulus plan, which includes increased deliveries of some major weapon platforms, especially armoured vehicles. Ruello, A., 'Armement: les gagnants du plan de relance' [Armaments: the winners of the relaunch plan], *Les Échos*, 17 Dec. 2008; and Tran, P. 'Reflation package expected to aid Nexter, Panhard', *Defense News*, 17 Dec. 2008.

<sup>38</sup> Boessenkool (note 35); and Boessenkool, A. 'Tough economic year not too bad for defense firms', *Defense News*, 15 Dec. 2008.

<sup>39</sup> Barrie, D., Taverna, M. A. and Wall, R., 'Letters of credit', *Aviation Week & Space Technology*, 27 Oct. 2008.

**Table 6.6.** Interim performance of the 10 largest arms-producing companies during 2008

Figures are percentage changes.

Company	Change in share price, 31 Dec. 2008	Change in revenues, Sep. 2008 <sup>a</sup>	Change in profits, Sep. 2008 <sup>a</sup>	Change in backlog, Dec. 2007–Sep. 2008
Boeing	-51	-1	-10	+7
BAE Systems <sup>b</sup>	-24	+12	+16	+30
Lockheed Martin	-20	+2	+7	..
Northrop Grumman	-43	+7	-5	+10
Raytheon	-16	+12	-37	+1
General Dynamics	-35	+9	+24	+9
EADS	-44	+7	<sup>c</sup>	..
L-3 Communications	-30	+7	+24	+18
Finmeccanica	-50	+6	+35	+4
Thales <sup>d</sup>	-27	+1	-48	+23

<sup>a</sup> The figures for revenues and profits compare the first 9 months of 2008 with the first 9 months of 2007 except where noted below.

<sup>b</sup> The revenue and profit figures for BAE Systems are for the first 6 months of 2008 compared with the first 6 months of 2007. The backlog figure compares June 2008 with June 2007.

<sup>c</sup> EADS went from a loss of €700 million (\$958 million) in the first 9 months of 2007 to a profit of €1100 million (\$1672 million) in the first 9 months of 2008.

<sup>d</sup> The revenue and profits figures for Thales compare the first 6 months of 2008 with the first 6 months of 2007. Figures for Thales's backlog are unavailable. The figure given compares new orders in the first 9 months of 2008 with the first 9 months of 2007.

Source: Company quarterly reports and earnings releases.

Third, this difficulty in obtaining credit may make major mergers and acquisitions more difficult for companies that do not have sufficient cash reserves. The alternative funding measures such as asset disposal or equity sales are also likely to be more difficult in depressed market conditions. For example, the financial crisis has forced Finmeccanica to adjust the means of financing its \$5.2 billion takeover of DRS Technologies. It has abandoned plans for bond issues and the stock market flotation of a subsidiary in favour of increasing its debt more than originally planned and it has ruled out further acquisitions in the near future.<sup>40</sup> Reduced merger and acquisition activity would be likely in turn to have a dampening effect on share prices, as the potential for takeover tends to push them up.

The Russian arms industry is facing particular problems as a consequence of the financial crisis. Russian companies are facing a 'dire cash shortage' according to the Deputy Prime Minister, Sergei Ivanov, which has left some of them unable to fulfil contracts or pay wages. Ivanov called

<sup>40</sup> Nativi, A., 'Paying up', *Aviation Week & Space Technology*, 27 Oct. 2008.

for state-controlled banks to offer favourable credit terms to arms companies to tackle the problem.<sup>41</sup> In addition, the crisis complicates Russia's industry restructuring plans which aim to reverse years of decline through massive investment programmes in new capital equipment and technology as part of the State Armaments Programme up to 2015. It was expected that the industry itself would contribute 201 billion roubles (\$7.7 billion), 40 per cent of the total cost.<sup>42</sup> However, both major potential sources of capital for programme—loans and stock market flotations of state-owned arms producers—are likely to prove difficult or impossible in the current economic climate.<sup>43</sup>

In response to these problems, the government has offered financial aid worth 150 billion roubles (\$5.3 billion) to the arms industry; 100 billion roubles of this is in the form of loan guarantees, and 50 billion roubles is direct funding, including fixed asset investment and interest rate subsidies, focused on the companies most in danger of bankruptcy.<sup>44</sup> Despite the financial crisis and falling oil prices, Russian President Dmitry Medvedev has pledged that planned military development programmes will proceed, although he has admitted that some might advance 'a tad slower'.<sup>45</sup>

In summary, while the demand for the arms industry's products is likely to fall less than for other industries, arms-producing companies are affected by the difficulty in obtaining credit and the general caution on the part of investors that have been caused by the financial crisis. The share price of arms companies may also be affected by investors' concerns over future military budget trends. As a result, share prices within the sector have declined broadly in line with other sectors, despite revenues and orders remaining high for now.

