



AIRBUS
AIRBUS SAS
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Employment: 45,000

Officers:
President and CEO Noël Forgeard
COO Gustav Humbert
CFO Andreas Sperl

Aerospace Organization/Products:

Headquartered in Toulouse, France, Airbus is jointly owned by BAe Systems (UK) (20%), and EADS (Netherlands) (80%). Produces the A300/A310 family (769 delivered), the A320 family: A318, A319, A320 and A321 (1,788 delivered); A330 and A340 (477 delivered) and A380 commercial jet transports (all deliveries as of 7/31/2002). Airbus's facilities are located in Meaulte, Nantes, St-Nazaire and Toulouse (all France); Bremen, Buxtehude, Hamburg, Laupheim, Nordenham, Stade and Varel (all Germany); Getafe, Illescas and Puerto Real (all Spain); Broughton and Filton (both UK). It has regional offices in Sydney (Australia), Brussels (Belgium), Dublin (Ireland), Tokyo (Japan), Moscow (Russia), Singapore and Dubai (UAE); spares centers in Beijing (China), Frankfurt/Main and Hamburg (both Germany), Singapore and Washington, DC (USA); and training centers in Beijing (China), Toulouse (France) and Miami, FL (USA).

Subsidiaries:

Airbus Industrie China Ltd. (China): Sales, marketing, customer services, product support and training. **Airbus of North America (AINA)** (USA): Sales, marketing, customer services, product support and training. **Airbus Transport International (ATI)** (France): Transports Airbus aircraft sections among factories in Europe using the outside A300-600ST Beluga cargo aircraft, also ad hoc charters.

FINANCIALS (\$ MILLIONS)*:	2000†	2001††	% Change
Operating Revenues	13,996	18,206	30%
Operating Expenses	—	—	—
Net Profits	—	—	—
Debt to Equity Ratio	—	—	—

**AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.
 †Figures are pro forma, excluding Airbus UK. ††In mid-2001, the Airbus consortium was succeeded by a single corporate entity (Societe par Actions Simplifiee or "simplified" stock company). Financial results were 100% consolidated into EADS's accounts for the first time in 2001.*



ALCATEL
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Employment: 88,000 (6,500 Alcatel Space)

Officers:
Chairman & CEO, Alcatel Serge Tchuruk
President Alcatel Jean-Pierre Halbron
Chairman & CEO, Alcatel Space Pascale Sourisse
Executive VP, Alcatel Space Yves de la Serre
Senior VP, Chief Technical Officer, Alcatel Space Michel Courtois

Aerospace Organization/Products:

Alcatel Space Industries (Nanterre, France): Designs, manufactures and operates complete turnkey space systems. Develops satellite technologies for telecommunications, navigation, optical and radar observation, meteorology, and environmental and scientific applications. Designs and manufactures AMC series, Apstar 5 B, Arabsat, Astra 1K, Eurasiasat 1, Europe*Star, Eutelsat W, Globalstar, Hispasat, Hot Bird 6, SkyBridge, Star One and Stelatt 5 telecommunications and multimedia satellites; WorldSpace and XM Radio digital broadcasting satellites; EGNOS and EURIDIS navigation satellites; ERS, Hélios 1, Hélios 2 and Spot Earth-observation instruments; Meteosat Second-Generation series; oceanographic satellite Jason; Herschel-Planck, MSR, and Corot scientific satellites and Huygens interplanetary probe. Designs and manufactures the Proteus platform, with 700-lb. payloads for LEO applications, and the Spacebus platform, with payloads ranging from 700-2,000 lb. with power sources ranging from 6-15 kw. for geostationary applications. Designs and develops Earth stations for air traffic control, mobile telephony, multimedia, radio broadcasting and rural communication. Alcatel Space is a fully-owned subsidiary of Alcatel. Management, production and support activities are carried out in Cannes, Nanterre, Toulouse, Valence, France, and Kourou, French Guiana.

Subsidiaries:

Alcatel Bell Space (Hoboken, Belgium): Manufactures satellite communication, navigation, remote sensing and spacecraft control systems, including gateways; makes Earth terminals and satellite ground control stations. **Alcatel Espacio** (Madrid, Spain): Designs, develops and manufactures spacecraft equipment and subsystems. **Alcatel Etca** (Charleroi, Belgium): Manufactures on-board satellite power conditioning systems and ground-based equipment such as ground stations for power conditioning and test benches for launchers. **Alcatel Space Denmark** (Ballerup, Denmark): Designs and manufactures power conversion products for

FINANCIALS (\$ MILLIONS)*:	2000†	2001	% Change
Operating Revenues	27,828	22,463	(19%)
Operating Expenses	19,663	16,890	(14%)
Net Profits	1,173	(4,397)	(475%)
Debt to Equity Ratio	29%	27%	(7%)

**AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.
 †Values updated from 2002 Source Book.*

satellites and launch equipment. **Alcatel Space Netherlands B.V.** (Noordwijk, The Netherlands): Provides quality support and project documentation services. **Alcatel Space Norway** (Horten, Norway): Designs and manufactures products for use in advanced analog and digital processing for satellite systems. **Alcatel Space Operations GmbH** (Darmstadt and Gilching, Germany): Provides field operations services to EUMETSAT, the European Space Agency and the German Space Agency (DLR). **Alcatel Space Switzerland** (Gals, Switzerland): Builds on-board equipment for instrumentation and microgravity experiments; designs and manufactures electrical ground support equipment. **Alcatel Spacecom** (Nanterre, France): Provides value-added services, supports privatization of institutional firms, worldwide expansion of projects refocusing space agencies on R&D programs, new entrepreneurs and promising new services. Alcatel Mobicom is a subsidiary. **Indra Espacio S.A.** (Madrid, Spain): Ground segment engineering and applications for satellite communications, spacecraft control, Earth observation and satellite navigation. **Alcatel Spacecom Joint Ventures/Partnerships:** **Cyberstar**, partner: Loral Space & Communications (USA). **Eurasiasat S.A.M.**, partner: Türk Telekom (Turkey). **Europe*Star**, partner: Loral Space and Communications (USA). **SkyBridge**, partner: Loral Space & Communications (USA), others from Belgium, Canada, France, Japan and the USA.



Employment: 129,000

Officers:

Chairman & CEO Alain J. P. Belda; **Exec. VP & CFO** Richard B. Nelson; **Exec. VP ABS, Customer and Quality, Group President Alcoa Aerospace and Commercial Transportation** William S. Christopher; **VP Alcoa & President, Alcoa Mill Products** Paul D. Thomas; **VP Alcoa & President, Alcoa Engineered Products** Veronica M. Hagen; **President, Alcoa Wheel & Forged Products** Raymond B. Mitchell; **VP Alcoa, President & CEO, Howmet Casings** Mario Longhi Filho; **President, Huck Fasteners** Gary L. Hoursett

Aerospace Organization/Products:

Alcoa Engineered Products (Lafayette, IN, USA): Manufactures aluminum extruded shapes, tube, rod and bar for aerospace applications. **Alcoa Europe Extrusions and End Products** (Geneva, Switzerland): Produces aluminum extrusions, window systems and end products for aerospace applications. **Alcoa Mill Products** (Davenport, IA, USA): Manufactures aluminum sheet and plate for the aerospace and defense industry. **Alcoa Wheel and Forged Products** (Cleveland, OH, USA): Produces forged structural parts for aerospace applications. **Howmet Casings** (Darien, CT, USA): Supplies investment-cast superalloy and titanium components for turbine engines and utility power generators; makes investment-cast aluminum components. **Huck Fasteners** (Tucson, AZ, USA): Designs and manufactures high-technology fastening systems for aerospace and industrial applications. Specialty fastening systems include proprietary fasteners, installation tools, automation equipment and power sources.

FINANCIALS (\$ MILLIONS):	2000 [†]	2001	% Change
Operating Revenues	22,936	22,859	0%
Operating Expenses	20,124	21,218	5%
Net Profits	1,484	908	(39%)
Debt to Equity Ratio	39%	36%	(8%)

[†] Values updated from 2002 Source Book.



Employment: 371

Officers:

Chairman of the Board Jean-Marie Luton
CEO Jean-Yves Le Gall
Secretary General Françoise Bouzitat

Aerospace Organization/Products:

Responsibilities: Markets and sells launch services; produces Ariane launch vehicles; provides launch services from Europe's Space Port in Kourou, French Guiana. **Launch Vehicles:** Ariane 4 series (includes Ariane 40, 42L, 42P, 44L, 44LP and 44P) provides a wide range of GTO performances, from 2,070-4,900 kg. (4,550-10,780 lb.). Some 146 Ariane 1/2/3/& 4s have been ordered since the beginning of the program. The last Ariane 4 will be launched in early 2003. Ariane 5 (34 ordered as of 10/14/02) is the new European launch vehicle that provides greater satellite payload capacity with GTO performances of 5,900 kg. (12,980 lb.)/dual launch or 6,800 kg. (14,960 lb.)/single launch. The Ariane 5-ECA will provide a 10-metric-ton payload capacity in GTO. The company, which has 43 corporate shareholders from 12 European countries, has placed more than 206 (as of 10/14/02) satellites into orbit and received more than 250 orders (as of 11/08/02). **Financing:** Arianespace has a financing company designed to provide assistance for new projects linked to launch services through long-term project funding.

Subsidiaries:

Arianespace Inc. (Washington, DC, USA): Marketing and sales in the USA. **Integration and Launch Sites.** (Kourou, French Guiana). **Liaison Offices:** Arianespace, (Tokyo, Japan, and Singapore).

FINANCIALS (\$ MILLIONS)*:	2000 [†]	2001	% Change
Operating Revenues	1,044	715	(32%)
Operating Expenses	—	—	—
Net Profits	(228)	(171)	(25%)
Debt to Equity Ratio	—	—	—

* AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.
[†] Values updated from 2002 Source Book.



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Aerospace Organization/Products:

BAE SYSTEMS Air Systems Group (Preston, Lancashire, UK):

Eurofighter Typhoon (Preston, Lancashire, UK) with Alenia Aeronautica (Italy), EADS-CASA (Spain) and EADS Aeronautics Division (Germany) working as Jagflugzeug GmbH. First production aircraft delivered in 2002; 620 aircraft on order across the four partner nations. Builds advanced training and light combat Hawk aircraft (800 in operational service). Working with Lockheed Martin and Northrop Grumman on the F-35 Joint Strike Fighter (JSF). Approximately 3,000 JSF aircraft are planned for the US Air Force, US Navy, US Marine Corps and the Royal Navy and Royal Air Force. The first JSF should be operational in 2010; the first UK Squadron should enter service in 2012. Remanufacturing 18 Nimrod MRA4 aircraft from existing Nimrod airframes for the Royal Air Force's new maritime, reconnaissance and attack aircraft.

BAE SYSTEMS Australia (Adelaide, Australia):

Furnishes support services, electronics and software. Company is structured into Customer Solutions and Support, Defence Systems, and Hawk Lead-In Fighter.

BAE SYSTEMS Avionics (Basildon, UK):

Supplies electronic systems for civil and military platforms in the air, at sea and on land. The Avionics Group in the UK is organized into four divisions with various locations in the United Kingdom: Avionic Systems, Electronic Warfare, Inertial Systems and Sensor Systems.

BAE SYSTEMS Customer Solutions & Support (CS&S) (Farnborough, Hampshire, UK):

Provides tailored through-life support and service solutions for current and future defense systems.

BAE SYSTEMS North America (Rockville, MD, USA):

Designs, develops, integrates, manufactures and supports advanced aerospace products and intelligent electronic systems

Employment: 100,000

Officers:

Chairman Sir Richard Evans; **Chief Executive Officer** Mike Turner; **Chief Operating Officers** Steve Mogford, Mark Ronald and Chris Geoghegan; **Group Finance Director** George Rose; **Vice Chairman** Sir Charles Masefield

for government and commercial customers. Products and services are divided into four business sectors. **Controls** (Johnson City, NY): Control electronics and hardware subsystems for aerospace and ground transportation. **Information & Electronic Systems Integration** (Nashua, NH): Hardware systems and subsystems, and systems integration for aerospace and defense. **Information Systems** (San Diego, CA): Software systems for imagery, mission planning and information technology. **Technologies Services** (Rockville, MD): Systems engineering, technical services and base operations support for US Defense Department, FAA and NASA.

BAE SYSTEMS Regional Aircraft (Prestwick, UK):

Provides aircraft support activities, engineering, customer engineering that incorporates customer information and customer support that includes training.

BAE SYSTEMS RO Defence (Chorley, Lancashire, UK):

Produces ammunition in Europe for exports, artillery systems, electronic systems integration, explosives and propellants, medium caliber cannons, mortars, naval guns, naval sub-systems, naval weapon launchers, small arms, solid rocket motors, tank guns and warheads.

BAE SYSTEMS Sea Systems Group (Barrow-in-Furness, Cumbria; Stanmore, Middlesex; and Camberley, Surrey; all UK):

Combines prime contract offices and shipyards under one organizational structure to focus on constructing ships and submarines and supplying naval platforms and systems.

Joint Ventures/Partnerships:

Airbus, partner: EADS (The Netherlands). **AMS**, partner: Finmeccanica (Italy). **Astrium**, partner: EADS (The Netherlands). **Gripen International**, partner: SAAB (Sweden). **MBDA**, partners: EADS (The Netherlands) and Finmeccanica (Italy). **STN Atlas Elektronik**, partner: Rheinmetall (Germany).

FINANCIALS (\$ MILLIONS)*:

	2000 [†]	2001	% Change
Operating Revenues	14,406	13,123	(9%)
Operating Expenses	14,124	12,509	(11%)
Net Profits**	(28)**	(186)	(564%)
Debt to Equity Ratio	—	—	—

*AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.

**Net profits comprises (loss)/profit on ordinary activities after taxation. All figures are taken directly from year-end financial statements.

***Financial Reporting Standard 19 - Deferred tax (FRS 19) has been adopted for the first time in the 2001 accounts, resulting in a restatement of prior year figures.

[†]Values updated from 2002 Source Book.



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Aerospace Organization/Products:

Air Traffic Management (Seattle, WA, and Washington, DC, both USA):

Developing a secure satellite-based information network to enhance flight planning and emergency response capabilities by linking all elements of the air transportation system.

Business Jets (Seattle, WA, USA):

Manufactures a derivative of the 737 aircraft as a business jet.

Commercial Airplanes (Renton, WA, USA):

717 Div. (Long Beach, CA, USA): Boeing 717. (106 delivered through 9/02). **777 Div.** (Everett, WA, USA): Boeing 777 (418 delivered through 9/02). Recent historical programs include DC-9 (976 delivered), DC-10 (446 delivered), MD-11 (200 delivered), MD-80 (1,191 delivered), MD-90 (114 delivered). **Everett Div.** (Everett, WA, USA): Assembles Boeing 747 (1,311 delivered through 9/02), Boeing 767 (934 delivered through 9/02). **Fabrication Div.** (Auburn, WA, USA): Components manufacturing. **Material Div.** (Everett, WA, USA): Supplies subcontracted components. **Renton Div.** (Renton, WA, USA): Assembles Boeing 737 (4,325 delivered through 9/02), Boeing 757 (1,018 delivered through 9/02). **Wichita Div.** (Wichita, KS, USA): Components manufacturing and engineering.

Connexion by Boeing (Seattle, WA, USA):

Provides high-speed, inflight Internet services.

Integrated Defense Systems (St. Louis, MO, USA):

(Mesa, AZ, USA): Rotorcraft including AH-64A Apache (937 delivered); 200+ AH-64D Apache Longbows delivered to the US Army, the United Kingdom, The Netherlands and Singapore. Eleven nations have either contracted for or selected Apaches for their defense forces. (Southern California, USA): B-1B bomber upgrade program, C-17 airlifter (93 delivered to USAF, 180 required for US, 4 for UK), KC-10 tanker (60 delivered). Historical programs include A-4 Skyhawk (2,960 delivered). (St. Charles, MO, USA): Weapons and tactical missiles, including AGM-84 Harpoon (more than 6,800 delivered), AGM-84E Standoff Land Attack Missile (SLAM) (700 delivered), AGM-84H SLAM ER (Expanded Response); AGM-86C/D Conventional Air-Launched Cruise Missile (CALCM), AGM-130 (more than 700 delivered), Brimstone and GBU-31 Joint Direct Attack Munition (JDAM) (more than 20,000 delivered). Historic programs include AGM-86B Air Launched Cruise Missile (1,715 delivered), AGM-114 Hellfire (more than 65,000 delivered), AGM-129 Advanced Cruise Missile (114 delivered), BGM-109 Tomahawk (1,647 delivered) and GBU-15 (more than 3,000 delivered). (St. Louis, MO, USA): Tactical and training aircraft, including AV-8B Harrier 2 and AV-8B Harrier 2+ (new and remanufactured, 358 US, Italian and Spanish aircraft plus 109 shipsets of forward fuselage and wings for UK delivered), F-15 Eagle and F-15E Strike Eagle (1,556 delivered), F/A-18E/F Super Hornet (115, including 7 developmental aircraft, delivered through 11/1/02 out of a total of 548-785 required by US Navy), T-45 Goshawk trainer (124 delivered). Historical programs include F-4 Phantom 2 (5,057 delivered), and F/A-18 Hornet (production ended, total of 1,479 delivered), (Philadelphia, PA, USA): Rotorcraft, including CH-47 Chinook (total of 1,163 delivered including 154 produced in Italy and 65 produced in Japan; engineering and manufacturing development of latest variant, CH-47F, under way); H-46 Sea Knight (production ended, total of 826 delivered, including 160 produced in Japan), MH-47E (26 mods for US special forces), RAH-66 Comanche (joint venture with Sikorsky Aircraft; 2 prototypes assembled, 1,213 projected), V-22 Osprey tiltrotor (joint program with Bell Helicopter Textron; 10 aircraft delivered, 458 required for US Air Force, Marine Corps and Navy). (Seattle, WA, USA): C-32 USAF VIP support airlifter (4 delivered), C-40A Navy logistics airlifter (6 delivered) C-40B USAF Combatant Commanders Airlift (3 on order), F/A-22 fighter (33% program share; wings and aft fuselages delivered for nine flight-test aircraft, eight production representative test vehicles and the first seven production aircraft, also avionics integration and training, 295+ planned for USAF). **Boeing Aerospace Support** (Canberra, Australian Capital Territory, Australia): Australian Defence Forces helicopter school operations and support. (Newcastle, New South Wales, Australia): F/A-18 upgrade program. (Brisbane, Queensland, Australia): F-111 avionics and weapon system upgrades and logistics support. (Melbourne, Victoria, Australia): AP-3C upgrades. Defense Science & Technology Organization

Employment: 167,300

Officers:

Office of the Chairman: Chairman & CEO Philip M. Condit; Sr. VP & Chief People and Administrative Officer Lorette T. Koellner; Sr. VP & Chief Technology Officer David O. Swain; Exec. VP & CFO Michael M. Sears. **Others:** Exec. VP, President & CEO, Integrated Defense Systems James F. Albaugh; Sr. VP & President, Connexion By Boeing Scott E. Carson; President & CEO, Military Aircraft and Missile Systems Gerald E. Daniels; Sr. VP, Washington DC Operations Rudy F. de Leon; Sr. VP & President, Air Traffic Management John B. Hayhurst; President, Phantom Works Robert J. Kreiger; President & CEO, Commercial Airplanes Alan R. Mulally; Sr. VP & President, Boeing Capital Corp. James F. Palmer; Sr. VP & President, Shared Services Group Bonnie Soodik

support operations; (Riyadh, Saudi Arabia): E-3A, F-15, KE-3A support. (Mesa, AZ, USA): Apache support programs; Apache maintenance training systems; T-38C avionics modification; structural repair facility. (Garden Grove, CA, USA): C-130 Avionics Modernization Program, L-159 avionics integration and avionics upgrade programs. (Long Beach, CA, USA): C-17 Flexible Sustainment program. (Fort Walton Beach, FL, USA): Life-cycle customer support for Air Force Special Operations Command C-130 aircraft. (Jacksonville, FL, USA): F/A-18 modification and upgrades, C-130 modifications, (Wichita, KS, USA): Airborne Laser modification; B-52 weapon systems upgrades, C-32, C-40, C-137 and VC-25 contractor logistics support; KC-135R re-engining and modifications. (St. Louis, MO, USA): Military training systems and services; T-38C Avionics Upgrade Program; support systems; sustainment data and supply chain management support. (Oklahoma City, OK, USA): B-1B, B-52 and KC-135 training systems support. (Philadelphia, PA, USA): H-46, H-47, RAH-66 and V-22 rotorcraft support programs. (San Antonio, TX, USA): Maintenance and modification for C-17, KC-10 and KC-135. **Global Connectivity** (Seal Beach, CA, USA): Produces space-based, wide-area and mobile communication services products for commercial users. Programs include Boeing Satellite Systems (El Segundo, CA, USA), Digital Cinema (Los Angeles, CA, USA) and Spectrolab (Sylmar, CA, USA). **Integrated Battlespace** (Anaheim, CA, USA): Provides space- and airborne intelligence, surveillance, reconnaissance platforms to military and intelligence community customers, battle management, GPS and communications capability to government customers. Programs include Autometric (Springfield, Va.) and Future Combat Systems. **Launch & Satellite Systems** (Seal Beach, CA, USA): Encompasses the expendable launch service, satellite and space power and propulsion businesses of IDS, that include the following: Boeing Satellite Systems (El Segundo, CA, USA): Designs and manufactures satellites for telecommunications, weather observation, scientific research and military applications for commercial, government, military and international customers. Expendable Launch Systems (Huntington Beach, CA, USA): Commercial, government and military launches on the Delta family of launch vehicles (2, 3, 4); includes the commercial launch organization Boeing Launch Services. Rocketdyne Propulsion & Power (Canoga Park, CA, USA): Develops and manufactures reusable and expendable rocket propulsion systems, including Space Shuttle Main Engine, RS-68 for Delta 4, RS-27A for Delta 2, MA-5A for Atlas 2; advanced propulsion systems for Space Launch Initiative and rocket-based combined cycle; space power systems. Sea Launch (Long Beach, CA, USA): International joint venture to launch payloads from a sea-based platform on the equator. **Missile Defense** (Huntsville, AL and Washington, DC, both USA): Develops integrated systems (or "systems of systems") for National Missile Defense, Theater Missile Defense, Integrated Air & Missile Defense, airborne laser and other programs, including advanced power electronics, ground based mid-course defense systems, space-based laser. **NASA Systems** (Houston, TX, USA): Supports the design, development, construction and operation of the space shuttle and International Space Station. Programs include payload ground operations (Kennedy Space Center, FL, USA) and United Space Alliance, a joint venture, based in Houston, TX. Also developing an orbital space plane.

