



THE SIPRI TOP 100 ARMS-PRODUCING COMPANIES, 2008

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HIGHLIGHTS

The total arms sales of the world's 100 largest arms-producing companies—the SIPRI Top 100—increased by \$39 billion in 2008 to reach \$385 billion. While companies headquartered in the United States again dominate the Top 100, for the first time a non-US company—BAE Systems of the United Kingdom—heads the list with the highest arms sales.¹ The wars in Afghanistan and Iraq continued to heavily influence sales of military equipment such as armoured vehicles, unmanned aerial vehicles (UAVs) and helicopters in 2008. At the same time, sales by military services companies continued to grow, as did the arms sales of Russian companies to both domestic and foreign customers.

The Top 100 for 2008 contains 45 North American companies (all but one of them US-headquartered), accounting for 60 per cent of the arms sales of the Top 100; 34 West European companies, accounting for 32 per cent of arms sales; 7 Russian companies, accounting for 3 per cent of arms sales; and companies from Japan, Israel, India, South Korea and Singapore.

A Russian company—Almaz-Antei—is among the world's 20 largest arms-producing companies for the first time. The US company Navistar—manufacturer of mine-resistant ambush-protected (MRAP) vehicles—entered the SIPRI Top 100 at 20th place, having increased arms sales by 960 per cent in just one year. Boeing is the only one of the top 20 arms producers to have decreased arms sales in 2008—down from \$30 billion in 2007 to \$29 billion in 2008.

The SIPRI Top 100 for 2008 appears in table 1. For full details and analysis, see *SIPRI Yearbook 2010*.²

¹ The internationalization of the arms-producing industry means that companies based in one country often belong to a company or group with headquarters in another country. In this fact sheet, a company's country designation refers to the location of a company's headquarters.

² Jackson, S. T., 'Arms production', *SIPRI Yearbook 2010: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, forthcoming 2010).

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KEY FACTS

- The total arms sales of the SIPRI Top 100 arms-producing companies in 2008 (outside China) increased by \$39 billion to reach \$385 billion.
- For the first time, a non-US company heads the list: BAE Systems of the UK.
- US companies still dominate the list: 44 of the Top 100 companies are US-headquartered; they account for 60 per cent of the arms sales of the Top 100.
- West European companies follow, with 34 companies that make 32 per cent of the Top 100's arms sales.
- A Russian company—Almaz-Antei—is one of the 20 largest arms-producing companies for the first time.
- No Australian-owned company appears in the SIPRI Top 100 for 2008 following BAE Systems' acquisition of Tenix Defence Systems in early 2008.
- Hewlett-Packard entered the Top 100 at rank 30 following its acquisition of EDS.
- Only 6 companies in the SIPRI Top 100 had decreased arms sales in 2008.
- 13 companies increased their arms sales by more than \$1 billion in 2008 and 23 increased their arms sales by more than 30 per cent.
- Factors behind these increases include: military equipment procurement for the wars in Afghanistan and Iraq; increasing sales of military services; and, for Russian companies, government support, force modernization and increased arms sales abroad.

**Table 1.** The SIPRI Top 100 arms-producing companies in the world excluding China, 2008^a

Figures for arms sales, total sales and profit are in US\$ m.