#### IV. Arms industry mergers and acquisitions in 2008

There were fewer large merger and acquisition deals in the arms industry in 2008 than in 2007, with four acquisitions with a value of over \$1 billion ('mega-deals'; see table 6.7 and appendix 6B), compared with at least seven in 2007. Of the 16 deals with known values over \$100 million, eight were acquisitions of US companies by European companies (six by British and

<sup>41</sup> Lowe, C., 'Global crisis hits Russian arms makers: deputy PM', Reuters, 11 Nov. 2008, <<http://www.reuters.com/article/rbssBanks/idUSLB11929320081111>>; and Anderson, G. and Hayes, J., 'Finding funds for Russia's defence industry reform during financial crisis', *Jane's Defence Industry*, vol. 25, no. 11 (Nov. 2008). See also chapter 7, section II, in this volume.

<sup>42</sup> 'Russia's defense firms to provide 40% of industry reform funding', RIA Novosti, 14 Mar. 2007, <<http://en.rian.ru/russia/20070314/61990237.html>>

<sup>43</sup> Anderson and Hayes (note 41).

<sup>44</sup> 'Russian Government drafts \$5bln rescue plan for defense industry', RIA Novosti, 8 Dec. 2008, <<http://en.rian.ru/business/20081208/118743916.html>>; and McDermott, R., 'Russia feels pinch over arms plans', *Asia Times*, 16 Jan. 2009.

<sup>45</sup> Agence France-Presse, 'Russia to fully finance army despite crisis', *Defence News*, 27 Jan. 2009.

**Table 6.7.** The largest acquisitions in OECD arms industries, 2008

Figures are in US \$m., at current prices.

Buyer company (country)	Acquired company (country)	Seller company (country)	Deal value (\$ m.)
Hewlett-Packard (USA) <sup>a</sup>	EDS (USA)	Publicly traded	13 000
Finmeccanica (Italy)	DRS Technology (USA)	Publicly traded	5 200
Dassault Aviation (France)	20.8% of Thales (France)	Alcatel-Lucent (France)	2 200
Candover (UK)	Stork (Netherlands)	Publicly traded	2 160
BAE Systems (UK)	Tenix Defence (Australia)	Tenix Group (Australia)	679
BAE Systems (UK)	MTC Technologies (USA)	Publicly traded	450
Cobham (UK)	M/A-COM (USA)	Tyco Electronics (USA)	425
Serco (UK)	SI International (USA)	Publicly traded	423
Cobham (UK)	Sparta (USA)	Employee-owned	407

<sup>a</sup> Hewlett-Packard is not considered by SIPRI to have been part of the arms industry prior to its acquisition of EDS. EDS itself had only c. 11% of its business with military customers. This merger may therefore be regarded as being principally within the IT industry, rather than the arms industry as such.

Source: Appendix 6B.

two Italian); just three were deals within the USA; four were within Western Europe; and one was the takeover of an Australian company by a British company. Three companies in the SIPRI Top 100 for 2007 were taken over in 2008 and will disappear from the SIPRI Top 100 in future years: DRS Technologies, Tenix Defence and EDS.<sup>46</sup>

This section and appendix 6B focus on mergers and acquisition in states that are members of the OECD. However, significant restructuring has also continued in the state-owned Russian arms industry and in Israel, where military electronics firm Elbit Systems completed the acquisition of Tadiran Communications for \$350 million.<sup>47</sup>

By far the largest acquisition in the OECD was that of EDS by Hewlett-Packard (HP) in August 2008 for \$13.9 billion.<sup>48</sup> However, rather than an arms industry merger as such, this is arguably an IT industry merger with a military dimension. EDS is a major IT outsourcing company which provides services to a variety of government and business clients. Defence ministries represent a significant, but minority, proportion (c. 11 per cent) of its business. HP is a much larger company, but the takeover of EDS is

<sup>46</sup> Technically, the parent company Tenix Group was in the Top 100, but its subsidiary Tenix Defence accounted for all of its arms-producing activities.

<sup>47</sup> Cowan, G., 'Elbit completes Tadcom acquisition', *Jane's Defence Industry*, vol. 25, no. 7 (July 2008). On the restructuring of the Russian arms industry see Perlo-Freeman and Sköns (note 3), pp. 275–77.