Phantom Works (St. Louis, MO, USA):

Utilizes advanced research and development to provide Boeing business units with customer service support.

Subsidiaries:

Aerospace Technologies of Australia (Port Melbourne, Australia): Produces main gear doors, floor support structure for the A330/A340 family, Krueger flaps for the 737-700 and 747, rudders for the 757 and 777 and flaps for the F/A-18 Hornet.

Joint Ventures:

Alliance Defense Corp., partners: BAe Systems (UK), CAMSU (Italy), EADS (The Netherlands). **Aviation Training International Ltd.**, partner: Augusta Westland (Italy/UK). **Bell Boeing**, partner: Bell Helicopter Textron (USA). **Boeing Sikorsky**, partner: Sikorsky Aircraft (USA). **Flight Dynamics Inc.**, partner: Kaiser Aerospace & Electronics (USA). **Sea Launch**, partners: Kvaerner A/S (Norway), RSC-Energia (Russia), NPO Yuzhnoye (Ukraine). **United Space Alliance**, partner: Lockheed Martin (USA).

FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenues	51,321	58,198	13%
Operating Expenses	48,263	54,302	13%
Net Profits	2,128	2,827	33%
Debt to Equity Ratio	80%	113%	41%



BOMBARDIER

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Employment: 80,000 (32,000 Bombardier Aerospace)

Officers:

Exec. Chairman & President, Executive Committee Laurent Beaudoin; **President & CEO, Bombardier Inc.** Paul M. Teller; **President & COO, Bombardier Aerospace** Pierre Beaudoin

Aerospace Organization/Products:

Bombardier Aerospace (Montréal, Québec, Canada):

Bombardier Amphibious Aircraft: Markets and supports Bombardier 415 amphibious aircraft (56 delivered as of 7/02). **Bombardier Business Aircraft:** Markets and supports range of business jet aircraft including the new Bombardier Challenger 300, the Bombardier Challenger 604 (238 delivered as of 6/02), the Global 5000 (launched in 2/2/02), the Global Express (111 delivered as of 6/02), the Learjet 45 (205 delivered as of 6/02), and the Learjet 60 (248 delivered as of 6/02). Also provides Bombardier Flexjet fractional ownership, aircraft charter and transportation solutions, technical services, aircraft maintenance and support services, and pilot and maintenance training programs. **Bombardier Regional Aircraft:** Markets and supports the Bombardier CRJ Series regional jets (715 delivered as of 7/02) including the Bombardier CRJ700 (48 delivered as of 7/02) and CRJ900 (first delivery planned first quarter 2003) and the Bombardier Q Series family of turboprop airliners (649 delivered as of 7/02). Also provides flight and maintenance training, product support, aircraft maintenance services and aircraft financing. **Manufacturing:** Bombardier Aerospace operates manufacturing facilities in three countries: Canada, the UK and USA. (Toronto, Ontario, Canada): Final assembly of the

Bombardier Q Series turboprop regional aircraft, final assembly of the Bombardier Express business jet and planned location for final assembly of the Bombardier Global 5000. (North Bay, Ontario, Canada): Final assembly of Bombardier 415 amphibious aircraft. Mirabel, Québec, Canada: Final assembly of the Bombardier CRJ700 and CRJ900 regional jets. Montréal, Québec, Canada: Manufactures the Bombardier Challenger 604 business jet, Bombardier CRJ200 aircraft; produces structural components for Bombardier 415 amphibious aircraft, several Boeing commercial transports and for the Airbus 330 and 340. (Belfast, Ireland, UK): Designs and manufactures major aerostructures for eight Bombardier Aerospace programs and several Boeing commercial transports. Designs and manufactures a range of engine nacelles for General Electric, International Aero Engines and Rolls-Royce. (Wichita, KS, USA): Manufactures the Bombardier Learjet family of business aircraft and assembles the Bombardier Challenger 300.

Joint Ventures:

Lufthansa Bombardier Aviation Services, partner: Lufthansa Technik AG (Germany). **CityLine Simulator und Training GmbH**, partners: CAE Electronics Ltd. (Canada) and Lufthansa CityLine (Germany).

FINANCIALS (\$ MILLIONS)*:

	2001†	2002	% Change
Operating Revenues	10,699	13,898	30%
Operating Expenses	9,741	12,822	32%
Net Profits	655	281	(57%)
Debt to Equity Ratio	—	—	—

*Fiscal year ends on Jan. 31. Conversions made according to Bombardier yearly cumulative average conversion rates of \$1.4902 Canadian = \$1 US for 2001 and \$1.5566 Canadian = \$1 US for 2001.

†Values updated from 2002 Source Book.



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Employment: 12,022

Officers:

Chairman & CEO Charles Edelstenne
Vice Chairman Bruno Revellin-Falcoz
Senior Executive VP, Operations Christian Decaix
Senior Executive VP, International Bruno Cotté
Honorary Chairman Serge Dassault

Aerospace Organization/Products:

Dassault Aviation (Saint-Cloud, France): Builds Falcon series (1,700 sold as of 9/1/02), Mirage 2000 (600 ordered), Rafale (61 ordered); develops unmanned aircraft and observation drones; develops new Falcon family; develops and integrates complete systems and conducts space studies. **Dassault Falcon Jet Corp.** (Teterboro, NJ, USA): Sales, support and completion of Falcon business jets. **Dassault Falcon Jet Service (Le Bourget, France):** Parts and maintenance for Falcon aircraft in the Eastern Hemisphere. **Sogitec Industries (Suresnes, France):** Communications Div. does electronic publishing and produces technical documentation products. Electronics Div. produces aircraft flight and maintenance training systems and image generators.

FINANCIALS (\$ MILLIONS)*:

	2000	2001	% Change
Operating Revenues	3,607	3,789	5%
Operating Expenses	3,254	3,393	4%
Net Profits	221	242	10%
Debt to Equity Ratio	—	—	—

*AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.



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Aerospace Organization/Products:

Aeronautics Division (Munich, Germany, and Toulouse France):

Conducts the EADS aeronautic activities not included in the Airbus and Military Transport Aircraft Divisions. Military aircraft include: Eurofighter Typhoon, working with BAe (UK) and Alenia Aeronautica (Italy) as Jagflugzeug GmbH, Mako and Tornado; helicopters: Eurocopter EC-120, EC-135, EC-155, NH90 and Tiger; regional aircraft: ATR 42-500 and ATR 72-500; light aircraft: Socata Epsilon, TB20/21 and TBM 700. Also performs freighter conversion (Elbe Flugzeugwerke) and maintenance (Sogerma).

Airbus Division (Toulouse, France):

Manufactures A300-600, A310, A330, A340 and A380 (in development) wide-body aircraft; A318, A319, A320 and A321 narrow-body aircraft; A319CJ business jet; freighter aircraft. Final assembly lines are located in Toulouse, France, (A300-600, A310, A320, A330, A340 and A380) and Hamburg, Germany (A318, A319 and A321).

Defence and Civil Systems Division (Munich, Germany):

Designs, develops and produces missiles and missile systems, defense electronics, telecommunications and provides related services. **EADS Telecom and EADS Services:** Supplies Internet protocol (IP) networks, high-speed and long-distance networks, switching products, local loop equipment and fiber-optic and cellular telecommunications networks. EADS distributes this public networking equipment that is made by Nortel. **Missiles:** Brings together MBDA (a merger of Alenia Marconi Systems, EADS Aerospaziale Matra Missiles and Matra BAe Dynamics) and the German EADS missile activities, primarily those of EADS/LFK. Products include ASRAAM, Aster, Brimstone, Diamond Back, Exocet, HOT, Kormoran, Meteor, Mica, Milan, Mistral, Patriot, Polyphem, RAM, Roland, Scalp EG/Storm Shadow, Seawolf, Stinger, Taurus, Trigat LR and Trigat MR. **System and Defence Electronics:** Offers C³I systems, reconnaissance and surveillance systems (CL 289, joint ISR systems), airborne multi-mode radars (ECR90) and electronic warfare systems.

Employment: 103,787

Officers:

Co-Chairmen Manfred Bischoff, Jean-Luc Lagardère; **Co-CEOs** Philippe Camus, Rainer Hertrich; **CFO** Axel Arendt; **CEO, Airbus** Noël Forgeard; **Head, Space Div.** François Auque; **Head, Defence and Civil Systems Div.** Thomas Enders; **Head, Military Transport Aircraft Div.** Francisco Fernández Sáinz; **Head, Strategic Coordination** Jean-Louis Gergorin; **Head, EADS International** Jean-Paul Gut; **COO, Airbus** Gustav Humbert; **Head, Aeronautics Div.** Dietrich Russell; **Chairman and CEO, EADS North America** Ralph Crosby

Military Transport Aircraft Division, (Madrid, Spain):

Manufactures the C-212, C-295 and CN-235. Also designing the A400M.

Space Division (Paris, France):

The Space Division is subdivided into three business units: **Astrium** (Vélizy Villacoublay Cedex, France), **EADS CASA Espacio** (Madrid, Spain), and **EADS Launch Vehicles** (Le Meruax, France): design, develop and produce: broadcast satellites for Eutelsat, Inmarsat and Intelsat; Earth-observation and scientific satellite systems for civil and military applications (Envisat, Helios, Metop, Spot 5, XMM) and the European navigation system Galileo; orbital infrastructure (the space laboratory Columbus and the ATV for the International Space Station) and launchers (shareholdings in Arianespace for heavy-lift launchers; Starsem for medium-lift launchers and Eurokot for small-lift launchers). Also supplies launch services as well as services related to telecommunications and Earth-observation satellites. Through its subsidiaries Cites and Sodern, EADS is active in the fields of optronics and laser technologies.

Subsidiaries:

EADS EFW (Dresden, Germany): Freighter conversion, manufactures fiber-reinforced compounds for Airbus family. **EADS Socata** (Le Bourget, France): Produces light aircraft. **EADS Sogerma Services** (Merignac, France): Aircraft maintenance and modification. **Eurocopter** (Marignane, France): Holding company of helicopter manufacturer Eurocopter. **Euromissile** (Fontenay-aux-Roses, France): Markets missiles and missile systems.

Joint Ventures:

Airbus SAS, partner: BAe Systems (UK). **Arianespace S.A.**, partners: 53 corporate shareholders in 12 European countries. **Astrium**, partner: BAe Systems (UK). **ATR**, partner: Finmeccanica (Italy). **MBDA**, partners: BAe Systems (UK), Finmeccanica (Italy).

FINANCIALS (\$ MILLIONS):	2000†	2001	% Change
Operating Revenues	22,359*	27,586**	23%
Operating Expenses	18,538	22,603**	22%
Net Profits	(846)***	1,209††	243%
Debt to Equity Ratio	—	—	—

*Based on exchange rate of 1 Euro = 0.9236\$ in 2000. **Based on exchange rate of 1 Euro = 0.8957\$ in 2001. Both provided by EADS.
 ***Based on year-end exchange rate of 1 Euro = 0.9305\$ on 31 Dec. 2000.
 † Values updated from 2002 Source Book.
 ††Based on year-end exchange rate of 1 Euro = 0.8813 \$ on 31 Dec. 2001. Both provided by EADS.



EATON
 EATON CORPORATION
 Eaton Center, 1111 Superior Avenue
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 Tel: (216) 523-5000; Fax: (216) 523-4787
 www.eaton.com

Employment: Total 48,000 (3,800 aerospace)

Officers:

Chairman, President & CEO Alexander M. Cutler
Senior Vice President & Group Executive-Fluid Power Craig Arnold
VP Aerospace Operations Steven K. Eisenberg

Aerospace Organization/Products:

Eaton Corporation, Aerospace Headquarters (Irvine, CA, USA):

Aerospace Actuation & Controls (Costa Mesa, CA; Bethel, CT; Sarasota, FL; Grand Rapids, MI; Glenolden, PA, all USA): Electric and electro-mechanical actuation systems; electro-optical products and systems; electrical sub-systems; cockpit controls and displays; sensors and debris monitoring products and systems, including: Eaton brand cockpit controls, pressure switches and pressure transducers, integrated cockpit keyboards and control panels, night-vision-compatible LED illuminated displays and switches, relays, remote control circuit breakers and integrated AC/DC power modules and arc fault circuit interrupters; Tedeco brand fluid debris detection, collection and fluid monitoring components and systems. **Aerospace Fluid Systems** (Serres Castet, France. Gilching, Germany. Bedhampton and Lakeside, both UK. Los Angeles, CA; Toccoa, GA; Jackson, MI; Jackson, MS; Charleston, SC, all USA): Fluid power, motion control, fluid conveyance and fuel pump products and systems, including: Aeroquip brand hoses, tubes, clamps and fittings, noise dampening products and Rotomold plastic components; Rynglok fittings, stainless steel and titanium tube assemblies, self-sealing breakaway fuel couplings and ground service refueling couplings; Teflon fittings, swivel joints, flexible fuel duct assemblies and self-sealing quick-disconnect couplings; Sterer brand fluid control and actuation systems, nose wheel steering systems, hydraulic control valves and fluid manifolds; and Vickers brand hydraulic and electro-mechanical pumps, motors integrated packages, electric motorpumps, hydraulic motor-driven generators and electronic controls.

FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenues	8,309	7,299	(12%)
Operating Expenses	7,856	7,130	(9%)
Net Profits	453	169	(63%)
Debt to Equity Ratio	102%	91%	(11%)



ELBIT SYSTEMS LTD.
 PO Box 539
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 Tel: (972-4) 831-5315 Fax: (972-4) 855-0002
 www.elbit.co.il

Employment: 5,000

Officers:

Chairman Michael Federmann
President & CEO Joseph Ackerman
VP & CFO Joseph Gaspar

Aerospace Organization/Products:

Airborne Systems: Performs upgrades on fixed-wing aircraft and helicopters. Develops and produces helmet-mounted display systems, weapons delivery and navigation systems, airborne computer systems, cockpit display systems, head-up displays and moving maps, stores management systems, precision guidance and airborne reconnaissance systems, helicopter avionics systems, C⁴I systems, UAVs, advanced laser designators, rangefinders and third-generation Flir optronic payloads. **Ground Systems:** Performs combat vehicle upgrades, develops and produces tank fire-control systems incorporating eye-safe lasers and state-of-the-art Flirs, electric turret drive and control systems, artillery command and control systems, day-night observation systems, digital image processing and communications systems, C⁴ISR systems, training systems and paramilitary systems. **Naval Combat Systems Integration:** Produces C³ systems, communications systems, electronic warfare systems, tactical control systems and computerized training and simulation systems. **Space:** Offers a variety of complex space electro-optical payloads with data links and ground stations for governmental, commercial and scientific applications.

Major Subsidiaries:

AEL (Porto Alegre, Brazil): Produces and logistically supports advanced defense electronics programs in Brazil and for export. **Cyclone Aviation Products Ltd.** (Karmiel, Israel): Designs and produces aircraft structures and provides maintenance services for fixed-wing aircraft and helicopters. **Cy-Optics Ltd.** (Yokneam, Israel): Develops components for optical communication in the field of wave-length domain

multi-plexing. **EFW Inc.** (Fort Worth, TX, USA): Products and systems include digital map systems (for the V-22 and others), helmet-mounted displays, mission computers, stores management systems and flight control systems (for the F-16 and others), central computer and other units for the Bradley A-3 AFV. **El-Op Electro Optics Industries** (Rehovot, Israel): Designs and manufactures advanced electro-optical products and systems for military and civilian purposes. Business areas include development and production of thermal imaging products, laser products, displays, optical systems for space applications, airborne reconnaissance systems, stabilized E/O payloads, optical communications systems, fire control systems for combat vehicles and security systems and products. **ESL-AIT** (Vienna, Austria): Designs and manufactures C⁴I-STAR systems, software-intensive systems and telecommunications systems. **IEI** (Talladega, AL, USA): Provides depot level repair, maintenance and logistics support for various electronic systems installed on aircraft and ships. **Kinetics Ltd.** (Or-Yehuda, Israel): Develops and manufactures hydraulic and mechanical systems. **Ortek Ltd.** (Sderot, Israel): Security systems and products, also night-vision instruments. **Semi-Conductors Devices (SCD)** (Karmiel, Israel): Designs and makes solid-state components (sensors and laser equipment). **Silver Arrow** (Rishon-Lezion, Israel): Develops and produces UAV systems for various mission applications, provides logistics support capabilities.

Joint Ventures:

Vision Systems Int'l. LLC. (VSI), partner: Kaiser Electronics Inc. (USA).

FINANCIALS (\$ MILLIONS):	2000†	2001	% Change
Operating Revenues	591*	765	29%
Operating Expenses	539	713	32%
Net Profits	39**	41***	5%
Debt to Equity Ratio	32%	31%	(3%)

*Includes El-Op's results in second half of 2000. **Excludes one-time charges and amortization of excess of cost over book value related to El-Op merger completed in July 2000. ***Includes amortization of excess of cost over book value related to El-Op merger. †Values updated from 2002 Source Book.



EMBRAER
 EMBRAER-Empresa Brasileira de Aeronáutica SA.
 Av. Brig. Faria Lima 2170
 12227-901 São José dos Campos-SP Brazil
 Tel: (55-12) 3945-1000
 www.embraer.com

Employment: 12,161

Officers:

President and CEO Mauricio Novis Botelho; **VP, Finance and CFO** Antonio Luiz Pizarro Manso; **VP, Corporate Quality and Administration** Luiz Claudio Sigaud Ferraz; **VP, Defense Market** Romualdo Monteiro de Barros; **VP, Airline Market** Frederico Fleury Curado; **VP, Corporate Aircraft Market** Samuel Dwight Hill; **VP, Industrial** Satoshi Yokota

Aerospace Organization/Products:

Primary Production Facility (São José dos Campos, SP, Brazil): Historical/ongoing programs include: the EMB-145 AEW&C; the EMB-145 RS/AGS (a remote sensing version); the EMB-145 MP/ASW (P99) (maritime patrol version: under development); the 37-seat ERJ 135 regional jet (122 firm orders, 6 options and 89 aircraft delivered as of 9/30/02); the 44-seat ERJ 140 regional jet, (174 firm orders, 45 options and 52 aircraft delivered as of 9/30/02); the 50-seat ERJ 145 regional jet (581 firm orders, 302 options, 446 aircraft delivered as of 9/30/02); the new regional jet family comprised of the Embraer 170, Embraer 175, Embraer 190 and Embraer 195, for 70, 78, 98 and 108 passengers respectively (112 firm orders and 202 options); the super mid-size Legacy business jet (executive and shuttle models); the Super Tucano derivative designated ALX (Light Attack Aircraft) by the Brazilian Air Force; and the AMX-T twin-seat, high-performance, transonic attack jet specifically designed for advanced fighter lead-in training (in development). Embraer operates two new facilities in Sao Paulo. Eugênio de Melo develops and manufactures tooling equipment, pipe production, welding, milling and wire looming. The Gavião Peixoto Aerospace Center operates the test runway and oversees final assembly for corporate jets and the manufacture of military aircraft.

Subsidiaries:

ELEB-Liebherr Equipamento Do Brasil S.A. (São José dos Campos, SP, Brazil): Produces and sells precision hydraulic and mechanical equipment for the aeronautical industry. **Embraer-Aircraft Corporation-EAC** (Fort Lauderdale, FL, USA): Provides commercial sales, product support and customer training for Asia, Australia, the Caribbean, North and Central America, Scandinavian countries and the United Kingdom. **Embraer-Australia** (Melbourne, Australia): Furnishes services and after-sales support to customers in Australia, Asia, and surrounding regions. **Embraer-Aviation International-SAS/EAI** (Le Bourget, France): Provides after-sales support for the African, European, and Middle Eastern markets. **Embraer-China** (Beijing, China): Markets Embraer products. **Embraer-Europe** (Le Bourget, France): Sales representation for Embraer in Europe. **Embraer-Singapore** (Singapore): Markets Embraer products. **Indústria Aeronáutica Neiva SA.** (Botucatu, SP, Brazil): Produces and sells light executive and agricultural aircraft, produces and sells assembly parts for the EMB-120 Brasília, ERJ 135 and ERJ 145 aircraft.

FINANCIALS (\$ MILLIONS):	2000†	2001	% Change
Operating Revenues	2,762	2,927	6%
Operating Expenses	399	476	19%
Net Profits	321	328	2%
Debt to Equity Ratio	58%	76%	31%

† Values updated from 2002 Source Book.



