

Appendix 11A. Tables of national arms production

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Table 11A.1. Volume of arms production, export sales, and employment in the arms industry: France, Germany, the United Kingdom and the United States, 1991–2000^a

Figures are in US \$b., at constant 2000 prices.

Country	1991	1995	1996	1997	1998	1999	2000
France, arms production							
Sales	18.5	13.9	14.3	15.2	14.8	12.4	11.1
Exports	4.5	2.8	4.3	6.3	5.9	3.6	2.5
Employment ('000) ^b	248	193	185	178	175	171	166
Germany, military aerospace ^c							
Sales	6.8	2.6	2.9	2.6	2.7	2.9	2.7
Employment ('000) ^b	39	21	19	18	20	16	16
Germany ^d							
Exports	1.6	0.9	0.5	0.6	0.6	1.3	0.6
UK, arms production							
Sales	23.9	20.6	23.0	23.6	22.2	19.6	19.2
Exports	6.7	8.2	10.4	11.0	9.6	6.6	6.7
Employment, direct ('000) ^b	275	205	210	180	165	155	155
Employment, indirect ('000) ^b	235	205	205	190	190	165	150
USA, arms production							
Sales	112.3	74.3	65.0	66.2	62.7	66.3	..
Exports ^e	15.6	16.9	14.3	18.7	15.8	18.2	11.0
Employment, direct and indirect ('000) ^b	3 045	2 315	2 210	2 215	2 180	2 240	2 425

^a The data in this table are not strictly comparable between countries and items.

^b Employment data reflect employees in the arms producing activities of the companies, not total employment. These are usually rough approximations. Direct employment is that generated in the production of final goods and services for domestic procurement and export. Indirect employment is that generated in the supply chain by suppliers to direct contractors.

^c There are no official data on total German arms production. The data in this table represent only the military aerospace sector. Until 1995 the data are for all German aerospace companies, thereafter only for members of the German Aerospace Industries Association.

^d Data on German arms exports are published in the annual government arms export report.

^e Export data for the USA are for deliveries of foreign military sales (FMS) and direct commercial exports from companies.

Sources: **France:** Ministère de la défense, *Rapport au Parlement sur les exportations d'armement de la France en 2000* [Report to Parliament on French arms exports in 2000] (Ministère de la défense: Paris, 2002), p. 57; Délégation générale pour l'armement (DGA), *Activity Report 2001* (DGA: Paris, 2002), p. 54, URL <<http://www.defense.gouv.fr/dga/fr/chiffres/index.html>>; and Ministère de la défense, *Annuaire statistique de la défense* [Annual defence statistics] (DICOD: Paris, 2001), p. 89. **Germany:** German Aerospace Industries Association (BDLI), *Annual Report 2000/2001* and *Annual Report 1998/99* (BDLI: Berlin, 2001 and 1999); Bundesministerium für Wirtschaft und Arbeit, *Bericht der Bundesregierung über ihre*

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Exportpolitik für konventionelle Rüstungsgüter im Jahre 2001 (Rüstungsexportbericht 2001) [Report by the federal government on its export policy for conventional armaments in 2001 (Arms export report 2001)] Berlin, 18 Dec. 2002, URL <<http://www.bmwi.de/Homepage/Politikfelder/Au%Deenwirtschaft%20&%20Europa/Exportkontrolle/Exportkontrolle.jsp>>; Communication with the Bundesministerium für Wirtschaft und Technologie, 14 Dec. 1999. **UK:** Defence Analytical Services Agency (DASA), *UK Defence Statistics 2002* (National Statistics: London, 2002), URL <<http://www.dasa.mod.uk/natstats/stats/ukds/2002/ukds.html>>; and DASA, *UK Defence Statistics 1997* (National Statistics: London, 1997). **USA:** Office of Management and Budget, *Fiscal Year 2003 Historical Tables: Budget of the United States Government* (Government Printing Office: Washington DC, 2002), pp. 55–56, URL <<http://w3.access.gpo.gov/usbudget/fy2003/spreadsheets.html>>; US Department of State, Bureau of Verification and Compliance, *World Military Expenditures and Arms Transfers 1999–2000* (US Department of State: Washington, DC, 2001), p. II-49, URL <<http://www.state.gov/t/verls/rpt/wmeat/>>; and DSCA, *Foreign Military Sales, Foreign Military Construction Sales and Military Assistance Facts* (DSCA: Washington, DC, Sep. 2000 and Sep. 2002), URL <http://www.dsca.osd.mil/programs/Comptroller/2001_FACTS/default.htm>.