<sup>48</sup> EDS, 'HP completes \$13.9 billion acquisition of EDS', Press release, 26 Aug 2008, <<http://www.eds.com/news/releases/4774/>>.



expected to more than double its IT services revenue.<sup>49</sup> Prior to the takeover of EDS, HP appears to have had only very limited arms sales, although it does also have a number of contracts with the US DOD for the supply of general computing equipment and services.<sup>50</sup>

### European acquisitions in the United States

With the exception of the domestic US HP–EDS merger, European acquisitions of US companies represented the major area of activity for arms industry mergers and acquisitions in 2008. This continuing trend, which has been observable for the past few years, is driven largely by two factors. First is the overwhelming size of the US arms market, funded by the USA's high and rapidly increasing military expenditure: in 2008, 41 per cent of the world's military spending was made by the US Government, while European military budgets have been relatively stable.<sup>51</sup> A second factor is the reluctance of the USA to import arms. Despite its high levels of arms procurement, the USA was only the seventh largest importer of major conventional weapons in 2008.<sup>52</sup> Furthermore, only three foreign companies—BAE Systems (UK), Rolls-Royce (UK) and Thales (France)—appear in the list of the 100 largest recipients of US DOD prime (i.e. direct) contracts for 2006.<sup>53</sup> The bulk of these orders probably comes from these companies' US operations. Thus, it is only by acquiring or, less commonly, establishing US subsidiaries that foreign companies are able to access the lucrative US market.

<sup>49</sup> HP's total revenue for 2007 was \$104.3 billion of which \$16.7 billion was from its Services division. EDS's total revenue for 2007 was \$22.1 billion, essentially all for services. EDS, *Form 10-K Annual Report under Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Fiscal Year ended December 31, 2007* (US Securities and Exchange Commission: Washington, DC, 27 Feb. 2008), pp. 1–4, 12; and Hewlett-Packard, *Form 10-K Annual Report under Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Fiscal Year ended October 31, 2007* (US Securities and Exchange Commission: Washington, DC, 18 Dec. 2007), p. 146.

<sup>50</sup> Note that according to the SIPRI definition of an arms sale the sale of desktop computers to a defence ministry is not classed as an arms sale. The SIPRI definition requires that a product or service be military specific (i.e. in some way designed or significantly modified for military purposes). EDS's management of IT infrastructures for the US DOD and the British Ministry of Defence involves work directly related to military operational matters and is thus classified as arms sales. On the SIPRI definition see appendix 6A, section II. On its application to military services see Perlo-Freeman and Sköns (note 17).

<sup>51</sup> Reflecting this, the CEO of QinetiQ has talked of a 'pipeline of opportunities' in the USA, while describing the company's British business as a 'hard one to grow'. Wagstaff-Smith, K., 'WinetiQ CEO sees opportunities in US, tougher prospects in UK', *Jane's Defence Weekly*, 3 Dec. 2008. On military spending in 2008 see chapter 5 in this volume.

<sup>52</sup> See appendix 7A in this volume. This ranking reflects the volume, not the financial value, of the imports.

<sup>53</sup> US Department of Defense, '100 companies receiving the largest dollar value of prime contract awards: fiscal year 2006', <[http://siadapp.dmdc.osd.mil/procurement/historical\\_reports/statistics/p01/fy2006/top100.htm](http://siadapp.dmdc.osd.mil/procurement/historical_reports/statistics/p01/fy2006/top100.htm)>. Other foreign entities on the list include a number of foreign oil companies and the Canadian Government.

However, this drive to access the US market by European companies does not result in consolidation within the arms industry. When European companies acquire substantial US operations and markets, for the most part these operations remain part of the distinct US military-industrial base, rather than being 'consolidated' with that of their owner's home country. This is due primarily to requirements that a US arms company bought by a foreign company must be run by a separate board composed mostly or entirely of US citizens.<sup>54</sup> A secondary cause is the difficulty of transferring technology from the USA.<sup>55</sup>

The \$5.2 billion takeover of DRS Technologies (USA) by Finmeccanica (Italy), which was by far the biggest transatlantic deal in 2008, was the first major acquisition of a US arms-producing company by a non-British European company.<sup>56</sup> The acquisition was completed in October 2008, following regulatory and shareholder approval.<sup>57</sup> DRS will operate in the USA under a special security arrangement.<sup>58</sup> Despite the limits imposed on internal company consolidation by US security requirements, the deal makes Finmeccanica a major player in the military electronics market on both sides of the Atlantic: in 2007 Finmeccanica's Defence Electronics division had revenues of €3.8 billion (\$5.2 billion), while DRS's total revenues—essentially all from military electronics—were \$3.3 billion.<sup>59</sup> Finmeccanica believes that there is the potential for DRS products to be sold through Finmeccanica's global marketing network and incorporated in Finmeccanica platforms sold worldwide.<sup>60</sup>