FIATAVIO
 FIAT AVIO SPA.
 Via Nizza 312
 10127 Turin, Italy
 Tel: (39-011) 005-8111; Fax: (39-011) 005-9832
 www.fiatavio.com

Employment: 5,246

Officers:

CEO Saverio Strati
President Paolo Torricelli

Aerospace Organization/Products:

Avio (Turin, Italy):

Designs, develops and produces components for engines in military aircraft, commercial aircraft, helicopters and naval propulsion turbines, including the assembly and testing of military engines and turbines for marine propulsion. Main product families are: accessory gearboxes, power transmissions and low-pressure turbines. **Commercial Engines:** Programs include: CF6-80C2/E1, GE90 (with General Electric); CFM56 turbofans (with CFMI); IAE V2500 (with IAE), LM 2500 and LM 6000 marine engines (with General Electric); PW100 and PW150 turboprops and PW308 and PW625 turboprop (with UTC/Pratt & Whitney Canada); PW2000 and PW4000 (with Pratt & Whitney); Tay 610/620, Trent 500 and Trent 900 (with Rolls-Royce) and IAE V2500 (with IAE). **Military Engines** (Brindisi, Italy): Programs are: EJ200 for the Eurofighter Typhoon (with Eurojet); the F124 for the M-346 trainer (with Honeywell); F-136 for the JSF (with General Electric and Rolls-Royce) the RB199 for the Tornado and the Spey Mk897 for the AMX (both with Rolls-Royce). Auxiliary power unit works include: the 131-9A/B/D and RE220 for business jets and commercial aircraft (Honeywell partnership); the 36-170 for the Eurofighter (Honeywell partnership) and the FA150 for the AMX (all FiatAvio). **Helicopter Sector** (Turin, Italy): Responsible for the main power transmission for Sikorsky's CH-53E, and the

main power transmission for Eurocopter's SA321Dauphin, Superfrelon and SA330 Puma. **Maintenance, Overhaul and Repair** (Naples, Italy): Supplies aftermarket services, repair and overhaul, spare parts and product support for civil engines (CFM56, JT8D and PW100); military engines (Pegasus, PT6 family, RB199, Spey Mk807, T56, T58, T62, T64, T79 and T700 engine family) and marine aeroderivative engines (LM2500/LM6000 marine and industrial, General Electric partnership).

Space (Colleferro [Rome] Italy):

Engineering development and manufacture of solid propellant motors (from 9 to 230 tons), interstage separation motors, solid, liquid, cold gases, dynamic magneto-plasma and arcjet propulsion, light launchers (Vega), standard platforms for small satellites, liquid oxygen turbo-pumps, mechanical components for launcher nozzles, ignitors, apogee motors, rockets, propellants for rockets and missiles, and missile motors.

Joint Ventures:

Eurojet Consortium, partners: ITP (Spain), MTU (Germany), Rolls-Royce (UK). **Europropulsion**, partner: Finmeccanica (Italy). **International Aerp Engines AG**, partners: Japanese Aero Engines (Japan), MTU (Germany), Rolls-Royce (UK), UTC/Pratt & Whitney (USA). **Turbo Union Ltd.**, partners: MTU (Germany), Rolls-Royce (UK). Other ventures include: Arianespace (6%), Elasis (3%), ELV (70%), Europropulsion (50%), FiatAvio Inc. (100%), FiatAvio Polska (100%), Regulus (60%).

FINANCIALS (\$ MILLIONS):	2000†	2001	% Change
Operating Revenues	1,405	1,450	3%
Operating Income	135	165	22%
Net Profits	79	377	377%
Debt to Equity Ratio	—	—	—

† Values updated from 2002 Source Book.



FINMECCANICA

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Employment: 41,000

Officers:

Chairman & CEO Pier Francesco Guarguaglini
CEO and Managing Director Roberto Testore

Aerospace Organization/Products:

Alenia Aeronautica SpA (Naples, Rome, Turin, all Italy):

Aerostructures (Naples, Italy): Program participant or subcontractor to Airbus (A300/310, A319, A320, A321, A330/340, A340-500/600, A380), Boeing (717, 757, 767, 777, MD-11/80/90) and Dassault (Falcon 900EX and 2000) for moving surfaces, radomes, tail surfaces, vertical rudders and fins, flap parts, fuselage panels and fuselage sections. Production activities conducted at four internal aircraft divisions. Combat Aircraft (Rome and Turin, both Italy): Programs include AMX tactical air support/interdiction aircraft developed and built in conjunction with Aermacchi (Italy) and Embraer (Brazil); AV-8B Harrier 2+, in association with BAe Systems (UK) and Boeing (USA); Eurofighter Typhoon air superiority aircraft developed with BAe Systems (UK) and EADS (The Netherlands) as Jagflugzeug GmbH; Tornado in association with BAe Systems (UK) and EADS (The Netherlands). Commuter Aircraft (Toulouse, France): In joint venture with EADS, produces the ATR aircraft family for regional transport. Military Transport Aircraft (Turin, Italy): produces the C-27J, a new upgraded version of the G-222, developed through an international agreement with Lockheed Martin. Special Missions Aircraft (Turin/Caselle, Italy): produces ATR 42 MP and ATR 72 ASW for maritime patrol missions, sea rescue, surveillance and anti-submarine warfare. **Officine Aeronavali** (Brindisi, Napoli, Venezia, all Italy): A wholly owned subsidiary of Alenia Aeronautica. Conversion and overhaul activities include converting 767s, ATR 42/72, DC-8s, DC-10s and MD-11s, to cargo aircraft; converting Boeing 767s into tankers; upgrading avionics (DC-10, MD-80), and producing thrust reversers.

Alenia Spazio SpA (Rome, Turin, both Italy):

Prime contractor for most Italian Space Agency (ASI) programs and many European Space Agency (ESA) programs. Participates in NASA programs. Orbiting Infrastructures (Turin, Italy): Participates in the International Space Station program. Activities include: Columbus Orbiting Facilities (COF), MLPM, Nodes 2 and 3, and Cupola; participates in the ATV program and in the CRV project. Remote Sensing (Rome, Italy): interplanetary probe Cassini/Huygens; ERS 1 and ERS 2 for Earth observation, Cosmo Skymed program for observation of the Mediterranean basin, X-SAR (-band synthetic aperture radar), produces radar altimeter and microwave radiometers for Envisat, partici-

pates in STRM (Shuttle Topography Radar Mission). Scientific Satellites (Rome, Italy): Programs include Integral, the European gamma-ray astronomy satellite, Lageos 2, SAX, Tethered Satellite System, Roseta, Mars Express, GOCE. Telecommunications Satellites (Rome, Italy): Prime contractor for developing and constructing Artemis and ItaiSat F2 satellite family; has been responsible for assembling, integrating, and testing the satellites of the Globalstar program; active in Isis/Secoms projects, which are precursors of Euroskyway, the future European satellite system for satellite multimedia services; responsible for Sicral, an Italian military telecommunications system; prime contractor for Atlantic Bird 1, for Internet, broadcasting and telephony connections; responsible for developing Galileo, the European satellite navigation system.

Galileo Avionica SpA (Florence, Milan, Rome, Turin, all Italy):

Avionic Systems and Equipment (Rome, Italy): Produces airborne radars (Grifo family) and sensors, electro-optic systems and equipment for airborne and space applications, avionic systems for a broad range of military aircraft and helicopters (including AMX, A129, EH 101, and NH90), mission core systems, tactical and training UAVs (Mirach family), flight training simulators, space equipment for platforms and payloads, and aircraft fire control systems. Participates in over 30 avionic equipment programs as prime contractor or partner for the Eurofighter Typhoon.

Joint Ventures and Consortia:

AgustaWestland (Italy, UK), partner: GKN Westland (UK). **Alenia Marconi Systems**, partner: BAe Systems (UK). **AMX**, partner: Aermacchi (Italy), Embraer (Brazil). **ATR**, partner: EADS (The Netherlands). **Bell Agusta Aerospace Company**, partner: Bell Helicopter Textron (USA). **Eurofighter**, partners: BAe Systems (UK), EADS (The Netherlands). **Lockheed Martin Alenia Tactical Transport Systems (LMATTS)**, partner: Lockheed Martin (USA). **MBDA**, partners: Alenia Marconi Systems (AMS) (Rome) and Matra BAe Dynamics (MBD) (France). **NH Industries**, partner: Eurocopter (France, Germany). **Panavia**, partners: BAe Systems (UK), EADS (The Netherlands).

FINANCIALS (\$ MILLIONS)*:	2000†	2001	% Change
Operating Revenues	5,600	6,100	9%
Operating Expenses	—	—	—
Net Profits	305	170	(44%)
Debt to Equity Ratio	0.2%	(0.1%)	(150%)

*AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.
 †Values updated from 2002 Source Book.



FUJI HEAVY INDUSTRIES LTD.
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 Fax: (81-3) 3347-2588
 www.fhi.co.jp

Employment: 14,601

Officers:

President and COO Kyoji Takenaka; **Corporate Senior Vice President, President of Aerospace Company** Hiroyuki Nakatsubo; **Corporate Vice Presidents and Vice Presidents of Aerospace Company** Norihisa Matsuo and Tsunenori Hoshi; **Chief General Manager, Utsunomiya Plant. Div.** Tsunenori Hoshi (concurrent); **Chief General Manager, Engineering & Development Center** Yoshitomo Taniguchi; **General Manager, Defense Programs Marketing & Sales** Hisashi Nagano; **General Manager, Commercial Programs Marketing & Sales** Kenichiro Usuki

Aerospace Organization/Products:

Aerospace Company:

Manufacturer of: AH-1S helicopter, BQM-34AJ/KAI Firebee target drone, Fuji-Bell 205B helicopter, J/AQM-1 target drone, RPH2 remotely piloted helicopter, T-5 basic trainer, UH-1J helicopter; New Primary Trainer, Flying Forward Observation System (FFOS); wing main assemblies for P-3C and T-4; wing components for F-2; empennage for OH-1; outer wing nacelle and empennage for US-1A flying boat; center wing fairings and main landing gear doors for Boeing 777; fairings and main landing gear doors for Boeing 767; wing package for Raytheon Hawker Horizon; fuselage structure for Bell Agusta 609 tiltrotor aircraft; outboard flaps for Boeing 757; ailerons and spoilers for Boeing 747; elevators and flaps for Boeing 737-600/700/800; outboard ailerons for MD-11; flight training simulator for T-5 & U-125A. Overhauls T-1, T-3, T-5, U-125 and U-125A; search and rescue system for U-125A; R&D for NAL/NASDA programs.

FINANCIALS (\$ MILLIONS)*:	2001†	2002	% Change
Operating Revenues	10,361	10,274	(1%)
Operating Expenses	9,744	9,606	(1%)
Net Profits	179	253	(41%)
Debt to Equity Ratio	69%	69%	0%

**Fiscal year ends on March 31. AW&ST conversion based on exchange rates available on 3/31/01 and 3/31/02.
 †Values updated from 2002 Source Book.*



GENCORP
 GENCORP
 PO Box 537012
 Sacramento, CA 95853, USA
 Tel: (916) 355-4000
 www.genCorp.com

Employment: 10,000 (1,500 Aerojet)

Officers:

Chairman, GenCorp Bob Wolfe
President & CEO, GenCorp Terry Hall
CFO, GenCorp Yasmin Seyal
President, Aerojet Michael F. Martin

Aerospace Organization/Products:

Aerojet:

Sacramento Facility (Sacramento, CA, USA): Aerojet produces solid propellant rocket motors and liquid propellant rocket engines for strategic missiles, manned and unmanned satellite launch vehicles and strategic and tactical missiles. Makes satellite orbit transfer and attitude control systems and long-range spacecraft propulsion systems. Programs include the Atlas 5 (ELV) (solid rocket motors); Delta 2 ELV (second-stage engine) and Titan 4 ELV (first- and second-stage engine). Also provides propulsion and armament systems for the defense industry, including missile defense and tactical missile programs such as Hawk and TOW.

FINANCIALS (\$ MILLIONS)*:	2000†	2001	% Change
Operating Revenues	534	640	20%
Operating Expenses	430	360	(16%)
Net Profits	104	280	170%
Debt to Equity Ratio	—	—	—

**Fiscal year ends November 30.
 †Values updated from 2002 Source Book.*



GENERAL DYNAMICS

GENERAL DYNAMICS
3190 Fairview Park Drive
Falls Church, VA 22042-4543, USA
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www.generaldynamics.com

Employment: 54,000 (8,500 aerospace)

Officers:

Chairman & CEO Nicholas D. Chabraja; **Senior Vice President and CFO** Michael J. Mancuso; **Executive Vice President, Group Executive—Aerospace, and President and COO—Gulfstream Aerospace** W. W. Boisture, Jr.; **Executive Vice President and Group Executive—Information Systems & Technology** Kenneth C. Dahlberg; **Senior Vice President and Group Executive—Combat Systems and Resources** Arthur J. Veitch; **Senior Vice President and Group Executive—Marine Systems** John K. Welch

Aerospace Organization/Products:

General Dynamics Aerospace Group:

Gulfstream Aerospace Corporation (Savannah, GA, USA): Designs, develops, manufactures, markets and services business jet aircraft. 1,300+ produced since 1958. Produces the Gulfstream 100, Gulfstream 200, Gulfstream 4-SP, the ultra-long range Gulfstream 5 and Gulfstream 5-SP. Also handles pre-owned aircraft sales, and offers financial, management and maintenance services.

General Dynamics Combat Systems Group:

General Dynamics Armament and Technical Products (Burlington, VT, USA): Produces high-performance weapon systems for application on US front line fighter and rotary-wing aircraft, including the GAU-19A 12.7mm externally mounted gatling gun; 20mm gatling gun systems for the F-15E, F-16, F-18C/D, F-18E/F and the F-22; the RAH-66 Comanche 20mm externally powered turreted gun system, and the V-22 12.7mm turreted gun system (TGS). Technical products include advanced composites, aircraft radomes,

external fuel tanks for tactical aircraft, rocket motor cases and missile launch tubes. In partnership with General Dynamics Ordnance & Tactical Systems (St. Petersburg, FL, USA), produces the HYDRA-70 2.75-inch rocket helicopter weapon system, and provides tactical training and support missions.

General Dynamics Information Systems & Technology (IS&T) Group:

IS&T Products. Advanced Information Systems (Arlington, VA, USA); C4 systems (Taunton, MA, USA); Decision Systems (Scottsdale, AZ, USA); General Dynamics Canada (Calgary, Alberta, Canada); General Dynamics United Kingdom (East Sussex and Hastings, both UK); Network Systems (Needham, MA, USA): Develop and integrate specialized data acquisition and processing for C⁴ISR systems, electronics for aircraft, secure communication systems and battlespace information management systems. Also provides telecommunications and data management services for the commercial market.

FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenues	10,356	12,163	17%
Operating Expenses	9,027	10,678	18%
Net Profits	901	943	5%
Debt to Equity Ratio	33%	43%	30%



GENERAL ELECTRIC CO.
3135 Easton Turnpike, Fairfield, CT 06431, USA
Tel: (203) 373-2211
www.GE.com

Employment: 313,000 (26,500 GE Aircraft Engines)

Officers:

Chairman and CEO Jeffrey R. Immelt; **Sr. VP, Finance** Keith S. Sherin; **President & CEO, Aircraft Engines** David L. Calhoun; **VP & General Manager, Commercial Engines** David L. Joyce; **VP & General Manager, Military Engines** Russell F. Sparks; **General Manager, Marine Engines** Karl W. Matson

Aerospace Organization/Products:

GE Aircraft Engines:

Commercial Engine Operation (Lynn, MA; Durham, NC; Cincinnati, OH, all USA): Produces CF6, CFM56 and GE90 engines for large commercial aircraft; the CFM56 for the Boeing Business Jet; CF34 engines for the Bombardier Challenger 601 and 604 business jets, CRJ200, CRJ700 and CRJ900 regional airliners, the Embraer 170/175 and Embraer 190/195 regional airliners, the AVIC 1 Commercial Aircraft Co. Ltd. (ACAC) ARJ21 regional jet; the CFE738 for Dassault Falcon 2000 business jets. Makes CT7 turboprop engines for the Ayres 7000, CASA CN-235, and Saab 340 regional airliners and the Sukhoi S-80 multipurpose transport aircraft. **Elano Corp.** (Dayton, OH, USA): Produces ducts, manifolds and tubes for jet engines. **GE Canada** (Mississauga, Ontario, Canada): Supports engine sales and service and provides field service and integrated logistic support. **GE Engine Services** (Headquarters in Cincinnati, OH.; facilities worldwide): Overhaul and repair of GE and non-GE engines, accessory services, component repair, on wing support, engine upgrades, inspection technologies, rotatable solutions and engine leasing, plus Garrett Aviation Services (Tempe, AZ, USA) for general aviation aircraft and engines, and Unison Industries Inc. (Jacksonville, FL, USA), which produces and services turbine ignitions, wiring harnesses, alternators, piston ignitions, sensors, bellows and switches for the aerospace and power generation industries. **Marine Engines** (Strother Field, KS, Lynn, MA; Cincinnati, OH, all USA): Produces LM500, LM1600 and LM2500 gas turbines for marine applications. **Military Engine Operations** (Strother Field, KS, Lynn, MA; Cincinnati, OH, all USA): Produces engines for military aircraft, including CT7, T64 and T700 turboshaft engines for military and civil helicopters; F108 for the KC-135R; F110 for the F-15E and F-16C/D; F118 for the B-2 and U-2; F120 for the F-35; F404 for the F/A-18C/D and F-117; F414 for the F/A-18E/F; T64 turboprop engine for the C-27A, DHC-5D and G.222; and the LV100-5 engine for the M1 Abrams tank.

Joint Ventures:

Airfoil Technologies International, partners: Teleflex Inc. and Sermatech Technical Services (both USA). **CFAN Co.**, partner: Snecma Moteurs (France). **CFE Co.**, partner: Honeywell (USA). **CFM International**, partner: Snecma Moteurs (France). **GE-Pratt & Whitney Engine Alliance**, partner: UTC/Pratt & Whitney (USA). **Rybinskie Motory-GE Aeroengines**, partner: NPO Saturn (Russia).

FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenues	129,853	125,913	(3%)
Operating Expenses	111,407	106,212	(5%)
Net Profits	12,735	13,684	8%
Debt to Equity Ratio	—	—	—



GOODRICH
 GOODRICH
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Employment: 18,000 (Does not include former TRW Aeronautical Systems.)

Officers:

President & COO Marshall O. Larsen; **President, Electronic Systems Segment** Cindy Egnotovich; **President, Airframe Systems Segment** John J. Grisik; **President, Engine Systems Segment** Jack Carmola

Aerospace Organization/Products:

In October 2002, Goodrich acquired TRW Aeronautical Systems. At the time of acquisition, the TRW businesses to be integrated were: Actuation (Flight Controls & Missiles), Cargo Systems, Customer Support Network, Engine Controls, and Power Systems (which includes Hoists and Winches & Power Generation/Management).

Airframe Systems (Cleveland, OH, USA):

Actuation Systems (Wolverhampton, UK): Supplies actuation systems for fins and wings and thrust vectoring control systems for missiles. **AS Customer Services** (Charlotte, NC, USA): Supplies spares, overhaul facilities and technical support to equipment operators through centers in the Americas, Asia-Pacific and Europe. **Aviation Technical Services** (Everett, WA, USA): Offers aircraft maintenance and overhaul and repair services. **Engineered Polymer Products** (Jacksonville, FL, USA): Creates component designs and manufactures marine composites. **Landing Gear** (Brecksville, OH, USA): Supports military and commercial customers. **Landing Gear Services** (Miami, FL, USA): Provides landing gear and wheel and brake overhaul services. **Wheels and Brakes** (Troy, OH, USA): Designs, manufactures and services aircraft wheels and brakes.

Electronic Systems (Charlotte, NC, USA):

Designs, manufactures and supports avionics systems, air data products, fuel and aircraft utilities, engine sensors, ice detectors, microelectromechanical machine devices, as well as optical and space systems. Includes: **Aircraft Interior Products** (Phoenix, AZ, USA), **Avionics** (Grand Rapids, MI, USA), **Deicing and Specialty Systems** (Akron, OH, USA), **Fuel and Utility Systems** (Vergennes, VT, USA), **Lighting Systems** (Lippstadt, Germany) and **Oldsmar, FL, USA), Optical and Space Systems** (Danbury, CT, USA), **Power Systems** (Pitstone Green, UK), **Propulsion Systems** (Phoenix, AZ, USA) and **Sensor Systems** (Burnsville, MN, USA).

Engine Systems (Charlotte, NC, USA):

Designs, manufactures and supports aircraft fuel pumps and engine controls, engine fuel components, turbine airfoils and rotating assemblies, emergency evacuation slides and rafts, crew and attendant seating, passenger restraints, ejection seats and deicing systems. Includes: **Aerostructures** (Chula Vista, CA, USA), **Cargo Systems**, **Engine Controls** (Birmingham, UK), **Turbine Fuel Technologies** (West Des Moines, IA, USA) and **Turbomachinery Products** (Chandler, AZ, USA).

FINANCIALS (\$ MILLIONS)*:	2000†	2001	% Change
Operating Revenues	3,701	4,185	13%
Operating Expenses	—	—	—
Net Profits	266	306	15%
Debt to Equity Ratio	—	—	—

* Continuing operations—excluding special items.
 † Values updated from 2002 Source Book.



HARRIS
 HARRIS CORP.
 1025 West NASA Blvd.
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Employment: 10,000

Officers:

Chairman, President & CEO Phillip W. Farmer
President, Government Communications Systems Div. Robert K. Henry

Aerospace Organization/Products:

Government Communications Systems Div. (Palm Bay, FL, USA): Advanced military avionics include high-speed wired and fiber-optic data busses, networks and network components, cockpit displays, hardware & software digital moving maps, removable mass memory storage devices, advanced avionics infrastructure packaging, fire-control systems, image processing and geo-registration, targeting and intelligence payloads. Airborne military communications for aircraft and weapons including integration of communication systems and subsystems, networks, Tactical Common Data Links (TCDL), Common Data Link (CDL), Link 16 MIDS, weapons data links, anti-jam GPS antenna subsystems, satellite communications terminals and antennas, air-to-air links, special antennas and phased-array antennas. Satellite equipment includes large-aperture, unfurlable antennas; complex satellite antennas; on-board digital signal and data processing; high-speed fiber-optic data busses and networks; communication subsystems; adaptive nulling antennas; special signal processing systems; special payloads.