Rank ^b	2008 Company ^d	Country	Sector ^e	Arms sales ^c		Total sales, 2008	Arms sales as % of total sales, 2008	Total profit, 2008	Total employment, 2008
				2008	2007				
1	2 BAE Systems	UK	A Ac El Mv Mi Sa/A Sh	32 420	29 860	34 086	95	3 250	106 400
2	3 Lockheed Martin	USA	Ac El Mi Sp	29 880	29 400	42 731	70	3 217	146 000
3	1 Boeing	USA	Ac El Mi Sp	29 200	30 480	60 909	48	2 672	162 200
4	4 Northrop Grumman	USA	Ac El Mi Ser Sh Sp	26 090	24 600	33 887	77	-1 262	123 600
5	5 General Dynamics	USA	A El Mv Sa/A Sh	22 780	21 520	29 300	78	2 459	92 300
6	6 Raytheon	USA	El Mi	21 030	19 540	23 174	91	1 672	73 000
S	S BAE Systems Inc. (BAE Systems, UK)	USA	A El Mv Sa/A	19 970	14 910	19 974	100	1 971	55 200
7	7 EADS	West Europe	Ac El Mi Sp	17 900	13 100	63 346	28	2 302	118 350
8	9 Finmeccanica ^f	Italy	A Ac El Mv Mi Sa/A	13 240	9 850	25 037	53	996	73 400
9	8 L-3 Communications	USA	El Ser	12 160	11 240	14 901	82	949	65 000
10	10 Thales	France	A El Mv Mi Sa/A Sh	10 760	9 350	18 543	58	952	63 250
11	11 United Technologies	USA	Ac El Eng	9 980	8 760	58 681	17	4 689	220 000
12	12 SAIC	USA	Ser Comp(MV)	7 350	6 250	10 070	73	452	45 400
13	16 KBR ^g	USA	Ser	5 730	5 000	11 581	50	319	57 000
14	13 Computer Sciences Corp.	USA	Ser	5 710	5 420	16 740	34	1 115	92 000
15	15 Honeywell	USA	El	5 310	5 020	36 556	15	2 792	128 000
16	19 ITT Corp.	USA	El	5 170	3 850	11 695	44	795	40 800
17	17 Rolls-Royce ^h	UK	Eng	4 720	4 580	16 695	28	-2 472	38 900
18	23 Almaz-Antei ⁱ	Russia	Mi	4 340	2 780	4 624	94	100	89 870
19	25 AM General ^j	USA	MV	4 040	2 670	..	..	..	..
S	S MBDA (BAE Systems, UK/ EADS, West Europe/ Finmeccanica, Italy)	West Europe	Mi	3 950	4 110	3 953	100	206	..
20	- Navistar ^k	USA	MV	3 900	370	14 724	26	134	17 800
S	S DRS Technologies (Finmeccanica)	Italy	El	3 870	3 230	3 870	100	110	..
21	18 DCNS	France	Sh	3 660	3 860	3 660	100	192	12 240
22	20 General Electric	USA	Eng El	3 650	3 460	182 515	2	17 410	323 000
S	S Eurocopter (EADS, West Europe)	France	Ac	3 610	2 800	6 568	55	..	..
S	S Pratt & Whitney (United Technologies)	USA	Eng	3 550	3 580	12 695	28	..	37 990
23	27 Textron	USA	Ac El Eng MV	3 420	2 510	14 246	24	486	43 000
S	S Sikorsky (United Technologies)	USA	Ac	3 060	2 770	5 368	57	..	16 940
24	22 Mitsubishi Heavy Industries ^l	Japan	Ac Mv Mi Sh	3 040	2 780	32 660	9	234	67 420
25	14 SAFRAN	France	El	3 020	5 230	15 123	20	375	54 490
26	24 Saab	Sweden	Ac El Mi	3 000	2 770	3 610	83	-37	13 290