<sup>54</sup> When an acquisition is subject to a proxy or voting trust agreement, the non-US buyer must vest all its voting rights in the company in US citizens who have no connection with the buying company and who must be cleared by the US Government. E.g. VT Group's US subsidiary VT Services Inc. is subject to a proxy agreement. VT Group 'Proxy board', <[http://www.vtplc.com/Our operations/VTServicesInc/ProxyBoard/](http://www.vtplc.com/Our%20operations/VTServicesInc/ProxyBoard/)>. When an acquisition is subject to a, less stringent, special security agreement, the US company must retain a separate board consisting of a majority of US citizens; non-US members of the board are given no access to classified information. E.g. BAE Systems' US subsidiary BAE Systems Inc. is subject to a special security agreement; Walter P. Havenstein, a US citizen, is both President and Chief Executive Officer of the US subsidiary and Chief Operating Officer of the British parent company. BAE System, 'About BAE Systems in the United States', <<http://www.baesystems.com/WorldwideLocations/UnitedStates/>>. Samples of these various types of agreement are available from US Defense Security Service, 'Foreign ownership, control or influence: types of FOCI mitigation instruments', <[http://www.dss.mil/GW/ShowBinary/DSS/isp/foci/foci\\_mitigation.html](http://www.dss.mil/GW/ShowBinary/DSS/isp/foci/foci_mitigation.html)>. See also Ashbourne, A., 'Opening the US Defence Market, Centre for European Reform (CER) Working Paper (CER: London, Oct. 2000).

<sup>55</sup> On controls on the transfer of military technology from the USA see chapter 12, section IV, in this volume.

<sup>56</sup> The largest previous such deal recorded by SIPRI was the acquisition of Racal Instruments by EADS in 2004 for \$130 million. Surry, E., 'Table of acquisitions, 2004', *SIPRI Yearbook 2006* (note 29), p. 415.

<sup>57</sup> DRS Technologies, 'Finmeccanica completes acquisition of DRS Technologies for 5.2 billion U.S. dollars', Press release, 22 Oct. 2008, <<http://www.drs.com/MediaCenter/1022press.aspx>>.

<sup>58</sup> See note 54; and Kington, T., 'Finmeccanica, DRS CEOs: merger "a perfect fit"', *Defense News*, 13 May 2008.

<sup>59</sup> See appendix 6A.

<sup>60</sup> Kington (note 58).

While transatlantic acquisitions by continental European arms companies have hitherto been rare, some companies have gained a foothold in the US market by other methods, such as ‘greenfield’ investment in new US production facilities and by jointly bidding for DOD contracts with US companies. EADS, which employs around 2300 employees in North America, has followed both strategies: its greenfield investments have included the construction of a new helicopter plant in Mississippi in 2003, and, more recently, it made a joint bid with Northrop Grumman for the US Air Force’s \$35 billion KC-X aerial tanker aircraft programme.<sup>61</sup>

A second Italian company, the shipbuilder Fincantieri, also made inroads into the US market in 2008 with the \$120 million acquisition (subject to regulatory approval) of the Manitowoc Marine division of the manufacturing and engineering company Manitowoc.<sup>62</sup> The proposed acquisition includes Manitowoc’s shipyard in Marinette, Wisconsin, which built the first ship in the USA’s Littoral Combat Ship programme. Fincantieri was already part of the Lockheed Martin-led team responsible for the multi-billion dollar Littoral project, which has been troubled by severe cost overruns, delays and cancellations. Lockheed Martin is joining Fincantieri in the acquisition of Manitowoc Marine as a minority partner.<sup>63</sup>

### **British companies’ growing presence in the United States**

Despite these two significant acquisitions by Italian firms, the trend for transatlantic acquisitions to be dominated by British companies continued in 2008. The expansion of British-owned arms-producing companies in the USA has reached the stage where many have nearly as much or even more business in the USA as in the UK. Two underlying factors—access to the large US arms market and the reluctance of the USA to import arms—apply to all non-US companies and are discussed above. A third factor applies specifically to British companies: US regulators give British companies privileged access to the US market for acquisitions, largely because of the