FINANCIALS (\$ MILLIONS)*:	2001	2002	% Change
Operating Revenues	1,955	1,876	(4%)
Operating Expenses	1,861	1,778	(5%)
Net Profits	21	83	295%
Debt to Equity Ratio	27%	21%	(22%)

* Fiscal year ends on June 29.



Honeywell

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 www.honeywell.com

Aerospace Organization/Products:

Aerospace Electronic Systems (Phoenix, AZ, USA):

Produces advanced electronics and avionics for military aircraft, defense and space systems, large and regional air transports, business aircraft and general aviation. Makes systems for communications, navigation and flight control; weather and navigation systems for collision avoidance, ground proximity warning and runway management. Manufactures voice and data recorders and wind shear radar. Produces microwave landing and electronic systems, flight guidance and control systems, sensors and components, automatic test systems, cockpit display systems, aircraft lighting and aviation safety equipment.

Aerospace Services (Phoenix, AZ, USA):

Aviation Aftermarket Services: Inventory and logistics services, customer support, ground support equipment, maintenance, repair and overhaul services, product and Six Sigma training, technical publications and spare parts for the commercial market. **Customer Operations Group:** Provides 24-hour, 365-day customer service and technical support. **Hardware Product Group:** Makes consumable hardware including airframe, engine and equipment fasteners, chemical products, electrical components, electromechanical components, hardware, industrial MRO products and sealing products. **Honeywell Technology Solutions Inc. (HTSI):** Provides technical services including data acquisition; configuration management; development and operation of ground, sea, air and space-based tracking facilities; flight control services; information technology operations; training; logistics management and testing; and calibration of complex systems. **Support Chain Services:** Supplies customer and commercial support, ground support equipment inventories, logistical alliances, technical publications and data distribution.

Aircraft Landing Systems (South Bend, IN, USA):

Designs and produces wheels, brakes (carbon and steel) and brake control systems for the 717, 727, 737, 737NG, 747, 767, 767-400, 777, A300, A310, A330, A340, A340-500/-600, B-2, B-52, DC-8, F-15, F-15E, F/A-18C/D, F/A-18E/F, F-22, KC-135, MD-11 and MD-80, as well as high-performance friction materials.

Engines Systems & Services (Phoenix, AZ, USA):

Supplies engines for business, general and regional aircraft engines; manufactures auxiliary power units for air transports; also supplies aftermarket systems and service solutions. **Commercial Auxiliary Power Unit Enterprise:** Designs and produces commercial air transport regional and executive jet auxiliary power units (APUs). **Commercial Propulsion Enterprise:** Designs and manufactures AS900 series of turbofan engines, LF502/507 turbofan

Employment: 115,000

Officers:

Chairman, President & CEO, Honeywell International Inc. David M. Cote; **Aerospace President & CEO** Robert D. Johnson; **President, Aerospace Electronic Systems** Dean M. Flatt; **President, Aerospace Services** James D. Taiclet; **President, Engines Systems & Services** Steven R. Loranger; **President, Federal Manufacturing & Technologies** Dave Douglass

engines, TFE731 turbofan and TPE331 turboprop powerplants.

Engine Systems and Accessories Enterprise: Designs and manufactures actuation systems; electromechanical interface devices and sensors; engine fuel control systems, including FADECs, hydro-mechanical units and pumps; integrated engine build-up systems; oil, air and fuel coolers; pneumatic control systems; start systems. **Environmental Control Enterprise:** Designs and manufactures integrated air management systems, pneumatic systems, air-cycle air conditioning systems, vapor-cycle air-conditioning systems, bleed air control systems, cabin pressure control systems, on-board oxygen generating systems, life support and thermal control systems, heat exchangers and cold plates, precoolers, cooling turbines, fans and blowers, liquid coolant pumps, pod cooling systems, ozone converters, electronic controls, smoke detection systems and valves (pressure regulating, shutoff, flow control, modulating, non-return butterfly and in-line). **Industrial and Marine Enterprise:** Provides the ASE 8, ASE 40, ASE 50, and ASE 120 industrial engines in the 500 KW to 10MW power class for configuration standby, and mechanical drive applications. Manufactures the TF 5, TF 15, TF 40, and TF 50 marine engines that cover the 500 - 10,000-shp. range for propulsion, on-board generation, ship start and secondary air systems for military patrol boats, landing craft and commercial ferries and yachts. **Military/Helicopter Enterprise:** Provides range of products for military and civil helicopter propulsion, airborne auxiliary power, fixed-wing aircraft propulsion and vehicular and ground power. Products include the T53, T55 and T800 (with Rolls-Royce) turboshafts.

Federal Manufacturing & Technologies (FM&T)

(Kansas City, MO; Albuquerque and Los Alamos, NM, all USA):

Manages and operates facilities for the US Energy Dept. making non-nuclear components for nuclear weapons.

Joint Ventures:

CEASA, partner: China Eastern Airlines (China). **CFE Co.**, partner: GE Aircraft Engines (USA). **Honeywell/TAECO**, partner: Taikoo Aircraft Engineering (China). **International Turbine Engine Corp.**, partner: Aerospace Industrial Development Corp. (Taiwan). **Light Helicopter Turbine Engine Corp.** (LHTEC), partner: Rolls-Royce (USA). **Nahuel**, partners: Alenia (Italy), EADS (The Netherlands). **Normalair-Garrett Ltd.**, partner: AugustaWestland (Italy, UK). **Rubix**, partner: Aviation Corp. Rubin (Russia). **Space Controls Alenia-Honeywell**, partner: Alenia (Italy). **Yamatate-Honeywell Co. Ltd.**, partner: Yamatate (Japan).

FINANCIALS (\$ MILLIONS):

	2000†	2001	% Change
Operating Revenues	25,023	23,652	(6%)
Operating Expenses	21,487	24,074	12%
Net Profits	1,659	(99)	(106%)
Debt to Equity Ratio	—	—	—

†Values updated from 2002 Source Book.



IHI

ISHIKAWAJIMA-HARIMA HEAVY INDUSTRIES CO. LTD. (IHI)
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Employment: 9,138

Officers:
President & COO Mototsugu Ito
Executive VPs Eiji Inoue, Eiichiro Iwamoto, Tadaaki Yamazaki
Managing Director & President, Aero-Engine & Space Operations Susumu Nagano

Aerospace Organization/Products:

Aero-engine and Space Operations (Tokyo, Japan):

Civil Aero-Engine Division (Tokyo, Japan): Participates in international programs including CF34, GE90, Trent 500/700/800 and V2500 engine programs. Manufactures JT9D, PW2000, PW4000, and RB211 engine parts. Overhauls and repairs CF6, CFM56, JT8D and V2500 engines. **Defense Systems Division** (Tokyo, Japan): Manufactures, overhauls and repairs the F3, F110 and T700 engines; overhauls, repairs and manufactures engine parts for the F3, F100, F110, J3, T56, T64, T79, T97, T700 and TF40 engines. **Gas Turbine Plant Division** (Tokyo, Japan): Manufactures gas turbines derived from aircraft engines for land and marine use, including IM150, IM270, IM400, LM1600, LM2500 and LM6000. **Manufacturing Division** (Tokyo, Japan). Kure Plant: Manufactures jet engine parts; assembles and test-runs land and marine gas turbines. Mizuho Plant: Performs assembly and test running, overhauls and repairs jet engines; assembles and tests space related equipment (pump). Soma Plant: Manufactures and repairs jet engine parts. Tanashi Plant: Manufactures jet engine parts, space-related parts and components. **Research & Engineering Division** (Tokyo, Japan): Develops advanced aerodynamic design technology and advanced material application technology. **Space Development Division** (Tokyo, Japan): Plans, develops and operates the Japanese Experiment Module for the International Space Station. Develops and produces the LE-5B and LE-7A engine turbopumps.

FINANCIALS (\$ MILLIONS)*:	2001	2002	% Change
Operating Revenues	8,830	8,162	(8%)
Operating Expenses	8,507	7,955	(7%)
Net Profits	73	42	(43%)
Debt to Equity Ratio	226	245	8%

**Fiscal year ends on March 31. AW&ST conversion based on exchange rates available 3/31/01 and 3/31/02.*



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Aerospace Organization/Products:

Bedek Aviation Group:

Aircraft Div. (Ben Gurion International Airport, Israel): Inspects, repairs, upgrades, retrofits and converts commercial and military aircraft. **Component Div.** (Ben Gurion International Airport, Israel): Overhauls, repairs, tests and modifies components and subsystems for commercial and military aircraft. **Engine Div.** (Ben Gurion International Airport, Israel): Overhauls, repairs, retrofits and tests more than 30 types of commercial and military engines. **Flight Operations Div.** (Ben Gurion International Airport, Israel): Conducts test flights of all IAI customer-owned aircraft (fixed- and rotary-wing) following maintenance, overhaul, upgrades and conversion programs. Operates test flights of IAI-produced aircraft and makes international ferry flights. **Ramta Div.** (Beer-Sheba, Israel): Designs and manufactures manned and unmanned combat engineering equipment, fighting and support vehicles, minefield breaching equipment, fast patrol boats and composite aircraft structures.

Commercial Aircraft Group (Ben Gurion International Airport, Israel):

Designs and builds the G100 (formerly known as Astra SPX) and the G200 (formally known as Galaxy) commercial and business aircraft for Gulfstream Aerospace (General Dynamics) in the United States. **Engineering Div.** Designs, develops, tests and certifies military and commercial aircraft and advanced weapon systems. **Production Div.** CAD/CAM of composite material structures, composite nacelle production. **SHL Div.** (Lod, Israel): Commercial and military electromechanical systems and hydraulics; components for air, land and sea platforms; aircraft landing gear and shock absorbers; flight control actuation systems; vehicle hydraulic power packs and shock absorbers; turret stabilization systems.

Elta Systems Ltd. (Ashod, Israel):

Designs and manufactures radars, electronic warfare and communication systems, information and advanced technologies; airborne early warning systems, Sigint aircraft, EW/ESM suites, maritime patrol aircraft, avionics suites, radars/planar and phased array, EW self-defense systems, SIG-INT/ELINT/COMINT, secure communications networks, data links, data-fusion image-processing equipment, real-time IMINT, information systems, automatic test and signal processing equipment, high voltage tubes and power supplies, microwave super components, antennas.

Independent Divisions:

MAMAN-Data Systems Center (Ben Gurion International Airport, Israel): Designs software for mainframes, mini- and microcomputers, including budget control systems, data collection systems, data processing

Employment: 14,500

Officers:

Chairman of the Board Gen. (ret.) O. Orr; **President & CEO** M. Keret; **Exec. VP & COO** O. Harari; **Corp. VP, Finance** Dr. A. Knobel; **Corp. VP Marketing and Business Development** S. Eckhaus; **Corp. VP Strategic Planning** B.G. (res) U. Rozzen; **Corp. VP & General Manager, Military Aircraft Group** M. Shmul; **Corp. VP & General Manager, Commercial Aircraft Group** M. Bones; **Corp. VP & General Manager, Bedek Aircraft Group** D. Arzi; **Corp. VP & General Manager, Missile & Space Systems Group** I. Nissan; **Corp. VP & General Manager, Elta Systems** I. Livnat

software, ILS (Integrated Logistics Support) packages. **MHT-Technical Publications and Training** (Ben Gurion International Airport, Israel): Provides multilingual technical publications and training services. Publications include operations, flight, maintenance, overhaul and wiring manuals; illustrated parts and logistics catalogs; artist concept and marketing support collaterals. Training services include consulting, surveys, training facilities, trainers and simulators and customized training programs.

Military Aircraft Group:

Lahav Div. (Ben Gurion International Airport, Israel): Modifies, overhauls and upgrades combat aircraft and helicopters, military transporters and trainers; integrates avionics, fire control radars and ECM systems; upgrades A-4, An-32, C-130, F-4, F-5, F-16, Kfir, Mi-17, MiG-21, Mirage, Su-22, T-38 and other aircraft. **Malat Div.** (Ben Gurion International Airport, Israel): Designs, develops, manufactures, integrates and supports interoperable UAV systems for military, para-military and civil needs. **Mata Div.** (Jerusalem, Israel): Maintains, modifies, overhauls and repairs helicopter structures, systems and components; CAD/CAM design and production of lightweight, fire-resistant electrical harnesses; produces helicopter/aircraft crew and passenger seats.

Missile & Space Systems Group:

MBT Div. (Yehud, Israel): Airborne, naval and ground systems; missiles and guided weapons; missile seekers; point defense and air defense systems; communication and observation satellites; mission control stations including low Earth orbit (LEO) and geostationary Earth orbit (GEO) technologies. **MLM Div.** (Beer-Yaakov, Israel): Arrow anti-tactical ballistic program; small satellite launch vehicles (Shavit) for use in low-Earth orbit satellites; rangeless air combat maneuvering instrumentation systems (ACMI). **TAMAM Div.** (Yehud, Israel): Upgrades of helicopter electronics and avionics to give full night combat capability; of electro-optical payloads for UAV's, helicopter and fixed-wing aircraft; gun-laying and positioning systems for self-propelled or towed artillery; inertial navigation systems for land, sea and air; reaction and momentum wheels and other components for civilian space use; Beryllium mirrors and precision opto-mechanical assemblies.

Joint Ventures:

Eurolair Industries, partner: Eurolair International (France). **ImageSat International (ISI)**, partners: Core Software Technologies (USA), Elbit Systems (Israel). **Medis Technologies**, partners: Lifton & others (USA). **Pioneer UAV Inc.**, partner: AAI (USA). **Spacecom Satellite Communications Services Ltd.**, partners: Eurocom Group, GSSC, Mer Services Group (all Israel).

FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenues	2,180	2,090	(4%)
Operating Expenses	—	—	—
Net Profits	84	101*	20%
Debt to Equity Ratio	—	—	—

**Profit figures for 2001 include a capital gain of \$28 million from the sale of Galaxy Aerospace, IAI's business jets subsidiary in the USA, to General Dynamics (Gulfstream).*



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 www.itt.com

Employment: 38,000

Officers:
President & CEO Louis Giuliano

Aerospace Organization/Products:

ITT Industries, Cannon (Santa Ana, CA, USA):

Supplies connectors, interconnects, cable assemblies, switches, dome arrays, keypads, multi-function grips, panel switch assemblies, I/O card kits, smart card systems and LAN components. Provides high-speed/high-bandwidth network systems and services.

ITT Industries Defense Business (McLean, VA, USA):

Advanced Engineering & Sciences Div. (Reston, VA, USA): Designs, manufactures and markets advanced digital communications products and systems for government customers. **Aerospace/Communications Div.** (Fort Wayne, IN, USA): Designs and manufactures wireless tactical communications systems and security devices for US and allied armed forces and navigational and remote sensing payloads for NASA, the European Space Agency and Japan. **Avionics Div.** (Clifton, NJ, USA): Produces EW systems; AN/ALQ-165 ASPJ, AN/ALQ-172 ECM systems for AC-130H and B-52; AN/ALQ-211 SIRFC, AN/ALQ-214 IDECM RFCM;

Night Vision Div. (Roanoke, VA, USA): AN/AVS-6 aviator's night-vision imaging system (ANVIS), AN/AVS-9 (F4949) aviator's image intensifier set, NW-2000 night-vision goggle camera system. **Systems Div.** (Colorado Springs, CO, USA): Operation and maintenance services, information technologies, consulting and technical assistance. Guilfillan Group (Van Nuys, CA, USA): Builds air traffic control, air defense and coastal defense radars.

Fluid Technology Business (Upper Saddle River, NJ, USA):

Harper Aerospace Fasteners Div. (Burbank, CA, USA): Produces aerospace fasteners; pressure, temperature and letting flow switches.

Joint Ventures:

Spaceport Systems International, partner: California Commercial Spaceport Inc. (USA).

FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenues	4,829	4,676	(3%)
Operating Expenses	4,336	4,279	(1%)
Net Profits	265	277	5%
Debt to Equity Ratio	—	—	—



KAMAN
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Employment: 3,600

Officers:
Chairman, President & CEO Paul R. Kuhn
President, Kaman Aerospace Corp. Joseph H. Lubenstein
President, Kamatics Corp. John Kornegay

Aerospace Organization/Products:

Kaman Aerospace Corp. (Bloomfield, CT, USA):

Builds helicopters, aircraft components and composite structures. Ongoing projects include Boeing 767, 777 and C-17 aircraft structures; K-MAX; SH-2 Seasprite series, (255 produced, including 11 new-built SH-2G Super Seasprites). **Electro-Optics Development Center** (Tucson, AZ, USA): Builds Light Detection and Ranging (LIDAR) systems. **Kaman Aerospace International** (Bloomfield, CT, USA): International affiliate of Kaman Aerospace Corp. **Kaman Aerospace-Middletown Operations** (Middletown, CT, USA): Missile arming, fuzing, safing and mass memory systems.

Kaman Instrumentation (Colorado Springs, CO, USA):

Produces non-contact position measuring systems and microwave cable assemblies.

Other Units:

Electromagnetics Development Center (Hudson, MA, USA): Builds advanced electromagnetic motors and generators. **Kamatics Corp.** (Bloomfield, CT, USA): Builds self-lubricating bearings and surface coatings for aircraft and mechanical drive couplings for helicopters.

Joint Ventures:

Kamatics-Barden, partner: Barden (UK).

FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenues	1,032	877	(15%)
Operating Expenses	974	861	(12%)
Net Profits	37	12	(68%)
Debt to Equity Ratio	9%	8%	(11%)



KAWASAKI
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Employment: 28,936

Officers:

President & Director Masamoto Tazaki
President, Aerospace Co. Takashi Sugoh
President, Gas Turbine and Machinery Co. Kengo Yamashita

Aerospace Organization/Products:

Aerospace Group (Tokyo, Japan):

Manufactures Boeing 737 wing in-spar ribs, 747 outboard flaps and 767 forward fuselage panels, overwing fuselage panels and wing in-spar ribs; Boeing 777 forward and center fuselage panels, keel beam, after wheel-well bulkhead, pressure bulkheads, cargo doors and wing in-spar ribs; Embraer 170 major wing components. Manufactures BK 117, CH-47J and OH-1 helicopters; T-4 intermediate jet trainer; Type 96 multi-purpose missile system and antiarmor missiles. Overhauls C-1, C-130, E-2C and E-767 aircraft. Space-related products include payload fairing of H-2A rocket and Japanese Experiment Module (a part of the International Space Station). Is currently developing P-X (ASW aircraft) and C-X (cargo aircraft) for Japan, and participating in the development of winglets for Boeing 737-300/-400/-500 and Embraer 195.

Gas Turbine Div. (Tokyo, Japan):

Manufactures T53 and T55 turboshaft engines; engine components of the RB211, Trent 500, 700, 800 and PW 4000, IAE V2500; components of the RE220 and 131-9 APUs; accessory gear box of the CF34-8/-10. Performs overhauls on LTS101, Marine Olympus, Marine Orpheus, Marine Spey and Tyne engines; transmission for BK 117 and OH-1; is currently developing an air-turbo ramjet engine.

Subsidiary:

Kawasaki Helicopter System Co. (Gifu, Japan): Construction, external load, logging and sightseeing.

FINANCIALS (\$ MILLIONS)*:	2001	2002	% Change
Operating Revenues	8,559	8,589	0%
Operating Expenses	7,603	8,354	10%
Net Profits	(83)	47	157%
Debt to Equity Ratio	257%	293%	14%

**Fiscal year ends on March 31.*



L-3
communications
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www.l-3com.com

Employment: 25,000

Officers:

Chairman and CEO Frank C. Lanza
President and CFO Robert V. LaPenta

Aerospace Organization/Products:

Aviation Products & Aircraft Modernization (Phoenix, AZ; Sarasota, FL, both USA, and other locations in the USA and Canada):

Furnishes aviation products and aircraft modernization services that include airborne traffic and collision avoidance systems; commercial, solid-state cockpit voice recorders and flight data recorders; ruggedized displays for military and high-end commercial applications; aviation life-cycle management services including heavy maintenance and structural modifications and Head-of-State and commercial interior completions. Provides engineering, modification, maintenance, logistics and upgrades for US Special Operations Command aircraft, vehicles and personal equipment.

Secure Communications & ISR (Camden, NJ; Greenville, TX; Salt Lake City, UT, all USA, and other locations in the USA):

Responsible for Compass Call, RiveJoint and other intelligence, surveillance, reconnaissance and communication (ISRC) platforms. Provides secure data links for airborne, satellite, ground and sea-based remote platforms. Supplies specialized fleet management and support that includes procurement, systems integration, sensor development, modifications and maintenance for signals intelligence and ISR special mission aircraft and airborne surveillance systems. Also furnishes strategic and tactical signal intelligence systems; secure telephone and network equipment and encryption management; and communication systems for surface and undersea vessels and manned space flights. Developing network-centric communications.

Specialized Products (San Diego, CA, USA, and other locations in the USA):

Supplies products to military and commercial customers in markets that include acoustic undersea warfare products for mine hunting, dipping sonars and anti-submarine warfare, naval power distribution, conditioning, switching and protection equipment for surface and undersea platforms; telemetry, instrumentation, space and guidance products that include tracking and flight termination; fuzing products and microwave components. Supplies merchant market with guidance products that use GPS, micro-electro-mechanical systems (MEMS), fiber optics and ring laser gyros for weapons and space. Also produces explosives detection systems for checked baggage at airports, high performance antennas and ground based radomes, and training devices and motion simulators.

Training, Simulation & Support Services (Arlington, TX, USA, and other locations in the USA)

Supplies training services for aircrews, navigators, mission operators, gunners and maintenance technicians for platforms that include military fixed- and rotary-wing aircraft, air vehicles and various ground vehicles. Provides communication software support, information services, engineering development services and integration support; high-end engineering and information support services for command, control, communications, computers and ISR architectures; air warfare modeling and simulation tools for US Defense Department and US government intelligence agencies applications that include missile and space systems, unmanned aerial vehicles and military aircraft. Develops and manages teaching, training and education, logistics, strategic planning, organizational design, democracy transition and leadership development programs. Designs and produces ballistic missile targets.

