

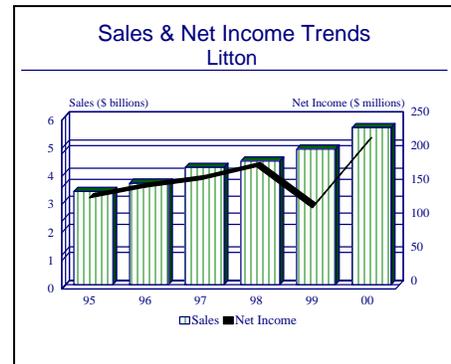
ARCHIVED REPORT

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Litton Industries - Archived 4/2002

Outlook

- Northrop Grumman to acquire Litton in a transaction valued at \$5.1 billion
- Litton gives Northrop Grumman a new core competency as a prime contractor and systems integrator of ships for the US Navy
- The Northrop Grumman/Litton deal could start yet another smaller wave of consolidation in the defense industry



Headquarters

Litton Industries Inc
21240 Burbank Blvd
Woodland Hills, CA 91367-6675
Telephone: (818) 598-5000
Web site: <http://www.littoncorp.com>

Litton, founded in 1953 as a small electronics firm, has evolved into a major international multi-industry, high-technology corporation headquartered in Beverly Hills, California. The company designs, develops, manufactures, tests, and services products and systems for the electronics, aerospace, defense, industrial, and commercial global markets and performs resource exploration services for worldwide customers. The corporation developed through business acquisitions

and internal growth strategies based on technology applications.

In August 1999, Litton acquired rival shipbuilder Avondale for approximately \$529 million, further expanding its shipbuilding operations.

In December 2000, Northrop Grumman announced it would acquire Litton in a \$5.1 billion deal.

Litton employed approximately 40,300 people in 2000. The company is publicly held, with shares traded on the NYSE and other exchanges under the symbol LIT. The company's fiscal year is August 1st to July 31st. The current auditors are Deloitte & Touche LLP.

Structure and Personnel

Michael R. Brown
Chairman
Ronald D. Sugar
President and Chief Executive Officer
Gerald J. St. Pé
Executive Vice President and CEO, Litton Ship Systems
D. Michael Steuert
Senior Vice President and Chief Financial Officer
John E. Preston
Senior Vice President and General Counsel

Frank G. Bradenberg
Senior Vice President and Group Executive, Electronic Components and Materials

Harry Halamandaris
Senior Vice President and Group Executive,
Advanced Electronics

James H. Frey
Senior Vice President and Group Executive, Litton's
Information Systems Group (ISG)

Thomas E. Hill
Senior Vice President, Human Resources

Lynne M.O. Brickner
Vice President and Secretary

J. Spencer Davis
Vice President, Corporate Communications and
Investor Relations

John E. Gordon
Vice President

Richard T. Hopman
Vice President, Managing Director, LITEF GmbH

Frank C. Marshall, Jr
Vice President

Timothy G. Paulson
Vice President and Treasurer

Sandra J. Wright
Vice President and Controller

Product Areas

Litton conducts its business in the following major areas:

1. Advanced Electronics
 - 1.1 Command, Control & Communications Systems
 - 1.2 Electronic Warfare Systems
 - 1.3 Navigation, Guidance & Control Systems
 - 1.4 Components and Computer Products
2. Litton Ship Systems
 - 2.1 Litton Ingalls Shipbuilding
 - 2.2 Litton Avondale Industries
 - 2.3 Litton Ship Systems Full Service Center
3. Electronic Components and Materials
4. Information Systems
 - 4.1 PRC Government Solutions
 - 4.2 PRC Defense Systems
 - 4.3 PRC Maritime & Range Systems
 - 4.4 TASC

Advanced Electronics. In the Advanced Electronics group, the major segment of the company that serves the aerospace and defense industries, Litton's subsystem and system expertise includes inertial and inertial-aided navigation systems, command and control systems, communications systems, electronic signal surveillance systems, shipboard electronics and navigation systems, software and support systems and services, digital computers, airborne range instrumentation systems, night vision devices, electronic warfare systems, electronic support measures systems, data processing and display systems, shipbuilding and integrated ship control systems, optical reconnaissance systems, radar devices, high-volume production and

manufacturing systems, material handling systems, electronic document imaging and information systems, engineering support services, and the research, development, and testing of advanced and high-technology products and systems.

Command, Control and Communications Systems. The Command, Control and Communications Systems business comprises the Data Systems and Data Command Systems businesses.

Electronic Warfare Systems. The Electronic Warfare Systems business includes Amecom, Applied Technology, Itek Optical Systems, and the Laser Systems units.

Navigation, Guidance & Control Systems. Within this group are Aero Products, Guidance & Control Systems, LITEF, Litton Italia SpA (LITAL), Litton Systems Canada Ltd, Litton Avionics Systems, and C. Plath.

Components and Computer Products. This sector provides the aerospace and defense industries with tubes, detectors, instruments, alarms, cables, connectors, coatings, converters, dials, disks, gears, grinders, indicators, knobs, motors, filters, testers, pumps, switches, synchros, tools, transducers, valves, waveguides, and welding devices.

Litton Ship Systems. The company's shipbuilding services are provided mainly by Ingalls Shipyards and Avondale Industries.

Located in Mississippi, Ingalls' customers include the US Navy, foreign navies and commercial ocean/sea shipping companies. Ingalls' largest programs at

present are the DDG-51 AEGIS guided missile destroyer and the LHD-1 Wasp class amphibious assault ships for the US Navy.

Headquartered in New Orleans, LA, Avondale is one of the leading marine fabricators in the United States, active in the construction, repair, and conversion of oceangoing vessels. In addition, the company manufactures boats and landing craft air cushion vessels and builds a wide range of non-marine industrial facilities and components. Avondale is the prime contractor for the Navy/Marine Corps Team's San Antonio (LPD-17) class of amphibious assault ships. Avondale is also building seven T-AKR Ro/Ro Sealift ships for the US Navy.

Operating as a standalone business within the existing Litton Ship Systems (LSS) organization, the new Litton Ship Systems Full Service Center offers its customers a full range of ship-related services. These services range across the entire spectrum of an acquisition program

from concept formulation and early research and development work to advanced design and integration through the various stages of construction and well into the after-market support functions of maintenance, repair, modernization, and disposal.

Electronic Components and Materials. This segment provides a broad line of electronics components and interconnect products to diverse markets worldwide.

Information Systems. Litton's Information Systems Group is a leading supplier of IT solutions to defense, intelligence, and civil (federal, state and local) markets, as well as commercial sectors. In addition, the company is providing systems, services, and other support to military health care customers. With the purchase of TASC in 1998, Litton acquired a leading provider of information technology and services to the national intelligence sector, the Department of Defense, and civil and commercial customers.

Facilities

There are many Litton facilities that account for the firm's aerospace business. A geographic and capabilities description of the company's major aerospace and defense operations and related plants follows.

Eastern Region

Litton Advanced Systems, 5115 Calvert Road, College Park, MD 20740. Web site: <http://www.littonas.com> Litton AS products and systems include electronic warfare systems, air early warning systems, emitter targeting systems, threat avoidance receivers, passive detection systems, RF communication systems, shipboard monitor and control systems, communication switching systems for air traffic control, defense telecommunication systems, facsimile equipment, and graphic communications.

Litton Marine Systems (Sperry Marine), 758 221st Street, Pasadena, MD 21122.

Laser Systems Division, 2787 South Orange Blossom Trail, Apopka, FL 32703. Web site: <http://www.littonlaser.com> The unit designs and manufactures neodymium-doped, yttrium-aluminum-garnet (Nd:YAG) laser rangefinder and target designation systems.

Winchester Electronics, 400 Park Road, Watertown, CT 06795. Web site: <http://www.litton-wed.com> Winchester produces electronic and electrical connectors for computers and other industrial, commercial and military uses; telecommunications

products and devices; and connector accessories, tools and insulated terminals.

Litton Poly-Scientific 1213 North Main Street, Blacksburg, VA 24060. Web site: <http://www.litton-ps.com> Poly-Scientific's products include slip-ring assemblies for commercial, industrial, and military applications; rotary switches; arm/disarm devices; and electronic security systems for perimeter and interior protection. Analytical services include failure analysis, surface analysis, and tri-biological research. Other products are fiber-optic components and systems for military and industrial applications.

TASC, 55 Walkers Brook Dr, Reading, MA 01867-3297. Telephone: (781) 942-2000. Web site: <http://www.tasc.com> TASC provides systems engineering and integration services, with core strengths in modeling and simulation, geospatial and imagery systems, information operations, management consulting, enterprise systems, high-volume imaging, and weather information services.

Central Region

Avondale Industries, PO Box 50280, New Orleans, LA 70150. Telephone: (504) 436-2121 Web site: <http://www.avondale.com> Avondale is one of the leading marine fabricators in the United States, active in the construction, repair, and conversion of oceangoing vessels. In addition, the company manufactures boats and landing craft air cushion vessels and builds a wide range of non-marine industrial facilities and components.

Ingalls Shipbuilding, 1000 Litton Access Road, Pascagoula, MS 39567. Telephone: (228) 935-1122. Web site: <http://www.ingalls.com> Ingalls is one of the largest shipyards in the United States. Its shipbuilding facilities are located on 800 acres. Its business includes the construction, overhaul, and repair of ships and other marine structures. The unit is also engaged in advanced ship design, systems analysis and marine engineering support. Current warship programs include the DDG-51 AEGIS guided missile destroyer and the LHD-1 Wasp class amphibious assault ships.

