

Seattle, Washington

GLENN THOMPSON  
Manager of Continuous Quality Improvement  
Wichita, Kansas

E.O. WHITE  
Computing Support  
Seattle, Washington

JOHN CHRISTENSEN  
Senior Manager, BCS Materiel  
Seattle, Washington

**CUSTOMER OBJECTIVES:** These executives are expecting an overview of where Digital is now and where we are going relative to our open products and strategies. They will be looking for how these products can help their implementation of new business processes. They regard any system that inhibits business process change as being "legacy." They want open and non-proprietary systems that can, over the long term, remain flexible and facilitate ongoing business process change rather than prevent such change. Further, they are very interested in hearing what processes Digital implements and how we implement them in certain areas.

**DIGITAL OBJECTIVES:** Our objective is to have our Boeing guests leave Digital with a comprehensive understanding of our open products and strategies. As they formulate new business processes, we want them to view us as capable in providing them guidance in both the definition and refinement of those processes as well as their implementation.

**OBJECTIVE OF RUSS' PARTICIPATION:** Reinforce Digital's direction and focus in Open Client/Server computing. Differentiator - they will be able to preserve their existing systems while moving ahead with the new technology.

(Russ, I talked to Peyton Smith, the Sales Branch Manager for the Boeing District. He said the account team would like you to emphasize the "Openness" of Digital, i.e. Digital is open supplier of choice with expertise in services to help Boeing migrate; if they choose Digital, they are not locked into Digital--we play on and across all major platforms and integrate well. Emphasize Open Client/Server leadership technology and history of distributed computing. He said, DO NOT talk about the move to Client/Server being EASY -- Mr. Quamme considers that "hype" and would rather hear real world examples of migrations and admit to problems and limitations. Stress committment of Digital to our customers and C/S technology. Peyton also stressed that we were not to push DECnet as they are committed to TCP-IP )

**OUTLINE OF CONTENT:**

**TITLE:** Overview of Digital's Strategic Direction

Good Morning. Thank you for taking time out of your busy schedule

BRIEFING FOR BOEING DEFENSE AND SPACE GROUP

SUBJECT: The Boeing Company, Defense and Space Group - Customer Visit

DATE OF EVENT: October 28, 29, 1993

DATE OF RUSS' APPEARANCE: October 28, 1993

LOCATION AND TIME: 8:00 a.m. - Presentation on Digital's Strategic Direction, MRO3-3/Synergy Conference Rm. East Wing. (The Customer Visit is in MRO3-3/West Wing, Wayside Conf. Rm. However, BREAKFAST WILL BE IN THE EAST WING, SYNERGY CONFERENCE RM. The Synergy Conference Rm. is on the left before you get to the East side entrance to the amphitheatre.) At approximately 8:15 a.m., 15 minutes into breakfast, you will begin your presentation. Your presentation will run 30 to 40 minutes with a Q & A following.

7:00 p.m. - Dinner (Andrea has this info.)

KEY CONTACT: Peyton Smith, DTN: 545-4296

EVENT MGR: Helena Veilleux Prindle, DTN: 244-6323

AUDIENCE: THE BOEING COMPANY:

GEORGE ARROWSMITH  
Boeing Computer Services  
Seattle, Washington

ROY CANTRELL  
Manager of Computing, Missiles & Space Division  
Huntsville, Alabama

BILL DELANY  
Director of Information Management Systems  
Philadelphia, Pennsylvania

BILL EHRETH  
Proposal Automation Manager  
Seattle, Washington

MIKE QUAMME  
Vice President, Computing Services  
Seattle, Washington

RON SMITH  
Architecture and Information Technology Mgmt  
Seattle, Washington

TED SOMMER  
Boeing Military Airplanes Div, Computing Manager

to be here for these two days....I know that by the time we wrap up tomorrow, you will feel as confident as I do about Digital, its strategic direction, and its immediate ability to provide the Boeing Defense and Space Group with the enabling technology necessary to meet the challenges of the coming years.

(INSERT SLIDES FROM NORA - CORPORATE OVERVIEW)

(INSERT SLIDES FROM BILL STRECKER'S CORPORATE STRATEGIC DIRECTION PRESENTATION - ANDREA)

As you have seen, perhaps never before in our history has Digital been as clearly focused as we are right now. But, in addition to clearly defining the development of our products for the future, we have also reorganized our company to better serve you, our customers.

o Customer Focused Organization

Ongoing reengineering of Digital's business processes to enable flexibility and focus on meeting customer needs quickly

Customer Business Units reporting to Sales and Marketing and organized by Industry.

Product Business Units with Engineering creating products based on business needs of customers.

R&D spending more focused on C/S products

Business Partner role -- Digital can't be everything to everybody

PARTICIPANTS

THE BOEING COMPANY

\*\*\*\*\*Please see individual Bios' at end of Document\*\*\*\*\*

GEORGE ARROWSMITH  
Boeing Computer Services  
Seattle, Washington

ROY CANTRELL  
Manager of Computing, Missiles & Space Division  
Huntsville, Alabama

BILL DELANY  
Director of Information Management Systems  
Philadelphia, Pennsylvania

BILL EHRETH  
Proposal Automation Manager  
Seattle, Washington

MIKE QUAMME  
Vice President, Computing Services  
Seattle, Washington

RON SMITH  
Architecture and Information Technology Mgmt  
Seattle, Washington

TED SOMMER  
Boeing Military Airplanes Div, Computing Manager  
Seattle, Washington

GLENN THOMPSON  
Manager of Continuous Quality Improvement  
Wichita, Kansas

E.O. WHITE  
Computing Support  
Seattle, Washington

JOHN CHRISTENSEN  
Senior Manager, BCS Materiel  
Seattle, Washington

DIGITAL EQUIPMENT CORPORATION

\*\*\*\*\*Please see individual Bios' at end of Document\*\*\*\*\*

TOBY ARNOLD  
Program Director  
Seattle, Washington

BILL BALLENTINE  
Sales Representative  
Seattle, Washington

PHIL BERNSTEIN  
TSEG Technical Director  
Littleton, Massachusetts

TOM BOWMAN  
Open Systems Technology Consultant  
Acton, Massachusetts

PETER BRIGGS  
Senior Technical Director  
Littleton, Massachusetts

JOHN CLANCY  
Product Marketing Manager  
Nashua, New Hampshire

RICH COLARUSSO  
Technology Consultant  
Acton, Massachusetts

TOM COLATOSTI  
Vice President, U.S. Manufacturing & Defense Business Unit  
Burlington, Massachusetts

RUSS GULLOTTI  
Vice President, U.S. Area  
Merrimack, New Hampshire

GEORGE HAYES  
Standards/Open Systems Consultant  
Nashua, New Hampshire

RUSS HOLDEN  
DataBase Integrator Project Leader  
Merrimack, New Hampshire

MARY JO MCCAULEY  
Data Management Technology Consultant  
Acton, Massachusetts

PEYTON SMITH  
Sales Branch Manager  
Seattle, Washington

DAN SULLIVAN  
Networking Technology Consultant  
Acton, Massachusetts

ROBERT TASSONE  
Global Account Manager  
Seattle, Washington

HELENA VEILLEUX  
Visit Consultant/DMD  
Acton, Massachusetts

DIGITAL EQUIPMENT CORPORATION

=====

WORLDWIDE CORPORATE CUSTOMER REQUEST FORM

=====

I. CUSTOMER/PROSPECT:

A. Account Name:

The Boeing Company, Defense and Space Group

B. Address:

Boeing Defense and Space Group  
P.O. Box 3999, MS 80-KK  
Seattle, Washington 98124-2499

C. Industry/Business Unit Segment:

Aerospace

D. Please list; Names / titles / level of expertise / biases (of participants)

Mike Quamme, Vice President Computing Systems/ management technical/familiar and favorable towards Digital.  
Ron Smith, Director of Architecture/ high process orientation/ familiar and neutral towards Digital.  
two to five other direct reports to Mr. Quamme, to be determined soon

E. Who is acting as the head of the delegation.

Mike Quamme

II. ACCOUNT MANAGER:

A. Name: Bob Tassone

A1. Meeting Focal Point: Peyton Smith @SEO DTN 545-4296  
Sales Branch Manager, Boeing  
District  
(reports to Bob Tassone)

B. DTN/Outside Number: 545-4281

C. ALL-IN-1/VAXmail Node: @SEO

D. HOME PHONE NUMBER:<>

E. CREDIT CARD # AND EXPIRATION DATE WILL ALSO BE A REQUIREMENT AND  
WILL BE DISCUSSED ONCE EVENT HAS BEEN PLANNED...  
(for any logistical requirements i.e. dinner reservations,  
transportation etc.)

III. COST CENTER MANAGER:

A. Name:Bob Tassone

B. Cost Center Number:AAD

C. DTN/Outside Number:545-4281

D. ALL-IN-1/VAXmail Node:@SEO



V. ACCOUNT PROFILE

A. Brief description of customer's business and products

Boeing Defense and Space Group is a defense contractor for both U.S. Government departments as well as many countries around the world. Examples of their products, or components of products, include the F22 jet fighter, the AWACS warning and control system, the V-22 Osprey tiltrotor, the CH-47D Chinook helicopter, and various missile systems. They have recently been awarded the prime contractor role in building NASA's Freedom Space Station.

B. Existing account <\*> or new opportunity <>

C. Account's Annual Revenue:\$5.4 Billion

D. Existing computer environment, Hardware & Software:

IBM mainframes, VAX/VMS, H-P, and SUN

E. Please include an organization chart, show where the attendees fit - FAX # 508-264-6411 - DTN: 244-6411

F. What is the competitive sales situation? (Be specific and include other potential vendors.)

As this visit is more of an executive update (see section VI), there is no competitive situation as it relates to a specific opportunity. As the account migrates off of legacy systems towards

client/server, the on-going competition is H-P, Microsoft, SUN and IBM.

G. Overall Business potential (estimated US\$)<\$40M>

H. Specific Business relating to this conference (estimated US\$)no specific opportunity

I. Purchase time frame & funds approved when:<on-going>

VI. OBJECTIVE OF THE CONFERENCE:

A. What are the customers goals for this meeting? What do they expect to see and hear from Digital?

These executives are expecting an overview of where Digital is now and where we are going relative to our open products and strategies. They will be looking for how these products can help their implementation of new business processes. They regard any system that inhibits business process change as being "legacy". They want open and non-proprietary systems that

Digital Equipment Corporation  
P.O. Box 92835  
Bellevue, Washington 98009-2035  
206.637.4000

F - Boeing

**digital**

October 18, 1993

Mr. Russ Gullotti  
Vice President, U.S. Area  
Digital Equipment Corporation  
9 Executive Park Drive  
Merrimack, NH 03054-9501

Dear Russ,

On behalf of the Boeing Account Team, we would like to thank you in advance for your participation in the Boeing Defense and Space Group's corporate visit.

The enclosed briefing book will assist you in identifying the customers as well as understanding the agenda.

We look forward to a successful visit.

Regards,



J. Robert Tassone  
Global Account Manager  
Boeing Business Group

JRT:mj

can, over the long term, remain flexible and facilitate ongoing business process change rather than prevent such change. Further, they are very interested in hearing what processes Digital implements and how we implement them in certain areas

B. What are Digitals/sales objectives of this meeting? What do you want to accomplish through this meeting?

Our objective is to have our Boeing guests leave Digital with a comprehensive understanding of our open products and strategies (see section VIII). As they formulate new business processes, we want them to view us as capable in providing them guidance in both the definition and refinement of those processes as well as their implementation.

#### VII. SALES BACKGROUND

A. What presentations have been given locally?

These executives manage very large organizations. Within their organizations, we have presented, over time, all the topics of section VIII. However, these executives only are exposed to whatever feedback their own people give them regarding these presentations as they only attend corporate visits from their major suppliers and not local "pitches".

B. What hardware/software/services have been proposed? <N/A>

C. Any specific problems we should be made aware of?

Yes. They want to empower people to make the right decisions by providing them with the complete data on a given issue. Today's systems inhibit such a distribution of context-targeted information. They want to be able to integrate business processes at the data level. As they move away from centralized mainframes and terminals utilizing SNA towards a distributed network utilizing TCP-IP, they are very concerned about network management and security. Another problem is how to achieve their goal of consolidating their VAX base to lower costs.

How critical are they?

These issues: people productivity, network management and data security, and computing consolidation to lower costs are absolutely critical to these executives.

D. Topics to be Stressed:

Digitals experience and expertise in formulating open, multi-vendor, flexible, low cost solutions to these problems

E. Topics to be avoided:

Relative to networks, they are not interested in DECnet - they are committed to TCP-IP. Generally, anything that is proprietary and not open.

Also, outsource is not "politically correct" with this group. They buy their services from Boeing Computer Services (BCS). Note that this may change before our visit in which case we will modify our sales strategy accordingly - stay tuned

#### VIII. PROPOSED TOPICS AND STRATEGIES/CONFERENCE AGENDA

Please list topics of discussion including messages to be conveyed.

Ensure you provide enough information as to why these topic are to be addressed and the angle/approach you want the presentors to

follow. A list of topics on their own is not sufficient, please include the following:

Please be sure to indicate those topics that represent real business potential and which are information only.

Russ Gullotti is the Corporate Partner for Boeing and will be attending the morning of 10/28. His topics should include the following:

- \* Digitals organization
- \* Digitals Strategic Direction (Vision)

Following Russ, we should begin with a technical overview of Alpha with subjects to include:

- \* Strategy
- \* Architecture
- \* Multiple sources
- \* Capabilities, today's products, references (particularly in the Aerospace industry)
- \* Future plans (if it is needed, we will have a non-disclosure in place)

Following the generic Alpha, we need a "open" presentation that highlights the following:

- \* Alpha OSF/1 (unified UNIX)
- \* Alpha OpenVMS
- \* Alpha NT

The message we want to convey here is that Digitals Aplha can participate well in a flexible, multi-vendor standards based corporate environment. They are in the midst of re-engineering many of their business processes to lower costs in a shrinking world-wide Defense market,

they are looking for low cost, flexible, mix and match, plug and play solutions.

Following the open pitch, we need a section on Network Management.

They are moving away from an environment of mainframe to 3270s via SNA. They are used to a "industrial strength" network with SNA. The example they give is that in their IBM environment, when they send a SNA message out across the network, they know that it will either be received or returned with a problem notification. Compared to that level of service, their distributed workstation TCP-IP network environment is unacceptable.

They experience significant frustration with lost messages or simply not knowing that a given user is down. They are asking the question, "Digital, how do you manage your distributed network?"

We must not stress DECnet. That is viewed as only playing in an all Digital world. We must talk TCP relative to network management.

Following Network Management, we need an overview of Client/ Server computing. Mike Quamme, the senior executive attending, has stated that relative to lowering computing costs (which is his ultimate objective), he thinks client/server is "snake oil". We need to convince him that Digital can significantly lower long term costs while raising the level of service to his end users.

An example of increased service that would be great to discuss is one of Mike's major "wish list" items: he calls it a "Thesaurus". His vision of a Thesaurus is highly intelligent, non pre-programmed, information delivery mechanism that a person could use to get the right information on a given subject. For example, a user may only know a limited subset of a given topic on which they need to make a decision. They would enter their question or known data into the system and receive back a list of all related questions or data points to consider when making their decision.

Following Client Server, we need a presentation on Security. Boeing often will partner on a given government contract with another defense contractor who, otherwise, is their competitor. They need to be networked together with Boeing engineers linked to third party engineers sharing program specific data. How do they keep non-program data secure? Ron Smith, Boeing Computing, has stated, "we don't want just a password based security system... we need much more than that while being user friendly. He wants to know how Digital does this. Perhaps a discussion of

how we work with third parties (who would otherwise be competitors) to design chips, for example.

The last technical subject matter of interest is our participation in standards making bodies. Of special interest is PDES/STEP as well as what we're doing in the SCISM, software Engineering institute capability model on repeatable, reliable methods.

After the technical day, we need a morning session of Business Process discussions. I will be refining this area in the coming weeks, however, for now we believe that Boeing would be very interested in understanding how we address company wide re-engineering and the integration of business processes. They have concluded that integrating business processes is not done at the process level but rather it is done at the data level. They have been struggling with how to do this for over a year. This session should be the only agenda item of the second morning prior to meeting wrap up, next steps and adjourn.

I realize that this is a lot of material to cover in one and onehalf days.

I will be working with the customer, specifically Ron Smith, to distill this down a bit. Meanwhile, it should serve as a guide to getting the

right Digital people lined up to participate.

AUDIENCE:

- o Indicate the type of audience to which the presentation should be oriented (overview, technical, etc..)

The typical Boeing executive is very technical compared to other companies and industries. We should keep things concise and "net" but be prepared to go into technical detail

UNANNOUNCED PRODUCTS:

- o Are there any topics being requested on unannounced products? Which ones?<>

If yes, please contact your PID administrator.

INDUSTRY:

- o Are there any industry presentations that you would like delivered?

Yes, they are interested in how we, Digital, have solved (or are planning to solve) our people productivity processes, network management, generating repeatable/reliable software, and security when working with third parties

If so, what are the key business issues that need to be addressed?

Every government or government contractor piece of business requires some program unique capability. Boeing needs to continually change many business processes to lower the cost of doing business. To facilitate this, they want to implement highly flexible systems at much lower cost than in the past.

SERVICES:

- o Are there any service business opportunities such as Systems Integration, Consulting, Outsourcing, Education/Training, Downsizing that may be leveraged from this conference and if so, what is the opportunity?

Yes, however, we sell our services as a "supplement" to Boeing Computer Services (BCS) which this group effectively buys. Therefore these executives would not be interested and would prefer that we discuss services only with BCS.

- o Are there any service problems or issues with the customer that may surface during the conference? No



## Overview of the Visit

Company Name: Boeing Defense and Space Group (D&SG)  
Industry Segment: Aerospace  
Customer Names and Titles: Mike Quamme, Vice President of Computing Systems  
George Arrowsmith, BCS Technical Services Representative  
Steve Bush, ESD Computing  
Roy Cantrell, Manager, Missiles and Space Division  
Bill Delany, Director, Information Management Systems  
Bill Ehreth, Propulsion Automation Manager  
Ron G. Smith, Architecture and Information Technology  
Ted Sommer, Manager, Military Airplanes Division  
Glenn Thompson, Manager, Continuous Quality Improvement  
E.O. "Skeeter" White, Manager, Computing Delivery Systems  
John Christensen, Senior Manager, BCS Materiel

Head of Delegation: Mike Quamme

Digital Account Team: Bob Tassone, Global Account Manager  
Toby Arnold, Government Programs Manager  
Mike Boyle, Sales Support and Consulting Manager  
Peyton Smith, Sales Branch Manager  
Bill Ballentine, Sales Representative

### Objective of the Visit:

As discussed herein, these Boeing executives face significant cost pressures while being asked to enable profound business process change and increased productivity. They want to migrate from highly centralized large mainframe applications to a low cost (open), flexible and reliable distributed client/server mode of computing. Unfortunately, their perception of Digital is outdated - they want to understand how we can help.

Our objective is to impress upon these executives how Digital in a leader is open client/server solutions. We want to help them solve their migration from legacy systems problem. This includes:

- Management of large and diverse legacy data
- Rapid distribution of context relevant information to end users
- Built in flexibility to respond to future business process change
- Data security within partitioned shared resources

We want these executives, specifically Mike Quamme, to become excited about Digital's open client/server leadership and consulting services value. We want to motivate him to request our participation with his staff as they address client/server computing. This would include their education of our value and a fee based joint client/server pilot to distribute a selected (stable and manageable) business process.





**The Boeing Company  
Defense and Space Group  
and  
Digital Equipment Corporation  
Wayside Conference Room  
MRO3-3 / West Wing**

**Thursday, October 28, 1993**

- |            |  |                |
|------------|--|----------------|
| 7:30 a.m.  | Transport Boeing Executives from hotel to Marlboro   |                |
| 8:00 a.m.  | Breakfast and<br>Overview of Digital's Strategic direction   | Russ Gullotti  |
| 9:15 a.m.  | Overview of Agenda   | Bob Tassone    |
| 9:30 a.m.  | Presentation on Moving from Legacy Systems to Client/Server. Discussions to include Distributed Computing Environment (DCE) and Digital's lead role in this area.                  | Peter Briggs   |
| 11:30 a.m. | Lunch  |                |
| 12:30 p.m. | Presentation on the relevant standards for technologies that will enable the transition to a client/server environment. Discussion about Digital's involvement in these standards. | George Hayes   |
| 1:15 p.m.  | Break  |                |
| 1:30 p.m.  | Workgroup Computing Presentation featuring the LinkWorks product. LinkWorks is an object-oriented work group solution built on a client/server architecture.                       | John Clancy    |
| 2:30 p.m.  | Alpha AXP Hardware Presentation 21st Century Computing.  | Rich Colarusso |
| 3:30 p.m.  | Presentation on the Operating Systems available for the Alpha AXP platforms. OpenVMS, Unified UNIX (OSF/1), Windows NT.  | Tom Bowman     |

**Thursday, October 28, 1993 (Continued)**

- 4:30 p.m. Presentation on Network Management of heterogeneous client/server environments. Netview and POLYcenter product discussion. Dan Sullivan
- 5:30 p.m. Summary / Wrap-up of day 1. Transportation to hotel.
- 6:30 p.m. Transportation to dinner.
- 7:00 p.m. Dinner *Stonehedge Inn* Russ Gullotti  
Tom Colatosti

**Friday, October 29, 1993**

- 7:30 a.m. Transport Boeing Executives from hotel to Marlboro.
- 8:00 a.m. Recap of day 1 / Opening remarks Bob Tassone
- 8:30 a.m. Presentation on Data Management and Development of Distributed Applications using Digital products such as:  
Accessworks  
DB Integrator  
Forte  
Portable Repository  
Object Broker  
OEC Tools Mary Jo McCauley
- 10:30 a.m. Round table discussion with Boeing executives about the problems they are trying to solve and potential application of Digital's products and services to develop solutions. Phil Bernstein  
Mary Jo McCauley  
Russ Holden  
David Hartzband
- 11:30 a.m. Lunch
- 1:00 p.m. Summation of days 1 and 2 / Adjourn Transportation to Logan Airport Bob Tassone

Background/Issues

# Boeing Defense and Space Group

## At A Glance

### *Major Division and Products:*

#### **Electronic Systems Division, Seattle**

- E-3 Airborne Warning and Control System (AWACS)
- 767 AWACS
- Electronic Defense Systems - ARGOSystems, Sunnyvale, California
  - Electronic Warfare (EW) Sub-systems
  - Signal Intelligence (SIGINT)
  - Broadband Intercept Communications
  - Surveillance and Jamming Support
- Airborne Maritime Patrol Systems

#### **Helicopters Division, Philadelphia**

- CH-47 Chinook Transport Helicopter
- MH-47E Special Operations Chinook
- RAH-66 Comanche Attack Helicopter
- V-22 Osprey Assault Troop and Cargo Transport Helicopter

#### **Military Airplanes Division, Seattle**

- F-22 Air Superiority Fighter
- A/FX/F-22 Carrier-based Medium Attack Aircraft
- B-2 Strategic Stealth Bomber
- VC-X Militarized 767 Executive Transport

#### **Missiles and Space Division, Huntsville and Seattle**

- Minuteman Strategic Inter-Continental Ballistic Missile
- Avenger Divisional Air Defense System
- Missile Defense Programs
- Global Protection Against Limited Strikes (GPALS)
- Space Station Freedom
- Inertial Upper Stage (IUS) High Altitude Booster Motor
- Lunar Scout Spacecraft

#### **Product Support Division, Seattle and Wichita**

- B-52H Strategic Bomber Upgrades
- B-1B Strategic Bomber Upgrades
- KC-135 Airborne Tanker Aircraft Re-engineering

#### **Service and Support Division, all major locations**

# Boeing Defense and Space Group

## Background

### Business:

Boeing's Defense and Space Group (D&SG) is a defense contractor for both United States Government departments as well as many countries around the world.

In response to sweeping geopolitical changes and recent world events, most military budgets, both in the United States and overseas, continue to downsize. However, modernization of the armed forces remains a priority. In the space market, NASA budgets will likely remain level or grow modestly. In spite of this contracting market, D&SG posted 1992 operating profits of \$204 million on sales of \$5.4 billion and they are forecasting significant product and services demand for the rest of the decade, both domestically and internationally.

D&SG is organized into five major divisions - Electronic Systems, Helicopters, Military Airplanes, Missiles and Space, and Product Support. In total, these divisions provide a balanced array of products and services and have a diversified U.S. and international customer base. The stated D&SG strategy is to perform existing programs and focus investments to win important development and production contracts in its product areas. D&SG remains a diverse organization without excessive dependence on a single segment of the government's defense or space budget.

### Computing:

Defense and Space is characteristic of many of Digital's large customers:

- Large business critical applications on legacy (IBM) systems
- Multi-vendor interconnected (limited interoperability) systems
- Islands of proprietary systems for research labs
- VAX/VMS dominated tier 2

Their stated direction is to migrate off of most of the proprietary systems. This includes their VMS systems. All new applications will be either UNIX or Windows NT.

Highlighted in our installed base is:

- The F-22 use of ASD/SEE
- Over 8,000 All-In-1 users
- A small but politically significant user base of RdB
- A ARPA funded commercial partnership in Software Engineering Environment (SEE) development - STARS
- A very large VAX ADA development center for commercial avionics
- Multiple VAX-based flight technology labs

# Boeing Defense & Space Group

## Computing Issues

### Economic Environment:

The down turn in both Defense and Space budgets have forced Boeing to cut costs, become more competitive, and to selectively bid only those projects that can leverage their skills and be profitable.

### Business Issues:

In this economy, Boeing Defense and Space must prove its business viability in this increasingly competitive market. The expertise of D&SG in project management, avionics, composite manufacturing and systems integration of large scale weapons systems is highly marketable in this environment. However the value-added is high cost, and low margin.