FINANCIALS (\$ MILLIONS)*:	2000	2001	% Change
Operating Revenues	1,910	3,916	105%
Operating Expenses	1,687	3,582	109%
Net Profits	83	161	94%
Debt to Equity Ratio	160%	90%	(44%)

**Figures are pro forma, and include acquisitions and related financings since January 1, 2001.*



Aerospace Organization/Products:

Lockheed Martin Aeronautics Co. (Fort Worth, TX, USA):

Lockheed Martin Aeronautics Co. (Palmdale, CA, USA): Produces F-117 stealth aircraft (59 delivered); classified aircraft development programs (including SR-71 and U-2 surveillance aircraft); unmanned aerial vehicle development; aircraft systems design, integration and modification; aircraft maintenance, training and logistics. **Lockheed Martin Aeronautics Co.** (Marietta, GA, USA): Producer of C-5 Galaxy (131 delivered through 1989), responsible for C-5 Avionics Modernization Program (AMP) and Reliability Enhancement and Reengineering Program (RERP). C-27J, C-130A/H Hercules (2,156 delivered), C-130J (87 delivered through 5/02), C-141 Starlifter (285 delivered through 1968; 270 modified through 1982), F/A-22 Raptor advanced tactical fighter (developmental; 9 delivered through 5/02, 295+ planned for USAF), JetStar (202 built), P-3 Orion ASW aircraft (650 built; last aircraft delivered 1995), S-3 Viking ASW aircraft (187 delivered through 1978); also contains Lockheed Martin Aeronautical Systems Support Co. (Smyrna, GA, USA). **Lockheed Martin Aeronautics Co.** (Fort Worth, TX, USA): Engineering, development and manufacture of major portions of the F/A-22 and Japan's F-2 fighter (with Mitsubishi Heavy Industries), produces F-16 fighters (4,054 delivered through 5/02), and produces one-third of the F/A-22 fighter, made F-111 Aardvark fighter/bomber (562 delivered through 1976). Leads multinational F-35 Joint Strike Fighter (JSF) program. Working with Korean industry on the T-50 Golden Eagle supersonic trainer/light attack aircraft.

Lockheed Martin Space Systems Co. (Littleton, CO, USA):

Aeronautics Operations (Littleton, CO, USA): Designs, develops, tests and manufactures a variety of advanced technology systems for space and defense. Chief products include planetary spacecraft and other space systems, space launch systems (Atlas, Athena, Centaur, Titan and ground systems). **Commercial Space Systems** (Sunnyvale, CA, USA): Designs, builds, markets and operates turnkey satellite systems (including A2100 commercial communications satellites) for the space-based telecommunications and remote-sensing markets, and provides space-based solutions for other applications. CSS also includes **Communications and Power Center** (Newtown, PA, USA). **Lockheed Martin Management and Data Systems** (King of Prussia, PA, USA): All-weather, high-resolution synthetic aperture radar systems; automatic target recognition; digital signal processing; image processing/exploitation; bi-static radar systems; foliage penetration radar; precision weapon guidance systems; UAV command and control systems; imagery exploitation systems; imagery training systems; C³I with emphasis on large-scale systems integration, intelligence processing, exploitation; and multi-level security and data storage technologies;

Employment: 125,000

Officers:

Chairman & CEO Vance D. Coffman; **President & COO** Robert J. Stevens; **Senior Vice President & CFO** Christopher E. Kubasik; **Exec. VP, Aeronautics Co.** Dain M. Hancock; **Exec. VP, Space Systems** Albert E. Smith; **Exec. VP, Systems Integration** Robert B. Coultts; **Exec. VP, Technology Services** Michael F. Camardo

FINANCIALS (\$ MILLIONS):	2000†	2001	% Change
Operating Revenues	24,541	23,990	(2%)
Operating Expenses	22,881	22,447	(2%)
Net Profits	(519)	(1,046)	(102%)
Debt to Capital Ratio	58%	54%	(7%)

† Values updated from 2002 Source Book.

communication systems offering large satcom ground terminals/stations; integrated communication systems and complete communication networks methodologies; high-speed strategic information and data processing systems; systems engineering and integration of large, sophisticated information processing systems for government and commercial customers; experience in command and control systems for the intelligence community, US Defense Dept., NASA; high-volume data processing; systems management. **Michoud Operations** (New Orleans, LA, USA): Space shuttle external tanks and composite tanks for cryogenic applications. **Missiles and Space Operations** (Sunnyvale, CA, USA): Advanced EHF National Team, Airborne Laser, DSCS and GPS 2R satellites, Milstar, Space-Based Laser-IFT, Theater High Altitude Area Defense (THAAD) System, and Trident fleet ballistic missiles. Remote-sensing satellites include DMSP, Ikonos, POES and Space-Based Infrared System-High (SBIRS-High). Scientific projects include Gamma Ray Large Area Space Telescope (GLAST), Gravity Probe-B (GP-B), International Space Station solar arrays and other systems, Space Infrared Telescope Facility (SIRTF), Space Interferometry Mission (SIM), and Terrestrial Planet Finder (TPF). M&SO also contains **Advanced Technology Center** (Palo Alto, CA, USA): Capabilities include artificial intelligence, distributed processing and embedded processing within embedded training, information infrastructure, intelligent systems and virtual prototyping.

Lockheed Martin Technology Services (Cherry Hill, NJ, USA):

Aircraft and Logistics Centers (Greenville, SC, USA): Greenville Aircraft Center (Greenville, SC, USA) and Kelly Aviation Center (San Antonio, TX, USA). Contracts field teams for on-site maintenance and logistical support. Comprehensive support services for a wide variety of military and commercial customers around the world. Provides contractor logistics support, maintenance, modification and back shop support. Specializes in developing and managing international aviation service centers, privatizing aerospace-related depots, establishing joint ventures in foreign countries and marketing modification and maintenance projects worldwide. **Energy Programs** (Washington, DC, USA): Atomic Weapons Establishment (AWE) (UK): A consortium of British Nuclear Fuels Ltd., Lockheed Martin and Serco, operates as the steward for the UK's nuclear weapons stockpile. **Information Technology** (Seabrook, MD, USA): E-commerce, enterprise information services, managed infrastructure services, software modernization, and data center management for US Defense Department, civil government agencies and select-

ed commercial customers. **Knolls Atomic Power Laboratory (KAPL)** (Schenectady, NY, USA): Designs and provides support for nuclear reactors on board US Navy ships; trains US Navy personnel in nuclear power plant operation. **Lockheed Martin Space Operations** (Houston, TX, USA): Provides support services to NASA and the National Oceanographic and Atmospheric Administration (NOAA) command and data acquisition stations; mission operations and control systems; flight hardware research, development and integration; payload development, integration and operation; satellite operation, tracking and control; information systems support; propulsion testing; engineering and technical support for life science projects. **Lockheed Martin Technical Operations** (Sunnyvale, CA, USA): Satellite operations, space launch services, mission planning, sustaining engineering, integrated logistics support, and operations and maintenance for the US Defense Department, NASA and other customers. **Sandia National Laboratories** (Albuquerque, NM, USA): Computational and information sciences, engineering sciences, materials and processes, microelectronics and photonics, and pulsed power. **Systems Management** (Marlton, NJ, USA): Engineering, training, logistics, field support, operations and maintenance, assembly, and field range support services for the US Army, US Air Force, US Navy, and international and other domestic customers in more than 125 locations. **Technology Ventures Corp. (TVC)** (Albuquerque, NM, USA): Commercializes technology from the national laboratories (primarily Sandia) and regional research universities.

Stand-alone Units:

Enterprise Information Systems (Orlando, FL, USA): Provides value-added, technology-based information services to various Lockheed Martin businesses.

Systems Integration:

Lockheed Martin Air Traffic Management (Rockville, MD, USA): Develops, deploys and maintains advanced air traffic control systems. Expertise and products include area, terminal and tower automation; radar and flight data processing; system infrastructure development; systems integration and support. **Lockheed Martin Canada** (Kanata, Ontario, Canada): Electronic systems for naval and airborne programs. **Lockheed Martin Distribution Technologies and Lockheed Martin Systems Integration** (Owego, NY, USA): Provides integrated, advanced-technology system solutions for civil defense, civil and industrial customers. Capabilities include systems integration, program management, hardware and software development, manufacturing and logistics support. **Lockheed Martin Information Systems** (Orlando, FL, USA): Business activities are structured into three major product areas: support, information technology and identification, and training and simulation. Applications include modernization of existing information systems (and the business processes they service), advanced large-scale simulation capabilities, simulation/training systems and data processing services. **Lockheed Martin Missiles and Fire Control Segment:** Comprises two units; Lockheed Martin Missiles and Fire Control (Orlando, FL, USA) and Lockheed Martin Missiles and Fire Control (Dallas, TX, USA): Develop and produce air

defense systems (MEADS, PAC-3, Patriot), anti-armor and air-to-air missiles (Hellfire 2, Javelin, Longbow Hellfire, LOSAT, Predator, Python 4); fire control and sensors (ABL-IRSS, Arrowhead, Comanche EOSS, F-14 IRST, LANTIRN, Longbow, NITE Hawk, PANTERA, PVS, shipboard IRST, Target Sight System); fire support systems (ATACMS, HIMARS, MLRS, Navy TACMS); strike weapons (AGM-142, AUP, BLU-109, HAVE LITE, JASSM, LOCASS, WCMD). **Lockheed Martin Mission Systems** (Gaithersburg, MD, USA): Information system integration programs, aerospace information operations, space systems support and defense information systems. **Lockheed Martin Naval Electronics and Surveillance Systems** (Eagan, MN, USA): Designs and manufactures militarized, ruggedized and commercial off-the-shelf (COTS) defense computer systems for airborne, surface, undersea and ground applications. The unit is a prime systems integrator for maritime surveillance aircraft, a subsystem integrator of shipboard and airborne applications, has delivered a number of command, control, communications, computers and intelligence (C⁴I) systems, and provides engineering and technical support, customer field service support and manufacturing services. (Moorestown, NJ, USA): Development and production of multifunction, phased-array radars used in major combat systems including Aegis fire control, combat systems and radars for cruisers and destroyers. Strategic and tactical land-based air defense systems, combat systems, marine systems, weapon location systems, range systems and intelligence. (Syracuse, NY, USA): Surveillance, air and missile defense systems (AN/FPS-117, AN/TPS-59(V)3, AN/TPS-73, AN/TPS-117), airborne systems (AN/APG-67 multimode radar, AN/APG-67 Derivative SAR System, APS-145), weather systems (Environmental Situation Assessment Radar, Integrated Weather Systems, NEXRAD WSR-88D wind and temperature profilers), product support and Perry Technologies (Riviera Beach, FL, USA). (Akron, OH, USA): Simulation and training systems for flight, cockpit procedures and total aircrew mission rehearsal; real-world database generation systems; undersea and antisubmarine weapon systems; high-speed, parallel processing computers for airborne and undersea command and control; digital image processing systems; ship and aircraft laser-based self-defense systems and sensor systems; tactical weapon and guidance systems; and a metalcraft/electronic manufacturing capability. (Manassas, VA, USA): Products and services in support of submarine combat systems, signal processors, training systems, surveillance data processing systems and space processors.

Joint Ventures:

Kelly Aviation Center LP, partner: General Electric (USA). **Lockheed International Launch Services**, partners: Khrunichev Enterprise and RSC Energia (both Russia). **Lockheed Martin Alenia Tactical Transport Systems (LMATTS)**, partner: Alenia/Finmeccanica (Italy). **Longbow Limited Liability Co.**, partner: Northrop Grumman (USA). **Raytheon/Lockheed Martin Javelin Joint Venture**, partner: Raytheon (USA). **Space Imaging Inc.**, partner: Raytheon (USA). **TUSAS Aerospace Industries**, partner: Turkish Aircraft Industries (Turkey). **United Space Alliance**, partner: Boeing (USA). Note: Lockheed Martin retains a 20% equity share of Loral Space & Communications.



Employment: 3,000

Officers:

Chairman & CEO Bernard L. Schwartz; **President** Eric J. Zahler;
Sr. VP & Treasurer Richard Mastoloni; **Sr. VP & CFO** Richard J. Townsend

Aerospace Organization/Products:

Fixed Satellite Services (Bedminster, NJ, USA):

Loral Skynet: Operates a fleet of telecommunications satellites to provide satellite transponder, networking, IP multicast and professional services.

Satellite Manufacturing and Technology (Palo Alto, CA, USA):

Space Systems/Loral (SS/L): Manufactures and integrates telecommunications satellites and space systems; builds and delivers satellites and space systems.

FINANCIALS (\$ MILLIONS):	2000†	2001	% Change
Operating Revenues	1,224	1,070	(13%)
Operating Expenses	1,310	1,075	(18%)
Net Profits	(1,470)	(196)	87%
Debt to Capital Ratio*	60%	53%	(12%)

** Defined as long term debt/long term debt plus share holder's equity.
† Values updated from 2002 Source Book.*



Employment: 36,291

Officers:

Chairman Nobuyuki Masuda
President Takashi Nishioka
Managing Director & Representative Director General Manager, Aerospace Headquarters Junichi Maezawa

Aerospace Organization/Products:

Aerospace Headquarters (Tokyo, Japan): Headquarters and location of sales departments for Civil Aircraft and Aeroengine Dept., Defense Aircraft and Aeroengine Dept., Guided Weapons Systems, and Space Systems Dept. **Kobe Shipyard and Machinery Works (Kobe, Japan):** Manufactures rocket launchers and rocket engine firing testing stands. **Nagasaki Shipyard and Machinery Works (Nagasaki, Japan):** Manufactures Reaction Control System (RCS) for spacecraft and side jet systems for launch vehicles. **Nagoya Aerospace System Works (Nagoya, Japan):** Manufactures F-2 and F-15J combat aircraft; H2A launch vehicle; produces 747 flaps, 767 aft fuselage panels, and 777 aft fuselage and doors. Produces Bombardier Q400 center fuselage, Bombardier Global Express wings and mid-fuselage, CRJ700 aft fuselage; the MH 2000A, SH-60J and UH-60J helicopters. **Nagoya Guidance and Propulsion System Works (Nagoya, Japan):** Produces and Type 90 AAM-3 air-to-air missiles; Type 80 ASM-1, Type 91 ASM-1C and Type 93 ASM-2 air-to-ship missiles; Type 90 SSM-1B ship-to-ship missiles. Produces aircraft engines and LE-5B and LE-7A rocket engines.

FINANCIALS (\$ MILLIONS)*:	2001†	2002	% Change
Operating Revenues	24,576	21,493	(13%)
Operating Expenses	23,972	20,903	(13%)
Net Profits	(164)	198	221%
Debt to Equity Ratio	—	2%	—

** Fiscal year ends on March 31. AW&ST conversion based on exchange rates available on 3/31/00 and 3/31/01.
† Values updated from 2002 Source Book.*



Aerospace Organization/Products:

Northrop Grumman Electronic Systems (Baltimore, MD, USA):

Designs, develops and produces defense, civil, and commercial electronics and systems including airborne radar systems, identification systems and secondary surveillance systems, inertial navigation systems and sensors, electronic warfare systems, precision weapons, air traffic control systems, air defense systems, communications systems, space systems, marine systems, oceanic and naval systems, integrated avionics systems, logistics systems and automation and information systems. **Airborne Surveillance Systems** (Baltimore, MD, USA): AN/APY-1/-2 RSIP for E-3 Airborne Warning and Control System (AWACS), Multi-role Electronically Scanned Array (MESA) radar for 737 AEW&C. **Airspace Management Systems** (Baltimore, MD, USA): Air traffic control radars (ARSR-4, ASR-9 and ASR-12), MODE-S monopulse secondary surveillance radar, air defense systems, ground-based surveillance radars (AN/TPS-63, AN/TPS-78 solid state, AN/TPS-75 and FPS-130). **Avionics Systems** (Baltimore, MD, USA): Produces aircraft radars, including AN/APG-66 (F-16A/B, NATO F-16 MLU program); AN/APG-68 (F-16C/D); AN/APG-77 (in a Northrop Grumman-led joint venture with Raytheon for the F-22 aircraft); AN/APN-241 (C-130H, C-130J, HS-748 Australian naval trainer); AN/APQ-164 phased array radar (B-1B); and JSF advanced fire control radar and other key avionics systems for the F-35. Specializes in airborne reconnaissance and surveillance systems, Night Giant electro-optical surveillance system for Nimrod MPA, RISTA IR line scanner for F-16A/B. **California Microwave Systems** (Woodland Hills, CA; Belcamp and Hagerstown, MD, all USA): Airborne reconnaissance and surveillance systems, government ground-based SATCOM systems, communications gateway systems and mission planning. **Defensive Systems** (Rolling Meadows, IL, USA): Produces the AN/AAQ-24(V) directional infrared countermeasures (DIRCM) system; the large aircraft infrared countermeasures (LAIRCM) system, the AN/ALQ-135 internal countermeasures system and AN/ALQ-162 countermeasures set; Tactical Radar Electronic Countermeasures system for use on UAVs;

Employment: 96,000 (Does not include TRW acquisitions)

Officers:

Chairman & CEO Kent Kresa; **President and COO** Ronald D. Sugar; **Corporate VP & CFO** Richard B. Waugh, Jr.; **Corporate VP Govt. Relations** Robert W. Helm; **Corporate VP & Treasurer** Albert F. Meyers; **Corporate VP & Controller** Sandra J. Wright; **Corporate VP & President, Information Technology** Herbert W. Anderson; **Corporate VP & President, Integrated Systems** Scott J. Seymour; **Corporate VP & President, Electronic Systems** Robert P. Iorizzo; **Corporate VP & President, Ship Systems** Philip A. Dur; **Corporate VP & President, Newport News Sector** Thomas C. Schievelbein; **Corporate VP & President, Component Technologies** Frank G. Brandenburg; **Corporate VP & President, Mission Systems** Donald C. Winter; **Corporate VP & President, Space Technology** Wesley G. Bush (eff. 2/1/03)

Microwave Power Modules; Unattended Ground Sensor (UGS) covert, unmanned battlefield monitoring device; Improved Air Delivered Sensor, based on UGS; Mast-Mounted Sight high-resolution sensor suite; LITENING 2 airborne infrared targeting and navigation pod; LITENING Extended Range (ER) with upgraded forward-looking infrared Integrated Family of Test Equipment (IFTE) standard automatic test equipment, including Base Shop Test Facility and F-15 Down-Sized Tester; Consolidated Automated Support System (CASS) electro-optical test system; Integrated Support System to monitor, analyze and debug operational software; Virtual System Analyzer test instrumentation system; System-Level Test Set to verify performance of ALQ-135 prior to delivery. Also electronic countermeasure systems, including AN/AAR-54 passive missile approach warning system; AN/ALQ-131 (A-10, C-130, F-4, F-15, F-16, F-111 and Harrier); and through a joint venture with ITT Avionics, AN/ALQ-165 Airborne Self-Protection Jammer (F-14D, F-16C and F/A-18C/D); passive detection and surveillance systems; microwave devices and subsystems; laser rangefinders and designators and IRCM transmitters. **Land Combat Systems** (Baltimore, MD, USA): Teamed with Lockheed Martin to produce the Longbow radar and Hellfire missile systems for the AH-64D Apache helicopter; Vehicular Intercommunications System; TESAR radar for the Predator UAV; tactical UAV radar; Brilliant anti-armor Bat submunition; mission computer cluster for the Comanche helicopter and, in a joint venture with Lockheed Martin, the fire control radar for RAH-66 Comanche; image-intensified night-vision and infrared systems; REMOTEC hazardous duty robots. **Marine Systems** (Sunnyvale, CA, USA): Submarine propulsion, power generation, reactor control and missile launching system, surface ship propulsion and power generation gas turbines, (ICR) diesel engines and main reduction gears, and surface ship power distribution and power conditioning systems. **Navigation Systems** (Woodland Hills, CA, USA): Navigation and positioning systems for commercial air travel, military aircraft, ships, land vehicles, precision-guided weapons, missiles

and satellites; inertial navigation and guidance systems, inertial measurement systems, and attitude and heading reference systems; inertial sensor technologies; momentum and reaction wheels for satellites; flight inspection systems; airborne surveillance radars; identification systems including IFF devices and secondary surveillance radar that provide positive friend identification; integrated avionics systems for fixed-wing, rotary-wing and unmanned aircraft including development of the mission computer for the AH-1Z and UH-1Y USMC helicopter upgrade, which integrates communications, navigation, sensors, digital maps and mission planning; fire control systems for the AH-1 Cobra and the AH-64 Apache; daylight visible and night-capable smart rugged displays, standard for US Army and Navy all-glass cockpits; light-emitting diode and liquid crystal displays for military vehicles and weapons; automated logistics support tools; and contract manufacturing. Products are offered through operations at US facilities and at Lital SpA (Pomezia, Italy), LITEF GmbH (Freiburg, Germany), Northrop Grumman Canada Corporation (Toronto and Halifax, Canada), and TELDIX GmbH (Heidelberg, Germany).