Litton Ship Systems Full Service Center, PO Box 149, Pascagoula, MS 39568-0149. Telephone: (228) 935-8600.

Litton Life Support, 2734 Hickory Grove Road, Davenport, IA 52804. This unit develops and builds instruments such as pneumatic and electro-pneumatic altimeters, mach air speed indicators and life support equipment, liquid oxygen systems, onboard oxygen generating systems, and nitrogen inerting units. It also makes self-contained cleaning and recharging stations for high-pressure containers used in cryogenic cleaning.

Western Region

Information Systems Group, 21240 Burbank Blvd, Woodland Hills, CA 91367. Telephone: (818) 598-5402. This group provides systems design, engineering, program management, installation, test, and logistics support (maintenance, spares supply and training) for international turnkey command, control and communications systems.

Integrated Systems, 19601 Nordhoff St, Northridge, CA 91324. Web site: <http://www.littondsd.com> This unit designs, builds, and supports tactical command, control and communications systems, tactical data links, hand-held digital communication terminals, air defense systems, data processing, display equipment and systems, integrated ship electronics, and fiber-optics target detection and tracking equipment.

Guidance and Control Systems, 5500 Canoga Avenue, Woodland Hills, CA 91367-6698. Web site: <http://www.littongcs.com> This group designs, develops, builds, and supports inertial navigation systems, attitude and heading reference systems, inertial platforms, and inertial measurement systems for all classes of military vehicles. The unit also makes digital computers for military application in strategic missiles, space, tactical electronic warfare, special display systems, and ship communication and control systems. It produces special test and other unique support equipment. The unit's products are advanced inertial systems utilizing floated, dry-tuned rotor and laser gyros employing either gimbal-isolated instruments or strapdown applications. It conducts advanced research

and development in inertial systems and sensors including laser and fiber optic techniques. Research, development and production of the ship's control systems including propulsion, steering, and auxiliary control subsystems, bridge control systems, and equipment are also carried out at this division.

Aero Products Division, 1050 Burbank Blvd, Woodland Hills, CA 91367. Web site: <http://www.littonapd.com> Aero Products serves the commercial market with ARINC specified navigation and guidance systems for commercial airlines, general aviation, and military air transport. It manufactures Omega navigation systems, altitude reference systems, inertial reference systems (laser), and specialized systems for search, surveillance, and photogrammetric precise track guidance technology.

Space & Launch Systems, 6769 Hollister Ave, Goleta, CA 93117-3001. This facility produces space-rated inertial reference units utilizing hemispherical resonance gyroscopes (HRG) for commercial and military satellites and space probes, inertial guidance systems, and computers for launch vehicles.

Electro-Optical Systems, 3414 Hermann Drive, Garland, TX 75041. Web site: <http://www.littoneos.com> This unit makes image intensification tubes and systems, infrared detectors, optical component design & production, and thin film optical coatings for military, security, commercial, and scientific use.

International

Litton Systems Canada Limited, 25 City View Drive, Etobicoke, Ontario, Canada. This unit produces inertial navigation systems, airborne surveillance radar, flight inspection systems, LED, and liquid crystal avionic displays.

Litton Italia SpA, Via Pontina km 27,800, I-00040 Pomezia, Rome, Italy. Telephone: (36 6) 91 19 21. This division of Litton was established in Rome in 1961 to build inertial navigation systems for the Italian Air Force F-104 aircraft. Currently, this division's major areas of activity include INS and electronics systems for defense.

Aero Products, 5/6 Victory Business Center, Fleming Way/Worton Rd, Isleworth, Middlesex TW7 6DB England. This subsidiary manufactures INS and avionics equipment.

LITEF GmbH, Loerracher Strasse 18, D-79115 Freiburg, Germany. This unit manufactures airborne, marine, and land navigation systems; gyrocompass and vertical reference systems; attitude and heading reference systems; inertial measurement units; rate gyros; and accelerometers.

Corporate Overview

In 2000, Litton derived 28 percent of its revenue and 13 percent of its operational income from the Advanced Electronics segment. Information Systems made up 24 percent of sales and 15 percent of operational income. Shipbuilding accounted for approximately 35 percent of sales and 51 percent of operational income; and Electronic Components and Materials accounted for 12 percent of sales and 21 percent of income. All segments are profitable enterprises and are expected to remain so.

Litton was the 6th largest contractor in the US for 2000. Through acquisition and divestiture, Litton has trimmed its peripheral businesses and now concentrates on what it does best: advanced electronics and shipbuilding. The company is a tough competitor, generally offering advanced technology and superior performance. It looks for and addresses high-volume, high-technology programs and has a good history of contract performance. Litton is not as strong in a lowest-cost environment and can have trouble when pursuing middle of the road requirements.

New Products and Services

DD-21. This is a next-generation destroyer (DDG) class land-attack surface combatant for the US Navy. DD-21 is described alternately as a land attack destroyer and a multimission surface warship tailored for land attack. The ship is expected to engage the enemy through offensive operations by launching and supporting precision strike weapons and by providing firepower support for amphibious and other ground forces. In addition to the land attack missions, DD-21 will be expected to establish and maintain superiority over surface, subsurface, and local air battlespace.

The program is in Phase II which involves initial systems design and specification and preliminary ship and support design. This stage is expected to continue all through Fiscal Year 2000 and halfway through FY01. In terms of acquisition, Milestone Phase I has been achieved, and the project is now in the Program Definition and Risk Reduction stage. The project is being developed competitively by two rival consortia: the Blue Team, led by Bath Iron Works; and the Gold Team, led by Ingalls. Each team consists of a lead shipbuilder and a systems integrator, as well as a number of smaller contractors for different areas of specialization (see Teaming section for more details). Both teams are expected to be sharing the production eventually, but one will be designated as the primary contractor over the other when the final design is confirmed, probably in May 2001. Program total is

expected to be 32 ships, with expected contract award and production for the first ship starting in 2004.

Plant Expansion/Organization Update

Litton Reshapes Information Systems Group. In December 2000, Litton created three new divisions from its PRC Inc Subsidiary in an effort to enhance performance of the Information Systems Group. Litton's Information Systems Group will now be composed of four divisions including TASC Inc, PRC Government Solutions Division, PRC Defense Systems Division, and PRC Maritime & Range Systems Division. The reshaping initiative is part of Litton's strategy to develop a more agile and customer-focused organization to compete effectively in the present challenging information technology marketplace. The newly created divisions will help Litton's Information Systems business capitalize on its position in defense and intelligence markets.

Advanced Electronics Group Revamped. In September 2000, Litton announced that several divisions within its Advanced Electronics Systems Group are being realigned or consolidated and changes are being made in senior level division management to enhance its systems business. The following changes were made to address these objectives:

The Guidance & Control Systems Division (G&CSD) will focus on growth opportunities in its inertial navigation systems business. The G&CSD operations in Salt Lake City, Utah, and Goleta, California, will continue to report to G&CSD headquarters in Woodland Hills, California.

The G&CSD advanced electronics systems business, located in Northridge, California, and the Data Systems Division systems business, located in Agoura Hills and San Diego, California, are being combined into a new division, Litton Integrated Systems. The Litton Integrated Systems Division will be headquartered in Northridge, California.

The ship electronics business of Data Systems Division, located in Ocean Springs, Mississippi, will report to Litton Marine Systems Inc. of Charlottesville, Virginia.

Litton Systems Canada Division, a leader in inertial navigation systems, flight inspection systems, and control and communications primarily for commercial aircraft, will report to Litton Aero Products Division, located in Woodland Hills, California.

Litton Ship Systems Full Service Center Formed. In March 2000, continuing its business strategy to become

the marine industry's full service leader, Litton Industries announced the formation of a new company, the Litton Ship Systems Full Service Center (LSS FSC). Operating as a stand-alone business within the existing Litton Ship Systems (LSS) organization, headquartered in Pascagoula, Mississippi, LSS FSC will provide its customers a full range of research and development, design analysis and life cycle support services. These services will be offered in conjunction with the two LSS shipyards: Litton Avondale Industries in metro New Orleans, Louisiana, and Litton Ingalls Shipbuilding in Pascagoula, as well as a worldwide network of fleet support offices already in place.

Litton Advanced Systems Division Created. In August 1999, Litton formed a new operating division by consolidating its Applied Technology Division, headquartered in San Jose, California, with the Amecom Division of College Park, Maryland. The new organization, called Litton Advanced Systems Division, is headquartered in College Park, Maryland, and has about 800 employees. Litton Advanced Systems Division unites, under a single management, the resources and capabilities of a provider of threat warning systems with a supplier to US military forces of advanced electronic support measures (ESM) and passive radar frequency (RF) passive detection systems. It also includes the Space Systems Operation, which provides engineering services and products for NASA and various space system prime contractors. Michael Gering, former president of Amecom Division, is president of the newly established Litton Advanced Systems Division. Gering is also the president of Litton's Denro Inc subsidiary of Gaithersburg, Maryland.

Consolidating Activity. In August 1999, Litton announced that fiscal year 1999 results, scheduled to be released on September 1, 1999 would be reduced by special 4th quarter charges totaling \$116.8 million pre-tax or \$77.4 million after-tax. Concluding a review of strategic options, the company decided that it would exit the mainframe outsourcing and professional services businesses conducted at the Litton Enterprise Solutions Inc (LES) subsidiary. The company expected to complete its contracts for these businesses by the end of fiscal year 2000. As a result, pre-tax charges totaling \$88.9 million were recorded in fiscal year 1999 to reflect the costs of exiting these activities, including estimated losses to complete the current contracts.