### Computing Systems Issues:

The points stressed in D&SG's Technical Reference Manual can be summarized as:

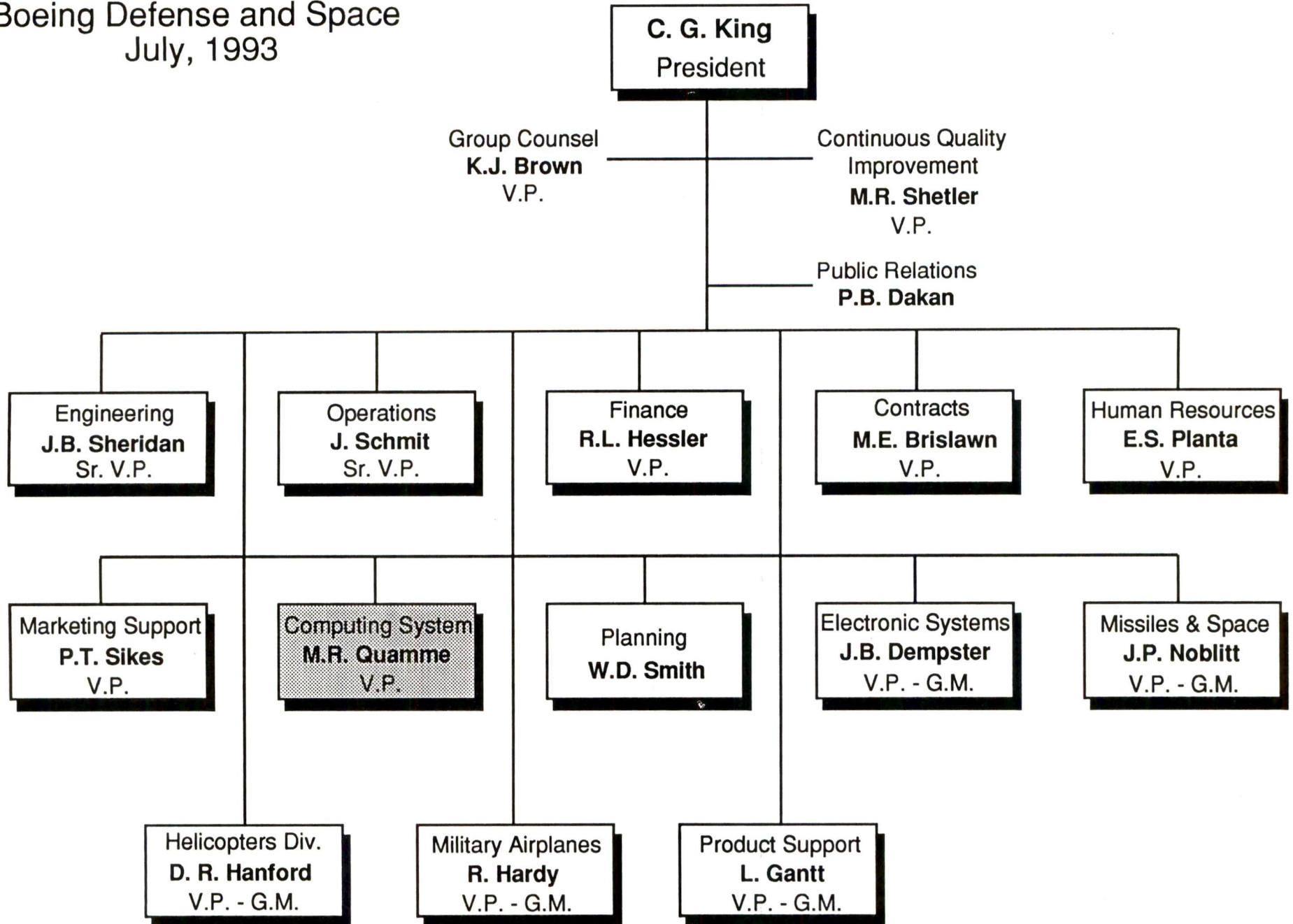
- Legacy system migration to open, client/server technology.
  - Reduction of maintenance costs, training costs and long term computing costs.
  - Conformance to government standards for project compliance.
  - More effective use of engineering, project skills.
  
- Acquisition of better data\* management tools and skills.
  - Data is viewed as a corporate resource and hence a competitive advantage.
  - Product design data is transferable to the manufacturing design process and hence can reduce costs and enhance quality.
  - Engineering test data is expensive and needs to be managed better.
  - Data integrity and security are imperative, especially in teaming with competitors.
  
- Flexible systems architecture.
  - Adaptable to non-defense markets.
  - Better utilization of computing resources and hence investment protection.
  - Scalability to move from prototype to validation to full-scale production within an architecture.
  - Ability to adapt to continuously changing business needs.

\*DATA in this account should be viewed in the larger context of information, knowledge of processes, procedures, requirements, and projects. Hence it lends itself to the concepts of repositories, reuse, and objects and the management thereof.

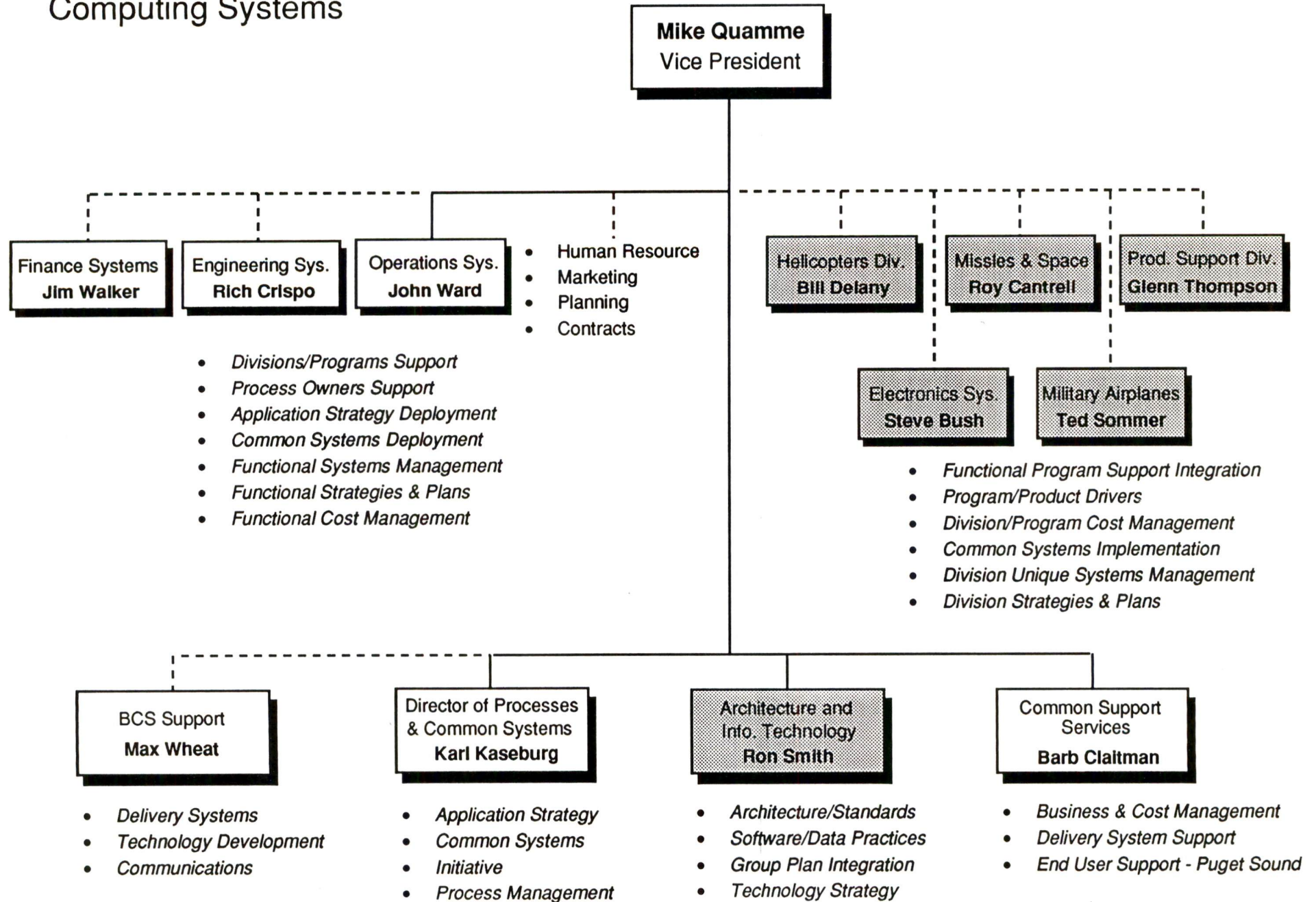
Org. Charts



Boeing Defense and Space  
July, 1993



# Defense and Space Group Computing Systems





## **Michael R. Quamme**

Mike Quamme was appointed Vice President, Computing Services, for Boeing Defense and Space Group in May, 1993. Prior to that assignment, he was Corporate Director of Technical Computing Systems.

In earlier assignments, Mr. Quamme was Director of the Corporate Employee Records and Systems organization, and Director of Corporate and Boeing Support Services Computing.

Mike joined the company in 1963 and has held computing and business assignments across the country, including what are now the Commercial Airplane Group and Defense and Space Group.

While serving in various Boeing management positions, Mike also provided computing consulting support to General Motors and a number of companies in the province of British Columbia.

Mr. Quamme is a graduate of Wayne State University in Detroit, with a bachelor's degree in mathematics, and has done graduate work in physics. In addition, he has completed the executive program at the University of California at Berkeley and graduate-level courses at Massachusetts Institute of Technology and the University of Washington.

# Glenn Thompson

## **Business Experience:**

1990 to present: Manager of Continuous Quality Improvement, Planning and Administration, reporting to the Vice President General Manager, Product Support Division, Defense and Space Group, The Boeing Company, Wichita, Kansas.

1966 to 1990: Various Military Program Management and Engineering positions, Defense and Space Group, The Boeing Company, Wichita, Kansas.

1964 to 1966: Manager of Saturn V Flight Controls Technical Staff, The Boeing Company, Huntsville, Alabama.

1963 to 1964: Engineer, Saturn V Flight Controls Technical Staff, The Boeing Company, Wichita, Kansas.

1960 to 1963: Engineer, Military Flight Controls Technical Staff, The Boeing Company, Wichita, Kansas.

1957 to 1960: U. S. Air Force, Computing Systems Engineer, Wright Patterson Air Force Base, Ohio.

1956 to 1957: Computing Systems Engineer, Convair, Fort Worth, Texas.

## **Education:**

Bachelor of Science degree, Electrical Engineering, Louisiana Tech University, 1956.

Master of Science degree, Electrical Engineering, Ohio State University, 1960.

## **Personal Data:**

Born November 2, 1934, Shreveport, Louisiana.

Married to Bettie M. Thompson, 1955; three children.

## **Roy Cantrell**

Roy Cantrell has been with the Boeing Company for nearly thirteen years. At his current position, Missiles and Space Division (M&SD) manager for Computing, Roy is responsible for providing the division's business and engineering information systems, their associated computing and communications, and for management of the division's computing budgets. Reporting to Roy are approximately 140 people that support M&SD contracts located in the states of Alabama, Washington and Texas.

His most important previous assignments included positions as project manager for the Boeing support to the NASA Marshall Space Flight Center - Space Station Projects Office and technology manager for the NASA MSFC - Computational Mission Services contract. In addition, Mr. Cantrell provided computing services to NASA for the Space Shuttle, the STS-51L investigation, Space Telescope and Skylab projects.

Mr. Cantrell attended the University of Alabama in Huntsville and holds a Bachelor of Science degree in mathematics and a Master of Science degree in computer science.

He and his wife, and two children reside in Huntsville, Alabama.

## **Theodore J. Sommer**

Ted Sommer was appointed Boeing Military Airplanes Division Computing Manager, in January, 1992. Prior to that assignment, he was the Program Computing Manager for Boeing's portion of the B-2 program.

In earlier assignments, Mr. Sommer was Business Manager for Military Airplanes Computing, and Boeing Computer Services Manager for several finance systems.

Mr. Sommer joined the company in 1979 as a Finance Estimator.

He is a graduate of Central Washington University, with a bachelor's degree in English, and received a Master's of Business Administration at the University of Washington in 1979.

## **William W. Ehreth**

Bill Ehreth has been the Proposal Automation Manager for Boeing Defense and Space Group since 1985. In 1990 he was appointed to the Defense and Space Group Computing Council representing marketing support.

In earlier assignments Mr. Ehreth was manager of computing resources in marketing support and held program manager positions in Boeing Computer Services and the Commercial Airplanes Group.

Before joining Boeing in 1979, Mr. Ehreth held other information management positions in government and the Weyerhaeuser Company and has consulted with various state, municipal agencies and private firms. He is a graduate of the University of Puget Sound.



## **George C. Arrowsmith**

### **Current Assignment:**

Boeing Computer Services technical services representative to the Defense and Space Group.

### **Previous Assignments include:**

Manager of the corporate information system - CIRS  
Technology manager of MESA TWO commercial product  
Time sharing (Boeing CTS) product manager  
Corporate planning staff  
Commercial Airplane Group planning staff  
Mathematical consulting staff

### **Personal:**

30 years Boeing service  
Married; two children  
Veteran U. S. Army Paratroopers  
MS Stanford, mathematics  
Founder of the computing magazine - UNIX Review

## **William J. Delany**

Bill Delany is currently the Director of Information Management Systems. His primary responsibilities include strategic planning, customer/employee/vendor relations, and computing direction and control.

Prior to his current position, Bill was the General Manager of Boeing Helicopters Computing Services. He also served as the Business and Production Systems Senior Manager. Bill has managed the following functional areas within Boeing Helicopters Computing Services: program management, operations, technology, customer service, production control, quality, facilities, finance, business management, purchasing, and account management.

Mr. Delany currently serves on the Philadelphia Police Department Systems Strategy Steering committee. He is also on the Boeing Helicopters charity board. In 1990, he served as the Boeing Employees Good Neighbor Fund campaign chairman for Boeing Helicopters. In addition, he is also a member of the American Helicopter Society and the Boeing Management Association.

Bill is a graduate of Widener University. He also attended a six week company sponsored executive program at the University of Virginia.

He is a past President of a Home and School Association as well as a local charitable organization. Bill also coaches Little League. His interests are skiing, golfing, basketball, softball and gardening.

## **Ronald G. Smith**

Ronald G. Smith was assigned the responsibility for Architecture and Information Technology management for Boeing Defense and Space Group in December, 1992, reporting to Michael R. Quamme, Vice President of Defense and Space Group Computing Systems.

Ron previously was Defense and Space Computing Systems Business Manager. Prior to that in March, 1973, he was Boeing Aerospace and Electronics Computing Manager. Mr. Smith has held various positions within the Computing Management organization since returning to Boeing Aerospace and Electronics in 1986, following nine years of service with Boeing Computer Services.

In his last assignment with Boeing Computer Services, Ron supported the Commercial Airplane Group, and was responsible for all Commercial Airplane Group finance and industrial engineering systems.

Mr. Smith joined the company in 1961, resigned in March, 1962 and hired in again in August, 1966.

## **John Christensen**

John Christensen assumed responsibility for procurement of Tier II hardware and software as well as all hardware maintenance in May of 1993. Prior to this assignment he was the Process and Systems owner for Boeing Computer Services Materiel and responsible for the implementation of Process Management and Continuous Quality Improvement.

In earlier assignments, John has held various procurement positions including the formation of hardware maintenance contracting.

After arriving from his native Denmark with his family, John joined the Boeing Company in the spring of 1978. While residing in Denmark, his responsibilities included international contracting in the areas of pharmaceuticals and container shipping.

John received his education in Copenhagen, Denmark, where he earned a bachelor's degree in business from the "Handelshojskolen" in Copenhagen.

## Ellston O. White

Ellston "Skeeter" White joined the Defense and Space Group's Computing Common Support Systems in September, 1993, following thirteen years in Boeing Computer Services.

Most recently he was assigned as Boeing Computer Services' Delivery Systems process owner for problem management. In earlier assignments, he worked in computing operations, telecommunications and technical support. He has been a member of Boeing management since 1982, and has been responsible for developing company wide office systems and network architecture.

Skeeter developed factory automation networks and installed the Boeing Company's first local area broadband networks at the plant in Wichita, Kansas. While in Wichita, he was the Boeing Computer Services' Total Quality Manager for two years, and worked extensively on planning and implementation of quality programs across Boeing Computer Services.

His academic background is in Human Resources Management, with emphasis on organizational development. Prior to joining Boeing, he worked in the Department of Agriculture for nine years, managing various aspects of computing.

Notes

Notes

Lined writing area with 25 horizontal lines.

Notes

Lined area for notes with 20 horizontal lines.





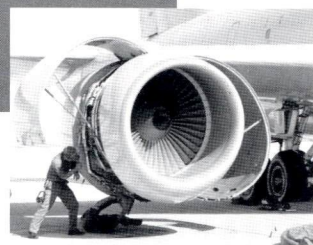
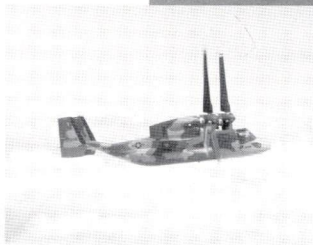
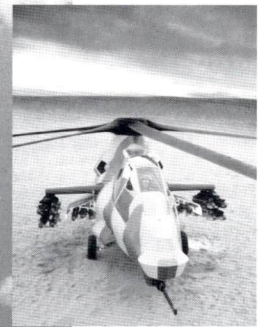
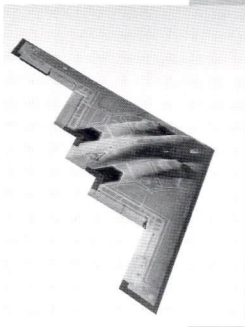
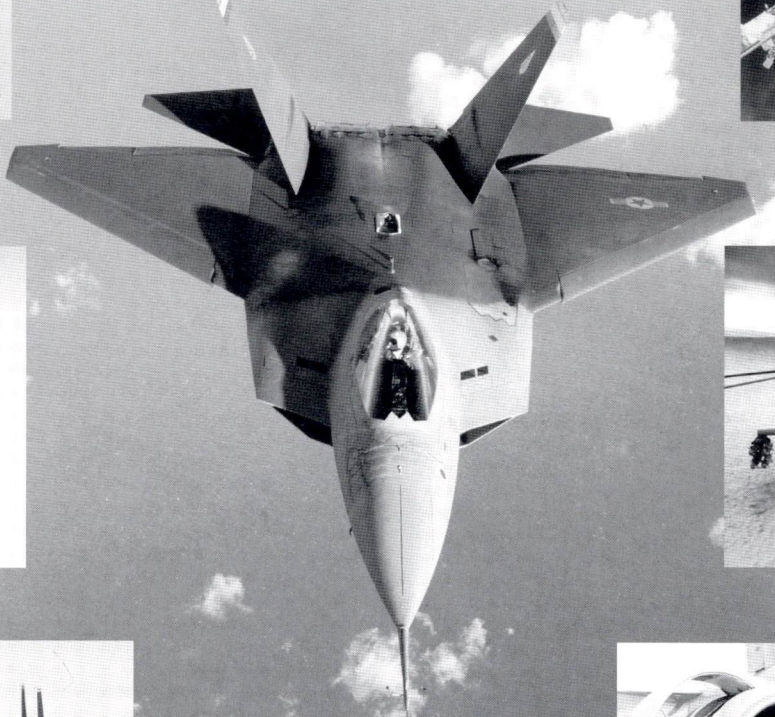
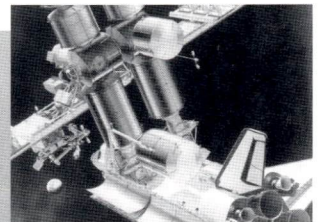






**BOEING**

# Defense & Space Group

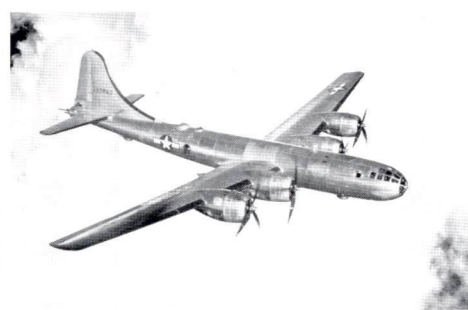


**A world leader in  
military aircraft,  
missile, space, and  
electronic systems**

**February 1993**

## Defense is our heritage

Since 1916, Boeing has been designing and manufacturing military aircraft. Since the 1950s, Boeing has produced a broad range of other military and space systems.



**Boeing Defense & Space Group**

## Market Environment Assessment

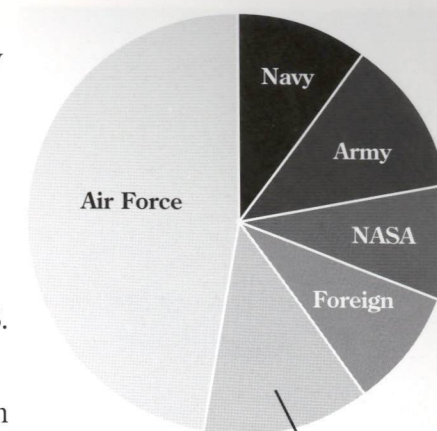
### Market Environment Assessment

World events and geopolitical changes in the last several years have reduced the probability of a U.S. confrontation with a major military power in the near term. As a result, the Department of Defense budget continues to decline and the U.S. military is in the midst of at least a 25-percent personnel and force structure reduction. However, modernization of the armed forces remains important to ensure that the necessary military capability will be available when it is required to project conventional combat power throughout the world on relatively short notice. In the civil space market, NASA budgets will likely remain level or grow only modestly. Despite the contraction of its markets, significant opportunities remain for Boeing Defense & Space Group (D&SG) products and services, both domestically and internationally.

The Defense & Space Group participates in several high-priority government programs. The five D&SG divisions—Electronic Systems, Helicopters, Military Airplanes, Missiles & Space, and Product Support—provide a balanced array of products and services and have a diversified U.S. and international customer base.

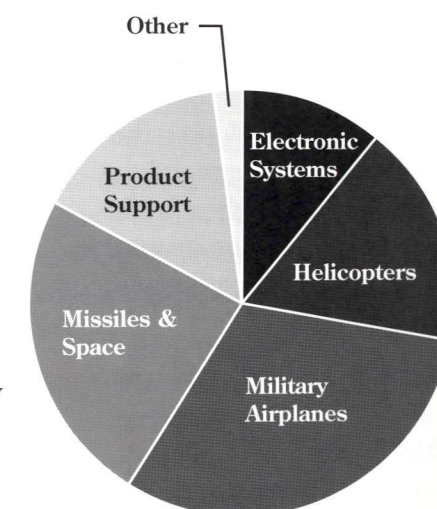
The Electronic Systems Division is continuing to upgrade existing Airborne Warning and Control System (AWACS) aircraft while also offering a militarized version of the 767 commercial aircraft for new AWACS and other purposes. Boeing is developing an affordable electronics suite for a maritime patrol aircraft that will allow countries to patrol their own territorial waters.

The Helicopters Division is producing new and remanufactured CH-47 helicopters and is also developing the V-22 Osprey tiltrotor aircraft with Bell Helicopters for the Marine Corps and other services. A Boeing-Sikorsky team is in the early development phase of the RAH-66 Comanche helicopter program for the U.S. Army.



Other government contracts and subcontracts

*Defense & Space Group Customers—1992 Sales*



*Defense & Space Group Divisions—1992 Sales*



## Market Environment Assessment



Production of major structural portions of the B-2 bomber by the Military Airplanes Division is progressing well. D&SG is a member of a Lockheed-led F-22 team that is developing the Air Force's next-generation air-superiority fighter while participating in two teams competing for the Navy's new A/FX attack/fighter.

In the missiles product area, the Missiles & Space Division (M&SD) is producing the Avenger air defense missile system under a multi-year contract. Boeing has export licenses



to produce and sell Avengers for foreign customers. D&SG is upgrading existing strategic missile systems and pursuing selected opportunities in theater missile defense.

In its space product area, M&SD has responsibility for the habitat and laboratory modules and related hardware for the Space Station Freedom. It also produces the Inertial Upper Stage (IUS) space booster, which has precisely placed space shuttle payloads in geosynchronous orbit and delivered NASA spacecraft to interplanetary trajectories.

Upgrades and support to the B-1B, B-52, KC-135, A-6, and other aircraft are ongoing in the Product Support Division. This division also supports NASA.

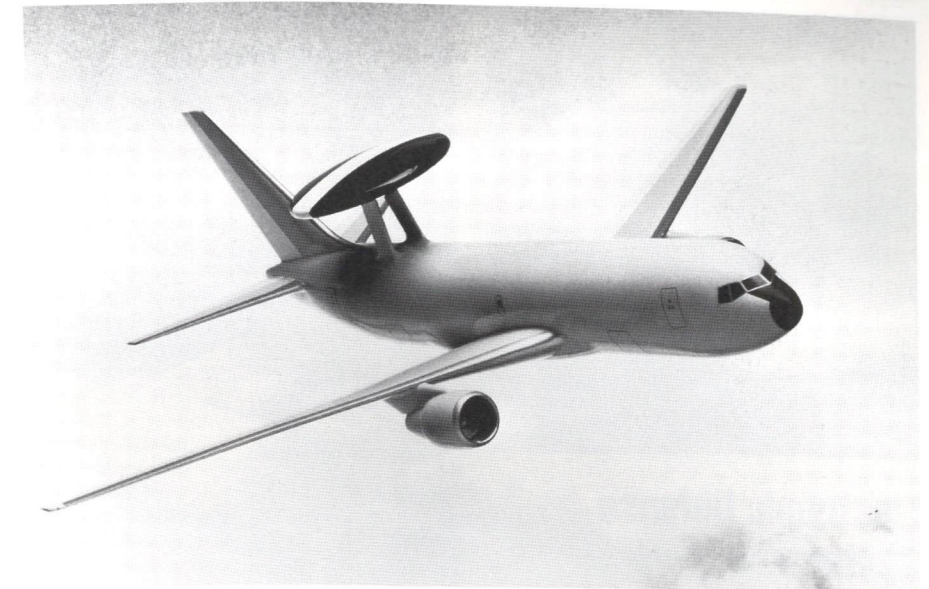
The Defense & Space Group strategy remains to successfully perform existing programs and focus investments to win important development and production contracts in its product areas. D&SG is a diverse organization without excessive dependence on a single segment of the government's defense or space budget.

**The following pages describe representative programs from the five divisions of the Boeing Defense & Space Group.**

## Electronic Systems Division

### Electronic Systems Division

The Electronic Systems Division develops and produces command, control, and communications systems; airborne mission systems; and electronic warfare systems. This division is located in the Seattle area. ARGOSystems, a subsidiary, is located in Sunnyvale, California.



### E-3 and 767 AWACS

The Airborne Warning and Control System (AWACS) continues to be the most recognizable product of the Electronic Systems Division. The E-3 AWACS is built on the Boeing 707 airframe and provides surveillance of aerial activity and coordination of air operations. The E-3 monitors aircraft and ships in all weather conditions and over all terrain. At operating altitudes, its radar "eye in the sky" has a 360-degree view, capable of detecting targets more than 250 miles away. Its onboard data processing permits real-time assessment of hostile action, plus control of friendly resources. Its crew directs attacks against hostile aircraft and ships.

Boeing initially produced 34 E-3s for the U.S. Air Force. Subsequent E-3 orders from NATO, Saudi Arabia, the United Kingdom, and the Republic of France doubled the initial production run.

D&SG continues to upgrade the E-3 systems to improve performance. Modifications will ensure more secure communications and improved computer processing and will enable more radar sensitivity to detect targets with small radar cross sections. Improvements will also lead to more interoperability among U.S., NATO, UK, and French fleets.

Marketing of a new AWACS using a Boeing 767 airframe is in progress with several prospective customers. The 767 AWACS will use the same radars, computers, consoles, and communications equipment that made AWACS a key to the successful air campaign during the Gulf War.



### Electronic Defense Systems

Boeing acquired ARGOSystems of Sunnyvale, California, in 1987. The acquisition strengthened the electronic defense systems product line with the addition of performance-proven signal intelligence equipment and has allowed D&SG to provide quality electronic warfare (EW) systems for AWACS and other D&SG products.

Building on the experience base of ARGOSystems, D&SG has established a major market-share in selected EW and signal intelligence systems. D&SG develops equipment for electronic support measures, electronic countermeasures, and tactical and strategic intelligence



collection. ARGOSystems is a leader in applying digital signal-processing techniques to intercept broadband communications signals.