Northrop Grumman Norden Systems (Norwalk, CT, USA): AN/APY-3 (Joint-STARS radar sensor), AN/APG-76 airborne radar, AN/APY-6 surface surveillance radar, ASDE-3 and AMASS airport surface surveillance radars, aftermarket support (Space Shuttle Orbital Display Unit (ODU), MMRS Israeli F-4 radar, shipboard air and surface search radars (AN/SPS-40 and AN/SPS-67), AN/APS-130 (EA-6B), and LSI & PDP-11 militarized computers. **Oceanic and Naval Systems** (Annapolis, MD, USA): Advanced SEAL Delivery System (ASDS), surface ship anti-submarine warfare (21HS) and radar sensor systems (AN/SPO-9B anti-ship missile defense radar), unmanned undersea vehicle (UUV) systems for mine reconnaissance, torpedo defense systems, mine hunting search sonar (AN/AOS-14), torpedoes (Mk48, Mk48 ADCAP), anti-submarine warfare targets (SPAT), submarine hull-mounted acoustic systems (AN/WLY-1 Acoustic Intercept System, Lightweight Wide Aperture Array, and High-Frequency Bow Conformal Array). **Park Air Systems** (Peterborough, UK): Civil and military VHF and VHF/UHF digital radios, communications systems. **Space Systems** (Baltimore, MD, USA): Space-Based Infrared System (SBIRS-High/Low), providing MWIR/LWIR scanning and staring sensors to detect and track ballistic missiles. Multispectral/ hyperspectral spaceborne cameras (DMSP Operational Linescan System, Orbview 3, Orbview 4, Warfighter 1), SAR/MTI sensors, Aperture Risk Reduction, AFRL TRAM 2, Multi-INT ground processing systems (Army ETRAC, Army Tactical Exploitation System [TES]), Navy Littoral Surveillance Systems (LSS), Tactical Exploitation System (TES)-Navy for the Naval Fires Network (NFN), USAF Common

Imagery Processor (CIP). **Sperry Marine** (Charlottesville, VA, USA): Navigation and control systems for marine platforms, commercial off-the-shelf equipment for military applications. **Xetron Corp.** (Cincinnati, OH, USA): Radio equipment, secure software and communications systems.

Northrop Grumman Information Technology (Herndon, VA, USA):

Provides advanced information technology solutions, engineering and business services for government and commercial clients. Expertise includes information systems integration; command, control, communications, computers, intelligence, surveillance and reconnaissance (C⁴ISR); enterprise hardware and software solutions; training and simulation; base and range support; signals intelligence; space systems; health informatics; and specialized scientific, engineering and technical services.

Northrop Grumman Integrated Systems (El Segundo, CA, USA):

Airborne Early Warning and Electronic Warfare

(Bethpage, NY, USA): Business area headquarters; engineering, management and logistics support for E-2C Hawkeye airborne early warning and control (AEW&C) aircraft program, which includes the Hawkeye 2000, which features Mission Computer Upgrade and Advanced Control Indicator Set workstations. Develops the next-generation Radar Modernization Program Advanced Hawkeye. Program and engineering headquarters for EA-6B Prowler and related electronic warfare aircraft programs; developing next-generation Increased Capability 3 (ICAP 3). Research and development of AEW & EW systems that include developing advanced systems of systems such as the Broad Area Maritime Surveillance system. (Hollywood, MD, USA): Advanced mission planning and targeting, electronic warfare, visualization and rehearsal, theater air and missile defense and related systems. Program, business and engineering management for modifications, repairs and overhauls business area. Supports A-7 Corsair 2 and S-2T international customers, USAF A-10 Thunderbolt 2, USN Fleet support of C-2A Greyhound and F-14 Tomcat; supports F-5/T-38 International/USAF users. (St. Augustine/Cecil Commerce Center, FL, USA): Produces new E-2Cs; modifies, repairs and overhauls various aircraft, including A-7, A-10, C-2A, E-2C, EA-6B, F-5E, F-14, F/A-18. Also headquarters for Northrop Grumman Field Support Services. **Airborne Ground Surveillance and Battle Management** (Melbourne, FL, USA): Produces the E-8C Joint Surveillance Target Attack Radar Systems (Joint-STARS) for the US Air Force (14 delivered as of 12/02, with 3 additional aircraft on order); research and development for AGS & BM Systems. Program and engineering headquarters for Airborne Laser Mine Countermeasures System

(AMCM), Affordable Moving Surface Target Engagement (AMSTE) program and other emerging surveillance and battle management technologies. (Robins AFB, GA, USA): Manages Total System Support Responsibility (TSSR) program for E-8C Joint-STARS in conjunction with operational wing and maintenance depot. (Lake Charles, LA, USA): Upgrades and refurbishes 707 aircraft for use as E-8C Joint-STARS platforms; performs Periodic Depot Maintenance (PDM) under the TSSR program. **Air Combat Systems** (El Segundo, CA, USA): Prime contractor for B-2 Stealth bomber. Provides B-2 depot maintenance and develops weapon system upgrades at Palmdale, CA, USA. Produced and delivered 21 aircraft; 20 at Whiteman AFB, MO, USA; one assigned to Edwards AFB, CA, USA, to flight test software and upgrades; principal subcontractor to Boeing on F/A-18E/F Super Hornet and F/A-18C/D Hornet strike fighters. Designed, developed and produces F/A-18's center and aft fuselage and twin vertical tails. Integrates all associated subsystems. Principal member of Lockheed Martin F-35 Joint Strike Fighter (JSF) Team. Develops advanced programs (naval unmanned combat air vehicle, X-47 Pegasus unmanned demonstrator, second-generation reusable launch vehicle). (El Segundo, CA, USA): Modifies and upgrades F-5 fighters and T-38 trainers as original designer/manufacturer. (San Diego, CA, and Palmdale, CA, both USA): Design, develop and produce unmanned aerial vehicle (UAV) systems (Global Hawk high-altitude reconnaissance, Fire Scout vertical takeoff surveillance and BQM-34 Firebee and BQM-74E/Chukar multirole aerial targets).

Northrop Grumman Mission Systems (Reston, VA, USA):

Civil Systems Division (Reston, VA, USA): Specializes in systems engineering and information technology for government customers. **Command, Control & Intelligence Division** (Fairfax, VA, USA): Provides systems engineering, design, development, integration, deployment and operations of systems and products for management, command, control and communications; computer systems for government applications; intelligence data collection, distribution and processing systems; space system C⁴ applications; and strategic ISR. Supplies systems engi-

neering, systems hardware for tactical electronics reconnaissance, intelligence and communications systems, and digital image processing systems. **Global Information Technology Division** (Reston, VA, USA): Provides network integration, integrated security and enterprise IT solutions for federal and commercial clients. **ICBM Prime Integration Contract** (Clearfield, UT, USA): Prime contractor for sustaining the Minuteman ICBM through 2020. **Information & Technical Services Division** (Fairfax, VA, USA): Provides information technology, joint training, education, distance learning, human factors, modeling and simulation, systems analysis and engineering, process engineering, policy and requirements analysis, program management services, test and evaluation, logistics and transportation services, and technical services. **Missile Defense Division** (Fairfax, VA, USA): Develops systems that integrate battle management, command and control software, systems engineering and integration. Provides national systems simulation and test capability; targets and countermeasures engineering and flight test operations. **Tactical Systems Division** (Carson, CA, USA): Supplies battlefield information technology systems, UAVs, and communications and networks.

Northrop Grumman Space Technology (Redondo Beach, CA, USA):

Engineering: (Redondo Beach, CA, USA): Handles all engineering processes including all system engineering and design engineering activities. **Production & Supply Chain Management** (Redondo Beach, CA, USA): Procures, subcontracts, manufactures and integrates, tests and launches all programs. **Programs** (Redondo Beach, CA, USA): Manages, develops, deploys and operates space systems and other deliverable end items. **SciTec Inc.** (Princeton, NJ, USA): Electro-optical/infrared phenomenology. **Radio Systems** (San Diego, CA, USA): Develops programmable radios for military aircraft avionics and third-generation cellular base stations. **Velocium** (El Segundo, CA, USA): Utilizes TRW's advanced indium phosphide (InP) and gallium arsenide (GaAs) semiconductor manufacturing processes for fiber-optic and wireless telecommunication applications.

Northrop Grumman			
FINANCIALS (\$ MILLIONS):	2000	2001*	% Change
Operating Revenues	7,618	13,558	78%
Operating Expenses	6,520	12,554	93%
Net Profits	625	427	(32%)
Debt to Capital Ratio	41%	68%	66%

*Financials include Northrop Grumman only, and not Litton Industries Inc., which was acquired by Northrop Grumman on 4/3/01. Also excluded are TRW acquisitions.

TRW†			
FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenue	17,231	16,383	(5%)
Operating Expenses	—	—	—
Net Profits	438	68	(85%)
Debt to Capital Ratio	—	—	—

†On 12/11/02, Northrop Grumman shareholders voted to acquire assets from TRW that include TRW Systems (now Northrop Grumman Mission Systems) and TRW Space & Electronics (now Northrop Grumman Space Technology). Also, in October 2002, Goodrich acquired TRW Aeronautical Systems.



Orbital

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Employment: 2,000

Officers:

Chairman & CEO David W. Thompson
President & COO James R. Thompson
Exec. VP & CFO Garrett E. Pierce
VP Public and Investor Relations Barron S. Beneski

Aerospace Organization/Products:

Advanced Programs Group (Huntsville, AL and Dulles, VA, both USA):

NASA and Department of Defense Programs: Develops prototype vehicles and system architectures for new space transportation technologies. Leading a team involved in NASA's Space Launch program to develop second-generation RLV and Crea Return/Transport Vehicle (CTRV).

Launch Systems Group (Huntsville, AL; Chandler, AZ; Vandenberg AFB, CA; Dulles, VA, all USA):

Missile Defense Vehicles: Designs, manufactures and operates missile defense-related interceptor boosters and target launch vehicles. Is developing an interceptor boost vehicle for the US Missile Defense Agency's Ground-Based Mid-Course Defense (GMD) System. Target vehicles support the GMD program, the Sea-based Mid-Course System, and programs such as PAC-3, US Army Theater High-Altitude Air Defense (THAAD), Vandal and GQM-153 (Supersonic Sea Skimming Target). **Space Launch Vehicles:** Produces air-launched Pegasus and ground-launched Taurus and Minotaur rockets used to place satellites into low-Earth orbit.

Space Systems Group (Beltsville, Germantown and Greenbelt, MD; Dulles, VA, all USA):

GEO Communications Satellites: Manufactures small, light-weight STAR-1 and STAR-2 geosynchronous Earth orbit (GEO) satellites for domestic and international providers of satellite communications services. Primary satellite projects include BSAT and NTT DoCoMo of Japan and the US-based PanAmSat. **LEO Satellites and Planetary Spacecraft:** Makes small satellites used for communications, remote sensing and space technology demonstration missions in low-Earth orbit (LEO). Primary projects include GALEX, ROCSAT, OrbView-3 and SORCE. Also produces spacecraft for "deep space" or planetary scientific missions such as DAWN planetary mission scheduled for launch in 2006 to Ceres and Vesta in the asteroid belt between Mars and Jupiter.

Transportation Management Systems (Columbia, MD, USA):

GPS Satellite-Based Vehicle Location Systems: Produces integrated and customized systems that use satellite-based GPS positioning information, ground-based communications and Internet data-delivered systems to track fleets of vehicles for public transit systems, highway maintenance and private vehicle fleet operators.

FINANCIALS (\$ MILLIONS):

	2000 [†]	2001	% Change
Operating Revenues	380	415	9%
Operating Expenses	545	468	(14%)
Operating Income	(165)	(53)	68%
Debt to Equity Ratio	—	—	—

[†] Values updated from 2002 Source Book.



Parker

PARKER HANNIFIN CORP.
6035 Parkland Blvd.
Cleveland, OH 44124, USA
Tel: (216) 896-3000; Fax: (216) 896-4000
www.parker.com

Employment: 48,000 (5,200 Parker Aerospace)

Officers:

Chairman of the Board Duane Collins; **President & CEO** Don Washkewicz; **Parker Aerospace President** Steve Hayes

Aerospace Organization/Products:

Parker Aerospace:

Abex Aerohydraulic Div. (Mainz-Kastel, Germany): Manufactures and services electro-mechanical actuators, hydraulic thrust-reverser actuators, hydraulic motors, hydraulic piston pumps, hydraulic systems and electro-hydraulic servovalves. **Abex Div.** (Kalamazoo, MI, USA): Designs, manufactures and services electromechanical actuators, hydraulic thrust-reverser actuators, hydraulic motors, hydraulic piston pumps, hydraulic systems and electro-hydraulic servovalves. **Air & Fuel Div.** (Irvine, CA, USA): Designs, manufactures and services aircraft fuel system components, aerial refueling equipment, high-temperature bleed air valves, turbine clearance control valves, air turbine starters and aircraft fire-suppression systems. **Aircraft Wheel & Brake Div.** (Avon, OH, USA): Designs, manufactures and services aircraft wheels, brakes, master cylinders, parking valves and hydraulic systems and components. **Control Systems Div.-Commercial** (Ogden, UT, USA): Designs, manufactures and services hydraulic systems, primary flight-control actuation and engine-control systems, integrated fly-by-wire electro-hydraulic servomodules, electronically controlled actuators, electro-mechanical actuators, flight-control components and hydraulic systems and components. **Control Systems Div.-Military** (Irvine, CA, USA): Designs, manufactures and services hydraulic systems, primary flight-control actuation and engine-control systems, integrated fly-by-wire electro-hydraulic servomodules, electronically controlled actuators, electromechanical actuators, flight-control components and ballistic-tolerant hydraulic systems and components. **Customer Support Commercial Div.** (Irvine, CA, USA): Provides around-the-clock support services for some 50,000 Parker Aerospace parts, as well as online inventory, overhaul and repair services, engineering support, technical data, training and field service support. **Customer Support Military Div.** (Irvine, CA, USA): Provides logistics support for systems and components manufactured by Parker Aerospace for military aircraft and related equipment. Services include sales and management of spares, warranty administration, overhaul and repair, ground-support equipment, technical data and reliability management, engineering

assistance, training, field service and in-theater support. **Electronic Systems Div.** (Smithtown, NY, USA): Designs, manufactures and services fuel- and oil-management systems, quantity-gauging systems, flow-measurement systems, flight-deck displays and flight inspection and aircraft-control systems. **Gas Turbine Fuel Systems Div.** (Mentor, OH, USA): Designs, manufactures and services fuel nozzles, atomizer devices, spraybars, valves, metering devices and manifolding for gas turbine main combustion and augmentation for commercial, industrial and aerospace propulsion engines and related products. **Nichols Airborne Div., Ayer** (Ayer, MA, USA): Designs, manufactures and services lubrication and scavenge oil pumps for aircraft gas turbine engines, auxiliary power units, helicopter transmissions and accessories. **Nichols Airborne Div., Elyria** (Elyria, OH, USA): Designs, manufactures and services DC fuel pump products, AC fuel pumps, bleed-air temperature control systems, bleed-air valves, regulator valves, filters, gauges and fittings. **Parker Aerospace Japan** (Yokohama, Japan): Manufactures electromechanical actuators, hydraulic thrust-reverser actuators, hydraulic motors, hydraulic piston pumps, hydraulic systems and electro-hydraulic servovalves. **Servo Controls Div.** (Dublin, GA, USA): Designs and manufactures electro-hydraulic servovalves and electromechanical products. **United Aircraft Products Div.** (Forest, OH, USA): Designs, manufactures and services heat-transfer and inerting systems and components, including heat exchangers and cooling systems.

Parker Fluid Connectors:

Stratoflex Aerospace Military Connectors Div. (Fort Worth, TX, USA): Manufactures field-attachable fittings and flexible hose assemblies.

FINANCIALS (\$ MILLIONS)*:	2001 [†]	2002	% Change
Operating Revenues	5,980	6,150	3%
Operating Expenses	679	686	1%
Net Profits	341	130	(62%)
Debt to Equity Ratio	36%	37%	3%

* Fiscal year ends June 30. [†] Values updated from 2002 Source Book.



Raytheon

RAYTHEON CO.
141 Spring Street
Lexington, MA 02421, USA
Tel: (781) 862-6600; Fax: (781) 860-2172
www.raytheon.com

Employment: 77,500

Officers:

Chairman & CEO Daniel P. Burnham; **President** William H. Swanson; **Exec. VP of Business Development & Chairman/CEO Raytheon International** Thomas M. Culligan; **Sr. VP & CFO** Edward S. Pliner

Aerospace Organization/Products:

Integrated Defense Systems [IDS] (Tewksbury, MA, USA):

Provides integrated air and missile defense and naval and maritime warfighting systems, including modeling and simulation capabilities for the Missile Defense Agency and strong global integrated capabilities for US Army, US Navy, US Marine Corps and technology customers. IDS combines the former Electronic Systems' Air & Missile Defense Systems and Naval & Maritime Integrated Systems businesses. Products and systems include the HAWK air defense system, the Patriot Air and Missile Defense system; the Surface-Launched AMRAAM system, the ground-based radar for the THAAD system, the ground-based radar prototype, the X-Band radar and, if approved, the upgraded early warning radars for the ground based mid-course defense mission; BMEWS, the Clear Radar Upgrade Program, Cobra Dane, Cobra Judy, JLENS and Pave PAWS. Also makes naval weapons and combat systems such as: AEGIS components, LPD-17 Ship System Integration, Mk46, Mk48 and Mk50 torpedoes. **Raytheon Marine-High Seas Division** (Kiel, Germany): Manufactures, distributes and services marine electronic products to merchant shipping, government and commercial fishing markets. **RF Components** (Andover, MA, USA): Provides high-performance integrated circuits and modules for wireless system manufacturers.

Intelligence & Information Systems [IIS] (Garland, TX, USA):

Provides intelligence and information technology solutions drawing on capabilities in signals, imaging and geospatial intelligence; air- and space-borne command and control; ground engineering support; and weather/environmental management. Products include Earth-Observing System Data and Information System (EOSDIS); Global Broadcast Service (GBS); Integrated Broadcast Service (IBS).

Missile Systems [MS] (Tucson, AZ, USA):

Designs, develops and produces: missile systems that include air-to-air, strike, surface Navy air defense, and land combat; guided projectiles; exoatmospheric kill vehicles and directed energy weapons. Products include AGM-65 Maverick (66,000), AGM-88 HARM (20,000), AGM-154 JSOW (1,020), AIM-7 Sparrow (68,000), AIM-9 Sidewinder (45,000), AIM-9X (150), AIM-120 AMRAAM (12,500), BGM-71 TOW (630,000), BGM-109 Tomahawk (4,964), FIM-92 Stinger (44,000), RIM-7 Evolved Sea Sparrow missile family (75,350) [includes air-launched NATO Sea Sparrow Missile (NSSM) and Evolved Sea Sparrow Missile (ESSM)], RIM-66/-67 Standard Missile, RIM-116A Rolling Airframe Missile (RAM). Also produces EX-171 Extended-Range Guided Munition, Javelin anti-armor missile (joint venture with Lockheed Martin) (8,300), Paveway family of laser-guided bombs (210,000). All production numbers as of 11/1/02. Phalanx shipboard air defense gun system and XM-982 Excalibur guided artillery round.

Network Centric Systems [NCS] (McKinney, TX, USA)

Develops and produces network centric solutions that integrate sensors, systems and secure communications to manage battlespace and airspace. NCS combines the former ES Tactical Systems and C³I/ C³S businesses. Produces air traffic control systems, including: Digital Airport Surveillance Radar/ASR-11, Air Traffic Control Beacon Interrogator (ATCBI-6), Standard Terminal Automation Replacement System (STARS), Wide Area Augmentation System (WAAS), Precision Runway Monitor and Skytrack air traffic management systems. Makes the Cooperative Engagement Capability (CEC) and communications systems including: Advanced Field Artillery Tactical Data System. Also produces airborne communications products that include: ARC-164, ARC-187, ARC-222; Enhanced Position Location Reporting System (EPLRS); Identification Friend or Foe (IFF) transponder and interrogator systems; Joint Tactical Terminal; MILSTAR terminals; Navy EHF/SHF satellite communications termi-

nals; Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T); and System for the Vigilance of the Amazon (SIVAM). Manufactures infrared and thermal imaging systems such as: AN/AAQ-27 thermal imager, Horizontal Technology Integration (HTI), second-generation Flir program, Commanders Independent Thermal Viewer (CITV) for the M1A2 main battle tank, Improved Bradley Acquisition Subsystem (IBAS), High-performance Infrared (HIRE) fire control sight, drivers vision enhancer. **Commercial Infrared** (Dallas, TX, USA): Produces infrared thermal imaging cameras and technology for firefighting, law enforcement, security, industrial and automotive applications. **ELCAN Optical Technologies** (Midland, Ontario and Richardson, TX, all USA; Malaga, Spain): Design and manufacturing complex for precision opto-mechanical and electro-optical systems and subsystems for projection display, medical, industrial, automotive, defense and entertainment markets. Electronics contract manufacturing operation for chip-on-board, surface mount technology, wave soldering, and prototype development and production capabilities.

Raytheon Aircraft:

Raytheon Aircraft Co. (Wichita, KS, USA): Produces and supports piston-powered Beech Bonanza and Beech Baron; Beech 1900D and Beech King Air family, Beech T-6A trainer for JPATS program operating as the T-6A Texan 2 all turboprops; and Beechjet, Hawker 800XP and Premier I business jets. Hawker Horizon business jet is in test flight. Operates a network of business aviation service operations at airports across USA and in the UK and Mexico.

Raytheon Technical Services Company (Reston, VA, USA):

Provides technical, scientific and professional services for defense, federal, and commercial customers in three primary business areas: technical services, product support and depot services. Specializes in management, operation; maintenance of customer facilities, equipment and systems; logistics and life-cycle support; overhaul and repair depot operations; engineering, logistics and personnel support; space and earth sciences; test and training range support; and privatization of government services.

Space & Airborne Systems [SAS] (El Segundo, CA, USA):

Provides technology for space and airborne missions. SAS combines the former Electronic Systems' Surveillance & Reconnaissance Systems and Air Combat & Strike Systems (AC&SS) businesses. Produces airborne and spaceborne radars: AN/APG-63 for F-15, AN/APG-65 for AV-8B, AN/APG-70 for F-15, AN/APG-73 for F/A-18, AN/APG-181 for B-2, AN/AWG-9 for F-14. Sensors for Global Hawk and advanced synthetic aperture radar system (ASARS-2) for U-2, high-resolution synthetic aperture radar (HISAR) and Space-Based Infrared System-Low (SBIRS-Low), and the Advanced Targeting Forward-Looking Infrared (ATFLIR) system for F/A-18. Others include: AN/ALE-50 towed decoy, AN/ALR-67(V)3 electronic radar warning receiver and Mk6 Trident missile guidance electronics.