Rank ^b	2008 Company ^d	Country	Sector ^e	Arms sales ^c		Total sales, 2008	Arms sales as % of total sales, 2008	Total profit, 2008	Total employment, 2008
				2008	2007				
27	31 URS Corp.	USA	El	2 680	2 290	10 086	27	220	50 000
28	28 Alliant Techsystems	USA	Sa/A	2 680	2 460	4 583	58	155	19 000
29	29 Rheinmetall	Germany	A El/MV SA/A	2 660	2 400	5 665	47	198	21 020
30	- Hewlett-Packard ^m	USA	Ser	2 540	0	136 022	2	7 828	321 000
31	36 Elbit Systems	Israel	El	2 520	1 910	2 638	95	204	10 880
S	S CASA (EADS, W. Europe)	Spain	Ac	2 510	1 150	2 824	89	99	5 730
32	32 Rockwell Collins	USA	El	2 370	2 230	4 769	50	678	20 300
33	34 Israel Aerospace Industries	Israel	Ac El/Mi	2 230	1 960	3 600	62	91	16 000
S	S EADS Astrium (EADS, W. Europe)	France	Sp	2 200	1 700	6 280	35	..	15 000
34	33 QinetiQ	UK	Ser	2 170	2 160	2 972	73	173	14 060
S	S MBDA France (MBDA, W. Europe)	France	Mi	2 130	2 050	2 130	100	247	4 290
35	30 Groupe Dassault	France	Ac	2 100	2 380	5 488	38	546	12 440
36	45 Oshkosh Corp.	USA	MV	2 070	1 570	7 138	29	79	14 000
37	41 Sukhoi (UAC) ⁱ	Russia	Ac	2 040	1 710	2 173	94	-107	29 980
38	35 Babcock International Group	UK	Ser	2 020	1 920	3 496	58	136	16 390
39	38 CEA	France	Oth	2 010	1 760	5 136	39	-479	15 580
40	40 Harris	USA	El	1 980	1 720	5 311	37	444	16 500
41	46 Serco	UK	Ser	1 950	1 440	5 743	34	183	42 680
42	42 Krauss-Maffei Wegmann ⁿ	Germany	MV	1 950	1 690	2 050	95	..	3 400
43	51 Cobham	UK	Comp(Ac El)	1 910	1 220	2 697	71	176	12 040
44	43 Hindustan Aeronautics ^o	India	Ac Mi	1 910	1 670	2 384	80	400	30 000
45	48 Navantia	Spain	Sh	1 880	1 390	2 139	88	-82	5 540
46	58 DynCorp International ^p	USA	Ser	1 860	900	3 101	60	70	22 500
S	S Alenia Aeronautica (Finmeccanica)	Italy	Ac	1 820	1 780	1 820	100	136	9 200
47	47 CACI International	USA	Ser	1 810	1 390	2 421	75	83	12 000
48	44 Goodrich	USA	Comp(Ac)	1 770	1 600	7 062	25	681	15 300
49	39 ThyssenKrupp	Germany	Sh	1 760	1 740	7 8223	2	3 332	199 370
50	49 ManTech International Corp.	USA	Ser	1 760	1 350	1 871	94	90	7 900
51	52 Rafael	Israel	Ac Mi SA/A Oth	1 530	1 140	1 530	100	46	6 000
52	63 Mitsubishi Electric ^l	Japan	El/Mi	1 510	820	35 460	4	118	..
53	83 Kawasaki Heavy Industries ^l	Japan	Ac Eng Mi Sh	1 480	580	12 951	11	113	32 270
54	50 Indian Ordnance Factories ^q	India	AS/A/A	1 380	1 230	1 679	82	..	112 000
55	60 Force Protection	USA	MV	1 330	890	1 330	100	47	1 170
56	53 ST Engineering (Temasek)	Singapore	Ac El/MV SA/A Sh	1 280	1 100	3 777	34	335	19 000
57	37 VT Group	UK	Ser Sh	1 210	1 870	2 015	60	200	13 000
S	S Thales Air Defence (Thales, France)	UK	Mi	1 200	..	1 200	100	138	..