For EW systems, D&SG can design, develop, manufacture, install, and support equipment used for surveillance and jamming that is applicable for airborne, ground-based, shipboard, and submarine missions.

### Maritime Patrol

D&SG develops and installs electronics suites in maritime patrol aircraft to enable countries to monitor their territorial waters. An early system was installed on P-3B aircraft for the Royal New Zealand Air Force. A current customer, Indonesia, operates a maritime patrol system on a 737 airframe, but this system can also be adapted to other aircraft platforms and missions to serve multiple requirements. The heart of the system, the Boeing-developed digital processing and display system, allows operators to share work or switch from one task to another at the same console.

### Helicopters Division

The Helicopters Division, located in Philadelphia, is responsible for helicopter and tiltrotor programs.



### CH-47 Chinook

D&SG is modernizing the entire U.S. Army fleet of earlier models of Chinooks to the advanced CH-47D configuration. The aircraft are used to move troops, artillery, ammunition, fuel, water, supplies, and equipment on the battlefield. The CH-47D also is used for medical evacuation, aircraft recovery, firefighting, parachute drops, heavy construction, civil development, search and rescue, and disaster relief.

The Chinook is a 54,000-pound, medium-lift transport helicopter with twin turbines and tandem rotors. The modernized CH-47D model will provide the Army with medium-lift capability well beyond the year 2000.

Deliveries of the U.S. Army Chinooks will be completed in 1994. Modifications are in work for the United Kingdom, Spain, and Greece. Two Far Eastern customers have ordered new aircraft, and several other countries have stated requirements for the aircraft.





### MH-47E Special Operations Chinook

The MH-47E was developed for covert deep-penetration, infiltration, and support of Special Operations Forces. Installed into a CH-47D airframe are a state-of-the-art avionics system, more powerful engines, a system that doubles the CH-47D's fuel capacity, and an inflight refueling capability. It is capable of performing a 5-1/2-hour covert mission with over a 300-nautical mile radius. It travels at low altitude in day or night, in adverse weather over all types of terrain. Its integrated avionic subsystem allows global communication and navigation.

Under the existing contract, the U.S. Army plans to procure up to 26 aircraft. The Army has a requirement for an additional 25 aircraft.



### RAH-66 Comanche

The RAH-66 Comanche is designed for armed reconnaissance, light attack, and air-to-air (anti-helicopter) combat. It will replace the U.S. Army fleet of OH-58A, OH-58C, OH-6, and AH-1 light attack helicopters.

The Army's first all-metric aircraft, the RAH-66 Comanche features a five-bladed bearingless main rotor and a Fantail™ antitorque system. Its all-composite rotor blades and airframe were designed to deliver high mission readiness, immunity to corrosion, and high resistance to ballistic damage. The aircraft also has an advanced

digital electronic flight-control system and a compact, streamlined design, which will reduce electronic or visual detection. D&SG is teamed with Sikorsky to produce prototypes before moving into the production phase.

When the program was restructured in January 1993, the demonstration/validation phase was extended into 1997. Funding was approved for three flying prototype aircraft, a growth package for the T800 engine, sensor improvements, and flight-testing the Longbow advanced fire control radar system. The first RAH-66 Comanche unit is slated to reach initial operating capability (IOC) in 2003.



### V-22 Osprey

The V-22 Osprey is the first aircraft designed from the ground up to meet the needs of all four U.S. armed services. The aircraft fulfills medium vertical-lift for assault troop and cargo-transportation needs of the U.S. Marines; Navy requirements for combat search and rescue, fleet logistics support, and special warfare support; and U.S. Air Force long-range transportation for Army Special Operations Forces.

The V-22 Osprey is a tiltrotor aircraft; it takes off and lands like a helicopter but, once airborne, its blades can be rotated to convert the aircraft to a turbo-prop airplane capable of high-speed, high-altitude flight.

The V-22 Osprey carries 24 combat troops, up to 20,000 pounds of internal cargo or external cargo (including the high-mobility multipurpose wheeled vehicle—HMMWV). As part of the Bell-Boeing team, D&SG is responsible for the fuselage and all subsystems, digital avionics, and fly-by-wire

flight-control system. Bell is responsible for the wing, transmissions, rotor systems, and engine installation.

The extraordinary versatility of this unique aircraft was recognized when the V-22 Osprey program received the Collier Trophy, an annual award "for the greatest achievement in aeronautics or astronautics in America." In October 1992 the program entered the engineering and manufacturing development phase. The current U.S. military market is for more than 500 aircraft.

## Military Airplanes Division

The Military Airplanes Division is responsible for bomber and tactical fighter programs. It is headquartered in Seattle.

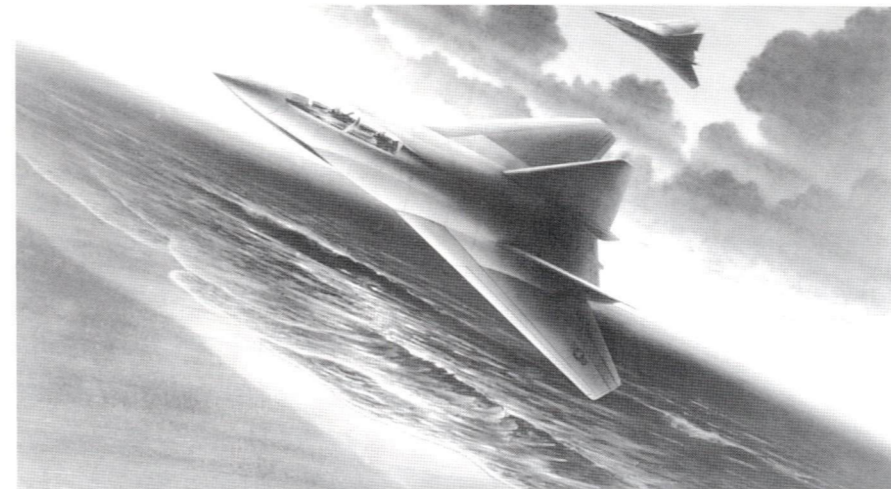


### F-22

The challenge on the F-22 program was to develop the next-generation Air Force tactical air-superiority fighter. During a rigorous demonstration-validation program phase, the Lockheed-Boeing-General Dynamics team designed, manufactured, and flight-tested two prototype fighter aircraft to compete against the prototype aircraft developed by a McDonnell Douglas-Northrop team. In flight tests, F-22 prototypes performed inflight refueling, demonstrated high angle of attack, achieved supersonic speed without an afterburner, and launched test missiles. The Lockheed-led team won the competition in 1991 to proceed to engineering and manufacturing development.

The Gulf War demonstrated the tremendous advantage of unquestioned air superiority—U.S. ground troops advancing with impunity to bring the conflict to a rapid conclusion. The F-22 will provide that advantage well into the next century.

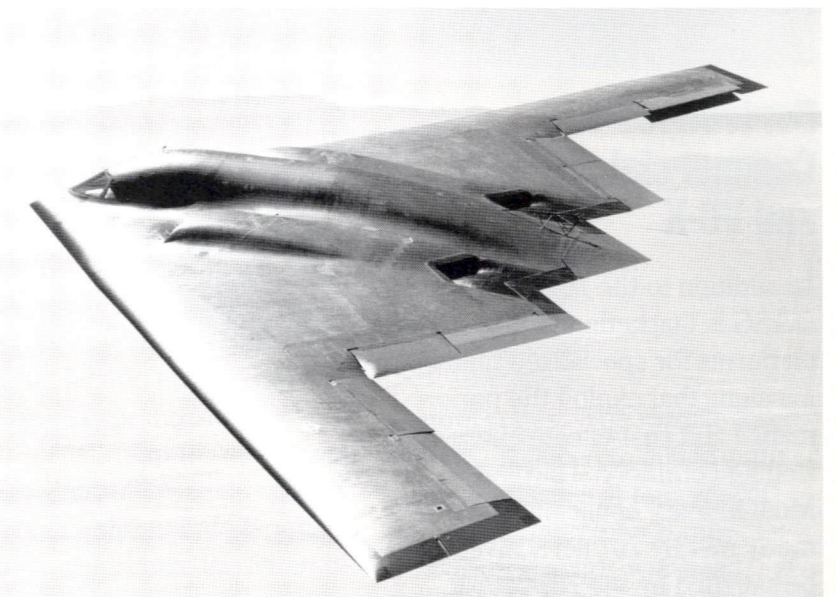
It has supersonic cruise, high maneuverability, low signature, advanced avionics, and an internal weapons carriage, all of which ensure high survivability for the year 2000 and beyond. D&SG is responsible for the wing, aft fuselage, engine integration, auxiliary power system, radar, electro-optical system, power supplies, and training systems. Over the next 10 years, the Lockheed-led team will build nine production aircraft plus static and fatigue test articles. High-rate production will start in the year 2001, and the aircraft is projected to be in production until at least 2010.



### A/FX and A/FX/F-22 Derivative

The A/FX will replace the Navy's A-6 Intruder as the medium attack, carrier-based aircraft. It must have a low signature and be capable of surface attack and anti-air warfare in all weather.

Five contractor teams are performing aircraft and mission trade studies to establish the lowest risk and most cost effective approach to meeting the Navy needs for the A/FX program. D&SG is participating in this program through two different teaming arrangements: a "clean-sheet" approach with Grumman and Lockheed in which the team will develop a new design after examining the requirements; and a derivative approach in which the F-22 team will examine the feasibility of modifying the F-22 to meet A/FX requirements.



### B-2

The B-2 can penetrate sophisticated air defenses to perform nuclear and conventional missions. It is a strategic, long-range heavy bomber with low-observable (stealth) technology and all-altitude capability. D&SG is responsible for full-scale development and production of major hardware end items as well as integrated logistics support. D&SG designs, develops, tests, procures or manufactures, and delivers the aft center section, the outboard sections, the main and

nose landing gears, the fuel system, and the weapon delivery system. The end items D&SG delivers are mated with structural sections and aircraft systems produced by Vought Aerospace and prime contractor, Northrop. D&SG will continue to supply integrated logistics support for the 20 operational aircraft after production is concluded in 1994.



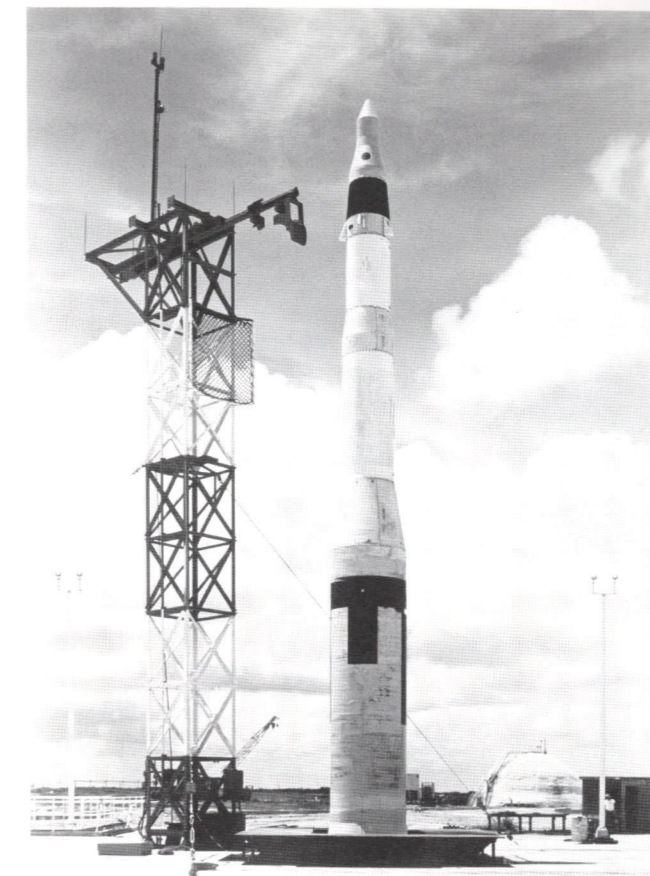
### Derivatives of Commercial Aircraft and VC-X

In addition to the 767 AWACS, D&SG is marketing airborne platforms for specialized military missions that exploit the performance and cost effectiveness of Boeing commercial airplanes. Most military applications formerly met by 707 derivatives can be satisfied by the 767-200ER, modified by adding internal systems, radomes, pods, refueling boom, or special interior furnishings to perform specific military missions. For instance, one

opportunity is the VC-X replacement for the VC-137, the current aircraft that transports the Vice President of the United States, Cabinet members, congressional delegations, and foreign dignitaries throughout the United States and overseas on official duties. The VC-X program will use a long-range commercial aircraft that has been extensively modified for secure communications, executive interior, en route self-sufficiency, and protective devices. Other configurations include a 767 modified as a tanker for inflight refueling, a transport version, and an electronic mission systems platform.

### Missiles & Space Division

The Missiles & Space Division is responsible for the Group's strategic and tactical missile and space systems. The division is headquartered in Huntsville, Alabama, with major facilities located in the Seattle area.



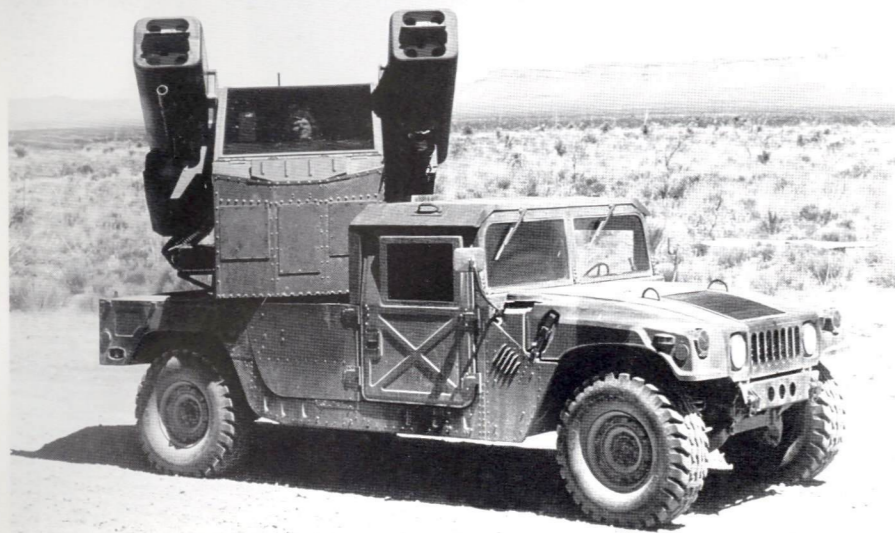
### Minuteman

The Boeing-built Minuteman missile is the primary ICBM in the land-based leg of the Strategic Triad. The weapon system is maintained at a high readiness state, is hardened against attack, and has the fastest response time of any U.S. nuclear force element.

The weapon system was once composed of 950 hardened underground launch facilities and 95 launch control facilities divided into six strategic missile wings. The wings were deployed over 45,000 square miles in seven

central states. The missile force is being reduced to 500 Minuteman III missiles at four wings. The 450 Minuteman II missiles (with large, single war-heads) are being decommissioned. Command and control are accomplished by manned launch control facilities or from the Airborne Launch Control Center (ALCC).

D&SG continues to maintain the missiles and provide for system enhancements.

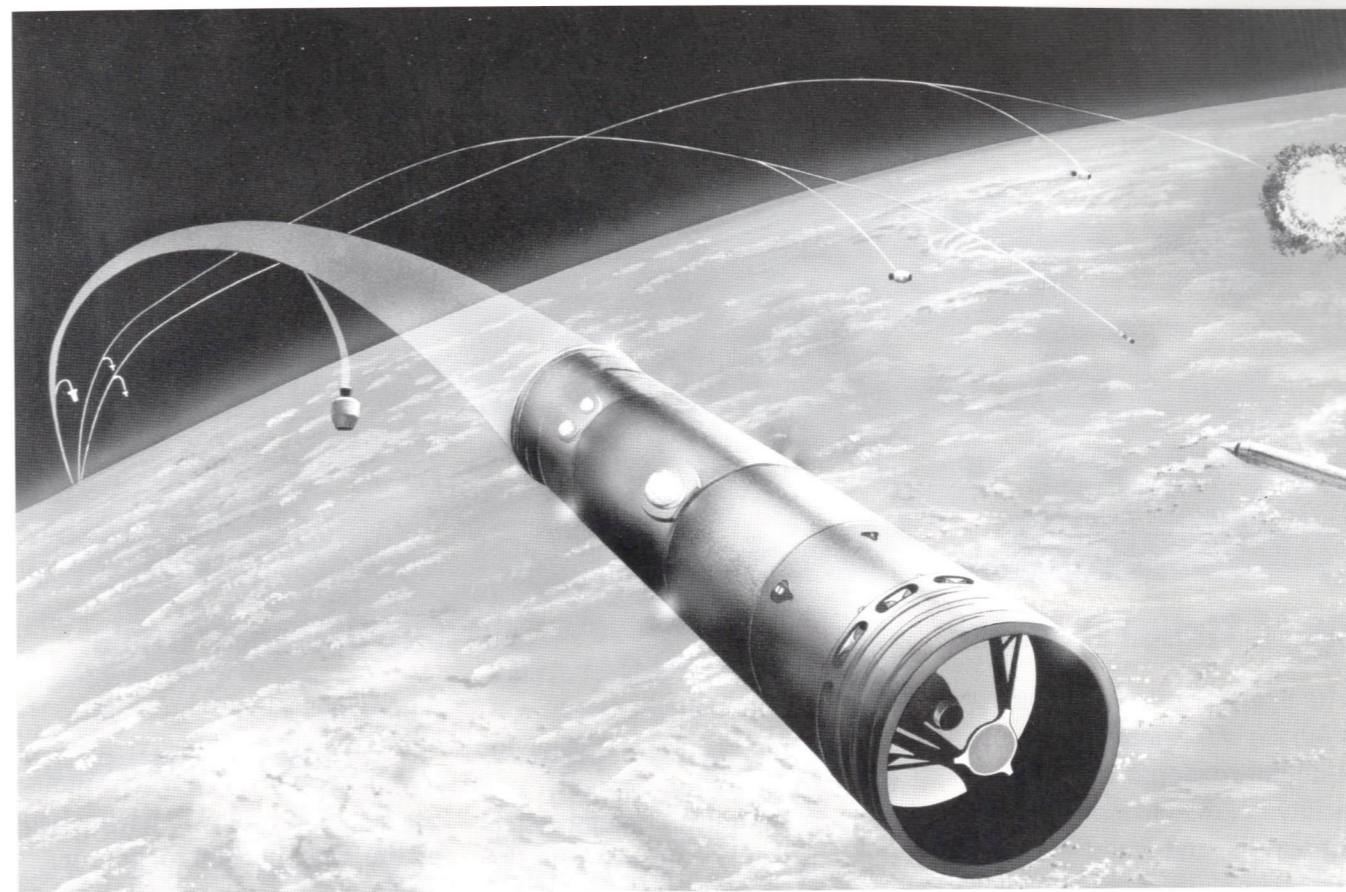


## Avenger

The Avenger air defense system acquires, identifies, tracks, and engages targets (low-flying helicopters and fixed-wing aircraft) from a stationary or moving position. It operates day or night and in clear or adverse weather conditions. It is a light-weight, highly mobile, and easily transportable surface-to-air missile system that has eight Stinger missiles in two missile pods—one on each side of an all-electric turret—plus a 50-caliber machine gun. Its standalone turret is mounted on a high-mobility multipurpose wheeled vehicle (HMMWV). The operator acquires the target visually or with a forward-looking infrared system. Aided by a laser range finder, a central computer to control automated system actions, and control-display and communications equipment, a single operator can engage hostile aircraft.

Avenger proved to be a valuable U.S. Army asset during Operation Desert Storm and was singled out for its exceptional readiness. The production rate has been accelerated to 12 units per month, and D&SG expects to continue production for at least 5 more years.

In 1992, the Marines became a customer, and the program started a new multiyear procurement contract. Besides the standard Stinger missiles, tests have successfully demonstrated that Starstreak and the French Mistral missiles can be fired from Avenger. D&SG has a export licenses to sell Avenger to The Netherlands and Turkey. Other countries also have expressed interest in the system.



## Missile Defense Programs

D&SG continues to be active in the theater missile defense arena, principally on the Airborne Surveillance Testbed (AST), the Free Electron Laser (FEL), and Lightweight Exoatmospheric Projectile (LEAP) programs.

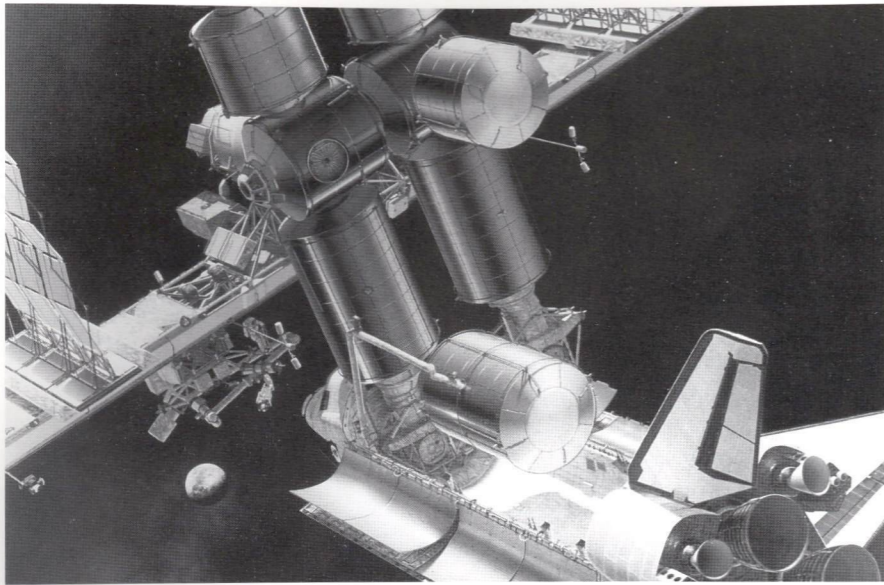
The AST program is gathering information vital to the development of effective ballistic missile defense systems. This experimental system consists of a modified 767 airframe with a long-wave infrared (LWIR) sensor, a data processor, and display, control, communications, and ancillary test gear. It operates at altitudes

above 40,000 feet. The AST can detect, track, and discriminate representative ballistic missile targets from long range. The infrared signatures from projectiles, such as boosters, postboost vehicles, reentry vehicles, and penetration aids are examined in the boost, postboost, midcourse, and reentry phases.

Free electron laser technology may lead to the development of a strong laser beam that could be used from an aircraft or bounced off orbiting mirrors to strike missiles soon after launch. A FEL produces a laser beam by directing a high-energy electron beam into a system where magnets vibrate the electron beam, causing a release of energy in the form of laser light.

On the LEAP program, D&SG is developing a versatile kinetic energy vehicle that destroys a target by high-velocity impact alone.

D&SG is a pioneer in theater missile defense technology and on previous contracts has compiled the industry's most extensive database on exoatmospheric phenomena. There is a near-term business opportunity, Global Protection Against Limited Strikes (GPALS), to apply the D&SG experience with theater missile defense technology in the development of an operational system.



### Space Station Freedom

The Space Station Freedom program will establish a permanent, international, manned facility in low Earth orbit. It will support life and materials science and technology-development missions, assembly of large structures and spacecraft, and transportation operations.

The space station will consist of an assembly of modules, including (1) pressurized modules that serve as living quarters and laboratories, (2) resource nodes for docking, berthing, and joining the modules, (3) a resupply module, and (4) assorted equipment, including airlocks.

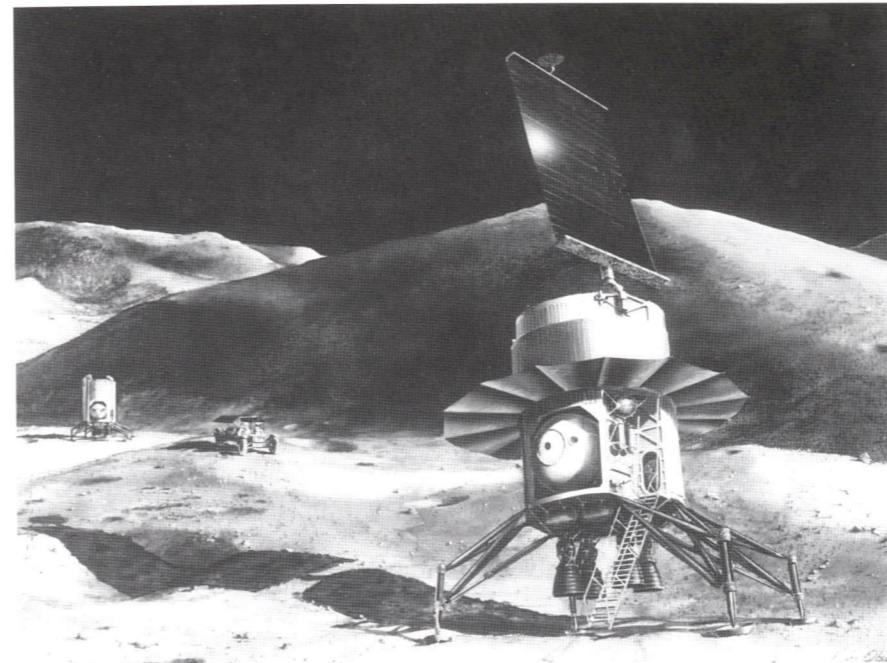
Space station modules will be launched, assembled, serviced, and resupplied by the Space Shuttle. D&SG is responsible for the habitat, laboratory, and logistics modules. Boeing also is the integrating contractor for the systems supplied by international partners, including Japan, the European Space Agency, and Canada. This NASA program has entered an advanced stage; flight-qualified hardware is being manufactured and tested. Initial man-tended operation is scheduled for September 1997, and the station will be ready for permanent habitation in the year 2000.



### Inertial Upper Stage

The IUS is a two-stage, high-altitude booster. It can deliver payloads up to a geosynchronous (23,000-mile) orbit when launched by the Titan booster rockets or from the Space Shuttle. It has been used to place payloads such as the Defense Satellite Communications System (DSCS) for the Department of Defense in orbit with great accuracy. It also was used to deliver spacecraft into interplanetary trajectories from the space shuttle for NASA planetary missions of Magellan, Galileo, and Ulysses. Boeing designed, developed, produces, and tests the IUS which uses a solid-rocket motor for shuttle compatibility.

On January 13, 1993, after being deployed from the payload bay of space shuttle Endeavour, IUS-13 successfully placed the final Tracking Data Relay Satellite in geosynchronous orbit. This year the IUS is a candidate to place the Advanced X-ray Astrophysics Facility in orbit.



### Advanced Civil Space

D&SG has more than 30 years of experience in spacecraft design and production, having produced more than 40 spacecraft. Boeing currently is studying concepts for Lunar Scout, which will be a small, low-cost bus equipped with off-the-shelf subsystems that can be launched on a Delta vehicle. The spacecraft will fly in a polar orbit around the moon to map the lunar surface.

D&SG is positioned to be a key contractor for earth observation satellites and Moon and Mars exploration. Boeing is uniquely qualified to develop lunar return systems and lunar surface systems that will be essential for Mars exploration.

## Product Support Division

The Product Support Division responds to the need for high-quality, cost-efficient product support for Defense & Space Group customers. The division also modernizes existing Boeing products.