Subsidiaries:

Raytheon Systems Limited (RSL) (London, UK): Designs and manufactures technologies in defense and commercial electronics.

Joint Ventures:

Alliance Logistics Ltd., partner: PIK Facilities (Scotland, UK). **COMLOG**, partner: EADS (The Netherlands). **CSR**, partner: Computer Sciences Corp. (USA). **Kongsberg Defense and Aerospace**, partner: Kongsberg (Norway). **RGE Government Services Co.**, partner: Lockheed Martin Government Services (USA). **SpacePort Canada**, partner: Akjuit Aerospace Ltd. (Canada). **Systems for Defense/Gesellschaft fur Verteidigungs Systeme GmbH (GVS)**, partner: EADS (The Netherlands). **Thales Raytheon Systems**, partner: Thales (France). **Thoray Electronics**, partner: Thales Sintra ASM (France).

FINANCIALS (\$ MILLIONS):	2000	2001†	% Change
Operating Revenues	16,895	16,897	0%
Operating Expenses	1,625	759	(53%)
Net Profits	141	763	441%
Debt to Equity Ratio	—	—	—

† Values updated from 2002 Source Book.



Rockwell Collins
 ROCKWELL COLLINS
 400 Collins Road NE
 Cedar Rapids, IA 52498 USA
 Tel: (319) 295-1000 Fax: (319) 295-5429
 www.rockwellcollins.com

Employment: 15,000

Officers:
President & CEO Clayton M. Jones

Aerospace Organization/Products:

Rockwell Collins:

Designs, produces, and supports aviation and communications for government and commercial customers. **Commercial Systems** (Cedar Rapids, IA, USA): Provides avionics systems, products and support to airlines, airframe manufacturers, regional airlines and turbine-powered business aircraft. Avionics products include Collins Pro Line 21 flight deck; Pro Line Coninuum, Video Intelligence System (VIS), communication, navigation, situational awareness, display and automatic flight control systems; Integrated Information System (I2S); and Rockwell Collins flight dynamics head-up guidance system (HGS/E) and surface guidance system (SGS) technology. Also makes cabin management and inflight entertainment systems. **Government Systems** (Cedar Rapids, IA, USA): Supplies defense electronics products and systems; offers open modular avionics with smart dis-

plays and advanced situational awareness. Provides solutions for digital technology implementation for the military through involvement with the US Army common aviation architecture system (CAAS) and joint tactical radio system JTRS Cluster 1 programs. Provides products including Flight2 products and systems, projection displays technology, head-up guidance systems, SIGINT and surveillance solutions, GPS receivers, data links, flight management systems, communications systems and aviation electronics systems.

Joint Ventures:

Collins Aviation Maintenance Services Shanghai Ltd., partner: China Eastern Airlines (China). **Data Link Solutions LLC**, partner: BAE Systems (UK). **Rockwell Scientific Company LLC**, partner: Rockwell Automation (USA). **Vision Systems Inc.**, partner: Elbit (Israel).

FINANCIALS (\$ MILLIONS)*:	2001	2002	% Change
Operating Revenues	2,820	2,492	(11%)
Operating Expenses	2,681	2,256	(16%)
Net Profits	139**	236	70%
Debt to Equity Ratio	—	(15%)	—

*Fiscal year ends on September 30.
 **After restructuring and impairment charges totaling \$130 million.



Rolls-Royce
 ROLLS-ROYCE plc
 65 Buckingham Gate
 London, SW1E 6AT UK
 Tel: (44-207) 222-9020 Fax: (44-207) 227-9178
 www.rolls-royce.com

Employment: 39,000 (24,000 aerospace)

Officers:
Chairman Euan Baird, as of February 2003, replacing: Sir Ralph H. Robins, retiring January 2003
Chief Executive John Rose
Director, Finance Paul Heiden

Aerospace Organization/Products:

Civil Aerospace (Derby, UK):

Airlines (Derby, UK): Produces RB211 high-bypass turbofan engine family, Trent engine family, Tay engine and modules for V2500 (with IAE partners). **Corporate & Regional Aircraft** (Dahlewitz, Germany; Indianapolis, IN, USA): Builds AE 3007, BR710/715 and Williams-Rolls FJ44. **Defense Aerospace** (Filton, Bristol, UK and Indianapolis, IN, USA): Builds Adour turbofan (with Snecma/Turbomeca), AE 2100 turbofan, EJ200 (for Eurofighter, with Eurojet partners), Gem and Gnome turboshafts, Model 250 turboshaft, MTR 390 turboshaft (with MTR partners), Pegasus turbofan, RB168-807 (with FiatAvio and MTU), RTM322 turboshaft (with Snecma/Turbomeca), T406 turboshaft, T800 turboshaft (with Honeywell) and Viper. **Rolls-Royce Repair and Overhaul** (Derby and East Kilbride, both UK): Provides maintenance, engineering and support for Rolls-Royce commercial and military engines.

Joint Ventures:

Data Systems & Solutions, partner: Science Applications International Corporation (USA). **Eurojet Turbo GmbH**, partners: FiatAvio SpA (Italy), Industria de Turbo Propulsores SA (Spain) and MTU (Germany). **Hong Kong Aero Engine Services Ltd.**, partners: Hong Kong Aircraft Engineering Company (Hong Kong, PRC) and SIA Engineering Co. (Singapore). **IAE International Aero Engines AG**, partners: Fiat Avio (Italy), Japanese Aero Engines Corp. (Japan), MTU (Germany), and UTC/Pratt & Whitney (USA). **Industria de Turbo Propulsores SA**, partner: Turbo 2000 SA (Spain). **International Engine Components Overhaul Pte. Ltd.** partner: SIA Engineering Co. (Singapore). **Light Helicopter Turbine Engine Co. (LHTEC)**, partner: Honeywell (USA). **MTU, Turbomeca, Rolls-Royce GmbH (MTR)**, partners: MTU (Germany) and Snecma/ Turbomeca (France). **Rolls-Royce Engine Services Ltd.**, partner: Philippines Aerospace Development Corp. (Philippines). **Rolls-Royce Turbomeca Ltd.**, partner: Snecma/ Turbomeca (France). **Singapore Aero Engine Services Ltd.**, partners: HAESL (Hong Kong) and SIA Engineering Co. (Singapore). **Texas Aero Engine Services**, partner: American Airlines (USA). **Turbo-Union Ltd.**, partners: FiatAvio SpA (Italy) and MTU (Germany). **Williams-Rolls Inc.**, partner: Williams International (USA).

Subsidiaries:

Rolls-Royce Brasil (Sao Bernard de Campo, Brazil): Maintains and overhauls aircraft turbine engines. **Rolls-Royce Canada Ltd.** (Lachine, Quebec, Canada): Builds gas turbines, accessories; repairs and overhauls aircraft engines.

FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenues	8,796	9,492	8%
Operating Expenses	8,547	9,204	8%
Net Profits	249	288	16%
Debt to Equity Ratio	34%	24%	(29%)



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 www.saab.se

Employment: 14,200

Officers:

President & CEO Bengt Halse; **Exec. VP & CFO** Göran Sjöblom;
Head, Saab Systems and Electronics Dan Jangblad; **Head, Saab Aerospace** Åke Svensson; **Head, Saab Bofors Dynamics** Ingemar Andersson; **Head, Saab Ericsson Space** Bengt Mörtberg;
Head, Technical Support and Services Kent Åke Jönsson;
Head, Saab Aviation Services Rolf Eriksson

Aerospace Organization/Products:

Saab Business Areas and Products:

Saab Aerospace (Linköping and Nyköping, both Sweden): Produces the Gripen fighter (121 delivered through 7/02), future aerospace systems and structural assemblies including systems for commercial aircraft; modifies and markets earlier Saab fighters. Performs military aircraft and helicopter maintenance; offers special flight operations. **Saab Aviation Services** (Linköping and Stockholm, both Sweden; Alexandria, VA, USA): Commercial aircraft maintenance, engine and component maintenance; provides product support for the Saab 340B and Saab 2000 turboprop regional airliners and Saab 340 airborne early warning aircraft; manages a leasing portfolio of 300 Saab 340 and Saab 2000 models. **Saab Bofors Dynamics** (Karlskoga, Linköping, and Gothenburg, all Sweden): Develops and manufactures guided missile systems, antitank systems, and underwater systems. **Saab Ericsson Space** (Gothenburg and Linköping, both Sweden, and a subsidiary in Austria): On-board computers, antennas and microwave electronics, separation systems. **Saab Systems and Electronics** (Gomleby, Huskvarna, Järfälla, Jönköping, Kista, Linköping, and Stockholm, all Sweden, and a subsidiary in Australia): Information and command and control systems, electronic warfare systems, avionics, simulation and training, signature management. **Saab Technical Support and Services** (Arboga, Linköping, Stockholm and Vaxjo, all Sweden): High-technology services, maintenance and customized systems in aviation, communication, information, sensors, logistics, testing and materials technology.

Joint Ventures:

A2 Acoustics, partner: WM-Data (Sweden). **Gripen International**, partner: BAE Systems (UK). **Saab Ericsson Space**, partner: Ericsson Microwave Systems (Sweden). **Taurus Systems GmbH**, partner: EADS (Germany).

FINANCIALS (\$ MILLIONS)*:	2000	2001	% Change
Operating Revenues	1,954	1,520	(22%)
Operating Expenses	1,786	1,366	(24%)
Net Profits	114	109	(4%)
Equity to Assets Ratio	18%	22%	22%

*AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.



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 www.sagem.com

Employment: 11,660

Officers:

Chairman, Executive Board Gregoire Olivier; **Chairman, Supervisory Board** Mario Colaiacovo; **Managing Director, Defense Activity** Jacques Paccard; **Director, Systems & Modernisation** Christian Dedieu; **Director, Guidance and Navigation** Christian Jaeger; **Director, UAV Systems** Didier Godart; **Director, Avionics and Flight Control** Emmanuel Cazali; **Director, Optronic Systems** Pascal Dupuy; **Director, Military Avionics** Remy Letscher

Aerospace Organization/Products:

Defence Activity (Nanterre, France):

Aeronautic Systems: Avionics; aircraft modernization kits; missile warning systems; mission planning systems. **Avionics and Flight Control:** Autopilot and automatic flight control systems; attitude and heading reference system (AHRS); single-axis stability augmentation system (SAS); actuators; data management equipment for aircraft and helicopters; flight test equipment; aircraft condition monitoring systems; high-capacity memories. **Navigation & Guidance:** Inertial navigation systems for aircraft, helicopters, spacecraft, land vehicles, submarines and surface ships; inertial guidance systems for tactical and strategic missiles and missile launchers; missile infrared homing equipment; inertial sensor units for stabilization and flight control systems; hybrid navigation and localization systems; GPS/inertial navigation systems. **Optronic Systems:** Thermal imagers; Flirs; day/night sighting systems; observation and fire control systems (missiles); trajectory systems; astronomy and space high-precision optics and large-scale optics. **Secure Terminals and Systems:** Airport security systems based on fingerprint identification, secure terminals (telephone and facsimile); military terminals; network, system and terminal security; encryption; radio communications; mobile digital transmission systems. **UAV:** Complete UAV systems, including image transmission processing, display and storage, and digital map production workshops.

Subsidiaries:

Sfim Inc. (Grand Prairie, TX, USA): Produces avionics for civil aircraft and helicopters for US-based customers.

FINANCIALS (\$ MILLIONS)*:	2000†	2001	% Change
Operating Revenues	4,023	2,691	(33%)
Operating Expenses	3,781	2,782	(26%)
Net Profits	143	(12)	(108%)
Debt to Equity Ratio	50%	58%	16%

*AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.
 † Values updated from 2002 Source Book.



smiths
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Aerospace Organization/Products:

Smiths Aerospace:

Actuation Systems (Cheltenham, Isle of Man, Wolverhampton, all UK. Los Angeles, CA; Whippany, NJ; Yakima, WA, all USA). Dowty Propellers (Gloucester, UK and Sterling, VA, USA): Provides integrated systems in hydraulics and actuation, primary and secondary flight controls, high-lift systems, thrust reversers, landing gear and doors, and specialized utility actuators and propellers. **Customer Services** (Europe, North America, Pacific): Provides equipment repair and spare parts service for airframe manufacturers, airlines and military forces. Service centers are located in Newcastle, Australia; Toronto, Canada; Singapore; New Addington, Cheltenham and London Heathrow Airport, all UK; and in Los Angeles, CA; Clearwater, FL; Wichita, KS; Grand Rapids, MI; Whippany, NJ; Dayton, OH; and Yakima, WA, all USA. **Electronic Systems:** Structured around platforms including air transport, combat fixed wing and rotorcraft. Supporting facilities include Cheltenham and Southampton, both UK. Yorba Linda, CA; Clearwater and Pompano Beach, FL; Rockford, IL; Germantown, MD; Grand Rapids, MI; Long Island, NY; Dayton and Vandalia, OH; Malvern, PA, all USA. Lodge Ignition (Basingstoke and Rugby, both UK). Micro-Circuit Engineering-MCE (Newmarket and Tewkesbury, both UK): Specialists in integrated systems including flight management/control, mission management and planning, data management, health and usage monitoring, crew information, navigation and guidance, electrical power management, fuel gauging and management, vehicle management, environmental control, proximity sensing, overhead panels, hybrids and microcircuits. **Naval and Marine Systems** (Shanghai, China; Arhus, Denmark; Rotterdam, The Netherlands; Singapore; Hainault, UK): Supplies naval and marine radar, ships'

Employment: 33,000 (12,000 aerospace; does not include Smiths Heimann)

Officers:

Chairman Keith Orrell-Jones; **Chief Executive** Keith Butler-Wheelhouse; **Managing Director, Aerospace** John Ferrie; **President, Electronic Systems** Robert F. Ehr; **Managing Director, Actuation Systems** Paul Strothers; **Managing Director, Precision Components** Peter Wright; **Managing Director, Smiths Detection** John Shepherd; **Managing Director, Marine Systems** Ron Nailor; **Managing Director, Customer Services** Michael Steel

integrated navigation systems and safety equipment, electronic chart display and information systems, and satellite and HF/MF/VHF communications. **Precision Components:** Structures business includes Hamble (Hamble-Le-Rice and Christchurch, both UK): Complete fluid transfer solutions in flexible, rigid or flex-rigid hybrid assemblies. High-technology engineering for defense applications from helicopter visual landing aids to explosive ordnance disposal equipment. Engine component businesses include Aero & Industrial Services (AIS) (Burnley and Nelson, both UK), Aero & Industrial Technology (AIT) and Combustion Technology Center (Burnley, UK), EBTEC Corporation (Agawam, MA, USA), KFW Canada (Orillia, Canada), King Fifth Wheel (Mountaintop, PA, USA), NCI Inc. (Asheville, NC, USA), Reynolds Rings (Birmingham, UK), Tri-Industries Inc. (Terre Haute, IN, USA), Tru-Form Inc. and Valley Manufacturing (Wilkes-Barre, PA, USA): Rotating and static gas turbine engine components from intake to exhaust, ring manufacturer, precision machining and fabrication. Tubular systems businesses include Titeflex (Ozoir-la-Ferriere, France. Oceanside, CA; Springfield, MA, both USA) and Lewis & Saunders (Laconia, NH, USA): Major structures and airframe components including wing leading- and trailing-edge components, empennage components and cargo doors and complete canopies and windscreens. **Smiths Detection:** (Mississauga, Ontario, Canada; Roissy, France; Kuala Lumpur, Malaysia; Crawley and Watford, UK; Baltimore, MD, and Warren, NJ, both USA): Provides detection and monitoring of chemical and biological agents, and air quality and systems for aviation security. **Smiths Heimann** (Weisbaden, Germany): Produces x-ray inspection systems; provides digital imaging, biometric systems and product inspection equipment.

FINANCIALS (\$ MILLIONS)*:	2001†	2002**	% Change
Operating Revenues	4,558	4,467	(2%)
Operating Expenses	—	—	—
Net Profits	455	425	(7%)
Debt to Equity Ratio	129%	73%	(44%)

*Fiscal year ends on July 31. **Values do not include Smiths Heimann, acquisition of which was completed on December 2, 2002.
 †Values updated from 2002 Source Book to reflect Smiths' merger with the TI Group in November 2000.



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 Fax: (33-1) 4060-8102
 www.sneema.com

Aerospace Organization/Products:

Equipment:

Cinch (St. Quentin en Yvelines, France): Terminals, plastic housings and electronic connectors for the aerospace, automotive, military, telecom and business equipment markets. **Globe Motors** (Dayton, OH, USA): Electric DC motors and actuators for aeronautical, automotive, defense and industrial applications. **Hispano-Suiza** (Colombes, France): Engine equipment; control systems for aerospace engines, power transmission systems for both civil and military aircraft engines, and accessory gearboxes, drive shafts, power transmission gearboxes, reduction gears. **Hurel-Hispano** (Meudon la Forêt, France): Engine nacelles, thrust reversers, aerostuctures and organic matrix composites for aerospace applications. Produces and repairs precision mechanical parts and manufactures ejection seats. **Labinal** (St. Quentin en Yvelines, France): Wiring and electrical harnesses and systems for the aerospace, marine, defense and railway industries. Provides engineering services. **Messier-Bugatti** (Vélizy, France): Manufactures wheels and carbon brakes, braking control systems (full brake-by-wire control systems, Tire Pressure Monitoring System (TPMS), Brake Pressure Monitoring System (BTMS) and steering systems), landing controls systems (sequencing of landing gear and gear doors, thrust reverser actuation systems, balance beam pitch trimmer), hydraulic and electrohydraulic actuation systems (EHA pumps), SEAS electrical seat actuation systems. **Messier-Dowty** (Vélizy, France): Designs, develops, manufactures and supports landing gears for commercial, regional and military aircraft, business jets and helicopters. **Messier Services** (Vélizy, France): International service, repair and overhaul network for all landing and braking systems. Operations in Asia, Europe and North America.

Propulsion:

Microturbo (Toulouse, France): Missile and drone propulsion systems; turbojet starting systems, military aircraft auxiliary power units. **Sneema Moteurs** (Paris, France): Manufactures engines and propulsion systems for both air and space applications. Products include: Atar 09K50 for Mirage 50 and Mirage F1; CFM56 aircraft engines (through CFM International, an equally owned joint venture of Sneema and General Electric) for Boeing 737 aircraft and military applications and Airbus transports; Larzac for Alpha Jet and MiG-AT trainers; M53 for Dassault Mirage 2000; M88 for Dassault Rafale; satellite, spacecraft and launch vehicle propulsion including: Ariane 4 and 5 propulsion (HM7B, Viking storable liquid propellant engines, Vinci and Vulcain 2 cryogenic engines). **Sneema Propulsion Solide** (Le Haillan, France): Designs and produces solid rocket motors (MPS for the Ariane 5 com-

Employment: 39,268

Officers:

Sneema Chairman & CEO Jean-Paul Béchat; **Sneema Executive Vice President & COO** Yves Bonnet; **Sneema Moteurs Chairman & CEO** Jean-Paul Herteman; **Sneema Services Chairman & CEO** Marc Ventre; **Turbomeca Chairman & CEO** Emeric d'Arcimoles; **Techspace Aero President & CEO** Jean-Lin Fourmureaux; **Sneema Propulsion Solide Chairman & CEO** Michel Laroche; **Hispano-Suiza Chairman & CEO** Pascal Sénéchal; **Hurel-Hispano Chairman & CEO** Christian Knapp; **Messier-Dowty Chairman & CEO** Louis Le Portz; **Messier-Bugatti Chairman & CEO** Yves Leclère; **Messier Services Chairman & CEO** Benoit Gossett; **Labinal Chairman & CEO** Jean-Claude Lepage; **Cinch and Globe Motors Chairman & CEO** Jean-Claude Lepage; **Microturbo Chairman & CEO** Henri Sala

mercial launcher (through Europropulsion, an equally owned joint venture of Sneema and FiatAvio), M45 and M51 strategic and tactical missiles propulsion, and thermostructural composite materials for aviation, space and industry. **Sneema Services** (Melun, France): Provides product support for commercial engines and MRO services for commercial and military engines. Customer support for CFM56 engines and distribution of spare parts. **Techspace Aero** (Herstal, Belgium): Equipment and low-pressure systems for aircraft engines and spacecraft. Low-pressure compressor modules, lubrication systems, space valves and test cell engineering. Engine depot maintenance, repair and test services. **Turbomeca** (Bordes, France): Turbohaft engines for helicopters. Current production includes 100% Turbomeca engines such as the Ardiden, Arriel, Arrius, Makila and TM333, and jointly produced engines such as MTR390 (with MTU and Rolls-Royce) and RTM322 (50/50 with Rolls-Royce). Service networks worldwide. Turbojet engines for training, support or liaison aircraft (Adour with Rolls-Royce, Larzac with Sneema Moteurs). Gas turbines for land and marine applications.

Other Subsidiaries:

Propulsion Technology (Miami, FL, USA): Provides repair and engineering services for aircraft engines. **Sneema Services Brussels** (Brussels, Belgium): Provides MRO services for commercial aircraft engines. **Sofrance** (Nexton, France): Manufactures filtration systems. **Teclam** (Cernay, France): Assembles elastomeric systems for motion control. **Technofan** (Blandac Cexdex, France): Builds ventilation systems for commercial and military aircraft and rotorcraft.