The company has also decided to consolidate certain manufacturing facilities at its Data Systems (DSD) and Applied Technology (ATD) divisions to improve operating efficiency and reduce excess capacity, resulting in a pre-tax charge of \$9.4 million to current earnings. These actions will also produce non-recurring

charges that were to be expensed during fiscal year 2000. It is estimated that the total of the fiscal year 2000 charges will not exceed \$11 million.

Litton Ship Systems Formed. In July 1999, Litton elected Gerald J. St. Pé executive vice president of Litton Industries Inc and chief operating officer of Litton Ship Systems, a newly formed business organization. Litton Ship Systems is composed of the corporation's shipbuilding operations, which includes Litton Ingalls Shipbuilding located in Pascagoula, Mississippi, and Avondale Industries located in New Orleans, Louisiana. Prior to this appointment, St. Pé was Litton senior vice president and president of Litton Ingalls. According to the company, Litton Ship Systems is capable of producing any class of non-nuclear ship for military or commercial customers and will have combined annual sales of approximately \$1.8 billion dollars and about 17,000 employees.

Mergers/Acquisitions/Divestitures

Northrop Grumman to Acquire Litton. In late December 2000, Northrop Grumman Corporation agreed to acquire Litton in a transaction valued at approximately \$5.1 billion, which includes the assumption of Litton's \$1.3 billion in net debt. Northrop Grumman's and Litton's boards of directors have unanimously approved the transaction.

Kent Kresa, Northrop Grumman's chairman, president and chief executive officer said, "We are very pleased with our strategic acquisition of Litton, which we believe brings tremendous value to the shareholders, employees and customers of both companies. With projected combined pro forma revenues of more than \$15 billion in 2001, growing to \$18 billion by 2003, this acquisition solidly places Northrop Grumman among the world's top-tier defense companies and strengthens our commitment to systems integration, defense electronics and information technology."

Mr. Kresa added that, "Litton gives us a new core competency as a major prime contractor and systems integrator of surface ships for the US Navy. Following the close, Northrop Grumman will be one of the country's largest federal IT suppliers and our defense electronics business will heighten our status as a premier systems and sensor integration leader by expanding into navigation and guidance systems for airborne platforms and other military avionics systems. The acquisition also significantly broadens our portfolio of businesses."

Following the close of the transaction and during the initial transition period, Litton will be operated as a wholly owned subsidiary of Northrop Grumman. Dr. Ronald D. Sugar, 52, currently Litton's president and

chief operating officer, will become a Northrop Grumman corporate vice president and president and chief executive officer of the new Litton subsidiary. Dr. Sugar will also be nominated to Northrop Grumman Corporation's board of directors following the close of the transaction. Mr. Brown plans to retire.

The transaction, which is expected to close in early 2001, is subject to review under the Hart-Scott-Rodino Act as well as other governmental and regulatory agencies.

Advanced Electronics Up for Sale. In November 2000, Litton announced plans to sell the company's Advanced Electronics group, which includes its navigation and electronic warfare businesses. The sale is the cornerstone of a strategic restructuring Litton has undertaken to capture opportunities in higher-growth markets of telecommunications, wireless broadband communications, enterprise/information security, and shipbuilding. The company has retained Merrill Lynch as advisor on the sale. Litton's decision to divest the Advanced Electronics group, which generated revenue of \$1.6 billion in fiscal year 2000 and has 9,500 employees, resulted from an ongoing comprehensive strategic review aimed at maximizing shareholder value. The evaluation, which was announced in late October 2000, indicated that the group would likely produce greater shareholder value in the hands of a company more closely focused on related areas and better positioned for growth in the group's markets. However, with the pending purchase of the whole company by Northrop Grumman, the Advanced Electronics sale has been canceled.

Litton Buys Avondale; Withdraws Proposal for Newport News. In July 1999, Litton Industries withdrew its proposal to acquire Newport News Shipbuilding of Newport News, Virginia. Litton had made the proposal to acquire Newport News on May 5, 1999.

"We believe that our proposal to acquire Newport News Shipbuilding would have provided superior stockholder value to the shareholders of both companies, created significant cost savings for the US Navy and our other customers, and formed a powerful and highly competitive team that would benefit our customers and employees. However, it is evident that our proposed transaction is unlikely to receive the necessary government approvals at this time. Although we are disappointed by this outcome, we respectfully withdraw our proposal," said Michael R. Brown, Litton chairman, president and chief executive officer.

Earlier in June, Litton entered into a definitive merger agreement to acquire Avondale for approximately \$529 million. The deal was completed in late July when

Avondale shareholders approved the proposed merger of Avondale with Litton Industries Inc by a vote of approximately 71 percent of the total outstanding shares of Avondale common stock. Avondale and Litton closed the merger on August 2, 1999.

Litton also announced the formation of Litton Ship Systems, a new organization that includes Ingalls Shipbuilding of Pascagoula, Mississippi and will include Avondale Industries. Gerald J. "Jerry" St. Pé has been elected executive vice president of Litton Industries and chief operating officer of Litton Ship Systems.

Applied Technology Division Sale Terminated. In January 1999, Litton said that its previously announced negotiations to sell its Applied Technology Division (ATD) to Condor Systems Inc have been terminated. Applied Technology is part of Litton's electronic warfare systems business. It produces threat warning systems for worldwide military markets.

Teaming/Competition/Joint Ventures

Sun. In August 2000, Litton and Sun Microsystems Inc announced an arrangement to broaden an alliance signed in May 1999. Under the Memorandum of Understanding, Litton and Sun will cooperate on business opportunities that increase their competitiveness and offer their customers new and innovative products. Litton and Sun are working together to provide various products, services, and resources that are unique, complementary, and beneficial to both companies. As a part of the strategic alliance, Litton and Sun are working together to determine the best architecture for Litton's information infrastructure. Working with Sun Professional Services, the team has piloted various administrative functions and is extending its work to consider a broader class of applications including a corporate approach to e-business.

Permanent Magnet Motor. In June 2000, Ingalls Shipbuilding, leader of the DD 21 Gold Team, selected an industry team led by Newport News Shipbuilding for the preliminary design of an electric drive propulsion system. The Gold Team will incorporate Newport News Permanent Magnet Motor (PMM) design into its Initial System Design proposal for the US Navy's next-generation surface combatant, the DD 21 Land Attack Destroyer. The Newport News PMM team, which also includes Kaman Aerospace Corporation (KAC) and Power Technologies Inc (PTI), will be prepared to deliver a prototype PMM in 2004 and the first production units in mid-2006. The team's proposed PMM design, based on a Brushless Direct Current Segmented Stator Motor concept, is easier to

manufacture and maintain than other technologies. Also, it is scaleable to sizes required for main propulsion drives on DD 21.

DD-21 Alliance. In December 1997, Ingalls, Bath Iron Works (team leader), and Lockheed Martin teamed to compete for the development, design, production, and life-cycle support of the US Navy's next-generation of surface combatant ships. The Ingalls/BIW/Lockheed Martin team will be one of several expected to compete for the new DD-21/SC-21 Program. This program has a potential business value exceeding \$20 billion and will involve the construction of more than 30 new destroyers and cruisers during the first 15 years of this century. In August 1998, the DD-21 Alliance was awarded a \$16.5 million contract (N00024-98-9-2300) for the Phase I Development of DD-21 Design Concepts. Two competing teams will be selected to develop two DD-21 concept designs. A contract for the detail design, with an option for construction of the first ship in the new program, is anticipated to be awarded to one team in 2001.

In February 1999, a \$12 million contract modification was awarded for acceleration of the DD-21 advanced gun system development. The two competing teams that are now performing the work are the Blue team, led by Bath with Lockheed Martin, and the Gold team, led by Ingalls with Raytheon Systems and United Defense LP.

This was followed by an additional award of \$238 million in November 1999 for the Phase II effort, which includes the development of two competitive DD-21 initial systems.

Lucent Technologies. Litton is participating in a project led by Lucent Technologies, one of two winners of a communications contract from the Naval Information Management Center. The objective is the development of a new shipboard communication system. The \$2.9 billion pact, which Lucent shares with GTE, is for telecommunication services involving the transmission of information by voice, video, and electronic data among networks and ships in port. Litton's portion of the agreement could generate more than \$150 million in revenue.

Avondale. In September 1997, Litton Industries' Ingalls Shipbuilding and Avondale Industries Inc signed an agreement to work together on certain future commercial and Naval shipbuilding programs. Under the Memorandum of Understanding signed by the companies, teaming and specific details of the arrangements (including sharing of work) will be determined on a program-by-program basis as business opportunities develop. The companies said they have already entered into teaming agreements to compete for

three major shipbuilding programs: the production of a series of future commercial crude oil carriers for several major oil companies, the building of a new fleet of Coast Guard Cutters, and the design and production of the US Navy's planned new Fleet of Auxiliary Dry Cargo Ships.

LPD-17 Team. In October 1995, Ingalls Shipbuilding announced it was leading a three-firm team competing for the Navy's \$8.4 billion LPD-17 transport ship program. As part of the arrangement, Ingalls would develop the forward portion of the ship and Newport News would develop the aft section of the LPD-17. Lockheed Martin Government Electronic Systems would provide ship system and combat system integration, and National Steel and Shipbuilding would provide preconstruction support and post-delivery support for the ships. General Dynamics' Bath Iron Works and Hughes Electronics led the competing team. The winner is expected to build 10 to 12 LPD-17 class ships.