Rank ^b	2008	2007	Company ^d	Country	Sector ^e	Arms sales ^c		Total sales, as % of total sales, 2008	Total sales 2008	Total profit, 2008	Total employment, 2008
						2008	2007				
58	54	TRV Corp. ⁱ	Russia	Mi	1 170	1 050	1 212	96	111	21 200	
59	59	Irkut Corp. (UAC) ^j	Russia	Ac	1 150	900	1 248	92	-41	12 140	
S	S	BAE Systems Australia (BAE Systems, UK)	Australia	El SA/A Sh	1 090	470	1 090	100	..	5 500	
60	56	GKN	UK	Comp(Ac)	1 070	950	8 044	13	-197	40 000	
61	55	Samsung	South Korea	A El MV Sh	1 010	1 030	173 439	1	10 684	276 000	
62	61	Indra	Spain	El	1 000	870	3 484	29	266	24 810	
63	78	NEC ^l	Japan	El	950	610	40 786	2	-2 870	143 330	
64	57	Diehl	Germany	Mi SA/A	940	900	3 117	30	21	11 390	
S	S	AgustaWestland (Finmeccanica)	Italy	Ac	930	930	2 981	31	232	5 750	
S	S	Selex Communications (Finmeccanica)	Italy	Comp(El Oth)	900	890	1 105	82	-95	4 400	
65	62	Bharat Electronics	India	El	900	840	1 063	85	171	11 960	
66	-	Precision Castparts Corp.	USA	Comp(Ac)	890	..	6 828	13	1 045	20 300	
67	64	Nexter	France	A MV SA/A	850	800	850	100	145	2 720	
68	66	Vertoloty Rossii (OPK Oboronprom) ⁱ	Russia	Ac	850	690	1 660	51	115	..	
69	69	Meggitt	UK	Comp(Ac)	830	670	2 137	39	182	8 140	
70	93	VSE Corp.	USA	Ser	830	540	1 044	80	19	1 920	
71	-	SIAF	France	Comp(Ac)	810	470	810	100	..	4 000	
72	-	Shaw Group ^r	USA	Ser	800	450	6 998	11	141	26 000	
73	67	LIG Nex1	South Korea	El	770	690	770	100	38	2 440	
S	S	Thales Nederland (Thales, France)	Netherlands	El	770	..	770	100	35	..	
74	85	RUAG	Switzerland	A Ac Eng SA/A	760	580	1 419	54	47	6 310	
75	77	SRA International	USA	El	750	610	1 507	50	73	6 500	
S	S	Samsung Techwin (Samsung)	South Korea	A El Eng MV	750	770	2 123	35	133	4 190	
76	94	Kongsberg Gruppen	Norway	El Mi SA/A	740	540	1 960	38	104	5 240	
77	65	Aerospace Corp.	USA	Ser	740	700	839	88	..	4 000	
S	S	Galileo Avionica (Finmeccanica)	Italy	El	730	670	837	87	44	2 790	
78	76	Ultra Electronics	UK	El	730	620	947	77	3	3 580	
79	68	MTU Aero Engines	Germany	Eng	730	680	3 989	18	263	7 540	
80	80	Moog	USA	Comp(El Mi)	720	590	1 903	38	119	8 840	
81	90	ARINC (Carlyle Group) ^s	USA	Ser	700	550	1 163	60	..	3 100	
82	75	Teledyne Technologies	USA	El	680	620	1 893	36	111	8 800	
83	86	CAE	Canada	El	680	570	1 558	44	187	7 000	
84	91	Fiat ^t	Italy	Eng MV	680	550	86 940	1	2 520	198 140	
S	S	Iveco (Fiat)	Italy	MV	680	550	15 950	4	832	27 110	
85	96	Jacobs Engineering Group ^u	USA	Ser	670	520	11 252	6	421	57 100	



Rank ^b	2008 Company ^d	Country	Sector ^e	Arms sales ^c		Total sales, 2008	Arms sales as % of total sales, 2008	Total profit, 2008	Total employment, 2008
				2008	2007				
86	74 Patria	Finland	Ac/MV SA/A	670	640	783	86	3	2 800
87	70 Fincantieri	Italy	Sh	670	660	4 299	15	15	9 190
S	S BAE Systems Hägglunds (BAE Systems, UK)	Sweden	MV	670	460	675	99	..	1 040
88	79 Curtiss-Wright Corp.	USA	Comp(Ac Sh)	660	610	1 830	36	109	7 970
89	81 MITRE ^v	USA	Ser	650	590	1 235	53	..	7 010
S	S Santa Bárbara Sistemas (General Dynamics, USA)	Spain	A MV SA/A	650	620	650	100	26	1 870
90	– Urалвагонзавод ⁱ	Russia	MV	640	460	1 851	35	-241	33 140
91	71 Alion Science and Technology	USA	Ser	640	660	740	86	-25	3 270
S	S Thales Australia (Thales, France)	Australia	A El/MV Mi SA/A Sh	630	630	935	68	..	3 510
92	87 Avio (Cirven, UK)	Italy	Eng	630	570	2 426	26	-122	5 090
93	99 Chemring Group	UK	SA/A	620	500	651	96	76	3 000
94	– Israel Military Industries	Israel	A MV SA/A	620	490	650	95	..	3 200
95	73 Cubic Corp.	USA	Ser	610	640	881	69	37	6 000
96	100 KBP ^j	Russia	SA/A	610	490	611	99	..	7 130
97	95 Vought Aircraft Industries (Carlyle Group)	USA	Ac	610	530	1 797	34	94	6 500
98	98 Esterline Technologies	USA	Comp(Ac SA/A)	590	510	1 483	40	121	9 700
99	89 Chugach Alaska Corp. ^w	USA	Ser	570	560	..	..	..	..
100	– Day & Zimmermann ^x	USA	SA/A Oth	550	490	2 400	23	..	24 000

^a Although several Chinese arms-producing enterprises are large enough to rank among the SIPRI Top 100, it has not been possible to include them because of lack of comparable and sufficiently accurate data. In addition, there are companies in other countries, such as Kazakhstan and Ukraine, that could also be large enough to appear in the SIPRI Top 100 list if data were available, but this is less certain.

