

Smiths Group



Smiths Group is a fast expanding international engineering company. It has four divisions: Aerospace, Sealing Solutions, Medical and Industrial. Military sales presently make up 22.5% of Smiths' turnover and this is set to increase markedly with the recent signing of a number of high-value military contracts

Introduction

Previously, the main area of growth for Smiths was in the civil aircraft sector, however the focus of growth has now moved to military aerospace. Worldwide demand for civil aircraft was declining even before the events of 11th September 2001. Conversely, military budgets are resurgent. Smiths' 2001 Annual Report states that 'the civil part of the business has deteriorated since the events of 11th September... In contrast sales of defence equipment, for which the company has a secure order book, continue to grow strongly.' Possibly the most secure contract is for work on the Joint Strike Fighter, 3000 of which will be built for the US with a similar number likely to be exported. Smiths will pick up work worth at least \$1million per plane for a number of systems including weapons control (Smiths Press Release, 26.11.2001).

In December 2000, the size of Smiths' Aerospace division doubled and its position as a first-tier aerospace supplier was secured when Smiths Industries Aerospace merged with TI's Dowty Group, creating Smiths Aerospace. (The merger also provided Smiths with an automotive business, which it swiftly sold off, and a new Sealing Solutions division). Around 75% of the 37,700 workforce is based in the UK and US and there are 'large concentrations in Mexico, Malta, the Czech Republic and the Far East' (Annual Report 2001). As well as significantly increasing the turnover of Smiths, the TI merger has brought influential figures into the fold including two prime examples of the revolving door: Sir Colin Chandler, formerly head of the UK Government's Defence Export Services Organisation, and Sir Nigel Broomfield, formerly British Ambassador to the Federal Republic of Germany.

The bulk of Smiths' military sales are from within the Aerospace division (which is the subject of most of what follows), though the Sealing Solutions and Industrial divisions had military sales of £20m and £50m, respectively,

BASIC FIGURES

(1996-1999 sourced from SIPRI Yearbooks; 2000 and 2001 sourced from Smiths annual reports)

Year	Number of employees	Total Sales (US\$m)	Arms Sales (US\$m)	World Arms Rank	Arms Sales as % of Total
2001	37,700	4,900			
2000	16,500	2,200			
1999	15,000	2,143	510	56	24
1998	14,100	1,985	460	57	23
1997	13,300	1,763	410	70	23
1996	12,800	1,575	360	87	23

Recent Acquisitions



Chapman Avionics (2001)

Acquired in April 2001. 'An important Australian maintenance provider' purchased by Smiths Aerospace Customer Services to expand its global reach (Smiths 2001 Annual Report).

TI Group (2000)

Merged with Smiths Industries in December 2000. The combination of Smiths Industries Aerospace and TI's Dowty Group created Smiths Aerospace. 'Dowty had world leadership in hydraulic and actuation systems, advanced propeller systems, turbine engine components and tubular systems together with an aircraft structures business' (www.smiths-aerospace.com).

Fairchild Defense (2000)

Acquired from Orbital Science in October 2000 for £75m. Fairchild Defense is a leading US supplier of mission planning and data recording systems of military aircraft (*Flight International*, 3-9 October 2000).

BAE Systems' Actuation Systems division (2000)

Acquired in March 2000 for £63m. This and the Invensys deal helped Smiths to develop its products for controlling and managing aircraft utilities including power generation, environmental controls, and mechanical and hydraulic systems (*Jane's Defence Industry*, April 2000).

Invensys' aerospace division (2000)

Acquired in January 2000 for £109m. Extended Smiths product range into mechanical systems and components (*The Engineer*, 7.1.00).

ETG (1999)

Acquired in August 1999 for £7m. A 'leading US maker of chemical and biological detection systems, and complements Graseby Dynamics in the UK' (Interim Report 2000).

Strategic Technology Systems (STS) (1999)

Acquired in April 1999 for \$14.5m (Smiths Press Release, 11.5.1999). STS is a US HUMS manufacturer which makes data recorders for the US and British Army AH-64D Apache Longbow helicopters.