<sup>61</sup> EADS, *Facing Challenges, Delivering Results: EADS Annual Review 2007* (European Aeronautic Defence and Space Company EADS N.V.: Schiphol-Rijk, n.d.), p. XVI; and EADS North America, ‘EADS North America celebrates groundbreaking for new American Eurocopter facility’, Press release, 7 Aug. 2003, <[http://www.eadsnorthamerica.com/800/en/breaking\\_news/2003 Press Releases/20030803\\_mi\\_aec.html](http://www.eadsnorthamerica.com/800/en/breaking_news/2003%20Press%20Releases/20030803_mi_aec.html)>. The joint EADS–Northrop Grumman bid beat Boeing to the contract in 2008, although this decision was subsequently overturned following a protest by Boeing. At the time of writing the competition for the contract is suspended pending a decision on how to proceed. See ‘KC-X: GAO sustains Boeing protest’, *Defense Industry Daily*, 25 June 2008; and ‘US cancels air tanker competition’, BBC News, 10 Sep. 2008, <<http://news.bbc.co.uk/2/7608930.stm>>.

<sup>62</sup> Anderson, G., ‘Fincantieri steams into US with Marinette Marine and Bay Shipbuilding acquisitions’, *Jane’s Defence Industry*, vol. 25, no. 8 (Aug. 2008).

<sup>63</sup> Anderson (note 62); US Government Accountability Office (GAO), *Defense Acquisitions: Assessment of Selected Weapon Programs*, GAO-08-467SP (GAO: Washington, DC, Mar. 2008), pp. 117–18; and Merle, R., ‘High costs lead Navy to cancel Lockheed coastal vessel’, *Washington Post*, 13 Apr. 2007.

**Table 6.8.** The presence in the United States of the largest British-owned arms-producing companies

Company	Value of US acquisitions, 2003–2008 (\$ m.)	Share of sales in USA, 2007 (%)	Share of assets in USA, 2007 (%)	Share of employees in USA, end 2007 (%)
BAE Systems	9 683	41 <sup>a</sup>	67 <sup>a</sup>	45
Rolls-Royce	0	30	13	14
QinetiQ	1 114	41 <sup>a</sup>	43 <sup>a</sup>	41 <sup>a</sup>
Babcock <sup>b</sup>	0	<1	<1	<1
VT Group	138.5	24	19	33
Serco	638	11 <sup>a</sup>	14	14 <sup>a</sup>
Cobham	1 703	47	39	41
GKN	366	65 <sup>c</sup>	..	..
Meggitt	2 258	49 <sup>a</sup>	68 <sup>a</sup>	53 <sup>a</sup>
Ultra Electronics	245	37	48 <sup>a</sup>	..

<sup>a</sup> These figures are for the USA and Canada.

<sup>b</sup> The employment and assets figures for Babcock are uncertain. Its only US operation is Babcock Eagleton (a civil business); the figures for this company have been obtained from Hoover's, 'Babcock Eagleton, Inc.', Company profile, <[http://www.hoovers.com/eagleton-engineering/--ID\\_59168--/free-co-factsheet.xhtml](http://www.hoovers.com/eagleton-engineering/--ID_59168--/free-co-factsheet.xhtml)>.

<sup>c</sup> This figure is for GKN Aerospace only (which includes all GKN arms sales).

Sources: *Acquisitions*: SIPRI Mergers and Acquisitions Database; company annual reports, and press releases. *Other data*: company annual reports and websites.

close military and political relationship between the two countries.<sup>64</sup> The Finmeccanica acquisition of DRS Technologies represents the first major break with this pattern.

In most cases there is insufficient publicly available information to ascertain the proportion of the revenue of non-US companies that comes from their US operations. Despite this limitation, table 6.8 illustrates the extent of British-owned companies' presence in the USA.<sup>65</sup> The table shows that, with one exception, all of the British-owned companies in the SIPRI Top 100 have a significant proportion of their operations (as measured by assets and employees) in the USA and rely on the US market for a significant proportion of their sales. The extent of their involvement in the US mergers and acquisitions market over the past five years has varied, and some had expanded into the USA in earlier years: for example, Rolls-Royce

<sup>64</sup> See e.g. the discussion of the 2007 British–US Treaty on Defense Trade Cooperation in chapter 12, section IV, in this volume.