^b Companies are ranked according to the value of their arms sales in 2008. An S denotes a subsidiary company. A dash (–) indicates that the company did not rank among the SIPRI Top 100 for 2007. Company names and structures are listed as they were on 31 Dec. 2008. Information about subsequent changes is provided in these notes. The 2007 ranks may differ from those published in SIPRI Yearbook 2009 owing to continual revision of data, most often because of changes reported by the company itself and sometimes because of improved estimations. Major revisions are explained in these notes.

^c Dots (..) indicate that data is not available.

^d For subsidiaries and operational companies owned by a holding or investment company, the name of the parent company is given in parentheses along with its country, where it differs.

^e Key to abbreviations: A = artillery; Ac = aircraft; El = electronics; Eng = engines; Mi = missiles; MV = military vehicles; SA/A = small arms/ammunition; Ser = services; Sh = ships; Sp = space; Oth = other; Comp() = components, services or anything else less than final systems in the sectors within the parentheses—used only for companies that do not produce final systems.

^f Finmeccanica acquired DRS Technologies in Oct. 2008. The figures presented here treat the acquisition as if it had occurred on 1 Jan. 2008.

^g The arms sales figures for KBR are an estimate based on LOGCAP III payments and payments by the British Ministry of Defence (MOD).



^h The arms sales figures for Rolls-Royce are estimates, as the company does not publish information on the civil-military breakdown of its Marine Division's sales and has not responded to requests for this information.

ⁱ This is the 7th year that Russian companies have been covered by the SIPRI Top 100. There may be other Russian companies that should be in the list but for which insufficient data is available. Figures for Russian companies' total sales and profits are from Expert RA, the Russian rating agency; the figures for arms sales shares estimates and employment are from the Centre for Analysis of Strategies and Technologies (CAST), Moscow.

Many Russian arms-producing companies are being consolidated into 4 large state-owned conglomerates: United Aircraft Corporation (UAC), OPK Oboronprom, United Shipbuilding Corporation (USC) and Rostekhnologii. However, comparable data on these conglomerates is not available. Thus, even though Sukhoi and Irkut are part of UAC and Vertolety Rossii is a subsidiary of OPK Oboronprom, these 3 companies are reported as parent companies in the Top 100.

^j Limited financial data is available for AM General. The SIPRI estimate of arms sales is based on a 2-year average of US Department of Defense (DOD) prime contract awards.

^k In previous years, Navistar's arms sales figures were calculated using an average of DOD contracts. The figures for 2008 and 2007 reported here are based on information on arms sales for those years released by the company. This change revised Navistar's sales downward, and so altered the company's ranking for 2007.

^l Arms sales figures for Japanese companies represent new military contracts rather than arms sales.

^m Hewlett-Packard (HP) acquired EDS in HP's fourth quarter of 2008. The total sales figure presented here is pro forma as if EDS had been part of HP for the company's entire financial year. Prior to the acquisition, HP was not considered an arms-producing company according to the SIPRI definition. Because HP does not report EDS's civil and military sales separately, the arms sales estimate for 2008 is based on EDS's arms sales from 2007.

ⁿ The arms sales figures for Krauss-Maffei Wegmann are based on a small estimate of the company's non-military sales.

^o The arms sales share of total sales for Hindustan Aeronautics is taken from the *Defense News* Top 100 for 2008.

^p The arms sales figure for DynCorp is revenues from the US DOD. This is probably an underestimate, as some security contracts with the US State Department should probably be classified as military business, and are thus 'arms sales' according to the SIPRI definition.

^q All figures for Indian Ordnance Factories are estimates.

^r Limited financial data is available for Shaw Group. The SIPRI estimate of arms sales is based on a 2-year average of US DOD prime contract awards.

^s The arms sales share of total sales for ARINC is taken from the *Defense News* Top 100 for 2008.

^t The arms sales of Fiat are those of its Iveco trucks and commercial vehicles division, which sells some military vehicles.

^u The arms sales figures for Jacobs Engineering Group are based on US DOD prime contract awards.

^v The arms sales figures for MITRE are based on US DOD prime contract awards.