### B-52 and B-1B Bomber Upgrades

The Boeing-built B-52 has been in continuous USAF service since 1952. The Product Support Division is now the prime weapon integration contractor for the B-52G/H. The replacement of all major aircraft systems with current-technology systems led to a high aircraft availability rate in Operation Desert Storm. The B-52 provides the United States a long-range nuclear and conventional fire power capability in support of national objectives. The B-52 can deliver a wide range of standoff and gravity weapons.

The size of the B-52 fleet is being reduced to the B-52H model (about 90 bombers), but D&SG expects to maintain its role of upgrading the aircraft that remain in the inventory.

The B-1B can penetrate modern air defenses and deliver a variety of ordnance. Boeing developed, produced, and currently supports the Offensive Avionics System (OAS) and the Defensive Management System for the defensive avionics. The B-1B OAS is composed of four interacting subsystems: (1) the computation complex subsystem, (2) the navigation subsystem, (3) the stores (weapon) management subsystem, and (4) the controls and displays subsystem. The OAS is made up of line-replaceable units that are interconnected

with and operate in conjunction with the Rockwell International aircraft systems and the AIL Systems, Inc., defensive avionics system.

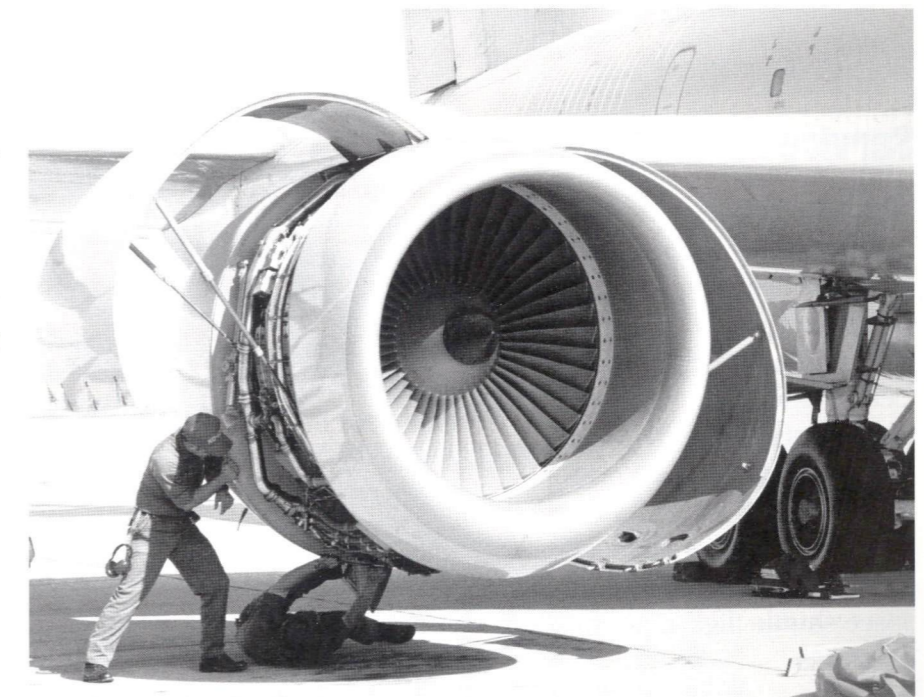
Final delivery of D&SG systems will be made in 1994. Deliveries will include support equipment, technical orders, line-replaceable units, and flight software. D&SG will continue to retrofit test program sets and supply engineering services for follow-on operational support. With the limited number of B-2 bombers being produced, D&SG expects additional business in upgrading and modifying the B-1B aircraft, including adding a conventional weapons delivery capability.



### A-6 Wing Replacement

D&SG is designing, fabricating, qualifying, and delivering replacement wings for the Navy's A-6E. High-technology composite materials are used to obtain additional load-carrying capability and service life without degrading A-6 fleet performance. There are three sections in the A-6 replacement wing: an inboard center section and left and right out-board sections. Each section consists of nonmetallic graphite-epoxy composite exterior skin panels and internal spars, plus titanium or aluminum ribs. Control surfaces such as flaps, slats, and speed brakes are aluminum.

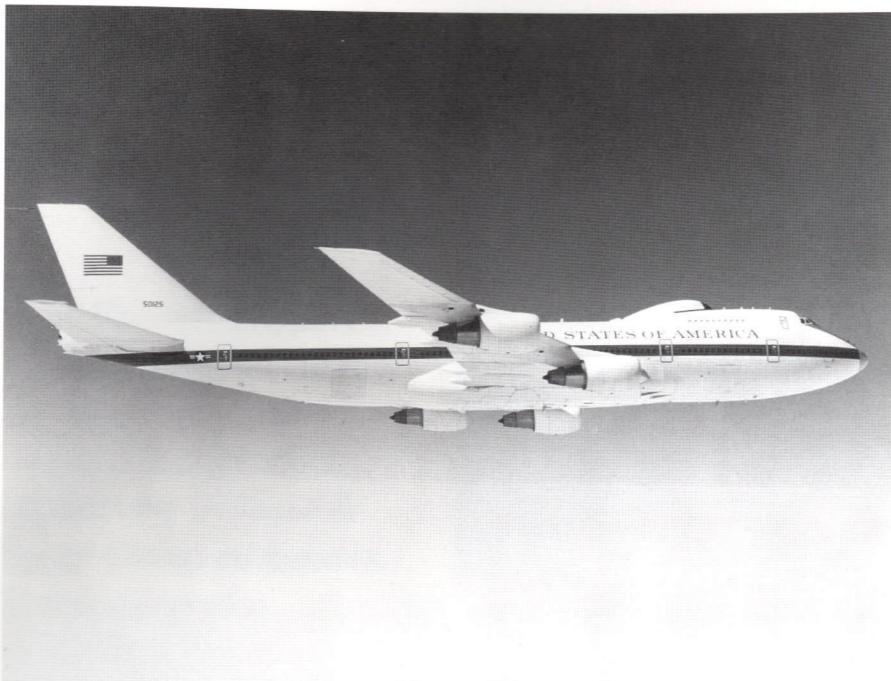
The replacement wing design increases survivability, reliability, and maintainability. It has better fuel-management and fire-retarding systems, more convenient areas of access, and enhanced wingfold mechanisms. In 1992 D&SG was awarded a new contract for 120 wings beyond the 170 wings already delivered.



### KC-135 Reengining

D&SG is improving the KC-135 tanker fleet by replacing aging J-57 engines with highly efficient and more powerful CFM56 engines. This effort will extend the useful life of the KC-135R beyond the year 2020. The modernization increases fleet

operational capability by 50 percent, reduces fuel consumption by 27 percent, and reduces overall operational and maintenance costs by 45 percent. The program virtually eliminates engine noise levels around airports, making the KC-135 compliant with all federal noise regulations.



### Service and Support

Through its Boeing Aerospace Operations subsidiary, D&SG performs Space Shuttle flight equipment-processing services for NASA at Johnson Space Center, one of the NASA development centers. Since 1985, Boeing has been responsible for processing all stowed, worn, or carried equipment used by the astronaut crews during space shuttle flights and training exercises.

D&SG also provides spacecraft integration and launch services.

At Tinker Air Force Base, Oklahoma City, D&SG continues to supply contractor logistics support for the E-4B Advanced Airborne Command Post. The E-4B, a modified 747, would be

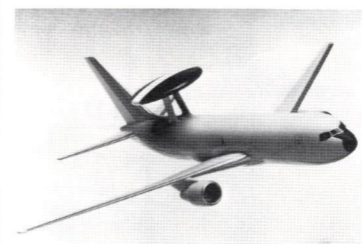
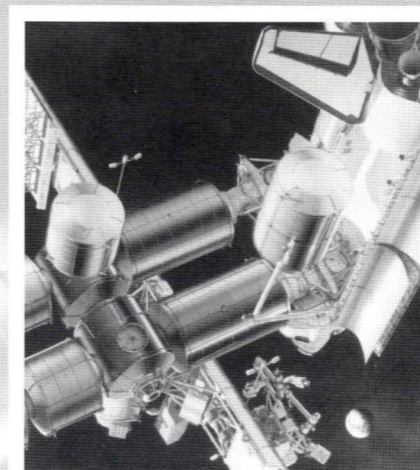
the critical communication link between national authorities and strategic armed forces in case of an attack on the United States.

D&SG will continue to perform support services for the four-airplane E-4B fleet, based at Offutt Air Force Base at Omaha, Nebraska, support that Boeing started when the E-4 entered service in 1974. Logistics support services include identifying spare-part needs, procuring the spares, operating a parts-supply shop, making repairs, replacing failed spares, and providing technical assistance and training. D&SG is also responsible for software maintenance and for the operation of the system integration laboratory.

In a separate contract at Tinker AFB, D&SG provides all personnel, equipment, tools, materials, and other items and services necessary to perform E-3 AWACS contractor mission simulator and training development. Services consist of the operation of E-3 mission simulators, design and development of exercise scenario tapes, operation and maintenance of the audiovisual library, and training development functions in support of this program.

In 1992, D&SG enlarged the scope of its support at Tinker AFB to an engineering services contract in support of the E-4B and other Boeing aircraft at the center—C-1 (B-707), VC-25 (B-747), T-43, C-137 (B-707), C-22 (B-727)—as well as the C-18 aircraft.

**Boeing is committed to leadership in the defense and space industry into the next century and beyond.**



**Boeing Defense & Space Group**

***BOEING***

February 1993





1 9 9 2 A N N U A L R E P O R T



**BOEING**

The Boeing Company, headquartered in Seattle, Wash., is the largest aerospace firm in the U.S., as measured by total sales, and the world's leading manufacturer of commercial aircraft. For the past three years, Boeing has also had the distinction of being the nation's largest exporter. Jetliners currently in production include the 737, 747, 757 and 767 — with the new 777 model scheduled for delivery in 1995. The company is also a major presence in the defense and space market — with capabilities in helicopters, military aircraft, electronic systems, missiles and space. Boeing Computer Services provides support for the company's operating divisions and also sells computing services to U.S. Government customers. At year-end 1992, worldwide employment, including subsidiaries, was about 143,000.

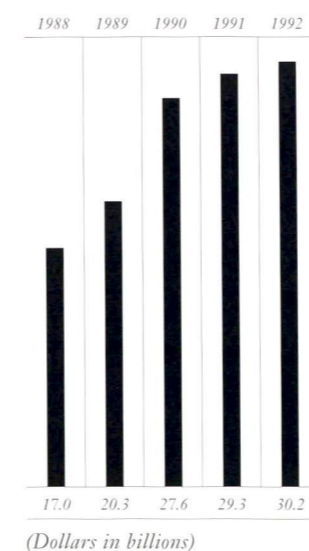
<b>CONTENTS</b>	
MESSAGE TO STOCKHOLDERS	2
COMMERCIAL AIRPLANE GROUP	4
DEFENSE & SPACE GROUP	12
COMPUTER SERVICES	16
CORPORATE CITIZENSHIP	18
FINANCIAL REPORT	20

COVER: USING AN ELECTRONIC MEASURING PROBE, A PRODUCTION WORKER CHECKS THE DIMENSIONS ON A PART FOR THE NEW BOEING 777 JETLINER.

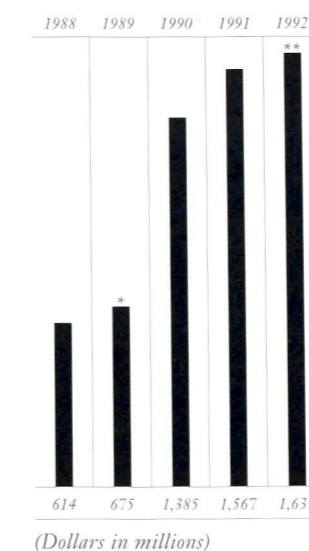
FINANCIAL HIGHLIGHTS

	1992	1991	1990	1989	1988
<i>(Dollars in millions except per share data)</i>					
Sales	\$ 30,184	\$ 29,314	\$ 27,595	\$ 20,276	\$ 16,962
Net Earnings	1,635**	1,567	1,385	675*	614
Earnings Per Share	4.81**	4.56	4.01	1.96*	1.79
Return on Average Equity	19%**	21%	21%	12%*	12%
Firm Backlog	\$ 87,930	\$ 97,916	\$ 97,194	\$ 80,563	\$ 53,601
Research and Development	1,846	1,417	827	754	751
Capital Expenditures, net	2,160	1,850	1,586	1,362	690
Cash and Short-term Investments	3,614	3,453	3,326	1,863	3,963
Customer Financing	2,295	1,197	1,133	868	1,131
Long-term Debt	1,772	1,313	311	275	251

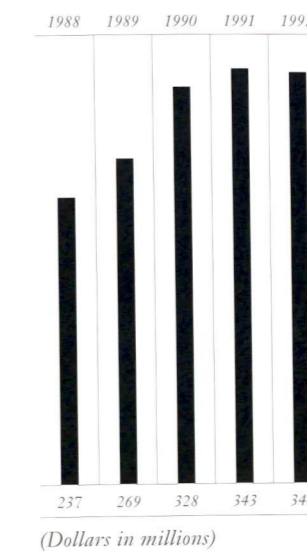
SALES



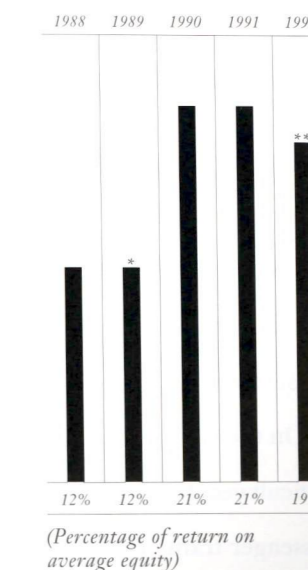
NET EARNINGS



CASH DIVIDENDS



RETURN ON AVERAGE EQUITY



\* Exclusive of earnings of \$298 due to the adoption of Statement of Financial Accounting Standards No. 96  
 \*\*Exclusive of total charges of \$1,083 due to the adoption of Statement of Financial Accounting Standards No. 106

Boeing achieved good results in a difficult business year, establishing new records for sales and earnings. We also delivered the largest number of transport aircraft in our history, captured about a 60 percent market share (in dollar value) of the world's new orders for commercial jets, and returned our defense and space business to profitability.

In a business environment marked by turmoil and uncertainty, the company's financial position remains the strongest in the U.S. aerospace industry. In 1992, Boeing posted record earnings of \$1.6 billion, before an after-tax charge to comply with a new accounting standard (SFAS No. 106). Return on stockholders' equity, prior to the accounting change, was 19 percent.

The company's debt to total capital ratio of just 18 percent remains the lowest of any major aerospace firm. Boeing management has long endorsed the strategic view that financial strength is essential to sustaining the company's leadership in a cyclical industry. The severe downturn in the world's air travel

industry over the past several years, combined with the continued uncertainty in the defense and space market, confirms the wisdom of the company's traditionally conservative approach to fiscal management.

On the commercial side of our business, it was another difficult year for most of our airline customers. While world passenger traffic recovered from the decline in 1991, stiff competition among carriers has driven down fares and

depressed yields. As a result, many of the world's airlines recorded substantial losses.

The market for new aircraft was correspondingly soft in 1992, with Boeing announcing new aircraft orders valued at \$17.8 billion, compared with \$20.6 billion the year before.

Due to lower demand, and the growing number of requests by customer airlines to defer orders, the company will cut production rates on Boeing 737, 747, 757 and 767 jetliners. By mid-1994, after all these rate reductions are in effect, Boeing will be producing 21 jetliners per month — compared with 32.5 at year-end 1992.

Development of the new Boeing 777 is on schedule. Major assembly has begun, and the first delivery is scheduled in 1995. We're confident that our new 777 family of wide-body aircraft will be a big factor in sustaining the company's leadership in commercial aviation well into the 21st century.

One cannot predict with certainty when the air travel industry will mount a strong recovery, but airline profitability — in concert with growth in air traffic — will drive demand for new aircraft. Our current forecast projects a total market for commercial transport aircraft of more than \$800 billion (in 1993 dollars) through the year 2010.

Our long-range strategy at Boeing is to keep ahead of the competition by delivering products and services that clearly represent the best value for our airline customers. The



FRANK SHRONTZ, CHAIRMAN AND CHIEF EXECUTIVE OFFICER AND PHILIP M. CONDIT, PRESIDENT

company's top priority over the next few years is to reduce overall costs while continuing to stress quality.

In defense and space, Boeing recorded an operating profit of \$204 million on sales of \$5.4 billion. While the tight federal budget climate and the change of administration raise many questions over the prospects for the defense business, Boeing is well positioned to remain a major presence in this market.

We have a broad diversity of military projects and participation in several programs with substantial long-term potential. In the space market, Boeing is a major contractor on Space Station Freedom, as well as other NASA programs, and is well placed to compete for new business opportunities that may emerge in this arena. We believe the total defense and space market will remain sizable and expect this sector of our business to remain profitable.

Boeing Computer Services is also profitable and will continue to compete for selected federal contracts for information services.

Negotiations have been concluded with the company's two largest bargaining units — representing machinists, engineers and technical workers. Both of these new three-year contracts provide a good balance between the interests of our employees and the company's need to control costs to remain competitive for the long term.

Companywide employment (including subsidiaries) was reduced by about 10,000 during 1992 and stood at 143,000 at year end. In 1993, production cutbacks will force us to eliminate approximately 23,000 jobs. Attrition and job transfers will be used to buffer the effects of this reduction,

but substantial layoffs will also be necessary. This is a difficult period, and we intend to accomplish this downsizing with sensitivity to the needs of our employees.

While the current business environment is difficult, Boeing has always believed that managing for the long term is the best strategy to build shareholder value in a cyclical industry. We are proud of our status as the world's number one aerospace company and America's leading exporter. Boeing retains the financial strength to make major investments in products to sustain our leadership, while still producing solid returns on assets, invested capital, and shareholder equity. The company is also committed to conducting its business with the highest standards of integrity, and to making a positive contribution to every community where we have a presence.

With our companywide focus on the principles of Continuous Quality Improvement as the key to our long-term competitive strength, Boeing is determined to cut waste, maintain high quality, and improve productivity — and generate higher operating margins. The aerospace business is not without its risks and cyclical fluctuations, but we remain confident about our future.

Frank Shrontz  
Chairman and Chief Executive Officer

Philip M. Condit  
President

February 22, 1993

The Boeing Commercial Airplane Group delivered a record 441 jetliners in 1992. The delivery totals for the 737, 757 and 767 were the highest in Boeing history, and reflect the company's response to the strong surge of aircraft orders that occurred in the 1985 - 1990 period.

During the past two years, airline demand for new aircraft has declined and the company has adjusted its production schedule accordingly. Boeing will reduce production rates on the 737, 747, 757 and 767 models. In September 1993, 757 production will decrease to five per month. The following month, production of 737s will fall from 14 to 10 per month, and 767 monthly production will decrease from five to three. In the second quarter of 1994, 747 production will be cut from five to three aircraft per month.

Although new aircraft orders have slowed the past two years, Boeing continues its market leadership. In 1992, the company captured about a 60 percent share of the world market for commercial jets, with announced orders valued at \$17.8 billion, compared with \$20.6 billion the year before. Approximately 80 percent of announced airline orders were from non-U.S. carriers.

Throughout its operations, the Commercial Airplane Group is implementing the principles of Continuous Quality Improvement as the management system. More than 80 percent of the group's managers have completed training, and plans call for the training to be extended to non-management employees as well. Key areas targeted for improvement include cutting waste, shortening flowtimes, reducing overhead, and increasing the overall level of customer satisfaction with Boeing products and services.

RIGHT: BOEING 747 PRODUCTION IN EVERETT, WASH. THE 747-400 IS THE WORLD'S LARGEST, LONGEST RANGE JETLINER.

*Boeing maintained its market leadership during the year, capturing about a 60 percent share of the world market for commercial aircraft.*

#### 777 PROGRAM

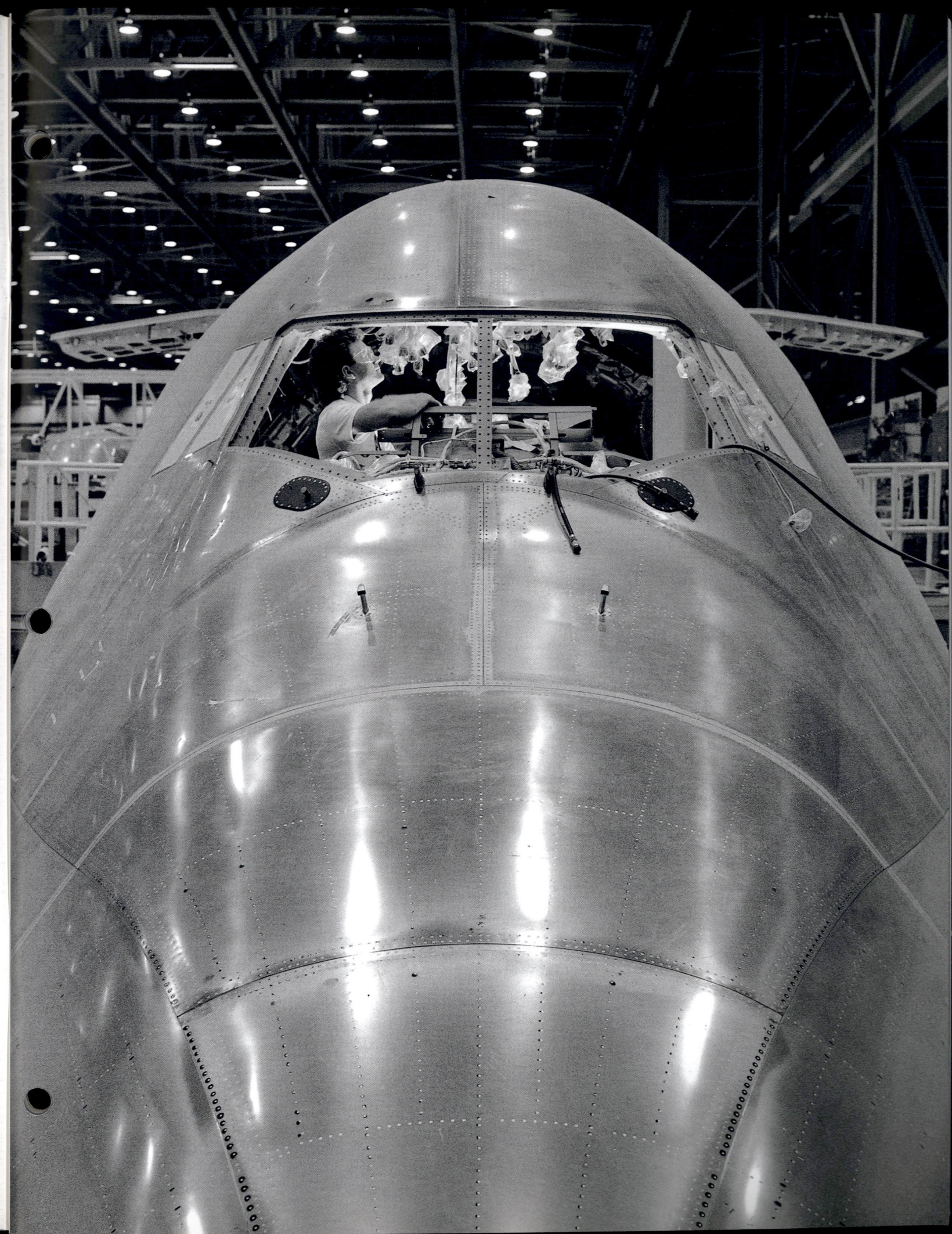
Development of the company's new 777 twinjet is proceeding on schedule. At year end, more than 80 percent of the engineering requirements had been released to manufacturing. Major assembly has begun, and flight testing of the first 777 will start in June 1994, with the first delivery scheduled for May 1995.

Sized to fit the market segment between the company's 767 and 747 aircraft, the 777 will carry 375 - 400 passengers in a two-class configuration and be the widest, most spacious airplane in its class. The 777 represents a major step forward in customer-oriented design, offering many improvements in interior flexibility, passenger comfort, and flight deck design.

In developing the 777, the company has worked more closely with its airline customers than ever before. Customers have been invited to play an integral part in the design process to ensure that every feature of the new aircraft will be configured to meet their needs.

The 777 design-build teams include people from engineering design, manufacturing, finance and support — as well as customers and suppliers. The teams evaluate a design from many perspectives before it is released to manufacturing. The various disciplines working together help ensure that the 777 will be produced in an efficient, cost-effective manner, and that the end product will have superior quality and reliability.

During 1992, the company announced 42 new orders for the 777 from six customers. Since the 777 program was launched in October 1990, Boeing has announced 118 orders from 11 customers, with options for 95 more. Given the



downturn in the air travel industry over the past two years, this is an exceptionally strong showing for a new product.

#### BOEING AIRPLANE FAMILY

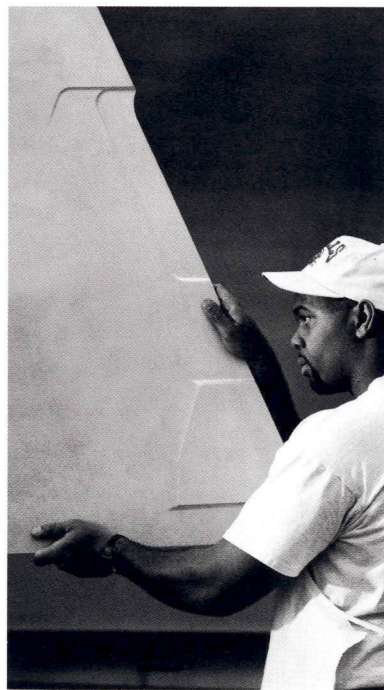
One of the main reasons for the company's market leadership is the breadth of its product line. The Boeing family of airplanes offers the world's airlines the widest combination of payload and range to meet their current and projected needs.

The smallest member of the Boeing jetliner family is the 737 series. The Boeing 737 is the world's best selling commercial aircraft, with more than 3,000 ordered since the first 737 flew in 1967. Customers now have three 737 models to choose from, with seating configurations ranging from 100 to 172 seats. The company announced orders for 114 737s in 1992.

The Boeing 757 and 767 are medium capacity, fuel-efficient twinjets that meet FAA requirements for extended-range operations. The 757 can carry 186 passengers in mixed-class seating about 4,600 nautical miles. The 767 is larger, carrying about 260 passengers in mixed class, with a range

on some versions in excess of 6,000 nautical miles. Boeing announced 38 757 orders and 21 767 orders in 1992.

In January 1993, the company announced that United Parcel Service had become the launch customer for a 767 freighter with an order for 30 aircraft, and an option for 30 more. The order is the largest ever received by Boeing for an all-cargo airplane. Design engineering for the new freighter has begun, with certification and delivery scheduled in October 1995. The 767 freighter will be capable of carrying 56 tons of payload 3,000 nautical miles, or 45 tons as far as 4,000 nautical miles.



RIGHT: A CRANE OPERATOR HOISTS A WING SKIN FOR THE 777 JETLINER. THE 105-FOOT-LONG WING SKIN IS MILLED ON THE LARGEST MACHINE OF ITS TYPE EVER BUILT.

The flagship of the Boeing airplane family, the 747-400, can carry 400 passengers more than 7,000 nautical miles, and offers the airlines the lowest seat-mile costs of any aircraft in the world. In 1992, the company announced 28 new orders for the 747-400.