Lockheed Martin. In October 1995, Lockheed Martin announced its team for a proposed US-European missile defense program known as the Medium Extended Air Defense System (MEADS). The team would be headed by a separate management group called Lockheed Martin Integrated Systems and will include Litton as a principal subcontractor.

Northrop. In November 1993, Litton and Northrop teamed on a joint fiber optic gyro (FOG) manufacturing effort targeted at reducing the cost of several tactical programs, including AMRAAM, JDAM, Joint Standoff Weapon and the Army's AKEM. All FOG and inertial navigation unit hardware produced through the effort will be turned over to the government.

Orbital Sciences and GDE Systems. Litton's ITEK Optical Systems, Orbital Sciences Corp, and GDE systems formed an alliance in November 1993 to explore the market potential for high-resolution remote-sensing data. ITEK developed the imaging system, which can distinguish objects the size of an automobile, for the DoD. Orbital would provide the launch vehicle, while GDE will provide mapping hardware, software and ground data processing. In May 1994, this alliance, now known as Eyeglass International, became licensed to own and operate for profit a remote-sensing system.

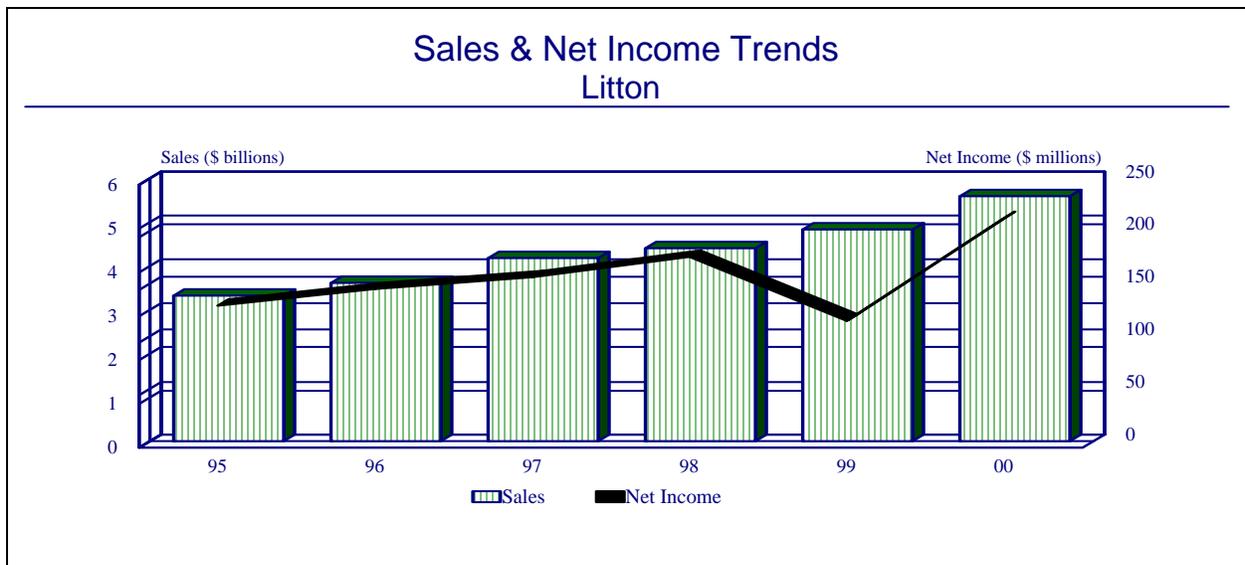
Raytheon and Tracor. Litton is leading this three-company team, created to offer a family of integrated airborne electronic warfare suites for tactical aircraft. The new company is aiming to provide a simplified procurement process to nations which may not be capable of buying and integrating a complete EW system piece by piece. In July 1993, this team won an \$18 million contract to produce 80 threat-adaptive

countermeasures dispenser systems for Greek F-16 aircraft.

Financial Results/Corporate Statistics

Litton's revenues for the fiscal year ending July 31, 2000 rose to \$5.6 billion from \$4.8 billion in fiscal year 1999. Net income rose to \$218.4 million from \$120.6 million a year ago. The drop in 1999 net income was due to charges totaling \$116.8 million pre-tax (or \$77.4 million after-tax) associated with Litton's plan to exit the mainframe outsourcing and professional services businesses conducted at the Litton Enterprise Solutions Inc (LES) subsidiary. Litton's financial figures for the past six company fiscal years are given below.

Y/E July 31	1995	1996	1997	1998	1999	2000
(\$ millions)						
Net Sales	3319.7	3611.5	4175.5	4399.9	4827.5	5588.2
Percent Govt	73.0	71.0	67.0	66.0	65.0	68.0
Net Income	135.0	150.9	162.0	181.4	120.6	218.4
Backlog	5062.0	5666.9	5525.5	6041.5	6602.2	10390.6
R&D Expenditures	227.1	217.0	241.8	233.8	315.6	331.5

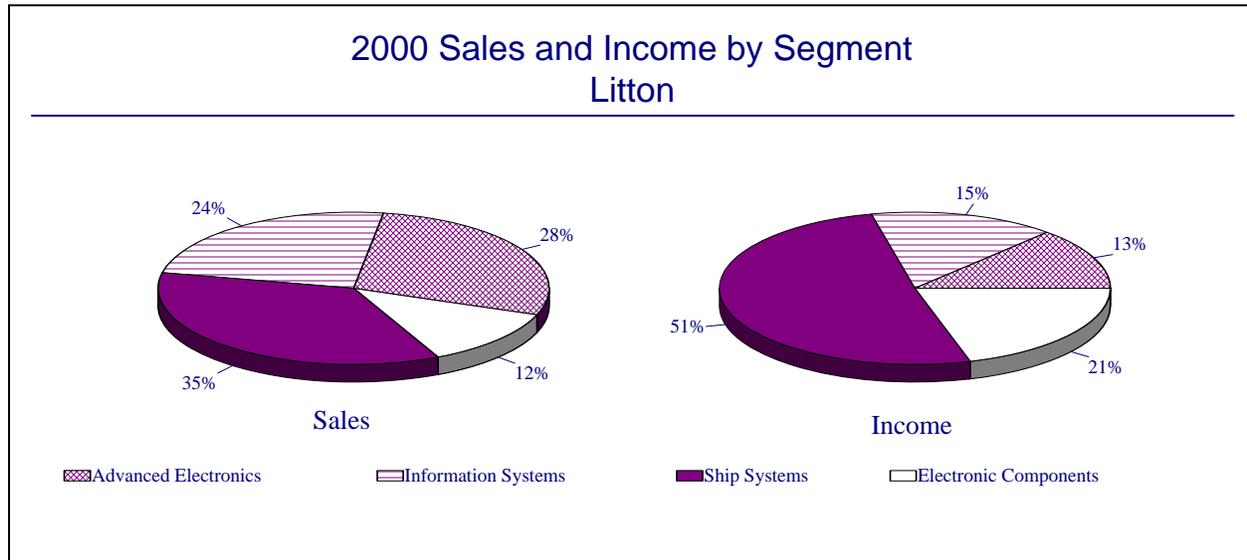


Industry Segments

A breakdown of the firm's sales and operating income by business segment for the past four years is given below. Past figures have not been restated to conform to the company's current presentation.

SALES	1996	1997	1998	1999	2000
(\$ millions)					
Advanced Electronics	1325.8	1532.8	1585.6	1517.4	1589.3
Information Systems	611.6	1084.8	1240.7	1653.1	1362.6
Ship Systems	1294.6	1111.8	1034.5	1085.3	1983.2
Electronic Components & Materials	449.5	508.3	595.8	619.1	701.3
Intersegment Eliminations	-70.0	-62.2	-56.8	-47.4	-48.2
TOTAL	3611.5	4175.5	4399.8	4827.5	5588.2

OPERATING INCOME	1996	1997	1998	1999	2000
(\$ millions)					
Advanced Electronics	87.1	96.5	110.6	126.2	72.1
Information Systems	44.6	74.9	70.4	39.7	83.8
Ship Systems	142.5	135.0	134.4	160.5	279.1
Electronic Components & Materials	51.4	69.6	98.6	109.2	112.5
Intersegment Eliminations	-5.6	-6.5	-4.0	-3.2	-
TOTAL	320.0	369.5	410.0	432.4	547.5



Strategic Outlook

In a year that has seen a second wave of defense industry consolidations sweep the US, two major deals stand out: General Electric's purchase of Honeywell and Northrop Grumman's purchase of Litton.

While Litton had originally intended to sell only its Advanced Electronics operation, Northrop Grumman opted for the whole operation in a deal valued at \$5.1 billion. The deal highlights a striking turnaround for Northrop Grumman following its failed merger with Lockheed Martin in 1998. Northrop Grumman rapidly recovered from the failure and made several key acquisitions of information technology companies such as Logicon and other niche companies such as Ryan Aeronautical from Teledyne.

The businesses of Northrop Grumman, the nation's fifth-largest defense contractor, and Litton, the sixth-largest, do not overlap much. Northrop Grumman specializes in high-tech weapons systems and Litton builds non-nuclear ships for the Navy. With so little overlap a stamp of approval from the Pentagon and Justice Department is easily expected.