^w The arms sales figures for Chugach Alaska Corporation are based on US DOD prime contract awards.

^x The arms sales figures for Day & Zimmerman are based on US DOD prime contract awards.



SOURCES AND METHODS

Selection criteria and sources of data

Table 1 lists the world's 100 largest arms-producing companies (excluding Chinese companies), ranked by their arms sales in 2008—the SIPRI Top 100 for 2008. The table contains information on each company's arms sales in 2007 and 2008 and its total sales, profit and employment in 2008. It includes public and private companies but excludes manufacturing or maintenance units of the armed services. Only companies with operational activities in the field of military goods and services are listed, not holding or investment companies. Chinese companies are excluded because of the lack of readily available data. Companies from other countries might also have been included at the lower end of the list had sufficient data been available.

Publicly available information on arms sales and other financial and employment data on the arms industry worldwide are limited. The sources of data for table 1 include company annual reports and websites, a SIPRI questionnaire, and news published in the business sections of newspapers, in military journals and by Internet news services specializing in military matters. Press releases, marketing reports, government publications of contract awards and country surveys are also consulted. Where no data is available from these sources, SIPRI has made estimates (see below). The scope of the data and the geographical coverage are largely determined by the availability of information. All the data is continuously revised and updated and may change between different editions of the SIPRI Yearbook.

Definitions

Arms sales are defined by SIPRI as sales of military goods and services to military customers, including both sales for domestic procurement and sales for export. Military goods and services are those which are designed specifically for military purposes and the technologies related to such goods and services. Military goods are military-specific equipment and do not include general purpose goods, such as oil, electricity, office computers, uniforms and boots. Military services are also military-specific. They include technical services such as information technology, maintenance, repair and overhaul, and operational support; services related to the operation of the armed forces, such as intelligence, training, logistics and facilities management; and armed security in conflict zones. They do not include the peacetime provision of purely civilian services, such as health care, cleaning, catering, and transportation, but supply services to operationally deployed forces are included.

This definition of arms sales serves as a guideline; in practice it is difficult to apply. Nor is there any good alternative, since no generally agreed standard definition exists. The data on arms sales in table 1 often reflects only what each company considers to be the defence share of its total sales. The comparability of the company arms sales figures given in table 1 is therefore limited.

Data on total sales, profit and employment is for entire companies, not for arms-producing divisions alone. All data is for consolidated sales, including those of national and foreign subsidiaries. The data on profit represents profit after taxes. Employment data is year-end figures, except for those

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companies that publish only a yearly average. All data is presented on the financial year basis reported by the company in its annual report.

Calculations

Arms sales are sometimes estimated by SIPRI. In some cases SIPRI uses the figure for the total sales of a ‘defence’ division, although the division may also have some, unspecified, civil sales. When the company does not report a sales figure for a defence division or similar entity, estimates can sometimes be made based on data on contract awards, information on the company’s current arms production programmes and figures provided by company officials in media or other reports.

The data for arms sales is used as an approximation of the annual value of arms production. For most companies this is realistic. The main exception is shipbuilding companies. For these companies there is a significant discrepancy between the value of annual production and annual sales because of the long lead (production) time of ships and the low production run (number). Some shipbuilding companies provide estimates of the value of their annual production. This data is then used by SIPRI for those companies.

All data is collected in local currency and at current prices. For conversion from local currencies to US dollars, SIPRI uses the International Monetary Fund (IMF) annual average of market exchange rates (as provided in *International Financial Statistics*). The data in table 1 is provided in current dollars. Changes between years in this data is difficult to interpret because the change in dollar values is made up of several components: the change in arms sales, the rate of inflation and, for sales conducted in local currency, fluctuations in the exchange rate. Sales on the international arms market are often conducted in dollars. Fluctuations in exchange rates then do not have an impact on the dollar values but affect instead the value in local currency. If the value of the dollar declines, then the company’s revenue in local currency falls and, if its production inputs are paid for in local currency—which most often is the case—this has a negative impact on the company’s profit margins. Calculations in constant dollar terms are difficult to interpret for the same reasons. Without knowing the relative shares of arms sales derived from domestic procurement and from arms exports, it is impossible to interpret the exact meaning and implications of the arms sales data. This data should therefore be used with caution. This is particularly true for countries with strongly fluctuating exchange rates.



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