A new freighter version of the 747-400 is scheduled for delivery in the fourth quarter of 1993. The 747-400F will give airlines the capability of carrying 20 tons more payload on the routes they can fly with 747-200 freighters, or carrying the same payload 800 nautical miles farther.

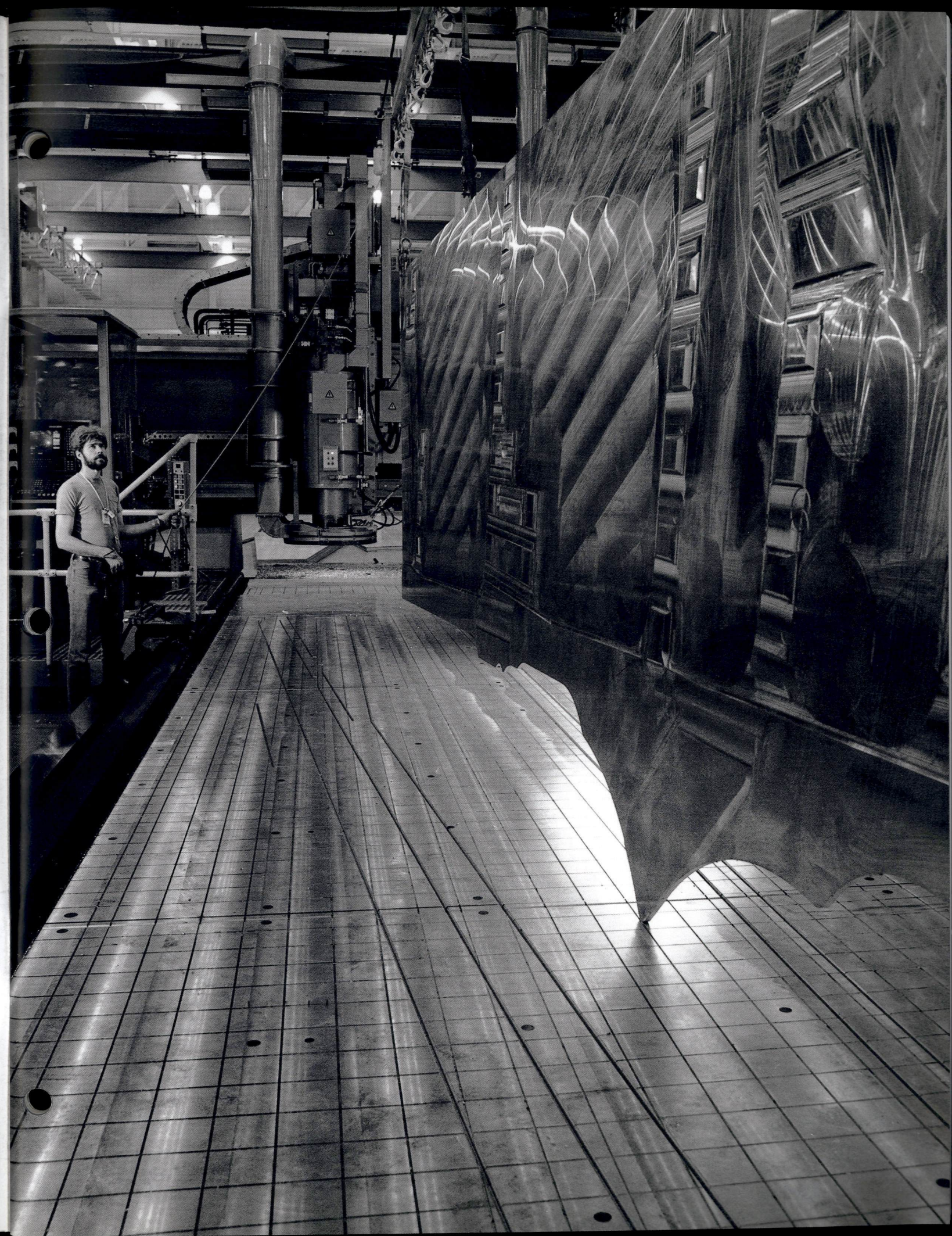
#### NEW PRODUCT RESEARCH

To maintain its market leadership, Boeing continues to study the potential for model upgrades and new derivatives of its current product line, as well as the development of entirely new aircraft. The guiding strategy behind all the company's research efforts is to offer airline customers the most cost-efficient solution to their current and future needs. The test for any new technology is whether it can add value for airline customers by improving an aircraft's safety, operational efficiency, or economic utility.

To meet the future needs of its airline customers, and to sustain the company's leadership in the 100 - 150 seat market, Boeing is actively studying new derivatives of the popular 737 series that would offer advanced features, while still retaining a high degree of commonality with the current 737 fleet.

For several years, Boeing has been researching the market and optimum configuration for an aircraft larger than the current 747-400. In January 1993, Boeing announced

that it had signed an agreement with four European aerospace companies to study the feasibility of developing a new 550 - 800 seat jetliner. Participating in the



one-year study are Germany's Deutsche Aerospace, France's Aerospatiale, British Aerospace, and CASA of Spain. The companies bring four different perspectives to the study, and considerable engineering and production resources.

Boeing believes that the cost, resource requirements, and risk associated with a large new airplane are so great that no single company could undertake the program alone. Moreover, preliminary research indicates that the market for such an airplane would be limited, and could sustain only one product of the size being studied.

Boeing has also joined forces with a number of other companies to study the prospects for the next generation supersonic transport, known as the High Speed Civil Transport (HSCT). Many technical barriers remain to producing an HSCT that would be environmentally acceptable and offer operating efficiencies that would keep ticket prices reasonably competitive with subsonic fares.

#### INTERNATIONAL COMPETITION

The European Airbus consortium remains the company's most formidable competitor in the commercial arena. Although the U.S. and the European

community reached an agreement in 1992 that limits direct subsidies to 33 percent of development costs for new models, Airbus can still receive hundreds of millions of dollars in government aid to launch a new product. Boeing supports the current agreement as a step forward, but will continue to urge U.S. trade representatives to negotiate an end to all direct subsidies.

#### CUSTOMER SERVICE

In the highly competitive market for commercial aircraft, the company's unsurpassed

reputation for customer service is an effective marketing tool. In mid-1993, the company will open a new spare parts distribution center adjacent to the Seattle-Tacoma airport. The 720,000-square-foot facility will consolidate three existing spares operations and provide capacity to meet requirements into the next century. Boeing receives nearly 3,000 orders for spare parts each day.

Another important part of customer service is training for pilots, mechanics, and maintenance people. In 1992, Boeing trained about 2,100 pilots and 4,600 mechanics from airline customers around the world. Construction of a new \$100 million customer services training center is planned for 1993.

#### NEW FACILITIES

During 1992, a number of new manufacturing facilities started operations. A 937,000-square-foot skin and spar mill near Tacoma, Wash., began producing parts in April. The plant houses 14 milling machines with beds in excess of 100 feet long, including several 270-foot mills which are the largest machines of their type in the world. These mills will allow for two 105-foot wing skins to be machined at

once. Upper and lower wing skin panels and stringers for the 777 and all wide-body models will be produced at the plant, which has been designed to significantly reduce flowtime on parts. In-process time is expected to fall from an 80-day average to 10 days or less.

At the same site, a new 425,000-square-foot Composites Manufacturing Center, which will build the empennage of the 777, is scheduled to start operations in mid-1993.

The company's new 518,000-square-foot Integrated Aircraft Systems Laboratory was completed in October. The

*Boeing projects that world air traffic will grow at an average annual rate of somewhat more than 5 percent through the year 2010.*

RIGHT: A NEW PROCESS FOR CLEANING CUTTING TOOLS USES WATER-BASED DEGREASING SOLUTIONS, INSTEAD OF SOLVENTS CONTAINING CFC SUBSTANCES THAT CONTRIBUTE TO OZONE DEPLETION.



laboratory allows for the integrated testing of new airplane systems before they are installed in the airplane. One of the first important goals of the new facility is to thoroughly test 777 systems to ensure the new aircraft will be service-ready from the day it is first delivered.

Construction of the expanded factory and office facilities in Everett, Wash., where the new 777 will be produced, was more than 70 percent completed at the end of 1992. By the spring of 1993, about 6,500 777 Division employees will have relocated to the new facilities.

#### ENVIRONMENTAL INNOVATIONS

In Wichita, Kan., at the company's new 1,000,000-square-foot manufacturing plant, improvements to chemical milling and processing minimize the effects on air quality and groundwater. The facility also has the largest chemical milling recycling system in the world, recovering aluminum and other chemicals for commercial use.

Environmental considerations have played a big part in the design and development of the 777. In the 777's interior cabin, water-based inks — rather than traditional solvent-based inks — are being used to silk-screen the wall coverings with colors and patterns. The environmental benefit is the elimination of certain solvents that are considered "smog formers."

Other environmental innovations in the 777 program include remotely controlled paint booths that capture and prevent emissions; filtered vacuum units for removing dust during the drilling and grinding of composite materials; and the elimination or reduction of numerous toxic chemicals used in manufacturing aircraft parts.



RIGHT: BOEING 767 ASSEMBLY IN EVERETT, WASH. THE 767 IS A MEDIUM CAPACITY TWINJET, CARRYING 220 TO 300 PASSENGERS, WITH A RANGE IN SOME VERSIONS OF OVER 6,000 NAUTICAL MILES.

#### MARKET OUTLOOK

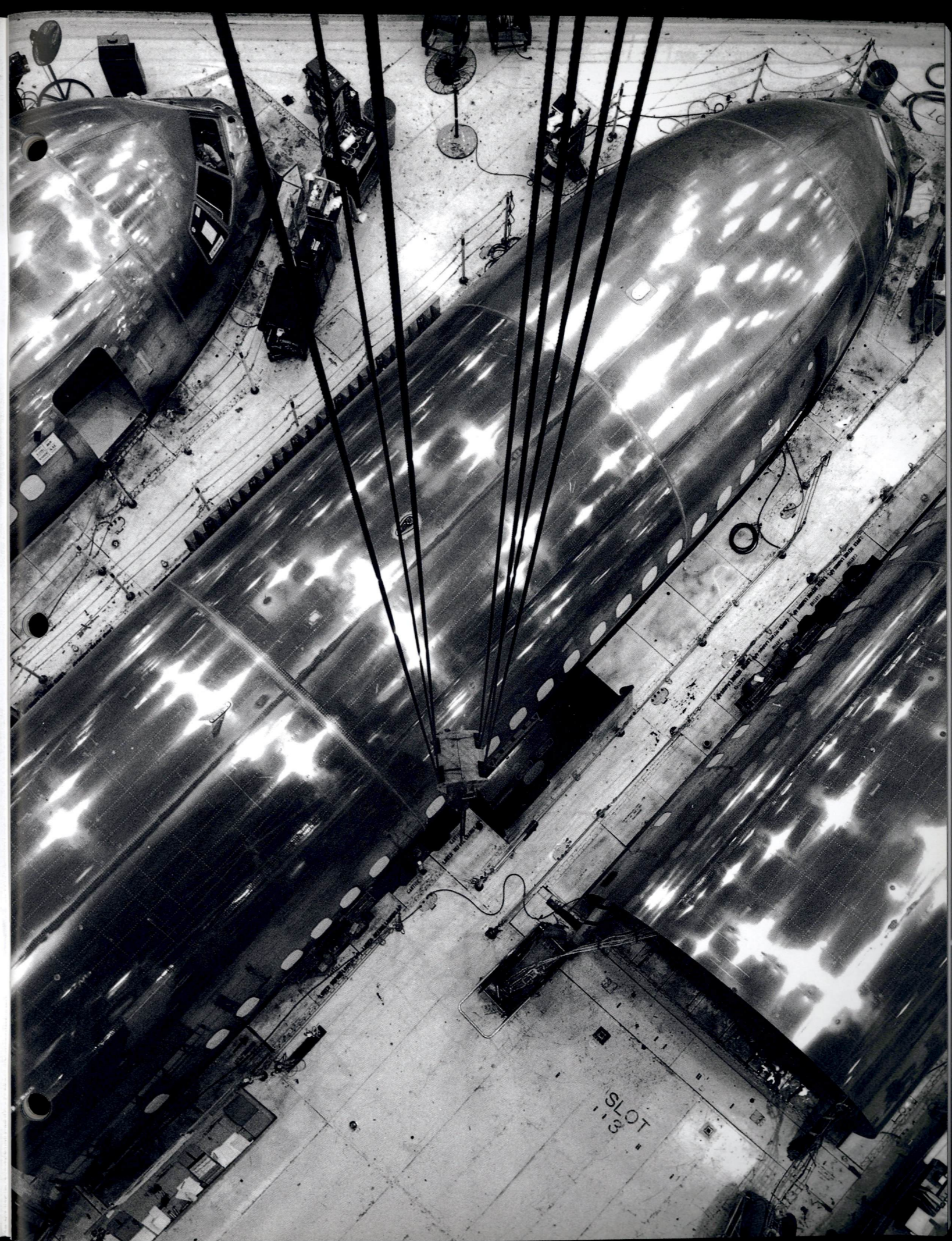
History shows that the world air travel market grows roughly in parallel with prevailing economic conditions. Travel falls off in times of recession, then recovers when economic conditions improve. Growth in air traffic, in concert with airline profitability, drive the demand for new aircraft.

In 1991, the worldwide economic slowdown, and the impact of the Gulf War, resulted in the first decline in airline passenger traffic since the start of the jet age. In

1992, passenger traffic rebounded, and was 8 percent higher than the depressed levels of the prior year for the world's 20 largest airlines, excluding Aeroflot of the former Soviet Union. International traffic growth was stronger, growing by approximately 13 percent. With improved economic conditions, air traffic should continue to rebound in 1993.

Most economists look for world GDP to grow between 3 and 3.5 percent per year over the next 18 years. Based on that general forecast, Boeing expects that air travel will grow at an average annual rate of somewhat more than 5 percent through the year 2010. The company estimates that the total commercial jet transport market for this period will be over \$800 billion in 1993 dollars.

With the company's current line of jet transports, and its continuing commitment to upgrade current products and develop new ones to meet customer needs, Boeing is well positioned to sustain its historical leadership in the commercial airplane market.





The Boeing Defense & Space Group returned to profitability in 1992, posting an operating profit of \$204 million on sales of \$5.4 billion. The outlook for the company's defense and space business is for relative stability over the next few years, with annual sales projected in the \$4.5 billion range. The Defense & Space Group has made considerable progress in institutionalizing Continuous Quality Improvement as a way of performing all tasks. It has defined and is documenting all of its processes, many of which have already undergone substantial improvement. Costs are being reduced through shortened flowtimes and elimination of non-value-added activities. Key performance measures have shown steady gains, and improved government customer satisfaction is shown by formal performance evaluations and increased award fees.

ELECTRONIC SYSTEMS

Early in 1992, the company delivered the final E-3 Airborne Warning and Control System (AWACS) aircraft built for the French and United Kingdom air forces.

The AWACS system is now being offered on the military derivative 767 airplane, and the company is actively pursuing foreign sales. The Japanese government has announced that it intends to place an initial order for two 767 AWACS in 1993. The U.S. Government is expected to support sales to other overseas customers as well. The Defense & Space Group is continuing its modernization of the existing U.S. and NATO AWACS fleet.

The U.S. Navy, citing its changing role in the post-Cold War environment, issued a termination for convenience for the P-3 Update IV program, under which Boeing was developing an advanced avionics system for the submarine-hunting fleet of aircraft. Despite the P-3 cancellation,

the company is optimistic about opportunities for this product area in the international marketplace.

ARGOSystems, a subsidiary of the Defense & Space Group, builds electronic warfare and signal-intelligence components for domestic and international markets.

HELICOPTERS

The V-22 Osprey tiltrotor program entered the engineering and manufacturing development (EMD) phase in 1992, during which four new V-22s will be built and two existing aircraft modified to the production-representative configuration. EMD is valued at \$2 billion, which will be shared by the Osprey's co-developers, Boeing and Bell Helicopter Textron.

Boeing delivered 40 remanufactured CH-47D Chinook helicopters, 35 to the U.S. Army and 5 to the Spanish army. The company also delivered two new CH-47Ds to an Asian customer.

In December 1992, the U.S. Army and a Boeing/Sikorsky team finalized the restructuring of demonstration-validation phases of the new RAH-66 Comanche armed-reconnaissance helicopter. This prototyping and flight-test phase is valued at nearly \$2

billion through 1997.

Boeing began a program of replacing dynamic components in all U.S. Navy and Marine Corps H-46 helicopters. Kit production is valued at about \$350 million.

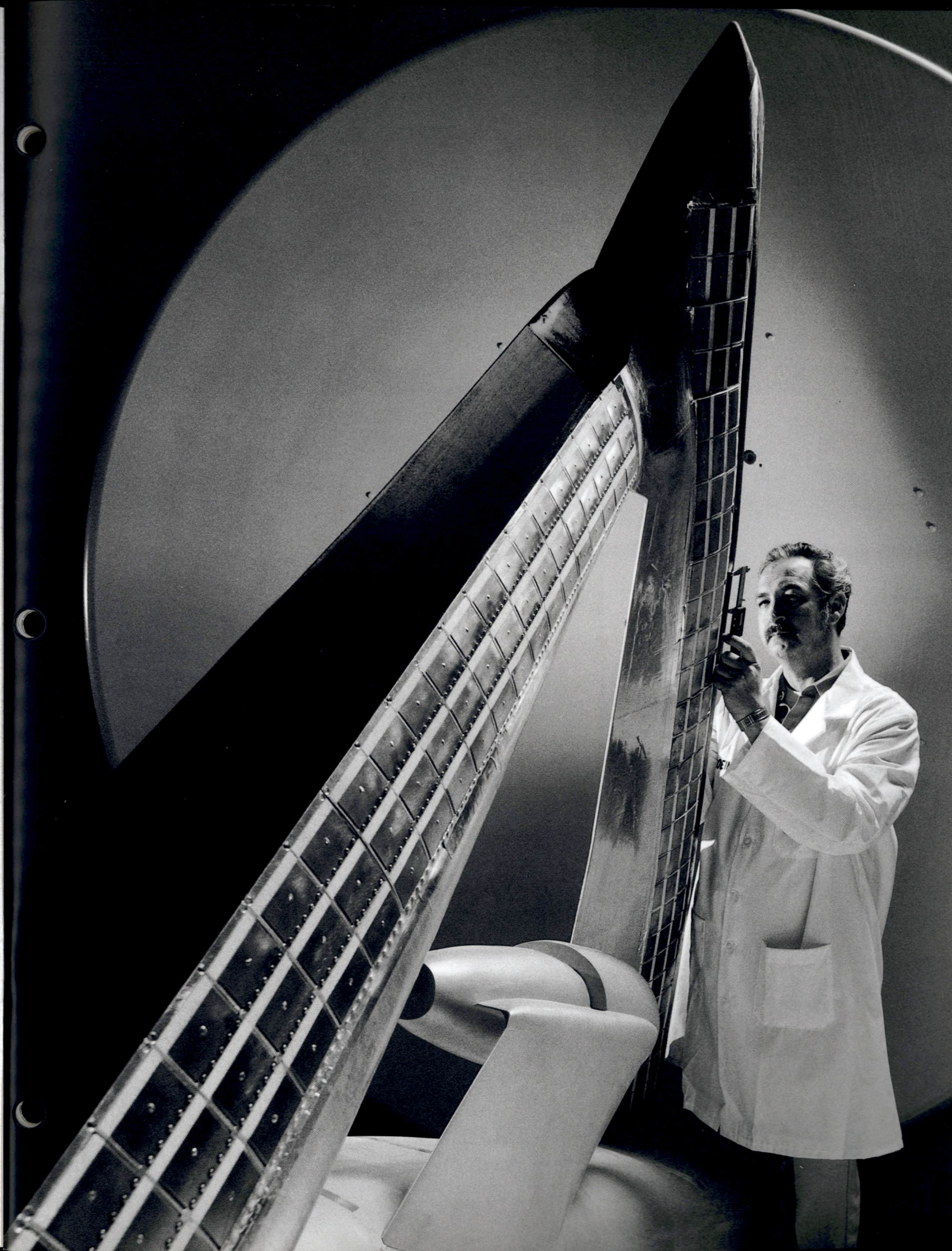
MILITARY AIRPLANES

In 1992, Congress voted to cap B-2 bomber production at 20 aircraft. As a major subcontractor, Boeing produces

the outboard wing and aft center sections of the bomber, as well as the fuel system and critical elements of the mission-management systems. Boeing will complete

*The Defense & Space Group has streamlined and consolidated operations, and Boeing is well positioned to maintain a major presence in this market.*

RIGHT: A BOEING TECHNICIAN EXAMINES AN EX TEST MODEL, WHICH EMPLOYS A DIAMOND-SHAPED WING. THE EX IS A PROPOSED REPLACEMENT FOR THE NAVY'S E-2C SURVEILLANCE AIRCRAFT.



delivery of major B-2 components during 1993. The company will continue to support the B-2 program through flight testing and the operational phase for several years.

The company continued its concept exploration and definition work as part of two separate teams in the running for the proposed Navy AX attack-jet. Boeing is teamed with Grumman and Lockheed on a proposal to develop an all new plane, and also is teamed with Lockheed and General Dynamics to offer a derivative of the F-22 fighter. A request for proposals for AX demonstration/validation is expected in 1993.

Work continues on the F-22 engineering manufacturing development program. Expected federal funding shortfalls in 1993 and 1994 have resulted in some program re-phasing. A major effort to reduce the weight of the U.S. Air Force's new F-22 air superiority fighter was successful. Boeing completed the first F-22 parts in late 1992 at its advanced composites center in Seattle.



#### MISSILES AND SPACE

The first prototype hardware for NASA's Space Station Freedom was produced in 1992 and tested at the Marshall Space Flight Center in Huntsville, Ala. Boeing is NASA's prime contractor for the station's living and laboratory modules.

Production of the original order for 325 Avenger air defense missile fire units for the U.S. Army was completed in late 1992, with the assembly line continuing work on a \$436 million follow-on order for 679 more Avenger units.

Boeing is continuing tests to integrate missiles other than the U.S.-built Stinger on the Avenger units as part of an aggressive foreign sales effort in 1993.

RIGHT: A ONE-QUARTER SCALE MODEL OF THE U.S. ARMY'S PROPOSED RAH-66 COMANCHE HELICOPTER. A BOEING/SIKORSKY TEAM IS CURRENTLY DEVELOPING PROTOTYPES FOR THE NEW ATTACK/RECONNAISSANCE HELICOPTER.

The Inertial Upper Stage (IUS) space booster celebrated its tenth anniversary by deploying a Defense Support Program surveillance satellite in November 1992 and a NASA Tracking and Data Relay Satellite in January 1993. Boeing has delivered 23 IUS vehicles, the most reliable upper-stage booster rocket in the U.S. inventory, and has a long-lead contract to build three more for the U.S. Air Force.

#### PRODUCT SUPPORT

The company continued to streamline its product support programs and position itself for what is expected to be an increasingly competitive marketplace for derivative and upgraded defense systems.

Planning continued for the addition of conventional weapons systems to the B-1B bomber, as did ongoing B-1B avionics upgrade work. Engineering design began to enhance conventional weapons capabilities on the B-52H bomber fleet. A total of 43 KC-135 re-engined tankers were delivered during the year, while delivery rates were reduced from four to three per month in July 1992.

Maintenance and logistics support of the special air mission commercial derivative fleet, which includes the new Air Force One, continued under a unique "umbrella" contract that consolidates all engineering and support services under one management structure.

Design of the KC-135 refueling pod program for the French air force was completed and manufacture of the first production kit has begun.

The Navy A-6 composite wing contract was completed in 1992. Engineering, procurement, and parts manufacturing began for 120 additional wings under a \$588 million follow-on contract.



Boeing Computer Services supplies the company's need for advanced computing and telecommunications. The division also develops and manages large, complex information systems for the Department of Defense, NASA, and other federal government agencies.

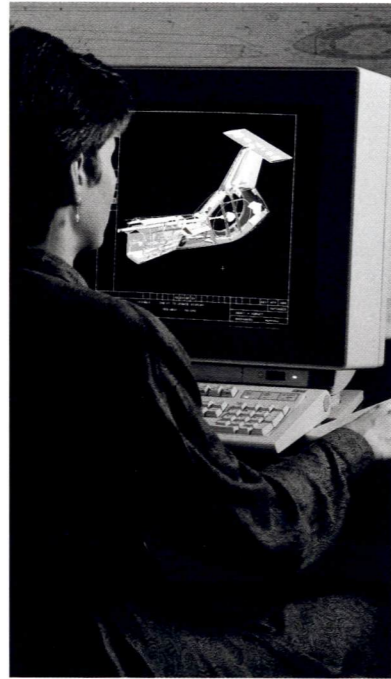
In 1992, one of the division's major responsibilities was to provide computer-aided design, computer-aided manufacturing, and systems integration for the 777 program.

One of the major goals of the 777 program is to achieve 100 percent digital product definition, digital pre-assembly and digital data exchange. In support of this goal, Computer Services electronically interconnected all Boeing facilities involved in the 777 program, as well as key suppliers and partners worldwide. This will improve the cost-efficiency of 777 development and production.

A key contribution in 1992 was the development and delivery of enhanced solid-model viewing of 777 design data. This feature greatly enhances the ability of engineers to detect and correct design errors prior to the manufacturing process.

Implementing the principles of Continuous Quality Improvement as a management tool has improved efficiency of operations and reduced the cost of information systems. The division has consolidated and streamlined its organization to provide better support to all internal and external customers.

The research and technology organization continued to develop stable, consistent technical processes — most notably in the area of software development, as well as transferring key computing technologies that will leverage improvements in performance, quality, and cost.



RIGHT: ARMY NATIONAL GUARD PERSONNEL ACCESS A NEW INFORMATION MANAGEMENT SYSTEM DESIGNED BY BOEING.

Computer Services continues to compete for U.S. Government business, and is pursuing selected contracts with NASA, the Department of Defense, and other agencies. The division serves as the system integrator and system operator for its external customers, and often employs other Boeing skills and experience to win and support its contracts.

In 1992, the division's sales and profit performance exceeded expectations. Boeing Computer Services, teamed with Grumman, won a NASA contract to provide information systems to the Johnson Space Center in Houston. During the year, contract extensions were granted on the Westinghouse/Department of Energy contract in Richland, Wash., and the U.S. Naval Weapons Center contract in China Lake, Calif.

For Computer Services it was a year of special accomplishment on its Reserve Component Automation System (RCAS) contract. RCAS is a 12-year contract, valued at \$1.8 billion, to enhance the readiness of Army Reserve and National Guard units by providing more timely and accurate mobilization planning information. In October, the RCAS program completed a key milestone, passing the "limited user test" phase of the implementation. Plans call for Boeing to install the system at more than 600 Army National Guard and Reserve Units in fiscal 1993.

The primary long-term mission of Boeing Computer Services is to provide effective computing and telecommunications support to the company's operating units. Reducing the cost of these services and improving the way these resources are used and managed are the major goals of the division.



Boeing is committed to being a good corporate neighbor and supports a wide range of educational, civic, cultural, and human service programs.

In 1992, Boeing and its employees contributed \$58 million to community projects. Corporate gifts totaled \$30.8 million, of which \$24.4 million was donated in cash, and \$6.4 million was given as in-kind donations, such as printing and computing services and gifts of equipment and supplies.