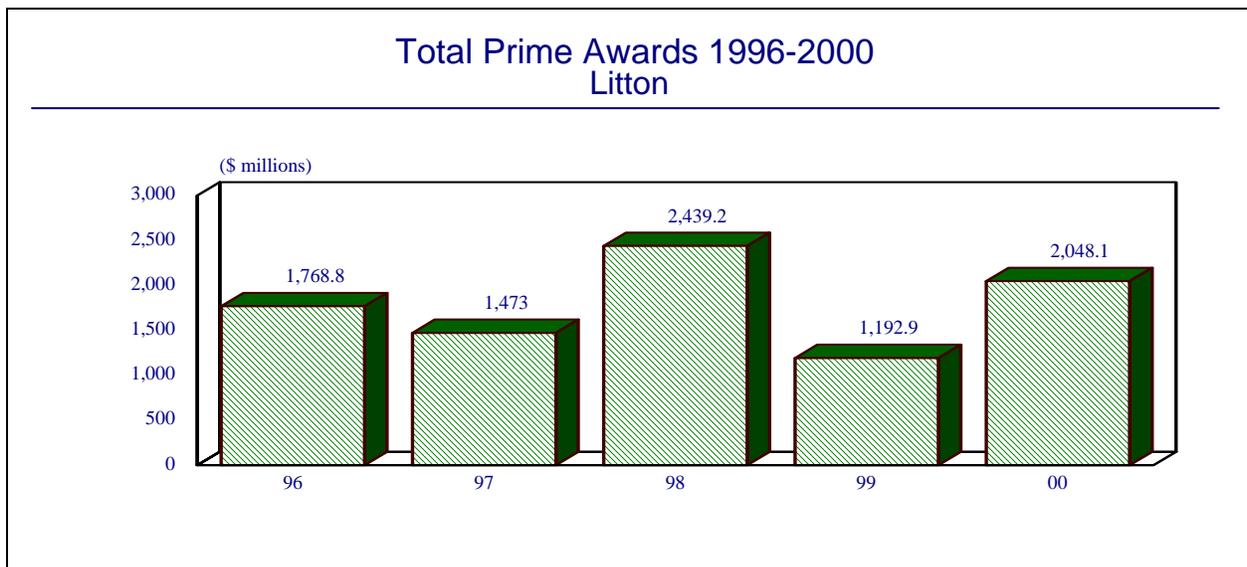
The acquisition will make Northrop Grumman a major prime contractor and systems integrator for the US Navy's surface ships thanks to Litton's shipyards, Ingalls and Avondale. In addition, the company will be a major provider of information technology systems for the US government. Finally, the addition of Litton's electronics unit will provide the company with much needed critical mass in the sensor integration market by further expanding its portfolio into airborne navigation and guidance systems markets.

For the industry as a whole, the Northrop Grumman/Litton merger could start yet another smaller wave of consolidation in the defense industry as sector leaders pick up lower-tier players or pick off pieces of their rivals. But any such a realignment would focus on smaller companies whose businesses could bolster industry leaders without further cutting competition, something the DoD is wary of in the wake of Northrop Grumman's failed attempt to merge with Lockheed Martin.

Prime Award Summary

Litton's prime awards for the past five years are given below. Dollars are presented in millions. Dashes mean information was unavailable; zeros stand for no awards or for contracts of less than \$50,000. Beginning with 2000 awards for Avondale are included in the totals below.

Litton Industries	1996	1997	1998	1999	2000
(\$ millions)					
AIR FORCE	99.2	94.4	150.8	99.0	45.2
ARMY	134.7	106.7	87.9	112.4	29.2
CORPS OF ENGINEERS	0.4	0.4	0.0	0.0	0.0
DEFENSE AGENCIES	0.0	1.1	0.5	0.1	0.0
DEF COMMUNICATIONS AGENCY	8.5	18.7	6.8	0.7	0.0
DEF LOGISTICS AGENCY	8.3	8.2	7.3	5.8	0.6
DEPT OF COMMERCE	0.0	0.0	0.2	0.0	0.2
DEPT OF ENERGY	0.1	0.0	0.0	1.2	0.7
DEPT OF JUSTICE	0.7	1.6	0.7	0.2	0.0
DEPT OF TRANSPORTATION	7.5	21.5	10.6	2.8	0.0
DEPT OF TREASURY	0.0	0.0	0.8	5.8	0.0
GENERAL SERVICES ADMIN	0.0	0.0	0.3	0.1	0.5
NASA	2.9	4.4	4.2	2.6	2.6
NAVY	1506.5	1216.0	2169.1	962.2	1969.1
TOTAL	1768.8	1473.0	2439.2	1192.9	2048.1



The following tables show government prime awards by company location within major geographical areas of the country.

EASTERN REGION

College Park, MD	1996	1997	1998	1999	2000
(\$ millions)					
AIR FORCE	0.9	0.3	4.5	7.4	6.5
DEF COMM AGENCY	8.5	4.8	4.3	4.4	0.0
DEPT OF TRANSPORTATION	5.5	19.3	8.6	0.0	0.0
NASA	2.6	3.8	4.1	1.7	1.4
NAVY	6.6	1.9	3.2	1.2	0.9

TOTAL	24.1	30.1	24.7	14.7	8.8
Williamsport, PA	1996	1997	1998	1999	2000
(\$ millions)					
AIR FORCE	6.3	5.4	9.5	2.3	2.3
ARMY	2.5	0.0	0.0	0.0	0.0
DEFENSE AGENCIES	0.0	1.0	0.4	0.1	0.0
DEF LOGISTICS AGENCY	2.4	2.9	1.2	1.5	0.0
DEPT OF TRANSPORTATION	0.9	0.9	0.0	0.0	0.0
NAVY	6.2	3.0	3.9	5.0	8.0
TOTAL	18.3	13.2	15.0	8.9	10.3
CENTRAL REGION					
Pascagoula, MS	1996	1997	1998	1999	2000
(\$ millions)					
NAVY	1357.3	917.8	1871.2	804.7	819.9
Davenport, IA	1996	1997	1998	1999	2000
(\$ millions)					
AIR FORCE	9.8	6.5	7.5	5.7	0.2
ARMY	2.3	0.4	0.8	0.1	0.0
DEF LOGISTICS AGENCY	0.4	0.8	0.3	0.8	0.1
NAVY	3.4	4.3	6.9	2.7	0.9
TOTAL	15.9	12.0	15.5	9.3	1.2
New Orleans, LA (Avondale)	1996	1997	1998	1999	2000
(\$ millions)					
NAVY	-	-	-	-	1006.2
WESTERN REGION					
Salt Lake City, UT	1996	1997	1998	1999	2000
(\$ millions)					
AIR FORCE	0.0	0.0	0.0	0.3	0.0
ARMY	3.1	2.1	3.9	2.0	0.0
DEF LOGISTICS AGENCY	0.0	0.0	0.0	0.0	0.0
NAVY	14.5	18.4	9.5	10.4	6.5
TOTAL	17.6	20.5	13.4	12.7	6.5
Moorpark, CA	1996	1997	1998	1999	2000
(\$ millions)					
NAVY	22.6	13.2	3.0	1.3	0.0
TOTAL	22.6	13.2	3.0	1.3	0.0
WESTERN REGION (Continued)					
Tempe, AZ	1996	1997	1998	1999	2000
(\$ millions)					
ARMY	8.5	4.5	1.8	0.0	0.1
DEF LOGISTICS AGENCY	0.3	0.1	0.1	3.1	0.0
DEPT OF JUSTICE	0.6	1.5	0.7	0.0	0.0
GENERAL SERVICES ADMIN	0.0	0.0	0.0	0.0	0.0
NAVY	0.5	2.9	4.2	4.5	0.1
TOTAL	9.9	9.0	6.8	7.6	0.2

San Carlos, CA	1996	1997	1998	1999	2000
(\$ millions)					
AIR FORCE	9.4	11.7	23.0	16.1	9.9
ARMY	2.6	0.5	0.7	2.0	0.0
DEF LOGISTICS AGENCY	0.2	0.0	0.3	0.3	0.0
DEPT OF COMMERCE	0.0	0.0	0.2	0.0	0.0
DEPT OF TRANSPORTATION	0.9	0.5	0.5	0.0	0.0
NASA	0.0	0.0	0.0	0.1	0.0
NAVY	1.8	0.7	1.9	0.8	0.9
TOTAL	14.9	13.4	26.6	19.3	10.8
Van Nuys, CA	1996	1997	1998	1999	2000
(\$ millions)					
AIR FORCE	6.9	1.7	17.9	2.2	0.3
ARMY	0.0	0.1	0.0	0.0	0.0
NAVY	0.0	0.0	0.0	0.0	0.0
TOTAL	6.9	1.8	17.9	2.2	0.3
Woodland Hills, CA	1996	1997	1998	1999	2000
(\$ millions)					
AIR FORCE	55.3	27.8	34.2	15.0	21.1
ARMY	11.8	13.2	7.6	5.2	0.7
CORPS OF ENGINEERS	0.4	0.0	0.0	0.0	0.0
DEF LOGISTICS AGENCY	1.6	1.7	1.0	0.6	0.2
DEPT OF TRANSPORTATION	0.0	0.0	0.0	2.7	0.0
DEPT OF TREASURY	0.0	0.0	0.0	0.9	0.0
NASA	0.3	0.2	0.0	0.0	0.0
NAVY	44.9	41.5	71.1	41.1	32.2
TOTAL	114.3	84.4	113.9	65.5	54.2

Program Activity

Some important aerospace and government programs currently under way at Litton are listed below. The briefs are intended to provide a listing of the programs that are of major importance to the company. For detailed information or analysis of specific aerospace and defense programs or equipment, please refer to the appropriate Forecast International binder (for example, AIRCRAFT, MILITARY VEHICLES, WARSHIPS, MISSILES, ELECTRONICS and GAS TURBINES). The following is an outline of the company's business interests:

- Defense Electronics
- ASW
- Avionics
- C3I Systems
- Electronic Warfare
- Radar
- Sensors
- Missiles
- Systems Integration

- Unmanned Vehicles
- Warships

Electronics Programs

(ASW)

MK 48 ADCAP Torpedo

This is a submarine-launched, liquid monopropellant, heavyweight conventional (non-nuclear) torpedo utilizing wire/terminal acoustic homing. Litton Industries, Guidance & Control Systems Division, produces the LP-81 Inertial Measurement Unit for the torpedo.