Stewart Hughes Ltd (1998)

Acquired in 1998 (www.shl.co.uk). Stewart Hughes already had a leading position on the US AH-64 Apache helicopter.

Graseby (1997)

Acquired in 1997 for \$223 m. Graseby is 'a company with important defence related activities in equipment for chemical and biological detection' (www.smiths-aerospace.com).

in 2001.

Because Smiths does not produce 'platforms' - complete aircraft, ships, tanks etc - its military involvement is not as widely known as its size merits. Smiths' contracts tend to happen out of the media glare and, apart from some direct sales to controversial countries, such as a sale in 2001 to India, are with European or US platform manufacturers. However, the equipment Smiths produces is fundamental to the weapons and weapons platforms that find their way to all corners of the globe.

History

Smiths Group has its roots in a London family clock and watch making business, founded by Samuel Smith in 1851. The business' development of the first British speedometer in 1904 proved to be the foundation on which the automotive manufacturing business was then built, branching into aircraft instruments as flight was developed. By 1944, Smiths' commercial activities were carried out by four subsidiaries: Smiths Aircraft Instruments Ltd, Smiths Motor Accessories Ltd, Smiths Industrial Instruments Ltd and Smiths English Clocks Ltd.

In 1958 Smiths Aviation and Marine was created and in 1961 a separate aviation division was formed. This received an immediate boost with the first Boeing order for British instrumentation. In 1966 the company changed its name to Smiths Industries Ltd and two significant milestones in the 'drive to serve the military market' (www.smiths-aerospace.com/about/history/index.asp) followed shortly after - a Trident test aircraft became the first civil airliner to land in thick fog under automatic control and Spectro Avionics, which had developed the first head-up display, was acquired.

Manufacture of clocks and watches ceased in 1979 and in 1983 Smiths withdrew from the motor industry. In 1987 Smiths acquired the US avionics businesses of Lear Siegler Holdings Corp (and their 'major position' with Boeing). The end result was that by the late 1980s aerospace had evolved into Smiths' major core business.

Smiths Aerospace Products

'Smiths Aerospace supplies equipment on all major military and civil aircraft turbine engines, providing critical technologies from intake to exhaust'. 'It also supplies a range of highly integrated systems for civil and military helicopters and has important positions on current military aircraft and those shaping tomorrow's Air Forces' (www.smithsind-aerospace.com). The breadth of their activities is amply demonstrated in the list of aircraft and engines in the panel below. Major customers of Smiths include BAE Systems, Boeing, Lockheed Martin, Pratt & Whitney, Raytheon and Rolls-Royce.

The Aerospace division is organised into groups serving selected elements of the aerospace market, namely Electronic Systems, Actuation Systems, Precision Components, Customer Services, Detection & Protection Systems and Marine Systems.

Electronic Systems

Electronic Systems provides a wide range of aircraft technologies, from flight data recorders to the interface between an aircraft and its missiles. Specific product areas include:

- Health and Usage Monitoring Systems (HUMS) which uses an array of sensors to monitor the condition of vital bearings, gearbox and engine parts.
- Stores Management Systems - the range of stores covers weapons and gun systems, drop tanks, sonobuoys and life rafts.
- Power systems, including primary electrical power and load management systems.
- Fuel gauging and management capability, producing all probes, instrumentation and fuel pipes.
- Lightweight systems for UCAVs (unmanned combat air vehicle), including mission planning systems, flight management, target recognition and weapons management.

Actuation Systems

Smiths Aerospace develops, manufactures and provides in-service support for systems including: flight control systems, thrust reversers, hydraulics for landing gear and door actuation systems, propeller systems and electro-mechanical actuation systems for military land vehicles.