Joint Ventures:

Ceramic Coating Center, partner: MTU Aero Engines (Germany). **CFM International**, partner: General Electric (USA). **Europropulsion**, partner: FiatAvio (Italy). **International Compressor Technologies**, partner: Praxair Surface Technologies (USA). **MTR GmbH**, partners: Turbomeca (France), MTU Aero Engines (Germany) and Rolls-Royce (UK). **Rolls-Royce Sneema Ltd.**, partner: Rolls-Royce (UK). **Rolls-Royce Turbomeca Ltd.**, partner: Rolls-Royce (UK). **Sichuan Sneema Aero-engine Maintenance Co.**, partner: China Southwest Airlines (China). **Smartec**, partner: NPO Saturn (Russia). **Sneema Morocco Engine Services**, partner: Royal Air Maroc (Morocco).

FINANCIALS (\$ MILLIONS)*:	2000**†	2001	% Change
Operating Revenues	5,450	6,241	15%
Operating Expenses	4,709	5396	15%
Net Profits	311	338	9%
Debt to Equity Ratio	35%	26%	(26%)

*AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.
 ** Consolidated figures for 2000 include the Labinal businesses retained by Sneema, starting with the second half of the year, but do not include Hurel-Dubois, which was acquired at year's end. The company was merged with Hispano-Suiza Aerostructures (Sneema Group) in 2001 to create Hurel-Hispano.
 † Values updated from 2002 Source Book.



TEXTRON

TEXTRON INC.
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www.textron.com

Employment: 51,000

Officers:

Chairman, CEO & President Lewis B. Campbell
Exec. VP & CFO Ted R. French
Exec. VP & COO Steven R. Loranger

Aerospace Organization/Products:

Bell Commercial Helicopter (Mirabel, Canada):

Builds civil helicopters, including Bell 206 (1,277 delivered), 407 (532 delivered), 412 (514 delivered), 427 (31 delivered), 430 (92 delivered) and NTH (184 delivered). All deliveries as of 11/02. Historical programs include: 212 (832 delivered), 230 (38 delivered) and the 412CF (100 delivered).

Bell Helicopter Textron (Amarillo and Fort Worth, TX, both USA):

Designs, manufactures, sells and provides product support for civil and military helicopters, tiltrotor aircraft and unmanned air vehicles; AB139 helicopter and BA609 tiltrotor (with Bell Agusta Aerospace Co.), AH-1 Cobra/Super Cobra family (2,216 delivered, including 349 AH-1Ws), Bell 406/OH-58D (485 delivered), Bell Eagle Eye UAV (in development with Honeywell, Rolls-Royce, Scaled Composites, Stratos Group, Unisys Government Systems [all USA] and Israel Aircraft Industries, [Israel], V-22 Osprey (teamed with Boeing, 9 prototypes and 11 production aircraft delivered, 458 production aircraft projected for USMC and USAF Special Operations Command). All deliveries as of 11/02. Historical programs include Bell: 204/205 (426 delivered), 206 (8,542 delivered), 212/412 (1,325 delivered) and UH-1 Huey (10,392 delivered).

Cessna Aircraft Co. (Wichita, KS, USA):

Designs, manufactures, sells and provides product support for business jets, turboprop and single-engine piston aircraft; Caravan utility turboprops (1,334 delivered); single-

engine piston (4,137 delivered). Other current programs include: Citation 10 (195 delivered), Citation Bravo (233 delivered), Citation CJ1 (139 delivered), Citation CJ2 (102 delivered), Citation Encore (71 delivered), Citation Excel (279 delivered), All deliveries as of third-quarter 2002. Historical programs include: Citation 1 (691 delivered), Citation 2 (687 delivered), Citation 3 (202 delivered), Citation 5 (262 delivered), Citation 6 (38 delivered), Citation 7 (118 delivered), CitationJet (359 delivered), Citation S/2 (159 delivered) and Citation Ultra (251 delivered).

Textron Aerospace Fasteners (Santa Ana, CA, USA):

Manufactures blind rivets and tooling systems for the aerospace industry.

Textron Lycoming (Williamsport, PA, USA):

Manufactures piston engines and components for fixed-wing aircraft and helicopters.

Textron Systems (Wilmington, MA, USA):

Designs, manufactures and sells advanced technology systems, sub-systems and components for the defense and aerospace industries. Products include advanced weapons, airborne and ground surveillance systems, specialty marine craft, armored vehicles, and HR Textron aircraft products and actuation systems. HR Textron components and systems are used in fixed-wing, rotary-wing and tiltrotor aircraft; precision-guided missiles and munitions; unmanned air vehicles, spacecraft, turbine engines and armored vehicles.

FINANCIALS (\$ MILLIONS):

	2000 [†]	2001	% Change
Operating Revenues	13,090	12,321	(6%)
Total Costs and Operating Expenses	12,479	11,902	(5%)
Net Income	277*	166**	(40%)
Debt (net of cash) to Capital Ratio	29%	28%	(3%)

[†] Values updated from 2002 Source Book.

* 2000 Net Income includes special charges of (a) a goodwill write-off of \$349 million, (b) a write-down of e-business investments of \$117 million, and (c) accruable restructuring expense of \$16 million and asset impairment write-down of \$1 million.

** 2001 Net Income includes special charges of (a) a goodwill and intangible asset write-off of \$319 million, (b) accruable restructuring expense of \$81 million, (c) fixed asset impairment write-down of \$28 million and (d) a write-down of e-business investments of \$9 million and a pre-tax gain of \$339 million on the sale of its Automotive Trim business.



THALES

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Aerospace Organization/Products:

Aerospace Business Area:

Aerospace Business Group. Thales Avionics (Velizy, France): Integrated modular avionics suites, LCD cockpit displays and instruments, communications, flight management, control and navigation, and surveillance systems. Thales Avionics Electrical Motors (Chatou, France): Onboard electrical power management. Thales Avionics-Inflight Systems Inc. (Irvine, CA, USA): Inflight entertainment. Thales Avionics Ltd. (London, UK): Navigation systems, satellite communications, prime contracts and systems integration. **Air Traffic Management Business Group.** Thales ATM (Bagneux, France, with operations in Australia, Germany, Italy, UK and USA): Air traffic management systems, radar and control centers. **Simulation Business Group.** Thales Training and Simulation (Cergy, France, with operations in Australia, UK and USA): Commercial and military flight simulators, nuclear powerplant simulators and training centers.

Defense Business Area:

Airborne Systems Business Group. Thales Airborne Systems (Elancourt, France), Thales Missile Electronics Ltd. and Thales Sensors (UK): EW systems, airborne radar and mission systems and missile electronics. **Air Defense Business Group.** Thales Air Defense (Bagneux, France, and Belfast, Ireland, UK): Air defense systems and missile systems. Thales Munitronics B.V. (Huizen, The Netherlands): Fuses. **Communication Systems Business Group.** Thales Communications (Colombes, France) with operations in Belgium, Germany, The Netherlands, Norway, UK: Ground-based, airborne and naval combat radio communications, networks and information systems. **Naval Business Group.** Quintec Associates Ltd. and Thales Naval Ltd. (both Farnham, UK): Ship prime contractors. Thales Naval Deutschland (Wilhelmshaven, Germany), Thales Naval France (Bagneux, France) and Thales Naval Nederland (Hengelo, The Netherlands): Naval combat systems. Thales Underwater Systems (with operations in Sophia Antipolis, France; Australia, UK, and USA): Sonar systems for surface vessels and submarines. **Optronics Business Group.** Thales Optronics Ltd. (Glasgow, UK) and Thales Optronique (Guyancourt, France) with subsidiaries in Canada, France, Italy, The Netherlands and the UK: Defense Optronics Systems. Thales Angénieux (St-Héand, France), Thales Optics Ltd with subsidiaries in France and the UK, and Thales Laser (Orsay, France): Optics and components, cryogeny.

Employment: 65,000

Officers:

Chairman & CEO Denis Ranque; **Vice-Chairman** Bernard Rétat; **Executive VP, Chief Marketing Officer, Thales International** Jean-Paul Perrier; **Executive VP & COO Defense** François Lureau; **Executive VP and COO Aerospace and Information Technology & Services** John Hughes; **Sr. VP Chief Financial Officer** Ross McInnes; **Sr. VP Strategy & Development** Jean-Loup Picard

Information Technology & Services Business Area:

Communications Components Business Group. Thales Antennas (Southampton, UK): Antennas. Thales Electron Devices (Vélizy, France): Space traveling wave tubes and other electron tubes. Thales MESL Ltd. (Edinburgh, UK) and Thales Microsonics (Sophia Antipolis, France): Surface acoustical wave (SAW) devices. Thales Microelectronics (Chateaubourg, France): Circuit boards. Thales Microwave (Massy, France): Microcircuits. **Information Systems Business Group.** Thales Information Systems (Malakoff, France) with operations in Argentina, Belgium, Germany, Italy, Spain, Switzerland and UK: Systems integration, professional services and outsourcing. **Positioning Based Solutions Business Group.** Thales Geosolutions (with operations in some 30 countries), Thales Navigation (Carquefou, France, and Santa Clara, CA, USA) [GPS products known worldwide as Magellan], and Thales Telematics: Positioning navigation and survey solutions. **Secure Operations Business Group.** (locations in France, Germany, Spain, UK, and USA): E-transactions, security products, personal identification systems, customer contact services and integration of security systems. **Services and Solutions Business Group.** (France, UK, USA): Telecom services, broadcast and multimedia advice for industries and services.

Subsidiary:

African Defense Systems (South Africa): Develops, engineers, manufactures and integrates advanced electronics systems for the South African National Defence Forces. Also provides training simulation services, customer service and logistic support.

Joint Ventures:

ADI Ltd., partner: Transfield (Australia). **Bayern Chemie**, partner: EADS (The Netherlands). **Diehl Avionik Systeme**, partner: Diehl (Germany). **Electronica**, partners: Finmeccanica and M. Benigni (both Italy). **Protac**, partner: EADS (The Netherlands). **Samsung Thales**, partner: Samsung Defense Systems (South Korea). **TDA Armaments** (Vélizy, France): partner: EADS (Germany). **Thales Raytheon Systems**, partner: Raytheon (USA). **UDS International**, partner: DCN International (France). **UMS**, partner: EADS (The Netherlands).

FINANCIALS (\$ MILLIONS)*:	2000†	2001	% Change
Operating Revenues	8,083	9,097	13%
Operating Expenses	7,555	8,506	13%
Net Profits	189	(324)	(271%)
Net Financial Indebtedness	1,749	1,297	(26%)

*AW&ST conversion based on exchange rates available on 12/31/00 and 12/31/01.
† Values updated from 2002 Source Book.



United Technologies
 UNITED TECHNOLOGIES CORP.
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 Tel: (860) 728-7000
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Employment: 152,000

Officers:

Chairman & CEO & President George David; **CFO** Steve Page; **President, Pratt & Whitney** Louis Chênevert; **President, Hamilton Sundstrand** Ronald F. McKenna; **President, Sikorsky Aircraft** Dean C. Borgman

Aerospace Organization/Products:

Flight Systems:

Hamilton Sundstrand (Windsor Locks, CT, USA): Produces aerospace systems, subsystems and components, and performs systems integration. Individual systems and components include electric power generating, distribution, management and control systems; fuel and special fluid pumps; engine control systems; gearboxes; actuation systems; ram air turbine emergency systems; auxiliary power units; environmental control systems; propeller systems; torpedo propulsion systems; launch vehicle hydraulic power units and electronic controls and components. Also the prime contractor for NASA's space suit/life support system. Produces environmental control, life support and thermal control systems for international space programs. **Sensor Systems** (Pomona, CA, USA): Produces specialized instruments for the space, defense and industrial markets, including subsystems for the International Space Station and for nuclear submarines. Other products detect chemical/biological contaminants. **Sikorsky Aircraft** (Stratford, CT, USA): Builds rotorcraft, including CH- and MH-53E (236 delivered), MH-60S (36 delivered), HH-60H/J (84 delivered), RAH-66 Comanche (2 delivered), S-70/UH-60 family (2,100 delivered), S-76 (520 delivered), S/H-92 (first flight 12/98, 4 completed), SH-60 family (327 delivered) and Cypher UAV (developmental). All deliveries as of November 1, 2002. **Space Flight Systems Div.** (Huntsville, AL, USA): Unmanned space shuttle research, commercial spaceport in Australia (developmental).

Pratt & Whitney:

Pratt & Whitney Canada (Longueuil, Quebec, Canada): Small- and medium-size gas turbines for business, regional, utility and military aircraft and helicopters, including JT15D, PT6, PW100, PW200, PW300, PW500 series and PW900 series. Also offers advanced engines for industrial applications. **Pratt & Whitney Engine Services:** Operates major overhaul centers in Singapore and in Cheshire, CT, and Columbus, GA, both USA. Also operates a network of component repair operations in Ireland, Singapore, Taiwan and the USA. **Pratt & Whitney Large Commercial Engines** (East Hartford, CT, USA): Builds medium-to-large turbofans, including JT3B (Joint-STARS), JT8D (727, DC-9-50, MD-80, MD-90), JT9D (747, 767, A300, A310, DC-10-40), PW2000 (757, IL-96M), PW4000 (747, 767, 777, A300, A310, A330, MD-11), PW6000 (A318). **Pratt & Whitney Military Engines** (East Hartford and Middletown, CT; Columbus, GA; North Berwick, ME; Oklahoma City, OK, and San Antonio, TX; all USA): Gas turbine engines, spare parts, and services for military aircraft. Engines include the F119-PW-100 for the F-22 Raptor; F135-PW-100/400/600 for the F-35 Joint Strike Fighter; F117-PW-100 for the C-17 Globemaster 3; F100 series for F-15 and F-16;

JT8D-219 for B707 Joint-STARS; J52 for EA-6B; TF33 for B-52H, C-141B, KC-135, E-3A/B; and TF30 for F-14A and F-111. **Pratt & Whitney Space Propulsion** (San Jose, CA, and West Palm Beach, FL, both USA): Large and small, solid and liquid, space, missile, and hypersonic propulsion engines and systems. Programs include: Minuteman solid rocket motors, Theater High Altitude Area Defense (THAAD) booster-stage motors, Mk-72 booster-stage motors, Russian RD-180 booster engines, RL10 and RL60 liquid upper-stage engines, and advanced high-pressure turbopumps for the space shuttle. Solid rocket propulsion operations located at San Jose, CA, USA. Liquid rocket propulsion, hypersonics and RD AMROSS LLC. (RD-180 development) located at West Palm Beach, FL, USA.

United Technologies Research Center (East Hartford, CT, USA):

Basic and applied research in electronics, aerodynamics and jet engines.

Subsidiaries:

UTC Fuel Cells (South Windsor, CT, USA): Develops fuel cells and produces the fuel cell powerplants in the space shuttle orbiter fleet.

Joint Ventures:

Aeronautical Maintenance Tooling, partner: Empresa Nacional Santa Barbara (Spain). **Asia Surface Technologies**, partners: Praxair Surface Technologies and SIA Engineering Co. (both Singapore). **EADS/UTC**, partner: EADS (The Netherlands). **FAST**, partner: SIA Engineering Co. (Singapore). **GE-Pratt & Whitney Engine Alliance Hamilton**, partner: General Electric (USA). **Hamilton Sundstrand European Pneumatic Component O&R**, partner: KLM Royal Dutch Airlines (The Netherlands). **Hamilton Sundstrand-Nauka**, partner: Nauka (Russia). **Hydrogen Source**, partner: Shell (South Windsor, CT, USA). **IAE International Aero Engines AG**, partners: FiatAvio (Italy), Japanese Aero Engines (Japan), MTU (Germany) and Rolls-Royce (UK). **Pratt & Whitney-Paton Research Center**, partner: E.O. Paton Electric Welding Institute (Ukraine). **PWA International Ltd.**, partner: Airmotive Ireland (Ireland). **Samsung United Aerospace Co.**, partner: Samsung Aerospace Industries Ltd. (South Korea). **Sunstrand Customer Support Center**, partner: Malaysian Airlines (Malaysia). **TEC International**, partners: Aviadvigatel (Russia), MTU (Germany) and Perm Motors (Russia). **Toshiba International Fuel Cells**, partner: Toshiba (Japan). **Turbine Overhaul Services Pte. Ltd.**, partner: Singapore Technologies Aerospace (Singapore). **Western Aerospace Specialty Alloys**, partner: Western Aerospace Specialty Alloys (Australia).

FINANCIALS (\$ MILLIONS):	2000	2001	% Change
Operating Revenues	26,583	27,897	5%
Operating Expenses	23,825	25,090	5%
Net Profits	1,808	1,938	7%
Debt to Equity Ratio	39%	37%	(5%)

Top 100 US Defense Dept. Contractors — Fiscal 2001*

(Ranked by Business Value)

Rank	Company	Business Value (\$1,000)	Rank	Company	Business Value (\$1,000)	Rank	Company	Business Value (\$1,000)
1.	Lockheed Martin Corp.	14,686,950,103	33.	The Aerospace Corp.	442,933,813	67.	Unicor/Federal Prison Industries	232,809,234
2.	The Boeing Co.	13,341,207,743	34.	Veritas Capital Management	441,059,662	68.	The Parsons Corp.	230,046,404
3.	Newport News Shipbuilding	5,889,297,844	35.	The Mitre Corp.	440,641,017	69.	United States Marine Repair Inc.	228,502,507
4.	Raytheon Co.	5,575,634,798	36.	Booz Allen & Hamilton Inc.	435,015,272	70.	The Procter & Gamble Co.	224,205,875
5.	Northrop Grumman Corp.	5,152,610,683	37.	Halliburton Co. (Inc.)	427,637,567	71.	Electronic Data Systems Corp.	222,626,684
6.	General Dynamics Corp.	4,907,198,877	38.	Longbow Limited Liability Co.	423,754,216	72.	Texas Instruments Inc.	214,660,237
7.	United Technologies Corp.	3,372,562,754	39.	Cardinal Health Inc.	415,794,364	73.	FedEx Corp.	211,335,064
8.	TRW Inc.	1,903,074,987	40.	Jacobs Engineering Group Inc.	409,223,915	74.	Foster Wheeler Ltd.	204,135,511
9.	Science Applications International	1,748,400,735	41.	Humana Inc.	394,105,922	75.	Wallenius Holdings Inc.	203,662,467
10.	General Electric Co.	1,747,396,632	42.	Motorola Inc.	393,197,661	76.	Sierra Health Services Inc.	202,251,438
11.	The Carlyle Group	1,232,295,835	43.	Harris Corp.	380,581,854	77.	Hensel Phelps Construction	201,327,353
12.	Health Net Inc.	939,379,319	44.	Philipp Holzmann AG	373,547,866	78.	Battelle Memorial Institute	200,508,426
13.	DynCorp	908,646,517	45.	Rockwell Collins Inc.	361,579,289	79.	Owen Corp. Systems Group	200,123,641
14.	Honeywell International Inc.	902,462,729	46.	Massachusetts Institute of Tech.	349,665,465	80.	Motor Oil (Hellas) Corinth	199,425,579
15.	BAe Systems plc	864,574,825	47.	The Titan Corp.	344,960,692	81.	Charles Stark Draper Laboratory	193,606,251
16.	GM GDLS Defense Group LLC	839,729,850	48.	Rolls-Royce plc	344,342,450	82.	Smiths Industries plc	188,149,487
17.	Computer Sciences Corp.	818,711,332	49.	Raytheon Lockheed Martin	328,163,237	83.	Johns Hopkins University	186,473,022
18.	ITT Industries Inc.	807,523,000	50.	Goodrich	327,988,904	84.	Great Lakes Dredge & Dock Corp.	186,430,367
19.	ExxonMobil Lubricants	705,394,237	51.	Azimuth Technologies Inc.	323,857,793	85.	Veridian Corp.	175,793,082
20.	Bechtel Group Inc.	621,357,210	52.	Dell Marketing LP	315,642,728	86.	Chugach Alaska Corp.	171,648,921
21.	The IT Group Inc.	587,102,376	53.	Valero Energy Corp.	310,202,281	87.	United Industrial Corp.	170,990,280
22.	Textron Inc.	572,414,014	54.	Engineered Support Systems Inc.	297,543,197	88.	CH2M HILL Companies Ltd.	170,551,057
23.	Oshkosh Truck Corp.	557,717,187	55.	CNF Transportation Inc.	295,089,086	89.	Sri International	170,449,322
24.	Triwest Healthcare Alliance Co.	554,233,739	56.	ARINC, Inc.	284,129,397	90.	Mantech International	165,959,011
25.	Boeing Sikorsky Comanche Team	527,650,984	57.	AT&T Corp.	280,759,446	91.	URS Corp.	164,889,885
26.	L-3 Communications Holding Inc.	495,087,837	58.	Government of Canada	280,131,017	92.	International Shipholding Corp.	158,212,674
27.	Alliant Techsystems	493,830,461	59.	Unisys Corp.	276,293,629	93.	Tyco International Ltd.	157,157,422
28.	BP plc	488,573,467	60.	AmerisourceBergen Corp.	262,314,778	94.	Parker Hannifin Corp.	154,747,689
29.	Worldcom Inc.	482,324,651	61.	GTSI Corp.	261,163,681	95.	Philip Morris Companies Inc.	153,388,337
30.	Equilon Enterprises LLC	466,477,072	62.	CACI International Inc.	248,906,526	96.	Hunt Building Corp.	152,302,801
31.	Morrison Knudsen Corp.	461,907,169	63.	Anthem Inc.	246,841,820	97.	International Business Machines	151,679,439
32.	Stewart & Stevenson Services	460,271,478	64.	Maersk Inc.	244,072,012	98.	Kuwait Petroleum Corp.	149,097,319
			65.	Federal Republic of Germany	242,874,244	99.	The Renco Group Inc.	146,626,277
			66.	Johnson Controls Inc.	233,549,540	100.	Carlyle EG&G Holdings Inc.	145,520,609

*SOURCE: US DEFENSE DEPT. FOR ADDITIONAL INFORMATION, GO TO: web1.whs.osd.mil