Surface Tactical Team Trainer

The Surface Tactical Team Trainer (STTT) develops prototype surface warfare training devices to improve training, operational readiness, efficiency and safety, and to reduce training time and costs. This research and development project is continuously being enhanced and modified as new technology is made available.

Litton Data Systems, Lockheed Martin Corp, and Planning Research Corp (PRC) Inc are involved in the engineering development of this program.

(Airborne Electronics)

AAS-38/38A

This is a Forward-Looking InfraRed (FLIR) system. The AAS-38 FLIR system is a pod-configured unit mounted in the F/A-18's Sparrow missile station on the port engine nacelle. An improved version incorporates a laser designator/ranger capability produced by Litton.

ALQ-99(V)

The ALQ-99 is a complex and capable tactical jamming system, the heart of the electronic warfare suite aboard Navy EA-6B and Air Force EF-111A. Litton Industries' Amecom Division, leading a team that includes Texas Instruments and ITT, won the ALQ-99 ADVCAP engineering development contract in 1983. It is an extensive remake of the original system, with the heart of the change being a vastly improved receiver-processor group (RPG) which will address improved threat radars. Litton delivered the first developmental RPG in February 1988.

ALR-56(V)

The ALR-56(V) airborne radar warning receiver (RWR) was designed to counter the full spectrum of potential threats, including continuous-wave radars for low-altitude air defense missiles, airborne pulse Doppler radars, and low-probability-of-intercept radars which transmit in brief bursts rather than continuously. This system is currently in production, with Litton acting as a second source.

ALR-62(V)

This is an airborne radar warning receiver (RWR) used on F-111A/B/E/F and EF-111A aircraft. This unit is in service with upgrade kits in production.

ALR-66(V)/606(V)

The ALR-66(V) is a series of fully programmable radar warning receivers produced by Litton. The system is used on A/TA-4, A-7, C-130, E-6 TACAMO, F-4, F-16, P-3, SH-2, and the SH-3. There are also a wide number of potential applications on other aircraft and ship platforms. The system was installed on two PHM Pegasus attack craft.

ALR-67(V)

The ALR-67(V) is the Navy's standard airborne radar warning receiver. In late 1990, Litton Systems Applied Technologies Division was contracted to provide preplanned product improvements to the CP-1293/ALR-67 computers for the system. The enhancements will increase processing power by about five times. In

addition, the ECP-510 block upgrade being developed by Litton will increase system signal processing capability five times and detection range ten times. It is considered by some to be midway between the original ALR-67b and the Advanced Special receiver under development. The ECP-510 entered service in 1992.

ALR-69

The ALR-69 is the standard radar warning receiver for many Air Force tactical and fighter aircraft. This system is currently in production and service.

ALR-59/73

The ALR-59 Electronic Support Measures (ESM) system was designed specifically for the Grumman E-2C Hawkeye early warning aircraft. The ALR-73 is an upgrade that extends the useful life of the E-2C surveillance systems.

APG-68(V)

The APG-68(V) is the improved fire-control radar being installed on the F-16C/D. The system is based on the APG-66(V) radar in use on older model F-16s. The APG-68's Programmable Signal Processor (PSP) is supplied by Hughes Aircraft Co, Tube Division and Litton Industries, Electron Devices Division. The APG-68(V) is currently in service.

APN-217

This is an airborne Doppler navigation radar/velocity sensor used on numerous helicopters. Litton produces the APN-217(V)6 variant.

APR-39A(V)

The APR-39A(V) Digital Threat Warning System was specifically designed to provide a lightweight, low-cost radar warning system for rotary helicopters and some fixed-wing aircraft. This program became part of Litton's portfolio when the company acquired Dalmo Victor Division of General Instruments in mid-1991. The APR-39A(V) is currently in service and production.

APY-1/2 (AWACS)

The APY-1/2 is an airborne early-warning surveillance and control radar designed for long-range surveillance of high- or low-flying aircraft and weapons control operations. Litton provides the traveling wave tubes for this program.

ASN-92(V)

The ASN-92(V) is a multi-unit system that makes up the airborne portion of the Carrier Aircraft Inertial Navigation System (CAINS). Production of this system is complete; spares activity is continuing.

ASN-130A

The ASN-130A INS is the third-generation inertial guidance system used on US Navy advanced aircraft, namely the AV-8B, F/A-18 and F-14D. It currently replaces the ASN-92 Carrier Aircraft Inertial Navigation Systems (CAINS) on EA-6B and S-3B aircraft as well. Litton's Guidance Control Systems Division has delivered over 20,000 gimballed inertial reference systems of various types for both commercial and military applications. The bulk of production is complete; ASN-130A production will now be spares-oriented.

ASN-132

The ASN-132 is an airborne integrated inertial navigation system designed to improve the navigation capabilities of the US Army EH-60A QUICK FIX II Special Electronic Mission Aircraft (SEMA). With procurement for the EH-60A complete, no additional ASN-132 production is projected.

AVQ-26

The AVQ-26 PAVE TACK is an adverse weather electro-optical laser designator and weapon delivery system. Litton Laser Systems produced the system's laser rangefinder/designator. Production was completed in 1986; spares and support continue as needed.

LANTIRN (AAQ-13/AAQ-14)

The Low-Altitude Navigation Targeting InfraRed Night (LANTIRN) is a low-level, laser, Forward-Looking InfraRed (FLIR) night navigation and fire-control system consisting of a navigation pod (AAQ-13) and a targeting pod (AAQ-14). Litton manufactures the laser designator/ranger for the targeting pod. LANTIRN is currently in production.

LTN-211/LTN-311

The LTN-211/311 is an Omega/Very Low Frequency (VLF) navigation system. The system is designed for use on various military surface vessels, military aircraft, and commercial aircraft. Both systems are in production.

TADS/PNVS

The Target Acquisition Designation System/Pilot Night Vision System (TADS/PNVS) is an all-weather electro-optical sighting and targeting system used on the AH-64A Apache. Litton Laser Systems produces the system's laser rangefinder/designator. This program remains in production.

JSTARS

JSTARS is an airborne multimode advanced synthetic aperture radar system. JSTARS is an acronym for Joint Surveillance Target Attack Radar, sometimes referred to as JointSTARS. Litton is a subcontractor on this

program providing the Inertial Measurement Unit for the system.

(C3I)

NAVSTAR Global Positioning System

The NAVSTAR Global Positioning System (GPS) is a US produced and operated space-based radio positioning and navigation system that provides users with worldwide, all-weather, three-dimensional position, velocity, and precise time data based on a constellation of 24 satellites (21 in system, three in standby orbit). Litton designs, develops, and tests a variety of GPS equipment.

NICS (NATO Integrated Communications System)

NICS is a switched user voice/teletype/data system providing survivable, secure strategic communications. It is a strategic and operational communications system designed to coordinate NATO activities. The Pilot Secure Voice Program (PSVP) is a joint development in the hands of AEG-Telefunken, Siemens Electrovox, and Page-Europa. The Initial Voice Switched Network (IVSN) is being developed by ITT- Defense Technology. Litton C3I Systems is responsible for TARE, and Ford Aerospace & Communications is responsible for SATCOM under this program.

Mobile Subscriber Equipment (MSE)

The Mobile Subscriber Equipment (MSE) is a radio-operated telephone system. As deployed, MSE forms the backbone of the US Army's battlefield communication network, deploying more than 272,000 items of equipment (including 7,915 mobile radios, 1,400 switching centers and 24,000 telephones) to 2,500 Army units located all over the world. Litton produces embedded computers for this system.

TRI-TAC

TRI-TAC is a tri-service tactical communications system. The program apparently is also being referred to as the Multi-Service Communications System (MSCS). Litton's Amecom Division provides the UXC-4 Tactical Digital Facsimile (TDF) terminal for the system.

(Electronic Warfare)

ALT-28

The ALT-28 is an airborne Continuous Wave (CW) noise jammer carried in pairs aboard the B-52 aircraft. Litton provides the transmitter tubes for the system. A low level of spares/repairs activity will be maintained as long as the B-52 fleet is operational and the ALT-28 continues to be used.

ERWE

This is a passive radar-warning system designed to provide warning of hostile radar surveillance, tracking and fire-control systems and to alert the Tornado crew to radar lock-ons. ERWE was developed by Litton Industries/ITT Avionics for installation on Luftwaffe/Marinenflieger Tornado strike aircraft. The system is currently in service.

(Land & Sea-Based Electronics)

PVS-5(V)

The PVS-5(V)s are lightweight, battery-operated, head-mounted second-generation night vision goggles. Production is complete.

PVS-4

The PVS-4 provides individual small arms with passive sighting and viewing of targets. Litton and Varo were responsible for the systems' production, which was completed in 1996.