Precision Components

- Supply gas turbine engine components to every major engine programme world-wide and have long-term supply agreements with all leading engine companies.
- Offer 'total fluid transfer solutions' - for applications carrying fuel, lubrication, hydraulic fluid, gas or air, in aircraft, turbine engines, missiles and space vehicles.
- 'Design and manufacture major structures and precision airframe components in metallic, composite and acrylic materials.' 'Smiths Aerospace is Europe's number one supplier of complete in-frame canopies and windscreens, and we support major platforms such as Eurofighter, through the supply of role equipment (in-flight refuelling probes, fuel tanks, gun pods and missile containers) as well as providing a comprehensive overhaul service for out-of-production aircraft.'
- Includes 'electron beam welding systems, vacuum furnaces, helicopter visual landing aids, ships log systems, explosive ordnance disposal equipment... and armoured vehicle suspension products.'

Detection and Protection Systems

'A family of products that detect both nerve and blister agents from a variety of different platforms including aircraft, ships, AFVs (armoured fighting vehicles).'

Marine Systems

Responsible for naval, marine and radar products.

(Source: www.smithsind-aerospace.com/products)

Aircraft and engines supplied by Smiths

Military Combat Aircraft

Aermacchi M346; **Aero Vodochody** L-159; **Alenia/Macchi** AM-X; **BAe Hawk** 100, 200, 50, 60, Lead-In-Fighter, Lead-In-Fighter Trainer, Next Generation; **BAe** Sea Harrier; **BAE/Boeing** Harrier AV-8B, T-45 Goshawk; **Boeing** B-1B, F/A-18 C/D, F/A-18 E/F, F-111, F-15 Eagle, UCAV; **Dassault** Mirage, Rafale; **EADS/Rockwell** X-31; **Embraer** ALX Tucano; **Eurofighter** Typhoon; **Fairchild** A-10; **Kiran** HJT-36; **Lockheed Martin** F-117, F-16, Joint Strike Fighter, /Kai T-50, F-22; **McDonald Douglas** A4-D; **Mitsubishi** F-2(FS-X); **Northrop Grumman**: A-10A, B-2, EA-6B, F-14, F-5E, F-5F; **Panavia** Tornado; **Raytheon** T-6A/JPATS; **Saab** JAS 39 Gripen; **Sepecat** Jaguar; **UCAV**

Military Transport Aircraft

BAe Nimrod; **Boeing** B-52G/H, C-17 Globemaster, E-3 AWACS, E4 VC-25, KC-135; **CASA/IPTN** CN-235; **CL** 415 Water Bomber; **Grumman** C-2 (Greyhound); **IAI** U-2; **Lockheed Martin** C-130 ECS, C-130H, C-130J Hercules & Hercules II, C-27J, C-5B, P-3 Orion, SR-71, U-2S, L-1011 Tri-Star; **Northrop Grumman** E-2C Hawkeye, Global Hawk, JSTAR E-8; **Raytheon** Greenville RC-135; **ShinMaywa** US1-A Kai

Military Aircraft Engines

BMW/Rolls-Royce BR710
Eurojet EJ200
F117
General Electric F110, F118, F404
IAE V2500
Pratt & Whitney F100, F119, PT6
Rolls-Royce Adour, AE2100, Pegasus

Helicopters

Aerospatiale AS-350, AS-355, AS-365, Puma/Super Puma; **Agusta** A-109, A129; **Bell** 214ST, 222, 230, 412, 430, AH-1W Cobra, AH-1Z, OH-58, OH-58D, UH-1; **Bell Agusta** AB139, Agusta BA-609; **Bell Boeing** V-22 Osprey; **Boeing** AH-64 Apache, AH-64A, AH-64D, CH-47 Chinook, Vertol CH-46, Vertol MH-47, WAH-64; **Boeing Sikorsky** RAH-66 Comanche; **EH Industries** EH-101; **Eurocopter** Dauphin, EC-120, EC-135; **Eurocopter/Agusta** NH-90; **Eurocopter/Kawasaki** BK-117; **GKN Westland** Lynx, Sea King, Super Lynx; **Kaman** K-MAX, SH-2G; **MBB** Bo-105; **McDonald Douglas** 900; **PZL Swidnik** W3-A; **RDM** MD900 Explorer; **Sikorsky** Black Hawk (UH-60/VH-60/MH-60), CH-53 (Stallion), S-70, S-76, Sea King, Seahawk SH-60/B, VH-3, **Super Puma**; **VH-60**; **XV-15**