Official statistics on arms production are available on the SIPRI arms production project Internet site, URL <http://projects.sipri.se/milex/aprod/transparency.html>. Official statistics on arms exports are available on the SIPRI arms transfer project Internet site, URL <http://projects.sipri.se/armstrade/at_gov_ind_data.html>.

Table 11A.2. Expenditure on military equipment and military R&D in Western Europe and the USA, 1991–2002^a

Figures are in US \$b., at constant 2000 prices.

Country	1991	1995	1996	1997	1998	1999	2000	2001	2002
<i>Military equipment (MER dollars)^a</i>									
France ^b	..	..	..	7.7	6.6	6.6	6.4	6.5	6.6
Germany	5.9	3.4	3.2	3.0	3.6	3.8	3.8	3.9	3.4
Italy	3.2	2.5	2.7	2.2	2.5	2.5	3.2	2.3	2.8
Netherlands	1.1	0.9	1.1	0.9	0.9	1.1	1.0	1.0	1.1
Norway	0.6	0.7	0.7	0.7	0.8	0.7	0.6	0.6	0.8
Spain	0.9	0.9	0.9	0.9	0.8	0.8	0.9	0.9	1.0
Sweden	..	..	..	..	..	..	..	..	..
UK	12.7	8.2	9.0	8.8	9.4	9.4	9.2	8.8	8.7
NATO W.Europe^c	22.6	18.1	19.2	18.2	19.6	19.8	20.3	19.0	19.3
NATO W. Europe^d	..	..	..	25.9	26.2	26.4	26.7	25.5	25.9
USA	96.7	87.3	80.0	77.0	74.1	72.4	66.1	78.1	83.6
<i>Military R&D (PPP dollars)^a</i>									
France	6.5	4.5	4.3	3.4	3.2	3.1	3.1	3.5	..
Germany	2.0	1.6	1.7	1.7	1.5	1.4	1.3	1.2	..
Italy	0.7	0.4	0.2	0.4	0.2	0.1	0.1	0.4	..
Netherlands	0.1	0.1	0.1	0.1	0.1	0.1	0.1	..	..
Norway	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Spain	0.6	0.3	0.4	0.7	1.2	1.2	1.3	..	..
Sweden	0.7	0.5	0.5	..	0.1	0.1	0.1	0.3	0.4
UK	4.4	3.6	3.7	3.9	3.4	3.7	3.7	..	..
Total EU	14.9	11.1	10.9	10.5	9.8	9.8	9.7	..	..
USA	49.7	42.1	41.6	42.5	42.0	42.7	42.6	44.5	50.6
EU and USA	64.6	53.2	52.5	53.0	51.8	52.5	52.3	..	..

Table 11A.2 *contd*

^a Data on military equipment and military research and development (R&D) are not comparable because data on military R&D are converted at purchasing power parity (PPP) rates, while equipment data are converted at market exchange rates.

^b France has not provided data to NATO for a breakdown of its military expenditure before 1997.

^c These totals do not include France.

^d These totals include France.

Sources: Military equipment: NATO data, as provided in appendix 10B in this volume; Military R&D: OECD, *Main Science and Technology Indicators*, no. 1 (OECD Publications: Paris, 2002); and OECD data.

Table 11A.3. Russia: output of the military–industrial complex, 1991–2002^a

Index, 1991=100, constant prices.

	1991	1995	1996	1997	1998	1999	2000	2001	2002 ^b
Military output	100	25.1	18.8	13.9	16.6	23.1	29.1	29.5	[37.7]
Civilian output	100	39.9	28.9	28.5	28.3	36.3	44.5	50.1	54.4
Total output	100	31.4	23.1	20.1	21.7	29.1	36.2	38.4	45.5
Employment	100	54.4	46.9	41.0	36.0	33.3	34.1	33.5	..

^a Data on annual growth rates have been revised for the period 1997–2001. Data on military and civilian output for 1991–96 have been adjusted to be fully compatible with the revised data for later years. Data on employment are for industrial personnel only and thus do not include personnel in R&D. The entire series was revised in 2002.

^b Provisional.