<sup>65</sup> In 2007 QinetiQ derived 40% of its sales from its US and Canadian operations, QinetiQ North America, while VT Group derived 20% of its sales from its US operations, VT Services Inc. BAE Systems derived 46% of its revenues from its divisions headquartered in the USA (Land & Armaments and Electronics, Intelligence & Support); however, these divisions also have operations in Australia, South Africa, Sweden and the UK. Around 85% of the employees of these divisions are based in the USA.

initiated the major expansion of its US operations in 1995 when it acquired Allison Engine Company.<sup>66</sup>

Cobham, which provides a range of avionics, aircraft subsystems and components, military communications systems and aerospace services, was the biggest British buyer in 2008, making five US acquisitions worth a total of \$1137 million (see appendix 6B). The largest of these were for M/A-COM, a military electronics firm bought for \$425 million, and Sparta, a technical and intelligence services company bought for \$407 million.<sup>67</sup> The combined annual revenues of the acquired companies are close to \$1 billion, equal to almost half of Cobham's total revenue for 2007 (see appendix 6A).

BAE Systems' significant US acquisitions in recent years mean that 67 per cent of its assets and 41 per cent of its sales in 2007 were in North America (table 6.8).<sup>68</sup> In 2008 it acquired MTC Technologies for \$450 million. MTC Technologies is a military services company providing professional and engineering services; operational support and management of command, control, communications, computers, intelligence, surveillance and reconnaissance (C<sup>4</sup>ISR) systems; maintenance and upgrade services for military aircraft; and logistics services.<sup>69</sup>

Serco, a British company that provides public services management, consulting and outsourcing services to a variety of branches of government, including military facilities management, training and operational support, acquired SI International for \$423 million. SI International, a US company which provides IT services to military and civil government, had revenues of \$510 million in 2007, of which \$235 million was from the US DOD and intelligence communities.<sup>70</sup> Serco's total US revenue in 2007 was \$618 million, so the acquisition almost doubles the company's US presence.<sup>71</sup>

A number of other British companies, including QinetiQ, Chemring, Ultra Electronics and VT Group, also made significant acquisitions of US arms companies in 2008 (see appendix 6B).

<sup>66</sup> See Sköns, E. and Gill, B., 'Arms production', *SIPRI Yearbook 1996: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1996), p. 416.

<sup>67</sup> Anderson, G., 'Cobham wraps up M/A-COM acquisition', *Jane's Defense Industry*, vol. 25, no. 9 (Sep. 2008); and Cowan, G., 'Cobham completes Sparta acquisition', *Jane's Defense Industry*, vol. 25, no. 6 (June 2008).

<sup>68</sup> BAE Systems (note 13), p. 100.

<sup>69</sup> BAE Systems, 'BAE Systems completes acquisition of MTC Technologies, Inc.', Press release, 9 June 2008, <[http://www.baesystems.com/Newsroom/NewsReleases/autoGen\\_10859182925.html](http://www.baesystems.com/Newsroom/NewsReleases/autoGen_10859182925.html)>.

<sup>70</sup> SI International Inc., *Form 10-K Annual Report under Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Fiscal Year ended December 29, 2007* (US Securities and Exchange Commission: Washington, DC, 12 Mar. 2008).

<sup>71</sup> Serco, *Improving Service, Increasing Value: Annual Review & Accounts 2007* (Serco Group: Hook, 2008), p. 6.

### British acquisitions in Australia

British companies also extended their ownership in the Australian arms industry, which is increasingly dominated by foreign-owned companies. BAE Systems, in keeping with its strategy of expanding in its 'home markets',<sup>72</sup> acquired Tenix Defence from the Australian conglomerate Tenix Group for 775 million Australian dollars (\$679 million) in June 2008.<sup>73</sup> Tenix Defence, whose areas of activity include shipbuilding, military electronics, aircraft and land systems components, and through-life support, had arms sales revenue of 650 million Australian dollars in 2007 (\$544 million).<sup>74</sup> Tenix Defence was the second largest arms-producing company in Australia in 2007 (ranked by arms sales), and the acquisition makes BAE the largest.<sup>75</sup> Meanwhile, QinetiQ established a presence in Australia with the takeover of three small military consulting firms in 2008 for a combined value of \$28 million.<sup>76</sup>

BAE's acquisition of Tenix leaves the five largest Australian arms producers all with foreign owners: BAE Systems Australia, Thales Australia, Raytheon Australia, Australian Aerospace (owned by EADS's Eurocopter) and Boeing Australia. Tenix is the only Australian-owned company listed in the SIPRI Top 100 for 2007 (see appendix 6A), and the acquisition is likely to leave no Australian-owned companies in the Top 100 for 2008. This does not imply a decline in the Australian arms industry itself, which has in fact been growing strongly over the past 10 years or so. The total arms sales of the 40 largest Australian arms companies grew from 2.6 billion Australian dollars in 1997 (\$1.9 billion at 1997 prices) to 6.6 billion Australian dollars (\$5.5 billion) in 2007.<sup>77</sup>

The Australian Government's most recent defence industrial strategy, published in March 2007, places emphasis on maintaining the country's military-industrial base, promoting self-reliance in procurement whenever possible and ensuring that arms acquisitions from overseas include a strong Australian component in the supply chain—with particular emphasis on

<sup>72</sup> BAE considers its home markets to be Australia, Saudi Arabia, South Africa, Sweden, the UK and the USA. See e.g. BAE Systems (note 13), pp. 27.