Boeing employees and retirees donated over \$27 million in 1992 through the Boeing Employees Good Neighbor Fund and the company's gift-matching program. Employees also made substantial contributions on an individual basis, and volunteered several million hours of their own time to support community programs.

For the seventh consecutive year, the largest portion of the company's corporate contributions went to support education. Boeing donated more than \$10 million to educational programs — which included support for colleges and universities, K-12 education and vocational programs.

#### SAFETY, HEALTH AND ENVIRONMENT

Boeing is committed to providing a safe and healthful workplace for its employees and protecting the environment.

More than 1,000 Boeing men and women are employed in Safety, Health and Environmental Affairs at the corporate, group and division levels.

Boeing continues to expand safety and health awareness among employees through training. Training is also a key thrust of the Health & Safety Institute managed jointly by Boeing and the International Association of Machinists.

The company wants to be among the industry leaders in pollution prevention. Boeing programs are aimed at cutting emissions, recycling, conserving energy and resources, and reducing or eliminating the use of hazardous materials. Environmental improvements have become an integral part of the Continuous Quality Improvement process at Boeing.

Boeing was one of the founding members of the Industry Cooperative for Ozone Layer Protection, and is active in the Global Environmental Management Initiative and the Pacific Northwest Pollution Prevention Center. In

1992, Boeing received a Stratospheric Ozone Protection Award from the U.S. Environmental Protection Agency for "exceptional contributions to global environmental protection." The Boeing Defense & Space Group was honored with a Washington state governor's environmental award for its innovative approach to chemical management.

#### EQUAL OPPORTUNITY EMPLOYMENT

Boeing is an equal opportunity employer and seeks to attract and retain the best qualified people, regardless of race, age, sex, religion, national origin, or veteran status. Our affirmative action plan includes programs that promote the active recruitment of a diverse workforce.

#### SMALL BUSINESS PROGRAMS

For more than 40 years, Boeing has had one of the most active efforts in the aerospace industry to provide small and minority-owned firms with an equitable opportunity to compete for Boeing contracts. Subcontract awards to small and minority-owned businesses exceeded \$2.3 billion in 1992.

*In 1992,  
Boeing and its  
employees  
contributed  
\$58 million to  
community projects,  
including more  
than \$10 million  
to educational  
programs.*

RIGHT: VISITORS ENJOY THE NEW BOEING TROPICAL FOREST EXHIBIT AT SEATTLE'S WOODLAND PARK ZOO. NAMED IN HONOR OF THE COMPANY'S LONG-TIME SUPPORT, THE EXHIBIT FEATURES MORE THAN 12,000 TROPICAL PLANTS AND ANIMAL SPECIES.



<b>CONTENTS</b>	
MANAGEMENT'S DISCUSSION & ANALYSIS	21
REPORT OF MANAGEMENT	33
INDEPENDENT AUDITORS' REPORT	33
CONSOLIDATED STATEMENTS OF NET EARNINGS	34
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION	35
CONSOLIDATED STATEMENTS OF CASH FLOWS	36
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS	37
QUARTERLY FINANCIAL DATA	50
FIVE YEAR SUMMARY	51

**RESULTS OF OPERATIONS**

REVENUES

Operating revenues for 1992 were \$30.2 billion compared to \$29.3 billion and \$27.6 billion for 1991 and 1990, respectively. Commercial transportation products and services accounted for 80%, 78% and 77% of total operating revenues for the three years, and the Company's commercial jet transport market share was approximately 60% in terms of sales value for each year.

Aircraft deliveries by model:

	1992	1991	1990
737	218	215	174
747	61	64	70*
757	99	80	77
767	63	62	60
Total commercial	441	421	381
707 military derivatives	5	14	4
Total jet transports	446	435	385
Commuter aircraft**	6	59	64

\* Includes two Air Force One units

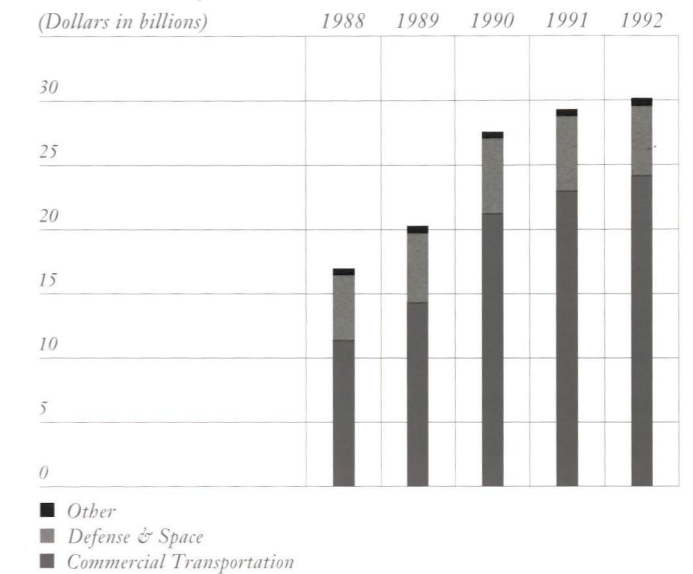
\*\* The de Havilland commuter aircraft division was sold in March 1992

The last 707 military derivative aircraft for the Airborne Warning and Control System (AWACS) was delivered in 1992, ending the 707 production line at 1,010 commercial and military derivative 707s.

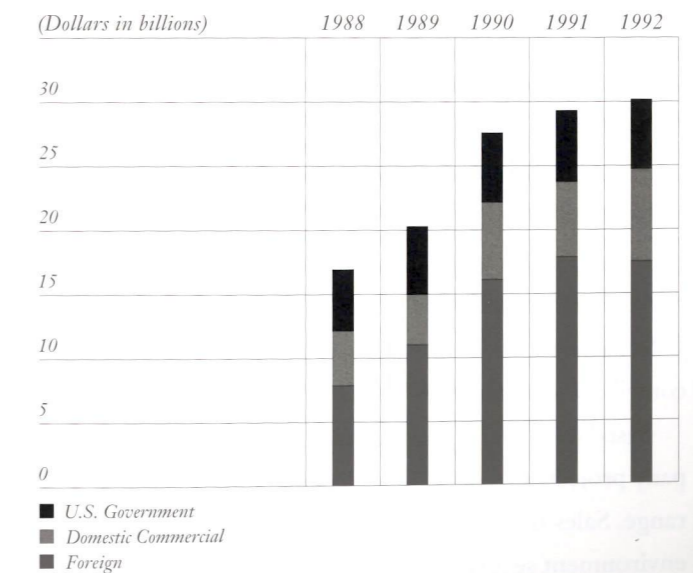
Commercial production rates will be sharply reduced during 1993, from 32½ aircraft per month at the beginning of the year to 23 per month by the end of the year based on current schedules. Production rate reductions in 1993 are planned as follows: the 737 program from 14 to 10 per month in the fourth quarter; the 757 program from 8½ to 5 per month in two steps during the year; and the 767 program from 5 to 3 per month in the fourth quarter. The 747 program planned production rate remains at 5 per month during 1993, but is scheduled to be reduced to 3 per month in the second quarter of 1994.

Commercial jet transport deliveries for 1993 are currently projected to total approximately 340.

Sales by class of product:



Sales by type of customer:



Defense and space segment revenues were \$5.4 billion for 1992, down from the \$5.8 billion level for the prior two years. The Company's defense and space business is broadly diversified, and no single program accounted for more than 16% of total 1990 - 1992 defense and space business revenues.

The Company has discontinued the separation of its defense and space operations for industry segment reporting to better reflect the integrated nature of the market and internal operations of the previously segregated military transportation products and related systems segment and the missiles and space segment. The organizational consolidation of the Company's various defense and space divisions into the Defense & Space Group in 1990 reflects the singular nature of this business segment within the Company. Because of common market, product and process characteristics, continued segmentation under the previous classifications would not be meaningful. No single product line within the defense and space industry segment represents more than 10% of consolidated revenue, operating profit or identifiable assets.

The principal defense and space programs, based on 1992 revenues, included B-2 bomber subcontract work, Space Station Freedom work packages, CH-47 helicopter, F-22 Advanced Tactical Fighter, E-3 AWACS, KC-135 tanker update modifications, V-22 Osprey tiltrotor transport, RAH-66 Comanche helicopter, E-6 submarine communications aircraft, Avenger air defense system, A-6 re-wing, B-1B bomber avionics, Inertial Upper Stage rocket booster, and Minuteman and Peacekeeper support. U.S. Government classified projects also continue to contribute to defense and space segment revenues.

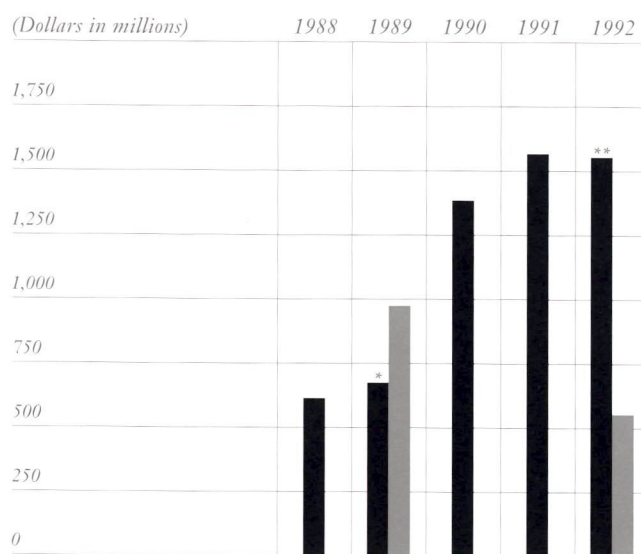
Based on current programs and schedules, the Company projects total 1993 sales to be in the \$26 billion range. Sales trends are discussed further in the market environment section that follows.

#### EARNINGS

In the fourth quarter of 1992, the Company elected to implement the new Financial Accounting Standards Board (FASB) accounting requirement for retiree health care. The FASB's Statement of Financial Accounting Standards (SFAS) No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions*, requires accrual of retiree health care costs during an employee's service period. Previous Boeing practice was to accrue retiree health care liability upon an employee's retirement. The Company also elected to record the one-time cumulative adjustment, representing retiree health care costs attributed to prior years, rather than amortize the transition adjustment over the current and future years.

The new accounting standard results in a higher level of retiree health care costs to be recognized annually; however, there will be no impact on the Company's anticipated cash flow requirements as there are no current plans to fund the accrued obligation.

Net earnings:



■ Net earnings (before accounting change for 1989 and 1992)  
 ■ Net earnings after accounting change  
 \* Earnings before the cumulative effect of adopting SFAS No. 96  
 \*\* Earnings before the cumulative effect of adopting SFAS No. 106

Net earnings for 1992 on a comparable basis with the prior two years were as follows:

(Dollars in millions)	1992	1991	1990
Net earnings on a comparable basis	\$1,635	\$1,567	\$1,385
After-tax effect of SFAS No. 106 accounting change for retiree health care:			
Cumulative adjustment for transition obligation	(1,002)		
Current period cost	(81)		
Net earnings as reported	\$ 552	\$1,567	\$1,385

The \$68 million increase in net earnings for 1992 compared to 1991, excluding the effect of the SFAS No. 106 accounting change, was primarily due to increased commercial aircraft sales and improved cost performance (particularly in the defense and space segment), partially offset by higher research and development expense (principally increased 777 program expenditures), lower interest income and a higher effective federal income tax rate.

The \$182 million increase in net earnings for 1991 compared to 1990 was primarily due to increased commercial aircraft sales, a lower defense and space segment operating loss and a lower effective federal income tax rate. The above items were partially offset by higher research and development expense (principally increased 777 program expenditures) and lower interest income.

Net earnings for 1990 were \$710 million higher than 1989 earnings (excluding the effect of the 1989 adoption of Statement of Financial Accounting Standards No. 96, *Accounting for Income Taxes*, which increased 1989 earnings by \$298 million) primarily due to increased sales volume and operating margins on commercial transport programs, a lower defense and space segment operating loss, and higher other income, principally investment gain.

The increase was partially offset by an operating loss in the other industries business segment and a higher effective federal income tax rate.

The defense and space segment, after incurring substantial operating losses in 1989 and 1990 aggregating nearly \$900 million, regained profitability by the fourth quarter of 1991 through organizational consolidation and restructuring, termination of certain fixed-price development contracts and better technical, cost and schedule performance. This improved performance trend continued in 1992, resulting in an operating profit of \$204 million for 1992 compared to an operating loss of \$102 million for the year 1991.

Reduced consolidated sales trends beginning in the second half of 1992, coupled with continued high levels of research and development expenditures, resulted in lower second-half earnings in 1992 compared with 1991. These trends will continue in 1993.

The effective federal income tax rates were 31.1%, 28.9% and 29.8% for 1992, 1991 and 1990, respectively. Relative to the statutory rates, the lower effective tax rates for the three years were due primarily to tax-exempt income benefits from export sales, and research and development benefits in 1991. (See Note 6 to the Consolidated Financial Statements.)

Essentially all of the Company's business is performed under binding long-term contracts for products built to customer specifications. Therefore, the effect of changing prices on the results of operations is minimal.

Additional information relating to sales and earnings contributions by business segment can be found in Note 14 to the Consolidated Financial Statements.

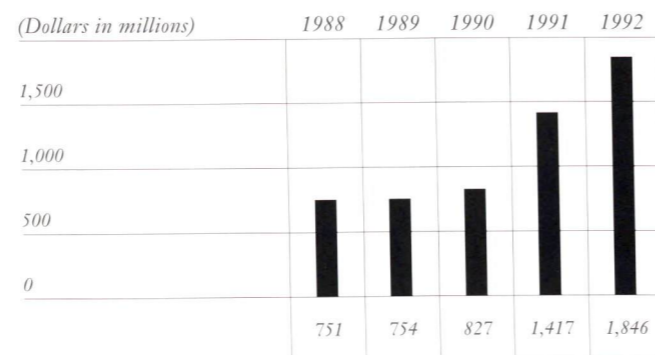
RESEARCH AND DEVELOPMENTAL ACTIVITIES

Research and development expenditures charged directly to earnings include design, developmental and related test activities for new and derivative commercial jet transports, other company-sponsored product development and improvements, and basic research and development and process development activities not recoverable under Government flexibly priced contracts.

The principal commercial developmental program during 1991 and 1992 has been the new 777 wide-body twinjet which is scheduled for rollout in early 1994 and first customer delivery in mid-1995. Major elements of the 777 testing program, including flight control tests performed on a modified 757 and component fatigue tests, have been successfully completed. However, significant design and laboratory test activities in the areas of avionics, flight controls, software integration and development of derivative features will be continuing over the next several quarters. Production and assembly of structures and systems for the new 777 have begun at Boeing facilities, as well as those of suppliers throughout the world. Another ongoing commercial developmental program, the freighter version of the 747-400, has been in development since 1989 and will be certified in the fourth quarter of 1993. The development of a 767-300 freighter has begun with the recent order from United Parcel Service for 30 of the aircraft, with first delivery in late 1995.

The principal developmental programs in the defense and space segment are funded principally under cost-type contracts and include the Space Station Freedom work packages, F-22 Advanced Tactical Fighter, V-22 Osprey tiltrotor transport and RAH-66 Comanche helicopter.

Research and development charged directly to earnings:



The increases in research and development charges in 1992 and 1991 were principally attributable to the 777 program. The 1990 increase was also primarily due to the 777 program, offset by a reduction in the developmental charges for the F-22 fighter program which had been only partially funded by the U.S. Government. Research and development expense for 1993 is projected to be in the \$1.7 billion range, including early design activities for the freighter version of the 767-300.

DISPOSITIONS

In March 1992, the Company completed the sale of Boeing of Canada de Havilland Commuter Aircraft Division to Bombardier, Inc. and the province of Ontario for \$50 million, resulting in a nominal book gain. During 1990, Boeing sold its 15% interest in Peabody Holding Company, Inc., the parent of Peabody Coal Company, for \$168 million, resulting in a \$74 million gain.

LABOR CONTRACTS

Three-year labor agreements were reached in the fourth quarter of 1992 with the International Association of Machinists and Aerospace Workers and the United Auto Workers, representing approximately 50,000 employees and 98% of all hourly employees. Labor contract negotiations with the Seattle Professional Engineering Employees Association (SPEEA), representing approximately 28,000 engineering and technical employees, reached an

impasse in December after union members rejected the Company's offer. The Company implemented certain provisions of its final contract proposals to SPEEA prior to year end. In February 1993, SPEEA members voted to accept the Company's offer.

CONTINUOUS QUALITY IMPROVEMENT

The Company remains strongly committed to continuous quality improvement in all aspects of its business. Major long-term productivity gains are being aggressively pursued as substantial resources have been and will continue to be invested in training, restructuring of processes, and technology.

In connection with the 777 developmental program, such measures have included early application of substantial resources for design/build teams, design interface with customer functional representatives, use of advanced three-dimensional digital product definition and digital pre-assembly computer systems, and increased use of automated manufacturing processes. Although these measures have required significant current investments, substantial long-term benefits are anticipated from reductions in design changes, less rework, and improved quality of supplier and internally manufactured parts. Production of major 777 components began during 1992, and initial tests indicate that, as a result of the design/build team and computer-aided design processes, anticipated quality and efficiency benefits in fabrication and assembly are achievable.

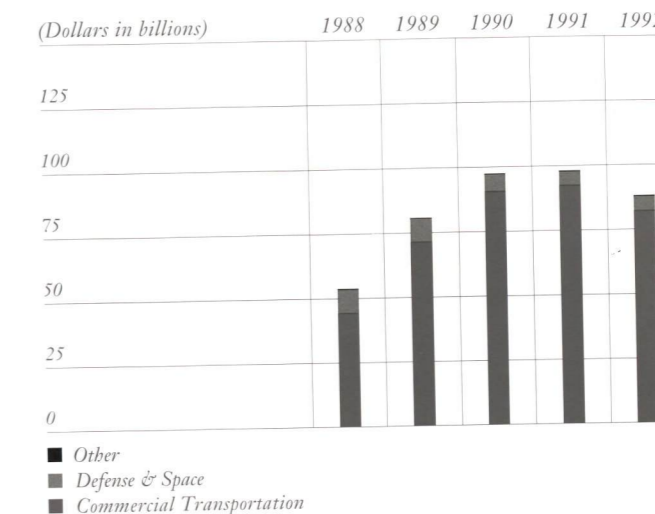
Major process improvements and promising pilot projects are also being pursued on existing commercial and military programs to improve quality, reduce inventory and shorten cycle times.

The Company has always maintained a strong focus on customer needs, including product capabilities, technology, in-service economics and product support. In addition to the quality and cost considerations discussed above, increased emphasis continues to be placed on

being attentive to the product needs of our commercial and government customers.

BACKLOG

Firm backlog:



Total firm backlog of unfilled orders at December 31, 1992, was \$87.9 billion, compared with \$97.9 billion at the end of 1991. Of the total December 31 backlog, \$82.6 billion or 94% was for commercial customers (including foreign governments) and \$5.3 billion or 6% was for the U.S. Government. Comparable figures at the end of 1991 were \$92.8 billion or 95% commercial, and \$5.1 billion or 5% U.S. Government.

In evaluating the Company's firm backlog for commercial customers, certain risk factors should be considered. Approximately 55% of the firm backlog for commercial jet airplanes is scheduled to be delivered after 1994, including all 777 aircraft. 777 deliveries begin in 1995. A continuation of the weak economic environment in many areas of the world could result in additional customer requests to negotiate the rescheduling or possible cancellation of firm orders.

Not included in firm backlog are purchase options and announced orders for which definitive contracts have not been executed and orders from customers which

have filed for bankruptcy. U.S. Government and foreign military firm backlog is limited to amounts obligated to contracts. If recognition were given to unobligated amounts under Government contracts, unfilled orders at December 31, 1992, would be increased by \$7.6 billion.

## MARKET ENVIRONMENT

### COMMERCIAL AIRCRAFT

The worldwide market for commercial jet transports is predominantly driven by long-term trends in airline passenger traffic. The principal factors in long-term traffic growth are sustained economic growth in developed and emerging markets and political stability. Demand for the Company's products is further influenced by profitability of the airline industry, the globalization and consolidation of the industry, airport and air traffic control infrastructure, noise regulations, product development and strategy, and price and other competitive factors.

In the near term, the cyclical impacts of the worldwide economic slowdown and political instability in certain areas of the world have resulted in interruptions in long-term trends in traffic growth and reduced revenue yields. The resulting lack of profitability for many of the world's largest airlines, combined with surplus capacity, has resulted in some cancellations and customer requests to reschedule a significant number of order and option delivery positions. Although there have been recent encouraging signs about U.S. economic growth and improving passenger traffic that should assist airlines in restoring profitability, fewer deliveries of jet transports are projected over the next few years compared with the Company's all-time delivery records in 1991 and 1992.

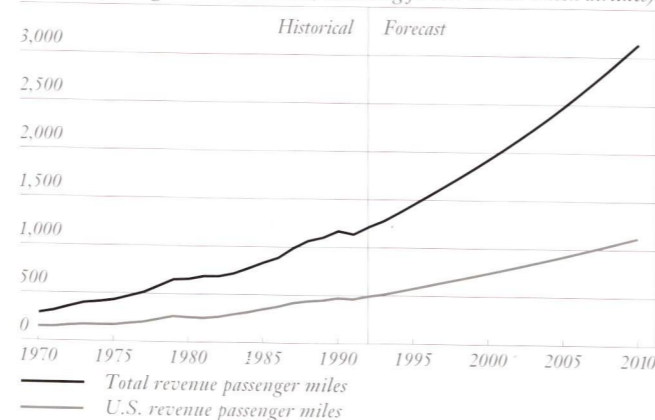
World airline passenger traffic declined in 1991, due principally to the Persian Gulf War, the first decline since the start of the jet era. However, during 1992

airline passenger traffic was approximately 8% higher than the depressed levels of 1991 for the 20 largest airlines in the world, excluding Aeroflot of the former Soviet Union. Worldwide international passenger traffic increased approximately 13%. Relative to 1990 levels, 1992 worldwide airline passenger traffic represented an increase of approximately 4%.

U.S. airlines shared in these passenger traffic gains, but aggressive price discounting resulted in lower net revenue yield and significant operating losses in the aggregate. Profitability of non-U.S. airlines has also been adversely affected by the current weak economic environment in most areas of the world.

World air travel:

(Revenue passenger miles in billions, excluding former Soviet Union airlines)



The above graph shows the growth in air travel as measured by revenue passenger miles from 1970 through 1992, and the Company's forecast of air travel through the year 2010. The forecasted revenue passenger miles represent an average annual growth rate of somewhat more than 5%, producing a doubling of traffic by the year 2005.

Based on this long-term forecast of air traffic growth outside the former Soviet Union, together with airline requirements to replace older aircraft, the Company estimates the total commercial jet transport market through the year 2010, including existing aircraft orders,

at over \$800 billion in 1993 dollars. However, the realization of this market forecast under economically rational circumstances depends on the customer airlines' ability to achieve reasonable levels of profits over the long-term.

The domestic and international airline industry in aggregate achieved a general long-term growth trend of positive operating profits from 1970 through 1989, although with significantly reduced operating profits or operating losses during the 1979 - 1983 period. That long-term profitability trend has again been seriously disrupted, especially with respect to the major U.S. airlines. Over the past three years, the U.S. airlines in aggregate have incurred very substantial losses. Additionally, the major non-U.S. airlines experienced operating losses in the aggregate during 1992.

Until the airline industry can achieve sustained levels of acceptable profitability, future orders of the Company's commercial jet transports will be restricted. Many airlines have taken aggressive cost-reduction measures, and the airline industry has continued to move toward more consolidation and integration of operations. These actions, coupled with rational fare structures and continued passenger traffic growth, are important factors in returning the airline industry to profitability and improved financial health.

As all jet transport manufacturers face declining production rates, competitive pressures for new orders continue to be intense in terms of pricing and other conditions. With respect to pricing pressures, the Company's continuous quality improvement program and cost reduction efforts are intended to enable the Company to maintain market share at satisfactory margins.

Some progress has been made in attempting to limit government subsidies to the Company's major foreign jet transport competitor through new restrictions incorporated in the General Agreement on Tariffs and Trade (GATT). In July 1992, the U.S. Government and the

European Community announced agreement on the new GATT terms limiting direct European government subsidies to 33% for the development of commercial aircraft and prohibiting government production loans and government subsidized sales arrangements. While Boeing would have preferred a ban on all government subsidies for commercial airplane programs, the controls embodied in the agreement will help reduce the substantial advantages government support has provided the Company's European competitor. In the longer term, privatization of the aircraft manufacturing industry worldwide remains the Company objective in order to maintain fair competition.

The aircraft manufacturing industry in the former Soviet Union (FSU) can be expected to capture the predominant share of the future FSU market, although current instability makes that market environment unpredictable. However, the Company believes the FSU market is large and diverse, and presents significant sales opportunities over the forecast period. With regard to the commercial jet transport market outside the FSU, the FSU aircraft manufacturing industry, as well as those in certain Asian countries, has the potential of increasing competition, either independently or through alliances. Although this represents an added degree of uncertainty, the Company believes it will be able to maintain its long-term favorable market share through its wide range of product offerings, its broad-based network of domestic and international suppliers and participants, and continued emphasis on quality and continuous process improvements.

Approximately 700 commercial jet transports on average were in storage status during 1992. Due to noise constraints and the inferior operating economics of older aircraft, only about one-half of the stored aircraft are expected to be put back into commercial service. Approximately 70% of the inactive aircraft do not meet the Federal Aviation Administration's more stringent



Stage III noise requirements and have an average age of well over 20 years. The average age of the inactive aircraft meeting Stage III noise requirements is approximately 10 years. The excess capacity represented by these inactive aircraft has contributed to the production rate reductions already made and those planned for 1993 and the first half of 1994.

Nearly half of the total current world fleet does not meet noise requirements scheduled to come into effect by the end of the decade. Compliance with the new requirements, where feasible, requires costly modifications to older aircraft. The Company estimates that these costs, coupled with the increasing maintenance costs and inferior operating economics associated with older aircraft, will result in the retirement of approximately 3,500 commercial jet transports before the year 2010.

The Company's commercial product development strategy is to maintain a broad product line and to respond to changing market conditions by maximizing commonality within and across the Boeing family of airplanes. The Company expects to continue leading the industry in customer satisfaction by offering products that exhibit the highest standards of quality, safety, technical excellence, economic performance and in-service support.

The major focus of current product development activities continues to be the 777 wide-body twinjet program which is scheduled to enter airline service in mid-1995. The 777 is designed to meet airline requirements for an efficient, comfortable, high-capacity airplane to be used in domestic and intra-regional markets. A longer range version of the 777 is being offered for delivery in late 1996, and the aircraft could be developed for greater capability, including additional range and a stretched fuselage. During 1992, six customers announced orders for 42 777s and options for 20 777s, bringing cumulative 777 announced orders from 11 airlines to 118 and options for an additional 95.