PVS-7A/B

The PVS-7A/Bs are third-generation, head-mounted night vision goggles for close-up viewing. Litton produces the PVS-7A/Bs.

SPY-1(V)

The SPY-1(V) is an S-band (3,100-3,500 MHz), 3D phased-array naval air-defense radar system for use on US Navy CG-47 class cruisers, DDG-51 class destroyers, and the new Japanese Yukikaze destroyer class. Litton provides the double-duty cross-field amplifier tubes for this program.

TYQ-23(V)

The TYQ-23 Tactical Air Operations Module (TAOM) is a transportable, modularized automated command, control and communications system. The module is housed in a 20 ft (6 m) ANSI ISO shelter which contains all essential mission equipment, including computing equipment, operator consoles, digital data links, and voice communication links.

(AN Equipment)

GSG-10(V)

The GSG-10(V) (TACFIRE) is an integrated on-line computer system. Its main objective is to automate the computational requirements of artillery fire on known targets to assure a first-round hit. Production is complete.

TSQ-73

This is a Missile Fire Control System also known as Missile Minder. The Missile Minder is essentially a shelter-mounted computer and display unit that accepts, processes, displays, and distributes input from various sensors and reporting stations to the firing units and

higher HQs. The TSQ-73 is in production for FMS and spares support.

TYQ-23(V)

The TYQ-23 Tactical Air Operations Module (TAOM) is a transportable, modularized automated command, control and communications system. Litton Data Systems is the prime contractor for development and program management. The system is in production.

Missile Programs

AGM-109/BGM-109 Tomahawk

The Tomahawk is a multipurpose, multilaunch platform conventional/nuclear cruise missile. Litton Industries Guidance & Control Division provides the RMUC (Reference Measurement Unit Computer). The RMUC comprises a four gimbal P1000 inertial platform and the Litton 4516-C digital computer with 64K memory. Litton Systems Limited of Canada is competing with its American counterpart for this requirement.

MIM-23A Hawk/MIM-23B Improved Hawk

HAWK (Homing All-the-Way Killer) and Improved HAWK are widely deployed as the Western world's definitive medium-range surface-to-air missiles against hostile aircraft. Raytheon and Litton are the prime contractors for the HAWK Phase III Product Improvement Program (PIP).

Unmanned Vehicle Programs

MODEL 324 Scarab/Model 350

These UAVs are high-speed, long-range, remotely piloted vehicles to be used as surveillance, targeting and reconnaissance drones. These drones currently use the LN-81 inertial reference system developed by Litton.

Warship Programs

CG-47 Ticonderoga Class

The CG-47 Ticonderoga class AEGIS cruisers are designed to serve as anti-air warfare (AAW) combatants providing long-range surveillance and defense capabilities to carrier battle groups and surface action groups. They also have excellent capabilities in anti-submarine warfare (ASW) and anti-surface warfare (ASuW). Ingalls delivered the last of these cruisers, the CG-73 *Port Royal*, in 1994. A total of 27 ships of this class have been built. This class will be a mainstay ship of US naval forces for another 10-15 years.

DDG-51 Arleigh Burke Class

The DDG-51 Arleigh Burke Class is an AEGIS-guided missile destroyer. There have been 32 ships authorized, 11 of which are in service. The first ship was commissioned on July 4, 1991. Construction of the

class is divided between Ingalls and Bath Iron Works as follows:

<u>Ship</u>	<u>Builder</u>	<u>Launch Date</u>	<u>Commission Date</u>
DDG-51 <i>Arleigh Burke</i>	Bath Iron Works	9/1989	7/1991
DDG-52 <i>Somers</i>	Ingalls Shipbuilding	5/1991	12/1992
DDG-53 <i>John Paul Jones</i>	Bath Iron Works	10/1991	12/1993
DDG-54 <i>Curtis Wilbur</i>	Bath Iron Works	5/1992	3/1994
DDG-55 <i>Stout</i>	Ingalls Shipbuilding	10/1992	8/1994
DDG-56 <i>John S. McCain</i>	Bath Iron Works	9/1992	7/1994
DDG-57 <i>Mitscher</i>	Ingalls Shipbuilding	5/1993	12/1994
DDG-58 <i>Laboon</i>	Bath Iron Works	2/1993	3/1995
DDG-59 <i>Russell</i>	Ingalls Shipbuilding	10/1993	5/1995
DDG-60 <i>Paul Hamilton</i>	Bath Iron Works	7/1993	5/1995
DDG-61 <i>Ramage</i>	Ingalls Shipbuilding	2/1994	7/1995
DDG-62 <i>Fitzgerald</i>	Bath Iron Works	1/1994	7/1995
DDG-63 <i>Stethem</i>	Ingalls Shipbuilding	6/1994	8/1995
DDG-64 <i>Carney</i>	Bath Iron Works	7/1994	1/1996
DDG-65 <i>Benfold</i>	Bath Iron Works	11/1994	12/1995
DDG-66 <i>Gonzales</i>	Ingalls Shipbuilding	2/1995	7/1996
DDG-67 <i>Cole</i>	Ingalls Shipbuilding	2/1995	3/1996
DDG-68 <i>The Sullivans</i>	Bath Iron Works	8/1995	4/1997
DDG-69 <i>Milius</i>	Ingalls Shipbuilding	8/1995	8/1996
DDG-70 <i>Hopper</i>	Bath Iron Works	1/1996	9/1997
DDG-71 <i>Ross</i>	Ingalls Shipbuilding	3/1996	6/1997
DDG-72 <i>Mahan</i>	Bath Iron Works	6/1996	2/1998
DDG-73 <i>Decatur</i>	Bath Iron Works	11/1996	8/1998
DDG-74 <i>McFaul</i>	Ingalls Shipbuilding	4/1997	4/1998
DDG-75 <i>Donald Cook</i>	Bath Iron Works	5/1997	12/1998
DDG-76 <i>Higgins</i>	Bath Iron Works	10/1997	4/1999
DDG-77 <i>O'Kane</i>	Bath Iron Works	3/1998	9/1999
DDG-78 <i>Porter</i>	Ingalls Shipbuilding	11/1997	1/1999
DDG-79 <i>Oscar Austin</i>	Bath Iron Works	11/1998	9/2000
DDG-80 <i>Roosevelt</i>	Ingalls Shipbuilding	1/1999	10/2000
DDG-81 <i>Winston S. Churchill</i>	Bath Iron Works	4/1999	10/2000
DDG-82 <i>Lassen</i>	Ingalls Shipbuilding	8/1999	2001
DDG-83 <i>Howard</i>	Bath Iron Works	11/1999	2001
DDG-84 <i>Bulkeley</i>	Ingalls Shipbuilding	4/2000	2001
DDG-85 <i>McCampbell</i>	Bath Iron Works	5/2000	2002
DDG-86 <i>Shoup</i>	Ingalls Shipbuilding	11/2000	2002
DDG-87 <i>Mason</i>	Bath Iron Works	7/2001	2002
DDG-88 <i>Preble</i>	Ingalls Shipbuilding	5/2001	2002
DDG-89 <i>Mustin</i>	Ingalls Shipbuilding	2001	2003
DDG-90 <i>Chaffee</i>	Bath Iron Works	2002	2003
DDG-91 <i>Pinckney</i>	Ingalls Shipbuilding	2002	2003
DDG-92 <i>Momsen</i>	Bath Iron Works	2002	2004
DDG-93 <i>Chung-Hoon</i>	Ingalls Shipbuilding	2003	2004
DDG-94 (TBD)		2003	2004
DDG-95 (TBD)		2003	2005
DDG-96 (TBD)		2004	2005
DDG-97 (TBD)		2004	2005
DDG-98 (TBD)		2004	2006
DDG-99 (TBD)		2004	2006
DDG-100 (TBD)		2005	
DDG-101 (TBD)		2005	
DDG-102 (TBD)		2005	
DDG-103 (TBD)		2006	

<u>Ship</u>	<u>Builder</u>	<u>Launch Date</u>	<u>Commission Date</u>
DDG-104 (TBD)		2006	
DDG-105 (TBD)		2006	
DDG-106 (TBD)		2007	
DDG-107 (TBD)		2007	
DDG-108 (TBD)		2008	

BB-61 Iowa Class

These are the world's largest warships used for power projection, protection of sea lanes and shore bombardment. Ingalls Shipbuilding was responsible for the recommissioning overhauls of the BB-62 and the BB-63. These ships are no longer in service.

Sa'ar 5 Class

The Sa'ar 5 class ship is a guided missile corvette designed to conduct various missions such as anti-surface, amphibious support, anti-air and anti-submarine warfare, missile patrol, or as a commanding ship for a task force. Ingalls is constructing the ships for the Israeli Ministry of Defense, and the ship will be outfitted by Israel Shipyards. All three ships of the class are now complete. The first ship, INS *Eilat*, finished its contractors' sea trials in November 1993, then went to Israel for final fitting out with the

integrated command system and other classified electronics. The remaining ships followed at roughly six-month intervals. Construction complete, but systems continue to be updated.

LHD-1 Wasp Class

This is a multipurpose amphibious assault ship with a primary mission of embarkation, deployment, command, and support of a marine landing force by air and amphibious craft. The Navy originally planned to procure 11 of the LHD class ships, but this number has been reduced to between five and seven. Ingalls is slated to build all the ships of this class. The first ship of the class, the LHD-1 *Wasp*, entered service in 1989. Six ships are in service, with one more under construction. Construction of eighth ship, now being proposed, is likely to happen.