<sup>73</sup> BAE Systems, 'BAE Systems completes acquisition of Tenix Defence', Press release, 27 June 2008, <[http://www.baesystems.com/Newsroom/NewsReleases/autoGen\\_10852781933.html](http://www.baesystems.com/Newsroom/NewsReleases/autoGen_10852781933.html)>.

<sup>74</sup> Hinz, J. and Ziesing, K., 'ADM's Top 40: Thales takes top spot in Australia's growing defence business sector', *Australian Defence Magazine*, Dec. 2007/Jan. 2008, pp. 34–55.

<sup>75</sup> This is based on figures from Hinz and Ziesing (note 74).

<sup>76</sup> QinetiQ, 'QinetiQ agrees to purchase two Australian defence consulting companies', News release, 2 Jan. 2008; and QinetiQ, 'QinetiQ agrees to purchase a third Australian defence consulting company', News release, 18 Jan. 2008, <[http://www.qinetiq.com/home/newsroom/news\\_releases\\_homepage/newsarchive.html](http://www.qinetiq.com/home/newsroom/news_releases_homepage/newsarchive.html)>.

<sup>77</sup> Hinz and Ziesing (note 74).

small and medium enterprises.<sup>78</sup> This last point was reinforced by the Australian Industry Capability (AIC) scheme introduced in February 2008, which requires all foreign bidders for arms contracts to submit AIC plans showing how they will guarantee Australian content and capability development in fulfilling the contract.<sup>79</sup> In contrast, the record of foreign takeovers shows that the government places little stress on Australian ownership of the country's arms industry. Nonetheless, some in the industry are concerned that the increase in foreign ownership could lead to losses of innovation, research and development and skilled employees from the Australian industry to their foreign parents.<sup>80</sup>

### **Acquisitions within the USA**

The year 2008 was a relatively quiet one for arms industry mergers and acquisitions within the USA.<sup>81</sup> As in 2007 the great majority of acquisitions were in the areas of military electronics and services, with larger companies seeking to acquire niche capabilities and technologies from their new subsidiary, which in many cases were small companies.

Some of the most significant other deals were L-3 Communications' acquisition of Northrop Grumman's electro-optics business units for \$175 million; Boeing's acquisition (for an undisclosed sum) of unmanned aerial vehicle (UAV) manufacturer Insitu, which was predicted by Boeing to have annual revenues of \$150 million in 2008;<sup>82</sup> and Lockheed Martin's acquisition (also for an undisclosed sum) of Eagle Group International, a broad services group with 1350 employees, which supplies healthcare (including operational medical services), IT, logistics and training services to the US armed forces (see appendix 6B).

### **Acquisitions within Western Europe**

In Western Europe, the largest deal in 2008 was the acquisition of Stork (Netherlands) by the private equity firm Candover (UK) for €1.46 billion (\$2.2 billion), which was completed in February 2008.<sup>83</sup> Stork was a diversified industrial holding company with divisions for aerospace, tech-

<sup>78</sup> Australian Department of Defence, 'Defence and industry policy statement 2007', Mar. 2007, <<http://www.defence.gov.au/header/business.htm>>. See also Ferguson, G., 'Australia's new industry policy more "doable"', *Defense News*, 5 Mar. 2007.

<sup>79</sup> Grevatt, J., 'Australia says "no" to offsets', *Jane's Defence Weekly*, 23 Apr. 2008. See also the AIC website, <<http://aic.defenceandindustry.gov.au/>>.

<sup>80</sup> Grevatt, J., 'Grab for Australian companies raises concern with industry body', *Jane's Defence Industry*, vol. 25, no. 6 (June 2008).

<sup>81</sup> The exception is HP's takeover of EDS, but this is primarily an IT industry acquisition.

<sup>82</sup> Kemp, D., 'Boeing agrees to purchase Insitu', *Jane's Defence Weekly*, 30 July 2008.