Sources: This table was prepared by Julian Cooper on the basis of the following sources: **Military and civilian output, 1991–96:** Institute for the Economy in Transition, Moscow, *Russian Economy in 2001: Trends and Outlooks*, issue 23 (Apr. 2002), section 2.7, available at URL <http://www.iet.ru/trend/2001/17_e.htm>; **1997–2001:** The Internet site of the Russian military–industrial complex (voenno-promyshlenny kompleks, vpk), URL <<http://i.vpk.ru/sbornik2001/vpk/vvedenie/page1>>; **Total output 1991–2001:** The vpk Internet site, URL <<http://i.vpk.ru/sbornik2001/proizvodst/page5>>; **Civilian and total output 2002:** Brindikov, first deputy minister of Industry, Science and Technology, *Nezavisimoe Voennoe Obezrenie*, 24 Jan. 2003, available at URL <<http://www.nvo.ng.ru/armament>>; **Military output 2002:** estimate based on data on civilian and total output; **Employment 1991–2002:** The vpk Internet site, URL <<http://i.vpk.ru/sbornik2001/proizvodss/page5>>.

Table 11A.4. Russia: arms procurement and exports, 1996–2003

Rouble figures (R) are at current prices, dollar figures (\$) are at current prices and market exchange rates. Figures are in billion roubles or US \$b.

	1996	1997	1998	1999	2000	2001	2002 ^a	2003 ^{a,b}
Total procurement ^c (R)		..	15	..	62	..	79	110
of which:								
R&D expenditures (R)	..	..	..	..	15	..	33	45
Total procurement ^c (\$)		..	0.8	..	1.70	..	2.50	3.47
of which:								
R&D expenditure (\$)	..	..	..	..	0.53	..	1.04	1.43
Arms exports ^d (\$)	3.52	2.60	2.61	3.39	3.68	3.71	4.80	..

^a Planned

^b The figure for 2003 is not strictly comparable to those for previous years due to a change to a broader definition, including also the R&D undertaken by research organizations of the Ministry of Defence.

^c Total procurement are for the state defence procurement order, which includes R&D expenditure, new arms purchases, repair and upgrades of military equipment and other military-related services.

^d Data on arms exports are for the value of deliveries.

Sources: Expenditure: Krasnaya Zvezda, 25 Nov. 1998; Kommersant, 18 Jan. 2002; Statement by A. Moskovskii, Russian Ministry of Defence, Nezavisimoe Voennoe Obezreni, 28 Feb. 2003, URL <<http://nvo.ng.ru/armament>>; 'Military spending boosted by 33%', Moscow Times, 17 Jan. 2003, URL <<http://www.themoscowtimes.com/stories/2003/01/17/001-print.html>>; and Arms exports: Pukhov, R., Makienko, K. and Pyadushkin, M., 'Preliminary estimates of Russia's arms export in 2002', Eksport Vooruzheniy Journal, no. 6 (2002); and Lantratov, K., 'Russia sells more and more arms', Kommersant, 13 Feb. 2003.

Table 11A.5. Major acquisitions in the North American and West European arms industry, 2002

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

Buyer company (country)	Acquired company (country)	Seller company (country)	Price (\$ m.)
<i>Within North America (US companies unless indicated otherwise)</i>			
Alliant Techsystems	Boeing unit	Boeing	..
Alliant Techsystems	Science and Applied Techn.	Privately owned	..
Allied Research Corp. ^a	SeaSpace	..	..
Allied Research Corp.	NS Microwave	Privately owned	..
Allied Research Corp.	Titan Dynamics	Privately owned	..
Carlyle Group	Sippican	Privately owned	..
CMC Electronics (CAN)	Flight Visions	ONCAP	..
CSC ^a	DynCorp	Employee owned	950
Curtiss-Wright ^a	Westinghouse unit	Westinghouse	80
DRS Technologies	Eaton Corp. unit	Eaton Corp.	92
DRS Technologies	Nytech	Privately owned	..
EDO Corporation	Condor Systems	Privately owned	112
General Dynamics	ATP	..	250
General Dynamics	Command Systems Inc.	Privately owned	..
General Dynamics ^a	GM Defense (CAN)	General Motors	1100
L-3 Communications	ComCept	..	..
L-3 Communications	Northrop Grumman units	Northrop Grumman	..
L-3 Communications	Aircraft Integration Systems	Raytheon	1130
L-3 Communications	SY Technology	..	48
L-3 Communications	TMA	..	50
L-3 Communications	Westwood	..	22
L-3 Communications ^a	Spar Aerospace (CAN)	..	..
L-3 Communications ^a	Wescam (CAN)	..	118
Northrop Grumman ^{a,b}	TRW	Shareholders	7800
Northrop Grumman	Fibersense	Audax Group	44
Raytheon ^a	JPS Communications	Privately owned	..
Raytheon ^a	Solypsis	Privately owned	..
Rockwell Collins	Communication Solutions	..	23
Sikorsky ^a	Derco Holding	Privately owned	..
United Defense	United States Marine Repair	Carlyle Group	316
.. ^c	United Defense	Carlyle Group	225