<u>Number & Name</u>	<u>Launch</u>	<u>Commissioning</u>	<u>Fleet</u>	<u>Homeport</u>
LHD-1 <i>Wasp</i>	8/4/1987	7/29/1989	ATL	Norfolk, Virginia
LHD-2 <i>Essex</i>	1/4/1991	10/17/1992	PAC	San Diego, California
LHD-3 <i>Kearsarge</i>	3/26/1992	10/16/1993	ATL	Norfolk, Virginia
LHD-4 <i>Boxer</i>	8/13/1993	2/11/1995	PAC	San Diego, California
LHD-5 <i>Bataan</i>	3/15/1996	9/20/1997	ATL	Norfolk, Virginia
LHD-6 <i>Bonhomme Richard</i>	3/14/1997	8/15/1998	PAC	San Diego, California
LHD-7 <i>Iwo Jima</i>	9/1999	2/2001		[under construction]
LHD-8 TBD	2/2003?			

Avondale is a leading US shipbuilders acquired by Litton in 1999. Its expertise is in medium to large boats and small- to medium-sized oceangoing vessels. In the repair and overhaul business, the company addresses boats and vessels of all sizes and types.

Landing Craft Air Cushion (LCAC)

This is a high-speed, over-the-beach, fully amphibious landing craft, air-cushioned (LCAC), capable of carrying a 60-75-ton payload. Initial deliveries for these boats started in 1988 under an award for two vessels. Textron is the prime; Avondale is the secondary builder.

LPD-17

This is an amphibious transport and landing ship with a docking bay for carrying personnel and landing vehicles. In December 1996, an alliance led by Avondale won the Navy's \$9 billion LPD-17 amphibious ship contract. The team, which includes

Avondale, Bath Iron Works, Raytheon, and Intergraph, was awarded a contract to construct the first of an anticipated 12 vessels under the US Navy's LPD-17 program. The initial contract award of \$641.4 million provides for the construction of the name-ship in the class, the USS *San Antonio*. The contract also has options that can be exercised by the US Navy for two additional LPD vessels to be built by the alliance. If the options are awarded, the initial contract value would be pushed to \$1.5 billion. In February 2000, Litton Avondale Industries received an additional contract for the construction of the third ship of the class, the as-yet unnamed LPD-19.

<u>Name</u>	<u>Builder</u>	<u>Launch Date</u>	<u>Commission Date</u>
LPD 17 <i>San Antonio</i>	Avondale Industries	2001	9/2003
LPD 18 <i>New Orleans</i>	Avondale Industries	2002	2/2004
LPD 19 (TBD)	Avondale Industries	2003 (est.)	
LPD 20 (TBD)	Avondale Industries	2003 (est.)	
LPD 21 (TBD)	Avondale Industries	2004 (est.)	
LPD 22 (TBD)	Bath Iron Works	2004 (est.)	
LPD 23 (TBD)	Avondale Industries	2005 (est.)	
LPD 24 (TBD)	Avondale Industries	2005 (est.)	
LPD 25 (TBD)	Bath Iron Works	2006 (est.)	
LPD 26 (TBD)	Avondale Industries	2006 (est.)	
LPD 27 (TBD)	Avondale Industries	2007 (est.)	
LPD 28 (TBD)	Bath Iron Works	2007 (est.)	

LSD-41 Whidbey Island Class

This is a landing ship dock designed for transportation and launching of amphibious craft and vehicles in amphibious assault operations and for provision of limited docking and repair services for conventional and air cushion landing craft. Avondale has built all but the first three ships of this class. Eight LSD-41 Whidbey Island class ships are in service. Four LSD-41(CV) Harpers Ferry class have been ordered and are currently under construction.

commercial ports to permit breakout by combat and replenishment forces. Avondale produced four ships of this class. The lead yard, Intermarine USA, has built the remaining eight. Production of this series was completed in 1998.

Strategic Sealift Ship

In September 1994, Avondale was awarded a \$420 million contract from the Navy to build two strategic sealift ships, the second and third in a potential six-ship program. According to the company, the award "firmly establishes Avondale as a leading participant in this initiative, which will serve as a core activity for our shipyard over the next several years." Earlier, in September 1993, the Navy contracted Avondale to construct the first strategic sealift ship for delivery in 1997. The \$262 million contract also includes an option for the Navy to purchase an additional five ships from Avondale for delivery through 2001, for a total cost of \$1.3 billion. Funds for the contract will come from the \$2.4 billion appropriated by Congress for a National Defense Sealift Fund. In May 1997, Avondale announced that it was awarded a new option for the construction of the seventh ship in the Bob Hope class of Strategic Sealift Ships. The new option has a value of \$228.2 million upon its exercise. Avondale is

LSD-49 Harpers Ferry Class

These are dock landing ships intended for the transport and disembarkation of heavy equipment and the logistics supplies in amphibious warfare. All 12 ships (the final eight by Avondale) of the series have been completed.

MHC-51 Osprey Class

This is a coastal and harbor minesweeper/minehunter used to hunt and sweep mines in shallow coastal and harbor areas. The coastal minesweeper was designed to complement the MCM-1 Avenger class mine countermeasures vessels. The MCM-1 class is a new ocean minesweeper, while the MHC is a new coastal minesweeper with lesser capabilities. The MHC is necessary for mine clearance of key Navy and

working on a seventh Strategic Sealift vessel under a \$163.2 million contract awarded in December 1998.

T-AO-187 Kaiser Class

This is a fleet oiler that is operated by the Military Sealift Command with a mixed military and civilian crew. This ship's purpose is to provide underway replenishment of fuel and the delivery and receipt of fleet freight and personnel to fleet combatants operating at sea. It can also transport bulk petroleum products from shore depots to fleet-fast combat support ships. Twelve of these ships are in service, with four more

building and two suspended incomplete. Avondale has built all but two of this class ship. The last ship entered service in 1996.

Commercial Vessels and Units

The company leverages its expertise gained in the military business to compete successfully in the commercial shipbuilding business. It also applies shipbuilding techniques to the construction of industrial units and sections required in large facility construction programs.

US Contract Awards

Below is a listing of major contracts awarded to Litton from the United States Government in recent years (contracts as of press date).

<u>Date</u>	<u>Award (\$ millions)</u>	<u>Contract #</u>	<u>Description</u>
1999			
5/27/99	\$5.6	N00421-97-C-1236	Procurement of 51 ASN-139 carrier aircraft inertial navigation systems and 55 MT-6436 mounts.
6/11/99	\$7.6	N00024-99-C-5214	Three BPS-16(V) radar systems.
8/16/99	\$19.6	F30602-99-D-0001	Defensive information warfare technology applications.
9/8/99	\$7.6	F33615-99-C-5318	Large diameter electronic-grade silicon carbide substrates.
11/10/99	\$20.9	F04606-00-D-0008	240 Klystron tubes for the radar on E-3 aircraft.
2000			
3/21/00	\$8.2	DAAE20-00-D-0027	Repair contract for the inertial measurement unit.
4/27/00	\$23.8	N65540-00-D-0064	Design & naval hull, mechanical & electrical test site.
6/9/00	\$17.1	N00019-00-C-0379	10 shipboard air traffic control UPX-24(V) interrogator sets.
7/6/00	\$7.6	DAAB07-00-D-B215	Repair services for the heading attitude reference systems ASN-143.
7/13/00	\$9.8	DAAB07-96-D-D601	Additional APR-36A(V)2 radar signal detecting sets.
7/28/00	\$9.9	N00024-00-C-4051	35 ring laser gyrocompass systems.
8/24/00	\$6.7	N00019-99-C-1128	Upgrade modifications for the S-3B Viking aircraft.
9/28/00	\$49.5	FA87700-00-D-0081	Sustainment services through 9/27/04 for the reliability & maintainability information system.
12/5/00	\$5.2	F30602-00-C-0045	Automated virtual information production support system.
12/14/00	\$5.2	DAAB07-96-C-E0003	Lightweight computer units.
<u>Avondale</u>			
2000			
2/15/00	\$491.9	N00024-97-C-2202	Construction of the LPD-19.
5/30/00	\$477.6	N00024-97-C-2202	Construction of the LPD-20.
<u>Ingalls Shipbuilding</u>			
1998			
3/6/98	\$2523.6	N00024-98-C-2307	FY98-FY01 multiyear contract for six DDG-51 AEGIS destroyers with one option for a DDG-51 AEGIS destroyer. Contract includes a second option for one DDG-51 AEGIS destroyer, which if exercised will be constructed in FY01.
1999			
1/15/99	\$35.7	N00024-94-C-2802	Follow yard class services on the DDG-51 AEGIS destroyers.
9/30/99	\$11.5	N00024-98-C-2307	Installation of remote minehunting system on the FY99 Arleigh

<u>Date</u>	<u>Award (\$ millions)</u>	<u>Contract #</u>	<u>Description</u>
12/16/99	\$660.0	N00024-98-C-2307	Burke class destroyers DDG-93 & DDG-95. FY98-FY01 DDG-51 multiyear contract for FY00 multiyear ships DDG-97 & DDG-98.
2000			
5/26/00	\$41.6	N00024-00-C-2302	Follow-on yard services for the DDG-51 AEGIS destroyers.
9/25/00	\$57.6	N00024-00-C-2300	Planning yard services for the DD-963 and CG-47 class ships.
11/2/00	\$10.5	N00024-98-9-2300	Acceleration of the DD-21 computer aided design system development.
12/8/00	\$338.2	N00024-98-C-2307	FY98-FY01 Funding for FY01 multiyear ship DDG-100.

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