The Company continually evaluates opportunities to improve current models, and conducts ongoing marketplace assessments to ensure that its family of jet transports is well positioned to meet future requirements of the airline industry. As part of this program, the Company is assessing the market potential for new or derivative aircraft that are larger and have more range than the 747-400. Because of a relatively limited market and the heavy investment levels required, the Company signed an agreement with four European aerospace companies in January 1993 to study the feasibility of developing an aircraft capable of carrying between 550 and 800 passengers. The Company continues its independent research into the feasibility of a stretched 747 that can carry as many as 500 passengers and is evaluating potential configurations for an all new aircraft capable of carrying 600 or more passengers. At the other end of the passenger-capacity spectrum, the Company continues to study the feasibility of additional 737 derivatives.

While product development activities are predominantly oriented toward maintaining and enhancing the competitiveness of the Boeing subsonic fleet, the Company is also involved in studies to understand the technological and economic issues associated with development of commercial supersonic aircraft.

Total new announced orders for commercial jet transports for the year 1992 were valued at \$17.8 billion compared to \$20.6 billion for 1991, maintaining the Company's market share in the 60% range. Excluding leasing company orders, more than 80% of the 1992 announced orders were from non-U.S. airlines.

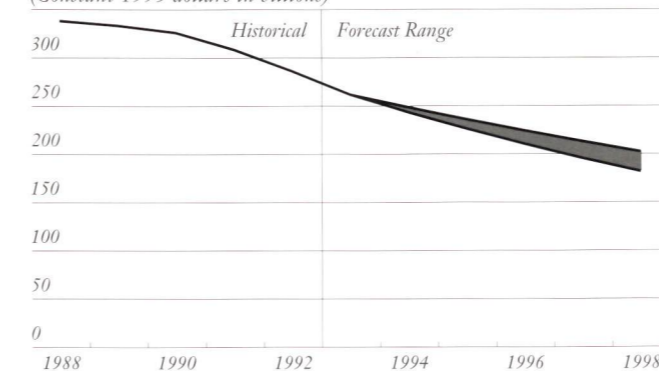
In summary, although significant market uncertainties exist, especially with respect to near-term economic conditions, the airline industry's profitability and financial health, and the intense competitive environment, the Company believes the long-term market outlook remains favorable. However, the airline industry must attain adequate levels of profitability over the long term to be

able to meet their equipment acquisition requirements for such growth. The Company is well positioned in all segments of the commercial jet transport market, and intends to remain the airline industry's preferred supplier through emphasis on quality processes, customer satisfaction and product offerings.

#### DEFENSE AND SPACE

U.S. Government defense budget:

(Constant 1993 dollars in billions)



The end of the Cold War, changing defense priorities and severe federal government budget pressures have significantly changed the market environment for the defense and space segment. Over the three-year period 1990 - 1992, total U.S. Government defense and space funding declined 23% in inflation-adjusted dollars, and is expected to decline at least 8% in 1993 and 5 - 7% annually for the next several years. As a consequence, some of the Company's programs have been subject to stretch-out, curtailment or termination. Defense and space revenues for the next several years are expected to be 20 - 30% lower than the average sales level achieved in the prior three years. Although a number of programs remain subject to future stretch-out and curtailment, the Company's defense and space business is broadly diversified and includes a number of priority developmental programs and candidate programs for system upgrade or modification. Internationally, defense budgets have also

moderated; however, there continue to be opportunities for the sale of Boeing systems to foreign governments.

Fiscal year 1993 congressional appropriations important to the Company's defense and space programs for 1993 and future years included funding for the final units of the B-2 bomber program, and the developmental programs for the F-22 fighter, RAH-66 Comanche helicopter, V-22 Osprey tiltrotor aircraft and Space Station Freedom. Production activity for the last B-2 production unit will be substantially completed by the first quarter of 1994. The V-22 development effort by the Boeing and Bell Helicopter Textron team has transitioned to a newly defined program with initial funding of \$550 million for the team effort. In early 1993, a restructured \$2 billion demonstration/validation program was approved for the RAH-66 Comanche helicopter being developed by the Boeing/Sikorsky team.

A larger percentage of the Company's defense and space business will be under cost-reimbursement type contracts over the next few years compared to the 1990 - 1992 period, including major developmental programs such as the F-22, RAH-66, V-22 and Space Station Freedom.

In addition to the above mentioned developmental programs, other major revenue-producing programs for 1993 include continuing B-2 bomber subcontract work, production and remanufacturing of CH-47 helicopters, production of the Avenger air defense system, updating and modifying various military aircraft, low-rate production of Inertial Upper Stage space boosters, other program support, and classified project activities.

Due to shifting defense priorities, the P-3 Update IV development program, an advanced avionics system for the Navy's P-3C Orion Aircraft, was terminated for convenience by the U.S. Government in the fourth quarter of 1992. Program terminations for convenience during 1991 included the Short Range Attack Missile (SRAM II), the Rail Garrison basing mode for the

Peacekeeper Intercontinental Ballistic Missile (ICBM), and the Small ICBM Hard Mobile Launcher and Weapon Control System.

Boeing is currently marketing a new version of the Airborne Warning and Control System (AWACS) on a 767 airframe platform. The government of Japan would be the initial customer for the 767-based AWACS. If sufficient orders are obtained, the program could be launched in 1993. Upgrade and modification programs continue for previously delivered AWACS.

The changing defense and space market is characterized by aggressive competition for the fewer opportunities that remain and significant restructuring throughout the industry in the form of consolidations, acquisitions, relocations and organizational realignment. The Company continues to examine whether its long-term strategy is best pursued through internal means or through acquisitions, dispositions or alliances. During 1991 and 1992, a major organizational consolidation and restructuring of the Company's various defense and space divisions was accomplished, successfully positioning the new Defense & Space Group to effectively compete in this new market environment. Joint-venture arrangements with other companies are expected to continue to be common for major developmental programs and the follow-on production activities. Currently, the Company's activities in the F-22, V-22 and RAH-66 developmental programs are under joint-venture arrangements.

#### OTHER BUSINESS ACTIVITIES

Other business activities in 1992 include computing and management services conducted by Boeing Computer Services, principally for governmental agencies, and management of the U.S. Government's strategic petroleum reserve program. Operating profits for these activities were \$27 million in 1992, following operating losses of \$2 million and \$66 million for 1991 and 1990, respectively. The Company has elected not to continue its

involvement with the strategic petroleum reserve program in 1993. Boeing Computer Services sales are projected to continue in the \$0.5 billion range and are expected to remain profitable.

#### LIQUIDITY AND CAPITAL RESOURCES

The primary factors that affect the Company's investment requirements and liquidity position, other than operating results associated with current sales activity, include the timing of new and derivative commercial jet transport programs which require both high developmental expenditures and initial inventory buildup; cyclical growth and expansion requirements; and requirements to provide customer financing assistance. Another major factor over the last several years and projected for the next several years is the effect of changes in the federal income tax regulations, principally with respect to completed contract tax reporting. These changes have resulted and will continue to result in a substantial acceleration of tax payments.

Cash flow from operating activities during 1992 was adequate to cover the record level of investments in new facilities and equipment of \$2.2 billion and increased customer financing of \$1.1 billion. Cash and short-term investments net of borrowings were \$1.8 billion at year-end 1992, representing a slight decrease from the prior year end. Over the three-year period 1990 - 1992, cash and short-term investments net of borrowings increased by \$0.2 billion, during which time \$1.0 billion had been distributed to shareholders through dividends and another \$0.4 billion was used for stock repurchases.

The principal components of cash flow from operating activities for 1992, in addition to the \$2.5 billion cash flow from earnings (after adding back depreciation and amortization), included reductions in U.S. Government receivables related to defense and space activity and increases in

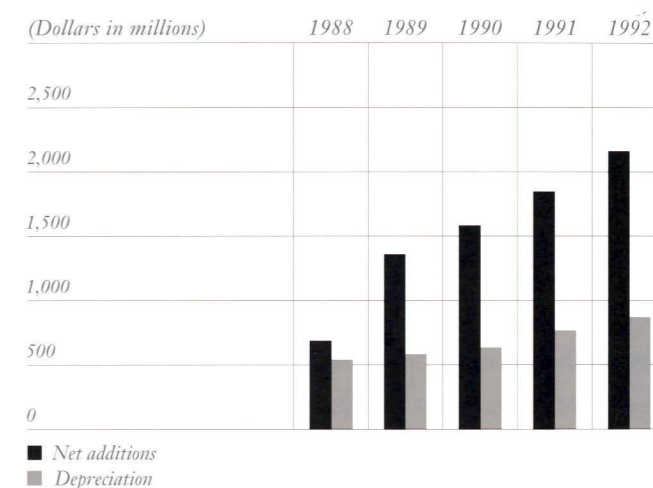
accounts payable due to a higher mix of payables with longer payment terms. Inventory balances on the 737, 747, 757 and 767 commercial transport programs declined due to production rate changes and improvements in production inventory flowtimes, partially offset by inventory and tooling buildup for the new 777 program. The inventory reductions were further offset by reduced levels of customer advances and progress payments relative to gross inventory balances, resulting in total inventories net of customer advances remaining virtually unchanged during 1992. Net reductions of \$0.5 billion and \$1.6 billion occurred during 1991 and 1990, respectively. The substantial reduction in 1990 was primarily due to liquidation of abnormally high jet transport inventories accumulated during the 1989 labor strike. Substantial inventory buildup for 777 production and tooling will occur over the next two years, leading to first customer deliveries in mid-1995. The increased level of investment in 777 program inventory should be partially offset by lower gross inventory balances on other programs due to production rate changes and inventory flowtime improvements.

Completion of certain contracts that qualify for completed contract tax reporting under prior federal income tax regulations will likely result in substantially higher tax payments in the 1993 - 1995 time period, by which time all of the Company's long-term contracts will be covered by current federal income tax regulations. Federal income tax payments for the period 1993 - 1995 could exceed income tax expense for the same period by more than \$1.0 billion.

Investing activities, as defined for the Statement of Cash Flows, have related primarily to facilities expansions, including technical and productivity equipment requirements, and customer financing. Facilities and equipment expenditures were \$2.2 billion in 1992 and \$5.6 billion for the three-year period 1990 - 1992. This relatively high level of investment was largely related to

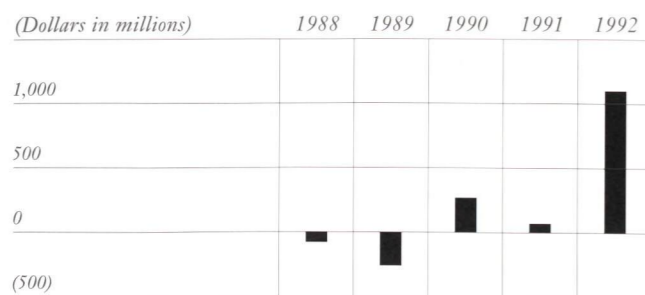
supporting increased jet transport production rates in 1990 and 1991 and facilities requirements for the new 777 program. The 777 program facilities expansions will be substantially completed in 1993. Annual plant and equipment additions over the next two years are projected to be approximately one-third below the 1992 expenditure level.

Property, plant and equipment:



Net customer financing increased \$1.1 billion in 1992 compared to a net increase of \$0.3 billion for the prior two years combined. The current commercial transport market environment continues to result in significant customer financing assistance requirements. The Company has existing commitments to customers totaling \$4.4 billion to arrange or provide financing related to aircraft on order or under option scheduled for delivery through 1999. Outstanding loans and commitments are predominantly to investment-grade borrowers, and all financing is secured by the underlying aircraft. The Company will sell a portion of customer financing assets from time to time when capital markets are favorable in order to maintain maximum capital resource flexibility to meet the substantial resource requirements of major new development programs and potential growth opportunities.

Change in customer financing:



The Company issued \$0.4 billion of unsecured debt in 1992 and \$1.0 billion in 1991, with maturities ranging from 15 to 50 years. Total borrowings as of year-end 1992 amounted to 18% of total capital (stockholders' equity plus borrowings). The Company believes that it has substantial additional long-term borrowing capability.

The Company maintains a revolving credit line agreement with a group of major banks for \$3.0 billion. The agreement provides for scheduled availability of 50% of the credit line beginning July 1, 1993, increasing in 25% increments each six-month period until July 1, 1994. The credit remains fully available until June 30, 1998, then reduces to 50% on July 1, 1998, and expires on December 31, 1998.

In summary, the Company believes its internally generated liquidity together with access to external capital resources will be sufficient to satisfy existing commitments and plans, including providing adequate financial flexibility to take advantage of potential strategic business opportunities should they arise.

CONTINGENT ITEMS

As discussed in Note 13 to the Consolidated Financial Statements, the U.S. Government has terminated for alleged default most of the work required under contracts for a new Saudi Arabia air defense system known as the Peace Shield program. The Government has demanded

that the Company repay \$605 million of Peace Shield unliquidated progress payments and has selected another contractor to perform the terminated work. Management believes that the Government's grounds for default are not legally supportable and on appeal, the Government's position will be overturned. In February 1991, the Company submitted a request for a deferred payment agreement which, if granted, would formally defer the Company's potential obligation to repay the \$605 million of unliquidated progress payments until the conclusion of the appeal process. The Company has filed its complaint in the United States Claims Court to overturn the default termination, submitted a Contract Claim for equitable adjustment to the contract prices and schedules, and requested that repayment of the unliquidated progress payments be deferred. The Company's financial statements assume that the termination for default will be overturned and that the Contract Claim will be settled in the Company's favor. If the Company's appeal of the termination for default is not successful, the Company could realize a pre-tax loss on the program approximating the value of the unliquidated progress payments plus related interest and potential damages.

Also as discussed in Note 13 to the Consolidated Financial Statements, the Company continues to be subject to ongoing U.S. Government investigations of business practices and cost classifications from which civil, criminal or administrative proceedings could result. These proceedings could involve claims by the Government for damages, and under certain circumstances a contractor can be suspended or debarred from Government contracts. The Company is also involved in various stages of legal proceedings, claims, investigation and cleanup relative to environmental or natural resource matters. The Company does not believe, based upon all available information, that the outcome of the Government investigations and environmental legal matters will have a materially adverse effect on its financial position.

REPORT OF MANAGEMENT

TO THE STOCKHOLDERS OF THE BOEING COMPANY:

The accompanying consolidated financial statements of The Boeing Company and subsidiaries have been prepared by management who are responsible for their integrity and objectivity. The statements have been prepared in conformity with generally accepted accounting principles and include amounts based on management's best estimates and judgments. Financial information elsewhere in this Annual Report is consistent with that in the financial statements.

Management has established and maintains a system of internal control designed to provide reasonable assurance that errors or irregularities that could be material to the financial statements are prevented or would be detected within a timely period. The system of internal control includes widely communicated statements of policies and business practices which are designed to require all employees to maintain high ethical standards in the conduct of Company affairs. The internal controls are augmented by organizational arrangements that provide for appropriate delegation of authority and division of responsibility and by a program of internal audit with management follow-up.

The financial statements have been audited by Deloitte & Touche, independent certified public accountants, whose appointment was ratified by stockholder vote at the annual stockholders' meeting. Their audit was conducted in accordance with generally accepted auditing standards and included a review of internal controls and selective tests of transactions. The Independent Auditors' Report appears below.

The Audit Committee of the Board of Directors, composed entirely of outside directors, meets periodically with the independent certified public accountants, management and internal auditors to review accounting, auditing, internal accounting controls, litigation and financial reporting matters. The independent certified public accountants and the internal auditors have free access to this committee without management present.

*Frank Shrontz*

Frank Shrontz  
Chairman of the Board &  
Chief Executive Officer

*B. E. Givan*

B. E. Givan  
Senior Vice President &  
Chief Financial Officer

*T. M. Budinich*

T. M. Budinich  
Vice President &  
Controller

INDEPENDENT AUDITORS' REPORT

BOARD OF DIRECTORS AND STOCKHOLDERS, THE BOEING COMPANY:

We have audited the accompanying consolidated statements of financial position of The Boeing Company and subsidiaries as of December 31, 1992 and 1991, and the related statements of net earnings and cash flows for each of the three years in the period ended December 31, 1992. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of The Boeing Company and subsidiaries as of December 31, 1992 and 1991, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1992, in conformity with generally accepted accounting principles.

As discussed in Note 1 to the financial statements, in 1992 the Company changed its method of accounting for post-retirement benefits other than pensions.

*Deloitte & Touche*

Deloitte & Touche  
January 26, 1993  
Seattle, Washington

**CONSOLIDATED STATEMENTS OF NET EARNINGS**
*(Dollars in millions except per share data)*

<i>Year ended December 31,</i>	<i>1992</i>	<i>1991</i>	<i>1990</i>
<b>Sales</b>	\$30,184	\$29,314	\$27,595
Costs and expenses	28,144	27,360	26,065
<b>Earnings from operations</b>	<b>2,040</b>	<b>1,954</b>	<b>1,530</b>
Other income, principally interest	230	263	448
Interest and debt expense	(14)	(13)	(6)
<b>Earnings before federal taxes on income and cumulative effect of change in accounting</b>	<b>2,256</b>	<b>2,204</b>	<b>1,972</b>
Federal taxes on income	702	637	587
<b>Earnings before cumulative effect of change in accounting</b>	<b>1,554</b>	<b>1,567</b>	<b>1,385</b>
Cumulative effect to January 1, 1992, of change in accounting for postretirement benefits other than pensions	(1,002)		
<b>Net earnings</b>	<b>\$ 552</b>	<b>\$ 1,567</b>	<b>\$ 1,385</b>
<b>Earnings per share:</b>			
Before cumulative effect of change in accounting	\$ 4.57	\$ 4.56	\$ 4.01
Cumulative effect to January 1, 1992, of change in accounting for postretirement benefits other than pensions	(2.95)		
	\$ 1.62	\$ 4.56	\$ 4.01
<b>Cash dividends per share</b>	<b>\$ 1.00</b>	<b>\$ 1.00</b>	<b>\$ .95</b>

*See notes to consolidated financial statements.*
**CONSOLIDATED STATEMENTS OF FINANCIAL POSITION**
*(Dollars in millions except per share data)*

<i>December 31,</i>	<i>1992</i>	<i>1991</i>
<b>Assets</b>		
Cash and cash equivalents	\$ 2,711	\$ 2,938
Short-term investments	903	515
Accounts receivable	1,428	2,085
Current portion of customer financing	229	14
Deferred income taxes	115	140
Inventories	11,073	13,097
Less advances and progress billings	(8,372)	(10,465)
Total current assets	8,087	8,324
Customer financing	2,066	1,183
Property, plant and equipment, at cost	12,293	10,600
Less accumulated depreciation	(5,569)	(5,070)
Deferred income taxes	212	
Other assets	1,058	887
	\$18,147	\$15,924
<b>Liabilities and Stockholders' Equity</b>		
Accounts payable and other liabilities	\$ 5,248	\$ 5,165
Advances and progress billings in excess of related costs	639	667
Income taxes payable	232	26
Current portion of long-term debt	21	4
Total current liabilities	6,140	5,862
Deferred income taxes		355
Accrued retiree health care	2,004	301
Long-term debt	1,772	1,313
Contingent stock repurchase commitment	175	
Stockholders' equity:		
Common shares, par value \$5.00 - 600,000,000 shares authorized; 349,256,792 shares issued	1,746	1,746
Additional paid-in capital	418	583
Retained earnings	6,276	6,064
Less treasury shares, at cost - 1992 - 9,836,313; 1991 - 7,969,075	(384)	(300)
Total stockholders' equity	8,056	8,093
	\$18,147	\$15,924

*See notes to consolidated financial statements.*

**CONSOLIDATED STATEMENTS OF CASH FLOWS**
*(Dollars in millions)*

Year ended December 31,	1992	1991	1990
<b>Cash flows - operating activities:</b>			
Net earnings	\$ 552	\$ 1,567	\$ 1,385
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Effect of cumulative change in accounting for postretirement benefits other than pensions	1,002		
Depreciation and amortization -			
Plant and equipment	870	768	636
Leased aircraft, other	91	58	42
Deferred income taxes and investment credit	(26)	95	(118)
Gain/undistributed earnings - affiliates	(13)	1	(79)
Change in operating assets and liabilities -			
Accounts receivable	635	(41)	(233)
Inventories and other assets	(138)	458	1,529
Accounts payable and other liabilities	229	(140)	524
Advances and progress billings in excess of related costs	(28)	(416)	(362)
Federal taxes on income	206	(453)	227
Change in prepaid pension expense	(202)	(403)	56
Change in accrued retiree health care	184	40	30
<b>Net cash provided by operating activities</b>	<b>3,362</b>	<b>1,534</b>	<b>3,637</b>
<b>Cash flows - investing activities:</b>			
Change in short-term investments	(388)	623	(798)
Change in customer financing	(1,140)	(100)	(301)
Net additions to plant and equipment	(2,160)	(1,850)	(1,586)
Proceeds from sale of affiliates	50		168
Other	(19)	(3)	(13)
<b>Net cash used by investing activities</b>	<b>(3,657)</b>	<b>(1,330)</b>	<b>(2,530)</b>
<b>Cash flows - financing activities:</b>			
Debt financing	482	993	15
Stockholders' equity -			
Cash dividends paid	(340)	(343)	(328)
Treasury shares acquired	(109)	(127)	(156)
Stock options exercised, other	35	23	27
<b>Net cash provided (used) by financing activities</b>	<b>68</b>	<b>546</b>	<b>(442)</b>
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>(227)</b>	<b>750</b>	<b>665</b>
Cash and cash equivalents at beginning of year	2,938	2,188	1,523
<b>Cash and cash equivalents at end of year</b>	<b>\$ 2,711</b>	<b>\$ 2,938</b>	<b>\$ 2,188</b>

*See notes to consolidated financial statements.*
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
*Years ended December 31, 1992, 1991 and 1990*
*(Dollars in millions except per share data)*
**NOTE 1**
**SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**
**Principles of consolidation**

The consolidated financial statements include the accounts of all subsidiaries. Intercompany profits, transactions and balances have been eliminated in consolidation.

**Sales**

Sales under commercial programs and U.S. Government and foreign military fixed-price type contracts are generally recorded as deliveries are made. For certain fixed-price type contracts that require substantial performance over a long time period before deliveries begin, sales are recorded based upon attainment of scheduled performance milestones. Sales under cost-reimbursement contracts are recorded as costs are incurred and fees are earned. Certain U.S. Government contracts contain profit incentives based upon performance as compared to predetermined targets. Incentives based on cost are recorded currently. Other incentives are included in revenues when awards or penalties are established, or when amounts can reasonably be determined. Sales include revenues associated with customer financing activities.

**Inventories and cost of deliveries**

Inventoried costs on long-term commercial programs and U.S. Government and foreign military contracts include direct engineering, production and tooling costs, and applicable overhead. In addition, for U.S. Government fixed-price-incentive contracts, inventoried costs include research and development and general and administrative expenses estimated to be recoverable. Inventoried costs are generally reduced by the estimated average cost of deliveries.

For mature commercial programs, average cost of deliveries is based on the estimated total cost of units committed to production. For commercial programs in the early production stages, average cost of deliveries is based on the estimated total cost of units representing what is believed to be a conservative market projection. For U.S. Government and foreign military contracts, average cost of deliveries is based on the estimated total cost of contractual units. To the extent the total of such

costs is expected to exceed the total estimated sales price, charges are made to current earnings to reduce inventoried costs to estimated realizable value.

In accordance with industry practice, inventoried costs include amounts relating to programs and contracts with long production cycles, a portion of which is not expected to be realized within one year.

Commercial spare parts and general stock materials are stated at average cost not in excess of realizable value.

**Research and development, general and administrative expenses**

Research and development (including the Company-sponsored share of research and development activity conducted in connection with cost-share contracts) and general and administrative expenses are charged directly to earnings as incurred except to the extent estimated to be directly recoverable under U.S. Government flexibly priced contracts.

**Interest expense**

Interest and debt expense is presented net of amounts capitalized. Interest expense is subject to capitalization as a construction-period cost of property, plant and equipment and major commercial program tooling.

**Postretirement benefits**

The Company's funding policy for pension plans is to contribute, at a minimum, the statutorily required amount to an irrevocable trust. Benefits under the plans are generally based on years of credited service, age at retirement and average of last five years' earnings. The actuarial cost method used in determining the net periodic pension cost is the projected unit credit method.

In the fourth quarter of 1992, the Company adopted retroactive to January 1, 1992, the provisions of Statement of Financial Accounting Standards (SFAS) No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions*, using the immediate recognition transition option. SFAS No. 106 requires accrual of these benefits during an employee's service period. Prior to 1992, postretirement benefits consisting of retiree health care were accrued for eligible retirees and qualifying dependents. The effect of the immediate recognition of

the transition obligation was a decrease to 1992 earnings on an after-tax basis of \$1,002, or \$2.95 per share based on the annual average shares outstanding. This accounting change increased 1992 pre-tax costs by \$123. The retiree health care obligation is unfunded.

**Taxes on income**

In 1992, the Company adopted the provisions of Statement of Financial Accounting Standards (SFAS) No. 109, *Accounting for Income Taxes*. Under the asset and liability method prescribed by SFAS No. 109, deferred income taxes are provided for the temporary differences between the financial reporting basis and the tax basis of assets and liabilities. These deferred taxes are measured by the provisions of currently enacted tax laws. Because the Company had previously adopted SFAS No. 96, the adoption of SFAS No. 109 does not have a material effect on the Consolidated Statements of Net Earnings. The current and long-term classifications of the deferred balances as of December 31, 1991, have been restated in conformity with the provisions of SFAS No. 109.

State taxes on income, which are relatively minor in amount, are included in general and administrative expense.

**Cash and short-term investments**

Cash and cash equivalents consist of highly liquid instruments such as certificates of deposit, time deposits, treasury notes and other money market instruments which generally have maturities of less than three months. Short-term investments are carried at cost, which approximates market value.

**Capital assets**

Property, plant and equipment are recorded at cost and depreciated over useful lives, principally by accelerated methods. Applicable interest costs are capitalized with respect to plant and equipment additions.

**Contingent stock repurchase commitment**

The Company has issued put options on 5,000,000 shares of its stock, callable on specific dates in 1994, giving another party the right to sell shares of Boeing stock to the Company at contractually specified prices. The balance of the temporary equity account is the amount

the Company would be obligated to pay if all the put options were exercised. The proceeds from the issuance of the put options were accounted for as paid-in capital.

**Per share data**

All references in the financial statements to weighted average number of shares, per share amounts, and stock plan data and related prices have been restated for the 1990 three-for-two stock split. Net earnings per share are computed based on the weighted average number of shares outstanding of 340,217,888, 343,355,917 and 345,204,551 for the years ended December 31, 1992, 1991 and 1990, respectively. There is no material dilutive effect on net earnings per share due to common stock equivalents.

**Reclassifications**

Certain reclassifications have been made to 1990 and 1991 financial statements to conform with the presentation used in 1992.

**NOTE 2**

**ACCOUNTS RECEIVABLE**

Accounts receivable at December 31 consisted of the following:

	1992	1991
Amounts receivable under		
U.S. Government contracts	\$1,035	\$1,528
Accounts receivable from		
commercial and foreign		
military customers	393	557
	<u>\$1,428</u>	<u>\$2,085</u>

Accounts receivable at December 31, 1992, included amounts not currently billable of \$209, primarily relating to sales values recorded upon attainment of performance milestones that differ from contractual billing milestones and withholds on U.S. Government contracts, and \$241 relating to claims and other amounts on U.S. Government contracts subject to negotiation. Of these amounts, \$132 and \$192 respectively are not expected to be collected in one year. Additionally, \$33 of other receivables are not expected to be collected in one year.