<sup>83</sup> Anderson, G., 'Stork shareholders accept Candover bid', *Jane's Defence Industry*, vol. 25, no. 3 (Mar. 2008).

nical services for industry and food packaging. Stork divested its Food Systems division in early January 2008 as an ‘integral part’ of Candover’s acquisition of the company.<sup>84</sup> Stork had revenues of €2163 million in 2007, of which €553 million was from its Aerospace division, including €188 million for military aerospace.<sup>85</sup>

In the French arms industry, which is highly state-controlled, the degree of interlinkage between the main French arms companies increased in 2008.<sup>86</sup> It was announced that aircraft manufacturer Dassault Aviation is to acquire Alcatel-Lucent’s 20.76 per cent stake in Thales for €1.57 billion (\$2.2 billion).<sup>87</sup> Dassault’s parent company, Groupe Dassault, also owns 5.17 per cent of Thales, which is expected to be transferred to Dassault Aviation to give the latter a 25.93 per cent share. The trans-European company EADS, which in many ways has more natural synergies with Thales than does Dassault, had long been interested in acquiring Alcatel-Lucent’s stake. However, the French Government—which currently owns 27.05 per cent of Thales—is understood to have blocked this, because it wants to ensure continued French ownership and control of Thales.<sup>88</sup> The acquisition means that the French Government and Dassault—whose ultimate owner, Serge Dassault, is a French senator and member of President Nicolas Sarkozy’s Union pour un Mouvement Populaire (UMP, Union for a Popular Movement)—will between them hold a majority stake in Thales. However, an agreement between Dassault Aviation and the government will reportedly limit the former’s influence. In particular, no new CEO of Thales can come from Dassault.<sup>89</sup>

## V. Conclusions

The trend of increasing arms sales in the SIPRI Top 100 companies continued in 2007. The majority of the growth came from the continuing rise in US military spending—although the benefit of this accrues mostly to US companies and to British companies, led by BAE Systems, which have established a strong US presence through mergers and acquisitions. The strongest increases have been seen by armoured vehicle manufacturers (in the USA and elsewhere) that have benefited from demand from US and

<sup>84</sup> ‘Mergers and acquisitions’, *Jane’s Defence Industry*, vol. 25, no. 2 (Feb. 2008).

<sup>85</sup> Stork, *Annual Report 2007* (Stork N.V.: Naarden, 2008), p. 50; and Stork Aerospace, ‘Stork Aerospace: partner of choice’, Presentation, 21 Mar. 2008, <[http://www.stork.nl/downloads/Aerospace/SAG/Stork\\_Aerospace\\_low.pdf](http://www.stork.nl/downloads/Aerospace/SAG/Stork_Aerospace_low.pdf)>.

<sup>86</sup> In a major deal in 2007, Thales acquired 25% of the state-owned shipbuilder DCNS in exchange for Thales’s naval operations. Perlo-Freeman and Sköns (note 3), p. 271.

<sup>87</sup> Gallois, D., ‘Défense: Dassault Aviation aux commandes chez Thales’ [Defence: Dassault Aviation in charge at Thales], *Le Monde*, 18 Nov. 2008.

<sup>88</sup> Gallois (note 87).

<sup>89</sup> Ruello, A., ‘Dassault exempté d’OPA sur Thales’ [Dassault exempted from public offer for Thales], *Les Echos*, 28 Nov. 2008.



other foreign forces in Afghanistan and Iraq. Two new companies—Navistar and Force Protection—have entered the SIPRI Top 100 for the first time purely on the basis of the new demand by the US Army and Marines for mine-resistant ambush-protected vehicles for these ongoing conflicts. Otherwise, sales of military services companies have continued to increase, as to some extent have those of companies specializing in high-tech IT and communications. Russian aerospace companies continued to increase sales, with domestic orders beginning to play a role alongside exports. Other sectors of the Russian arms industry have declined.

Merger and acquisition activity in the arms industry in 2008 focused on the acquisition of US companies by European ones. As in previous years, British companies have made the most such acquisitions, but for the first time a continental European company—Finmeccanica of Italy—made a major US arms industry acquisition. Overall there were fewer major merger and acquisition deals in the arms industry than in 2007.

Although major arms-producing companies saw their share prices fall in 2008 along with the stock markets in all major industrialized countries, other than in Russia the arms industry has been relatively unaffected by the global financial crisis. High and rising US military spending, stable European spending and the long lead times for orders of major weapon systems have enabled arms companies to keep their order books full and maintain growing levels of sales. Difficulty in accessing credit may cause problems for some companies, however, especially those lower down the supply chain, and this may also reduce the potential for major mergers and acquisitions. Revenues may also begin to decline in coming years if the crisis results in lower military spending, although this is likely to take some time to feed through. For now, most of the world's weapons manufacturers are enjoying levels of sales matching or exceeding the heights of the cold war.