Table 11A.5 *contd*

Buyer company (country)	Acquired company (country)	Seller company (country)	Price (\$ m.)
<i>Within Western Europe</i>			
Alvis (UK)	Vickers (UK)	Rolls-Royce (UK)	25
CMG (UK)	Logica (UK)	..	..
Cobham (UK)	Saab unit (SWE)	Saab (SWE)	..
EADS (FRA/FRG/SPA) ^{a,d}	Astrium (FRA/FRG/UK)	BAE Systems (UK)	175
EADS (FRA/FRG/SPA)	Siemens unit (BEL)	Siemens (FRG)	..
Finmeccanica (ITA) ^a	Aeronautica Macchi (ITA)	..	..
Finmeccanica (ITA)	Marconi Mobile (ITA)	Marconi (UK)	557
HDW (FRG)	Hellenic Shipyards (GRE)	Greek Government	7
.. ^{a,e}	Heckler & Koch (FRG)	BAE Systems (UK)	..
Meggitt (UK)	BAE Systems unit (UK)	BAE Systems (UK)	21
Meggitt (UK)	Lodge (UK)	Smiths (UK)	52
Santa Barbara (SPA) ^f	EWK (FRG)	..	..
QinetiQ (UK)	Motionbase (UK)	..	..
Vosper Thornycroft (UK)	Merlin Communications (UK)	..	136
<i>Transatlantic: European acquisitions of US companies</i>			
BAE Systems (UK) ^a	Condor Pacific (USA)	..	59
GKN (UK)	Boeing unit (USA)	Boeing (USA)	5
GKN (UK) ^a	Astech (USA)	..	32
Indra (SPA) ^g	Indra EWS (SPA)	Raytheon (USA)	52
Saab Barracuda (SWE)	BAE Systems unit (USA)	BAE Systems (UK)	..
Thales (FRA)	Sema (FRG)	SchlumbergerSema (USA)	..
Ultra Electronics (UK)	CMC Electronics unit (CAN)	CMC Electronics (CAN)	34
<i>Transatlantic: US acquisitions of European companies</i>			
Carlyle Group (USA) ^h	QinetiQ (UK)	UK Government	≈ 220
DRS Technologies (USA)	Meggitt subsidiary (USA)	Meggitt (UK)	..
Esterline (USA)	BAE Systems unit (USA)	BAE Systems (UK)	68
Herley Industries (USA)	EW Simulation (UK)	..	..
Integrated Defense			
Technologies (USA)	BAE Systems unit (USA)	BAE Systems (UK)	146
Kaman (USA) ^a	RWG Frankenjura (FRG)	Privately owned	..
One Equity Partners (USA)	HDW (FRG)	Babcock Borsig (FRG)	..

CAN = Canada, UK = United Kingdom; SWE = Sweden; FRA = France, FRG = Germany; SPA = Spain, BEL = Belgium; ITA = Italy; GRE = Greece; USA = United States

^a Acquisitions not yet completed by end-2002.

^b TRW sold its aeronautical systems unit, based in the UK, to Goodrich (USA) and Northrop Grumman sold 58% of the TRW automotive unit to Blackstone (USA).

^c The Carlyle Group conducted an initial public offering of United Defense on the New York stock exchange. It continues to hold 54% of United Defense.

^d EADS acquired 25% of Astrium and now holds 100% of the space company.

^e BAE Systems sold Heckler & Koch to a consortium led by 2 Heckler & Koch managers.

^f Santa Barbara is a subsidiary of General Dynamics (USA) since 1991. The purchase of EWK therefore has a transatlantic component.

^g Indra bought 49% of Indra EWS, making the joint venture a wholly owned subsidiary.

^h The Carlyle Group purchased 30% of QinetiQ for £140–150 million (*c.*\$210–225 million).

Source: The SIPRI arms industry files on mergers and acquisitions.