Helicopter Engines

Allied Signal T55
General Electric T64, T700, TF39
Pratt & Whitney PT6, PW200
Rolls-Royce GEM, RTM322, T250, T406, T800

(Source: www.smithsind-aerospace.com)

Recent deals

Smiths is primarily a supplier to the prime contractors. In Smiths' 2000 annual report, Keith Butler-Wheelhouse said that "the next 5 years will see accelerating deliveries of our systems for new-generation combat aircraft such as Eurofighter Typhoon, F-18 Super Hornet, F-22 Raptor and the Apache Longbow helicopter... We have also won development contracts for both contenders in the US Joint Strike Fighter (JSF) contest for a production run of at least 3,000 aircraft."

● October 2001: JOINT STRIKE FIGHTER

The JSF contest was subsequently won by Lockheed Martin, and Smiths has already secured contracts worth around \$1m per aircraft. In total, it is expected to bring Smiths 'new business valued at more than \$10 billion over the lifetime of the aircraft. Smiths Aerospace is a key supplier of electronic and mechanical systems to the Lockheed Martin program.¹

The JSF is set to become the new F-16, the most numerous western fighter in current service. In addition to the US, F-16 customers include: Bahrain, Egypt, Israel, Jordan & UAE in the Middle East; Indonesia, Pakistan, Singapore, South Korea, Taiwan & Thailand in Asia; and Greece & Turkey in NATO². It is highly likely that the JSF will find its way to a similar range of countries and areas of conflict.

JSF actuation packages and components will be developed and manufactured at facilities in Cheltenham and Wolverhampton as well as at US sites.³

● September 2001: UNITED ARAB EMIRATES

Smiths contracted by Lockheed Martin to supply components for UAE F-16s.⁴

● August 2001: UK MINISTRY OF DEFENCE

The UK Ministry of Defence has awarded Smiths a £40 million contract to design and install their Generic Health & Usage Monitoring Systems in Sea King helicopters flown by the Royal Navy.⁵

● August 2001: US ARMY

Under a contract from General Dynamics Land Systems, Smiths will design and develop a generator for the US Army's Crusader self-propelled howitzer and re-supply vehicle. The contract has a potential value of \$80m.⁶

● July 2001: INDIA

Smiths to supply an integrated avionics systems to Hindustan Aeronautics' Intermediate Jet Trainer. The Indian air force is expected to procure about 150 aircraft.⁷

● July 2001: BOEING JSF

Smiths to supply landing-gear components for the Boeing Joint Strike Fighter candidate. The contract was potentially worth \$100m.⁸

● July 2001: US AIR FORCE

Smiths to supply avionics systems worth over \$250m for a C-130A transport aircraft upgrade.⁹

● July 2001: US AIR FORCE

Smiths to provide ground collision avoidance capability for F-16 fighters flown by the US Air Force. The order covers more than 1,700 aircraft.¹⁰

● July 2001: LOCKHEED MARTIN

Smiths is developing data transfer equipment for the F-22 Raptor fighter under a \$13m contract.¹¹

● December 2000: ISRAEL

Israel's RADA, Smiths and Fairchild Defense to develop a datacentre for Israeli Air Force F-16s.¹²

● September 2000: MIDDLE EAST

Smiths acquisition of Fairchild Defense brought 'significant orders' for F-16 upgrades in the Middle East, 'the first of a sizeable number of international F-16 upgrades that will occur over the next 10 years.'¹³

● July 2000: SIKORSKY

Smiths to supply and integrate cockpit voice and data recorders on RAH-66 Comanche attack helicopters. The US Army plans to acquire more than 1,200 Comanches.¹⁴

● December 1999: AUSTRALIA

Smiths contracted by British Aerospace (now BAE Systems) to provide Augmented Logistic Support services to 33 Hawk Lead-in Fighter Trainers supplied to the Royal Australian Air Force. The contract is to last for six years and is worth \$10m.¹⁵

● December 1999: BOEING

Smiths contracted by Boeing's Military Aircraft and Missile Systems group to supply the US Army's Apache Longbow attack helicopter fleet with its integrated electrical power management systems. Smiths expects sales to US Army and other operators to total \$400m.¹⁶

● November 1999: US NAVY

Smiths receives \$100m contract to provide the US Navy with logistics, engineering support and obsolescence management for stores management systems used by F/A-18C/D, F-14 and AV-8B aircraft.¹⁷

● September 1999: LOCKHEED MARTIN JSF

Smiths chosen as a supplier of power systems for the Lockheed Martin Joint Strike Fighter bid. Smiths is already a member of the competing Boeing team, where it is to supply stores management and weapons control systems.¹⁸

1. Smiths press release, 26/10/01

2. *Flight International*, 20-26 February 2001

3. Smiths press release, 26/10/01

4. *Flight International*, 18-24 September 2001

5. *Defence Systems Daily*, 14/8/01

6. *Defence News*, 3-9 September 2001

7. *Defence News*, 2-8 July 2001

8. *Defence News*, 30 July-5 August 2001

9. *Defence News*, 25 June-1 July 2001

10. *Defence News*, 16-22 July 2001

11. *Defence News*, 9-15 July 2001

12. *Flight International*, 12-18 December 2001

13. Smiths press release, 27/9/00

14. *Defence Systems Daily*, 31/7/00

15. *Jane's Defence Weekly*, 1/12/99

16. *Jane's Defence Weekly*, 1/12/99

17. *Jane's Defence Weekly*, 24/11/99

18. *Financial Times*, 7/9/99

Smiths Aerospace sites, offices and facilities

United Kingdom

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Telephone: + 44 (0) 20 8458 3232; + 44 (0) 20 8458 4380

BRISTOL

C&F Millier Limited Vulcan Works, 272 Southmead Rd, Bristol BS10 5EW

CAMBRIDGE

Cambridge Vacuum Engineering Pembroke Ave, Waterbeach CB5 9QX

DORSET

AB Precision (Poole) Ltd 134 Stanley Green Rd, Poole BH15 3AL

Aeronautical & General Instruments (AGI) Willis Way, Poole BH15 3SS

Beagle Aircraft Stony Lane, Christchurch BH23 1EX

Hamble Military Stony Lane, Christchurch BH23 1EX

ESSEX

ChartCo Ltd New North Road, Ilford, Hainault IG6 2UR

Kelvin Hughes Ltd New North Road, Hainault, Ilford IG6 2UR

GLOUCESTERSHIRE

Actuation Systems (Cheltenham) Arle Court, Cheltenham GL51 0TP

Corporate Smiths Aerospace, Bishops Cleeve, Cheltenham GL52 8SF

Customer Services (Cheltenham) Bishops Cleeve, Cheltenham GL52 8SF

Dowty Propellers Cheltenham Rd, Gloucester GL2 9QN

Dowty Propellers Repair & Overhaul Cheltenham Rd, Gloucester GL2 9QH

Electronic Systems (Cheltenham) Bishops Cleeve, Cheltenham GL52 8SF

HAMPSHIRE

Electronic Systems (Southampton) Ensign Way, Hamble, SO31 4RF

Hamble Structures Kings Avenue, Hamble-Le-Rice SO31 4NF

Lodge Ignition (Basingstoke/Rugby) Harrow Way, Basingstoke RG22 6HP

HERTFORDSHIRE

Detection & Protection Systems (Watford) Park Ave, Bushey WD2 2BW

Graseby Dynamics Ltd Park Avenue, Bushey, Watford WD2 2BW

ISLE OF MAN

Actuation Systems (Isle of Man) School Road, Onchan IM3 4PB

LANCASHIRE

Aero & Industrial Services PO Box 46, Woodtop, Burnley BB11 4BX

Aero & Industrial Technology Woodtop, Burnley BB11 4BX

Combustion Technology Centre PO Box 46, Wood Top, Burnley BB11 4BX

LINCOLNSHIRE

Kontak Manufacturing Co Ltd Londonthorpe Road, Grantham NG31 9SJ

MIDDLESEX

Customer Services (Heathrow) Northolt Rd, Hounslow, London TW6 2LW

SOMERSET

Horstman Defence Systems Locksbrook Road, Bath BA1 3EX

SUFFOLK

Micro Circuit Engineering (MCE) (Newmarket/Tewkesbury) Exning Road, Newmarket CB8 0AU

SURREY

Customer Services (New Addington) Vulcan Way, New Addington, Croydon CR9 0BD

WEST MIDLANDS

Actuation Systems (Wolverhampton) Wobaston Road, Wolverhampton WV9 5EW

Reynolds Rings 150, Redfern Road, Tyseley, Birmingham B11 2HN



Global sites

AUSTRALIA Customer Services Brisbane; Newcastle

CANADA Barringer Technologies; Customer Services

KFW Canada Ontario

CHINA Kelvin Hughes Shanghai

DENMARK A/S Kelvin Hughes

FRANCE Barringer Europe SARL; Titeflex Europe SA

MALAYSIA Barringer Asia-Pacific

NETHERLANDS Kelvin Hughes Observator bv.

SINGAPORE Customer Services; Kelvin Hughes (Singapore) Pte Ltd

UNITED STATES Actuation Systems Los Angeles; Whippany; Yakima

Barringer Technologies Warren

Corporate Grand Rapids

Customer Services Clearwater; Dayton; Grand Rapids; Seattle; Whippany; Wichita

Dowty Propellers Repair & Overhaul Sterling

EBTEC Corporation Agawam

Electronic Systems Clearwater; Dayton; Germantown; Grand Rapids; Long Island; Malvern; Pompano Beach; Rockford; San Diego; TDI

Environmental Technology Group Baltimore

King Fifth Wheel Company Mountaintop

Lewis & Saunders Inc. Laconia

NCI Inc. Asheville

Titeflex Corp. Inc. Springfield

Tri Industries Inc. Terre Haute

Tru-Form Inc. Wilkes-Barre

US Government Relations Office Arlington

Valley Manufacturing Corp. Wilkes-Barre

Wentgate Dynaweld Inc. Agawam

Board of directors

Keith Orrell-Jones Chairman (£193,000).

Also non-executive Chairman of FKI plc.

Keith Butler-Wheelhouse Chief Executive (£1,385,000).

Previously President & Chief Executive Officer of Saab Automobile.

Sir Colin Chandler Non-executive Deputy Chairman (£43,000).

Also Chairman of Vickers Defence Systems and a Non-executive Director of Thales. Worked for British Aerospace and, on secondment, became Head of the MoD's Defence Export Services. Was chairman of Racal Electronics.

Robert O'Leary Non-executive Director (£30,000).

Sir Nigel Broomfield Non-executive Director (£20,000).

Also Director of the Ditchley Foundation and an adviser to Arthur Andersen. Transferred from the army to the foreign service in 1968 and his last post was British Ambassador to the Federal Republic of Germany from 1993-97.

Julian Horn-Smith Non-executive Director (£30,000).

Also Chief Operating Officer of Vodaphone.

John Hignett Non-executive Director (£19,000).

Also Chairman of Schroder Income Growth Fund plc. Was Director General of the Takeover Panel.

Alan Thomson Financial Director (£567,000).

Has worked for Rockwell International Corporation and Raychem Ltd.

David Lillycrop General Counsel (£582,000).

John Ferrie Group Managing Director, Aerospace (£681,000).

Has held a number of senior appointments in Rolls-Royce.

John Langston Group Managing Director, Sealing Solutions (£571,000).

Lawrence Kinet Group Managing Director, Medical (£641,000).

Einar Lindh Group Managing Director, Industrial (£531,000).

Company (formal)

Secretary David Lillycrop

Registrar Lloyds TSB Registrars, The Causeway, Worthing, West Sussex BN99 6DA

Auditors PricewaterhouseCoopers

Incorporated in England No. 13

(Source: 2001 Annual Report)

Written by
Emily Robinson
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The Campaign Against Arms Trade is working for the reduction and ultimate abolition of the international arms trade, together with progressive demilitarisation within arms-producing countries. For more information about CAAT's work and how you can be involved, contact:

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