**NOTE 3**

**INVENTORIES**

Inventories at December 31, 1992, consisted of \$10,141 relating to inventoried costs on long-term commercial programs and U.S. Government and foreign military contracts, less estimated average cost of deliveries, and \$932 (\$1,145 at December 31, 1991) relating to commercial spare parts, general stock materials and other inventories. General and administrative and research and development expenses included in inventories represented approximately 2% of total inventories.

All commercial jet transport programs except the 777 are being accounted for as mature programs as described in Note 1. As of December 31, 1992, there were no significant deferred production costs not recoverable from existing firm orders. Inventory costs relating to long-term commercial jet transport programs included net unamortized tooling of \$1,646 at December 31, 1992, (\$867 relating to the 777 program) and \$1,037 at December 31, 1991. For mature commercial programs, it is estimated that substantially all of such costs will be amortized over existing firm orders. For the 777 program, the number of units for determining production costs in excess of aggregate estimated average cost and over which total tooling costs will be amortized and absorbed in cost of sales will be established when deliveries commence. Firm orders for 122 777s had been received as of January 26, 1993.

Additionally, the 1992 inventory balance included \$581 subject to claims or other uncertainties related to U.S. Government contracts, principally for the Peace Shield program. (See Note 13.)

Interest capitalized as construction-period tooling costs amounted to \$53 in 1992.

**NOTE 4**

**CUSTOMER FINANCING**

Customer financing balances shown on the Consolidated Statements of Financial Position are net of the amount of participation by other financing parties.

Long-term customer financing, less current portion, at December 31 consisted of the following:

	1992	1991
Notes receivable	\$1,305	\$ 505
Investment in sales-type leases	111	112
Operating lease aircraft, at cost,		
less accumulated depreciation		
of \$168 and \$126	720	616
	<u>2,136</u>	<u>1,233</u>
Less valuation allowance	(70)	(50)
	<u>\$2,066</u>	<u>\$1,183</u>

Financing for aircraft is collateralized by security in the related asset, and historically, the Company has not experienced a problem in accessing such collateral.

The operating lease aircraft category includes new and used jet and commuter aircraft, spare engines and spare parts.

Principal payments under notes receivable and sales-type leases for the next five years are as follows:

	1993	1994	1995	1996	1997
	\$ 229	\$ 347	\$ 64	\$ 65	\$ 32

Certain notes currently bear interest at fixed rates of 5.0% to 12.0% while the remainder are at interest rates which vary with commercial bank prime rates, up to 1.0% above the prime rate.

**NOTE 5**

**PROPERTY, PLANT AND EQUIPMENT**

Property, plant and equipment at December 31 consisted of the following:

	1992	1991
Land	\$ 399	\$ 415
Buildings	4,193	3,487
Machinery and equipment	6,084	5,533
Construction in progress	1,617	1,165
	<u>\$12,293</u>	<u>\$10,600</u>

Interest capitalized as construction-period costs amounted to \$66, \$44 and \$22 in 1992, 1991 and 1990, respectively.

**NOTE 6****TAXES ON INCOME**

In 1992, the Company adopted the provisions of Statement of Financial Accounting Standards (SFAS) No. 109, *Accounting for Income Taxes*. The current and long-term classifications of the deferred balances as of

December 31, 1991, have been restated to be in conformity with the provisions of SFAS No. 109. State taxes on income, which are relatively minor in amount, are included in general and administrative expense.

The provision for federal taxes on income consisted of the following:

Year ended December 31,	1992	1991	1990
Taxes paid or currently payable	\$728	\$542	\$705
Change in deferred taxes other than SFAS No. 106 cumulative transition effect	(26)	109	(107)
Amortization of investment credit		(14)	(11)
	<b>\$702</b>	<b>\$637</b>	<b>\$587</b>

The provisions for federal taxes on income are less than those which result from application of the statutory corporate tax rate due to the following:

	1992	1991	1990
Statutory tax rate	34.0 %	34.0 %	34.0 %
Amortization of investment credit		(0.6)	(0.6)
Foreign Sales Corporation tax benefit	(3.8)	(3.2)	(4.9)
Research benefit		(1.8)	
Other	0.9	0.5	1.3
Effective tax rate	<b>31.1 %</b>	<b>28.9 %</b>	<b>29.8 %</b>

The 1991 research benefit listed above relates to benefits earned in prior years.

Deferred taxes that appear on the Consolidated Statements of Financial Position result from temporary differences, principally due to inventory valuation methods

required for tax purposes; depreciation of property, plant and equipment; and recognition of employee benefit plan costs.

The change in deferred taxes principally resulted from the following:

Year ended December 31,	1992	1991	1990
Long-term contract method and related inventory costs	\$ (29)	\$222	\$(137)
Aircraft financing	9	21	12
Postretirement benefits	(511)	(123)	29
Domestic International Sales Corporation	(11)	(11)	(11)
	<b>\$(542)</b>	<b>\$109</b>	<b>\$(107)</b>

Income taxes have been settled with the Internal Revenue Service for all years through 1978. It is the Company's position that adequate provision has been

made for all amounts due for the years 1979 through 1992. Federal income tax payments were \$518, \$993 and \$563 in 1992, 1991 and 1990, respectively.

**NOTE 7****OTHER ASSETS**

Other assets at December 31 consisted of the following:

	1992	1991
Prepaid pension expense	\$ 847	\$645
Investments and other assets	211	242
	<b>\$1,058</b>	<b>\$887</b>

**NOTE 8****ACCOUNTS PAYABLE AND OTHER LIABILITIES**

Accounts payable and other liabilities at December 31 consisted of the following:

	1992	1991
Accounts payable	\$2,869	\$2,335
Employee compensation and benefits	997	1,253
Lease and other deposits on commercial and foreign military programs	275	347
Other	1,107	1,230
	<b>\$5,248</b>	<b>\$5,165</b>

**NOTE 9****LONG-TERM DEBT**

The Company has in place a \$3,000 credit agreement with a group of commercial banks. Under this agreement, there are compensating balance arrangements, and retained earnings totaling \$625 are free from dividend restrictions. The current scheduled availability of the credit line, which can be accelerated at the Company's option, provides for a 50% availability beginning on July 1, 1993, increasing in 25% increments each six-month period until July 1, 1994.

Long-term debt at December 31 consisted of the following:

	1992	1991
Unsecured debentures and notes:		
8 $\frac{3}{8}$ % due Mar. 1, 1996	\$ 249	\$ 249
8 $\frac{1}{10}$ % due Nov. 15, 2006	175	175
8 $\frac{3}{4}$ % due Aug. 15, 2021	398	398
7.95% due Aug. 15, 2024	300	
8 $\frac{3}{4}$ % due Sep. 15, 2031	248	248
8 $\frac{5}{8}$ % due Nov. 15, 2031	173	173
7.865% due Aug. 15, 2042	100	
Other notes	150	74
Less current portion	(21)	(4)
	<b>\$1,772</b>	<b>\$1,313</b>

The \$300 debentures due August 15, 2024, are redeemable at the holder's option on August 15, 2012. All other debentures and notes are not redeemable prior to maturity. The \$100 notes due August 15, 2042, were issued to a private investor, and the interest rate of 7.865% is a synthetic rate reflecting the effect of interest rate swaps simultaneously entered into with the private investor.

The Company has complied with restrictive covenants contained in debt agreements. Interest payments were \$120, \$32 and \$27 in 1992, 1991 and 1990, respectively.

Maturities of long-term debt for the next five years are as follows:

1993	1994	1995	1996	1997
\$21	\$7	\$9	\$268	\$8

**NOTE 10****POSTRETIREMENT PLANS****Pensions**

The Company has various noncontributory plans covering substantially all employees. The majority of the pension plans have plan assets that exceed accumulated benefit obligations. The following table summarizes the status

of the funded plans and related amounts recognized in the Consolidated Statements of Financial Position at December 31.

	1992	1991
Actuarial present value of benefit obligations:		
Vested	\$(6,081)	\$(5,636)
Nonvested	(436)	(489)
Accumulated benefit obligation	(6,517)	(6,125)
Effect of projected future salary increases	(1,397)	(1,231)
Projected benefit obligation	(7,914)	(7,356)
Plan assets at fair value - primarily equities, fixed income obligations and cash equivalents	8,326	7,945
Plan assets in excess of projected benefit obligation	412	589
Unrecognized net loss (gain)	139	(264)
Unrecognized prior service cost	410	425
Unrecognized net asset at January 1, 1987, being recognized over the plans' average remaining service lives	(114)	(105)
Prepaid pension cost recognized in the Consolidated Statements of Financial Position	\$ 847	\$ 645

The pension provision included the following components:

Year ended December 31,	1992	1991	1990
Service cost (current period attribution)	\$ 293	\$ 299	\$ 289
Interest cost on projected benefit obligation	594	561	511
Actual return on plan assets	(483)	(972)	(361)
Net amortization and deferral	(140)	427	(135)
Net pension provision	\$ 264	\$ 315	\$ 304

The actuarial present value of the projected benefit obligation at December 31, 1992, 1991 and 1990, was determined using a weighted average discount rate of 8.25%, 8.25% and 8.5%, respectively, and a rate of increase in future compensation levels of 6.0%, 6.0% and 6.5%, respectively. The expected long-term rate of return on plan assets was 8.5% at December 31, 1992, 1991 and 1990.

The pension plans have been amended to provide that, in the event there is a change in control of the Company

which is not approved by the Board of Directors and the plans are terminated within five years thereafter, the assets in the plans first will be used to provide the level of retirement benefits required by the Employee Retirement Income Security Act, and then any surplus will be used to fund a trust to continue present and future payments under the postretirement medical and life insurance benefits in the Company's group insurance programs.

Although the Company has no intention of doing so, should it terminate certain of its pension plans under conditions where the plan's assets exceed the plan's obligations, the Company has an agreement with the Government whereby the Government is entitled to a fair allocation of any of the plan's reverted assets based on plan contributions that were reimbursed under Government contracts. Also, the Revenue Reconciliation Act of 1990 imposes a 20% nondeductible excise tax on the gross assets reverted if the Company establishes a qualified replacement plan or amends the terminating plan to provide for benefit increases, otherwise a 50% tax is applied. Any net amount retained by the Company is treated as taxable income.

The Company has certain unfunded plans with a projected benefit obligation of \$109 and unrecognized prior service costs and actuarial losses of \$46 as of December 31, 1992, based on actuarial assumptions consistent with the funded plans. The net provision for the unfunded plans for the year ended December 31, 1992, was \$15.

The Company has a number of defined contribution plans, principally the Voluntary Investment Plans and the Financial Security Plan. Under the terms of the Voluntary Investment Plans, eligible employees are allowed to contribute up to 12% of their base pay. The Company contributes amounts equal to 50% of the employee's contribution to a maximum of 4% of the employee's pay subject to statutory limitations. The provision for these defined contribution plans in 1992, 1991 and 1990 were \$221, \$205 and \$193, respectively.

**Other postretirement benefits**

In the fourth quarter of 1992, the Company adopted retroactive to January 1, 1992, the provisions of Statement of Financial Accounting Standards (SFAS) No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions*, using the immediate recognition transition option. SFAS No. 106 requires accrual of these benefits during an employee's service period. Prior to 1992, postretirement benefits were accrued for eligible retirees upon retirement. The Company's postretirement benefits other than pensions consist of health care coverage for eligible retirees and qualifying dependents. Except for

employees covered by the United Auto Workers bargaining agreement for whom lifetime benefits are provided, retiree health care is provided principally until age 65. At January 1, 1992, the accumulated postretirement benefit obligation was \$1,819; however, \$301 of this obligation had been previously accrued, resulting in a pre-tax transition obligation adjustment of \$1,518. The effect of the immediate recognition of the transition obligation was a decrease to first quarter 1992 net earnings of \$1,002 and a deferred tax benefit of \$516.

The retiree health care cost provision was \$257, \$105 and \$75 for 1992, 1991 and 1990, respectively.

The components of expense for 1992 were as follows:

Year ended December 31,	1992
Service cost (current period attribution)	\$ 110
Interest cost on accumulated postretirement benefit obligation	147
Net provision for retiree health care	\$ 257

Benefit costs were estimated assuming retiree health care costs would initially increase at a 13.5% annual rate, decreasing to a 6.25% annual growth after 10 years and remain at a 6.25% annual growth rate thereafter. A 1% increase or decrease in this annual trend rate would have increased or decreased the accumulated postretirement benefit obligation at December 31, 1992, by \$227, with a corresponding effect on the 1992 postretirement benefit expense of \$43. The weighted average discount rate used to estimate the accumulated postretirement benefit obligation was 8.25%.

The accumulated postretirement benefit obligation at December 31 consisted of the following components:

	1992
Retirees and dependents	\$ 485
Fully eligible active plan participants	358
Other active plan participants	872
Total accumulated postretirement benefit obligation	1,715
Unrecognized net gain	289
Accrued postretirement benefit obligation	\$ 2,004



**NOTE 11****RESEARCH AND DEVELOPMENT, GENERAL AND ADMINISTRATIVE EXPENSES**

Expenses charged directly to earnings as incurred included the following:

Year ended December 31,	1992	1991	1990
Research and development	\$1,846	\$1,417	\$ 827
General and administrative	1,232	1,291	1,246

**NOTE 12****STOCKHOLDERS' EQUITY**

Changes in stockholders' equity consisted of the following:

(Shares in thousands)	Common Stock		Additional Paid-In Capital	Retained Earnings	Treasury Stock	
	Shares	Par Value			Shares	Amount
Balance, December 31, 1989	232,852	\$ 1,164	\$ 572	\$ 4,452	2,296	\$ (57)
Net earnings				1,385		
Cash dividends paid				(328)		
Cash dividends accrued				(86)		
Three-for-two stock split:						
Transfer from retained earnings, \$5 per share	116,426	582		(582)	1,148	
Partial shares paid in cash	(21)			(1)		
Treasury shares acquired					3,219	(156)
Treasury shares issued for stock options			4		(980)	19
Tax benefit related to stock options			5			
Balance, December 31, 1990	349,257	\$ 1,746	\$ 581	\$ 4,840	5,683	\$(194)
Net earnings				1,567		
Cash dividends paid				(343)		
Treasury shares acquired					2,915	(127)
Treasury shares issued for stock options			(5)		(629)	21
Tax benefit related to stock options			3			
Stock appreciation rights expired or surrendered			4			
Balance, December 31, 1991	349,257	\$ 1,746	\$ 583	\$ 6,064	7,969	\$(300)
Net earnings				552		
Cash dividends paid				(340)		
Treasury shares acquired					2,497	(109)
Treasury shares issued for stock options			(10)		(630)	25
Tax benefit related to stock options			4			
Cash received on put options			15			
Transfer to contingent stock repurchase provision			(175)			
Stock appreciation rights expired or surrendered			1			
Balance, December 31, 1992	349,257	\$ 1,746	\$ 418	\$ 6,276	9,836	\$(384)

In July 1987, the Company adopted a Stockholder Rights Plan and declared a dividend distribution of one Right for each outstanding share of common stock. Under certain conditions, each Right may be exercised to purchase one one-hundredth of a share of Series A Junior Participating Preferred Stock at a purchase price of \$150, subject to adjustment. The Rights will be exercisable only if a person or group has acquired, or obtained the right to acquire, 20% or more of the outstanding shares of common stock; following the commencement of a tender or exchange offer for 30% or more of such outstanding shares of common stock; or after the Board of Directors of the Company declares any person, alone or together with affiliates and associates, to be an Adverse Person. If the Board of Directors declares that a person is an Adverse Person or a person acquires more than 30% of the then outstanding shares of common stock (except pursuant to an offer which the independent Directors determine to be fair to and otherwise in the best interests of the Company and its stockholders), each Right will entitle its holder to receive, upon exercise, common stock (or, in certain circumstances, cash, property or other securities of the Company) having a value equal to two times the exercise price of the Right. The Company will be entitled to redeem the Rights at 5 cents per Right at any time prior to the earlier of the expiration of the Rights in August 1997 or ten days following the time that a person has acquired or obtained the right to acquire a 20% position. The Company may not redeem the Rights if the Board of Directors has previously declared a person to be an Adverse Person. The Rights do not have voting or dividend rights, and until they become exercisable, have no dilutive effect on the earnings of the Company.

At December 31, 1992, options for 12,001,215 shares of the Company's stock at prices ranging from \$10.70 to \$60.06 per share were outstanding, of which options for 4,985,022 shares were exercisable. Stock appreciation rights applied to outstanding options for 2,174,010 shares as of December 31, 1992, of which options for 1,657,522 shares were exercisable. During 1992, options for 4,747,975 shares were granted; options for 629,745 were exercised at prices ranging from \$5.56 to \$43.13 per

share; options for 97,532 shares were canceled or expired; and options for 142,516 shares were surrendered for cash on exercise of stock appreciation rights. Additional stock option grants for 5,513,195 shares were provided for as of December 31, 1992, under stock option and incentive compensation plans.

**NOTE 13****CONTINGENCIES**

Various legal proceedings, claims and investigations are pending against the Company related to products, contracts and other matters. Except for the items discussed below, most of these legal proceedings are related to matters covered by insurance.

In January 1991, the Company received from the U.S. Government a notice of partial termination for default which terminated most of the work required under contracts to develop and install a new air defense system for Saudi Arabia, known as the Peace Shield program. The Government has filed with the Company a demand for repayment of \$605 of Peace Shield unliquidated progress payments plus interest commencing January 25, 1991. In February 1991, the Company submitted a request for a deferred payment agreement which, if granted, would formally defer the Company's potential obligation to repay the \$605 of unliquidated progress payments until the conclusion of the appeal process. In June 1991, the Government selected another contractor to perform the work which is the subject of the contracts that have been terminated for default, and the Government will likely assert claims related to the reprourement. The Company does not expect the Government to assert such claims prior to completion of the reprourement contract, which was originally scheduled for late 1995.

Management's position, supported by outside legal counsel which specializes in government procurement law, is that the grounds for default asserted by the Government in the Peace Shield termination are not legally supportable. Accordingly, management and counsel are of the opinion that on appeal the termination for default has a substantial probability of being converted to termination

for the convenience of the Government, which would eliminate any Government claim for damages or cost of procurement. Additionally, the Company has a legal basis for a claim for equitable adjustment to the prices and schedules of the contracts (the "Contract Claim"). Many of the same facts underlie both the Contract Claim and the Company's appeal of the Government's termination action. The Company has filed its complaint in the United States Claims Court to overturn the default termination in order to obtain payment of the Contract Claim. The parties are currently litigating jurisdictional issues related to the complaint. The Company expects that its position will ultimately be upheld with respect to the termination action and that it will prevail on the Contract Claim.

The Company's financial statements have been prepared on the basis of a conservative estimate of the revised values of the Peace Shield contracts including the Contract Claim and the Company's position that the termination was for the convenience of the Government. At this time, the Company cannot reasonably estimate the length of time that will be required to resolve the termination appeal and the Contract Claim. In the event that the Company's appeal of the termination for default is not successful, the Company could realize a pre-tax loss on the program approximating the value of the unliquidated progress payments plus related interest and potential damages assessed by the Government.

The Company is subject to several U.S. Government investigations of business and cost classification practices. One investigation involves a grand jury proceeding as to whether or not certain costs were charged to the proper overhead accounts. No charges have been filed in this matter, and based on the facts known to it, the Company believes it would have defenses if any were filed. The investigations could result in civil, criminal or administrative proceedings. Such proceedings, if any, could involve claims by the Government for fines, penalties, compensatory and treble damages, restitution and/or forfeitures. Based upon Government procurement regulations, a contractor, or one or more of its operating divisions or subdivisions, can also be suspended or

debarred from Government contracts if proceedings result from the investigations.

The Company is involved in various stages of legal proceedings, claims, investigation and cleanup relative to environmental or natural resource matters, some of which relate to waste disposal sites. The Company has provided for costs incurred and the estimated cost to complete cleanup actions where it is probable that the Company will incur such costs in the future, including cleanup actions in which it has been named a potentially responsible party by the Environmental Protection Agency or similarly designated by other environmental agencies. The amount provided for by the Company is net of amounts paid, or due to be paid, by insurance carriers or other parties responsible for a share of the cleanup costs where such parties have agreed to settlements, and where the Company believes it is probable the insurance carriers or other responsible parties will fulfill their commitments to pay. Government claimants generally assert that the Company is jointly and severally liable to clean up sites where it has been named a potentially responsible party; however, the Company usually only provides for its share of estimated cleanup costs. In some cases, the Company has filed claims against other potentially responsible parties who have not agreed to settlements. The Company believes that it cannot determine the impact of possible additional environmental issues on future operations because it cannot reasonably estimate the full extent of potential costs related to such issues. This is due in part to the issues and uncertainties regarding the extent of required cleanup, the complexity of applicable Government laws and regulations and their interpretations, the varying costs and effectiveness of alternative cleanup technologies and methods, the uncertain level of insurance or other types of recovery, and the questionable level of Company involvement.

The Company does not believe, based upon all available information, that the outcome of the Government disputes and investigations and environmental matters discussed in the preceding paragraphs will have a materially adverse effect on its financial position.

**NOTE 14**

**INDUSTRY SEGMENT INFORMATION**

The Company operates primarily in two industries: (1) Commercial Transportation Products and Services and (2) Defense and Space Products and Systems. Operations in Commercial Transportation Products and Services principally involve development, production and marketing of commercial aircraft and providing related support services principally to commercial customers. Operations in Defense and Space Products and Systems involve research, development, production, modification and support of military aircraft and related systems, space systems and missile systems, principally for the U.S.

Government. The Defense and Space Products and Systems segments previously reported — Military Transportation Products and Related Systems, and Missiles and Space — have been combined to better reflect the inter-related and integrated nature of the markets, products, resource requirements and processes of the Defense and Space product lines. No single product line in the Defense and Space Products and Systems segment represented more than 10% of consolidated revenues, operating profits or identifiable assets for 1992, 1991 and 1990.

Foreign sales by geographic area consisted of the following:

Year ended December 31,	1992	1991	1990
Europe	\$ 7,165	\$ 8,745	\$ 7,762
Asia	7,108	5,458	4,962
Oceania	1,911	1,659	1,798
Western Hemisphere	872	1,436	1,088
Africa	430	558	483
	<b>\$17,486</b>	<b>\$17,856</b>	<b>\$16,093</b>

Military sales were approximately 3%, 5% and 10% of total sales in Europe for 1992, 1991 and 1990, respectively. Military sales were approximately 5%, 5% and 6% of total sales in Asia for 1992, 1991 and 1990, respectively.

Exclusive of these amounts, sales of Defense and Space Products and Systems were principally to the U.S. Government.

Financial information by segment for the three years ended December 31, 1992, is summarized below. Corporate income consists principally of interest income from corporate investments. Corporate expense consists of

noncapitalized interest on debt and other general corporate expenses. Corporate assets consist principally of cash, cash equivalents, short-term investments and deferred income taxes.

Year ended December 31,	1992	1991	1990
<b>Revenues</b>			
Commercial Transportation Products and Services	\$24,133	\$22,970	\$21,230
Defense and Space Products and Systems	5,429	5,846	5,862
Other industries	622	498	503
Operating revenues	30,184	29,314	27,595
Corporate income	230	263	448
Total revenues	\$30,414	\$29,577	\$28,043
<b>Operating profit</b>			
Commercial Transportation Products and Services	\$ 1,990	\$ 2,246	\$ 2,189
Defense and Space Products and Systems	204	(102)	(418)
Other industries	27	(2)	(66)
Operating profit	2,221	2,142	1,705
Corporate income	230	263	448
Corporate expense	(195)	(201)	(181)
Earnings before taxes	\$ 2,256	\$ 2,204	\$ 1,972
<b>Identifiable assets at December 31</b>			
Commercial Transportation Products and Services	\$10,178	\$ 7,806	\$ 6,267
Defense and Space Products and Systems	3,687	4,262	4,496
Other industries	264	196	351
	14,129	12,264	11,114
Corporate	4,018	3,660	3,477
Consolidated assets	\$18,147	\$15,924	\$14,591
<b>Depreciation</b>			
Commercial Transportation Products and Services	\$ 598	\$ 484	\$ 349
Defense and Space Products and Systems	241	269	261
Other industries	73	51	62
Total depreciation	\$ 912	\$ 804	\$ 672
<b>Capital expenditures, net</b>			
Commercial Transportation Products and Services	\$ 1,890	\$ 1,445	\$ 1,001
Defense and Space Products and Systems	212	317	496
Other industries	58	88	89
Total capital expenditures, net	\$ 2,160	\$ 1,850	\$ 1,586

**NOTE 15**

**FINANCIAL INSTRUMENTS WITH OFF-BALANCE-SHEET RISK**

The Company is a party to financial instruments with off-balance-sheet risk in the normal course of business to meet the financing needs of its customers, primarily commercial aircraft customers, and to reduce its own financing exposure. These commitments can include extensions of credit, direct credit guarantees, tax benefit transfers, foreign government expropriation guarantees, interest rate swaps, and agreements with other financing parties to participate in long-term receivables with interest rate terms different from those of the related receivable.

Irrevocable financing commitments related to aircraft on order, including options, for delivery through 1999 totaled \$4,440 as of December 31, 1992. The Company anticipates that not all of these commitments will be utilized and that it will be able to arrange for third-party investors to assume a portion of the remaining commitments, if necessary.

The Company's exposure to credit and market-related losses related to direct credit guarantees, tax benefit transfers, and foreign government expropriation guarantees totaled \$34 as of December 31, 1992.

The Company has entered into interest rate swaps with third-party investors whereby the interest rate terms differ from those of the original receivable. These swaps related to long-term receivables that totaled \$314. In addition, participation in the Company's long-term receivables by third-party investors with interest rate terms different from the original receivable totaled \$91.

**NOTE 16**

**SIGNIFICANT GROUP CONCENTRATIONS OF CREDIT RISK**

Substantially all financial instruments entered into by the Company relate to the U.S. Government, and international and domestic commercial airline customers. As of December 31, 1992, the Company's financial instruments balance included \$4,474 that are off-balance-sheet and described in Note 15, and \$3,003 that appear as Accounts receivable and Customer financing on the Consolidated Statements of Financial Position. Accounts receivable included \$1,035 relating to the U.S. Government. Financing for aircraft is collateralized by security in the

related asset, and historically, the Company has not experienced a problem in accessing such collateral.

**NOTE 17**

**DISCLOSURES ABOUT FAIR VALUE OF FINANCIAL INSTRUMENTS**

**Cash equivalents and short-term investments**

The carrying value of cash equivalents and short-term investments are representative of fair value because of the short maturity of those instruments.

**Accounts receivable and accounts payable**

Certain receivable balances will be collected over an extended period; consequently, the fair value of accounts receivable is estimated to be lower than the carrying value by \$50 as of both December 31, 1992, and 1991, reflecting a discounted value due to deferred collection. The carrying value of accounts payable is estimated to approximate fair value.

**Customer financing notes receivable**

There are generally no quoted market prices available for customer financing notes receivable. The net fair value of such notes is estimated to approximate the net carrying value based upon interest rates and risk-related rate spreads as of December 31, 1992.

**Long-term debt**

The carrying amount of long-term debt was \$1,793 and \$1,317 as of December 31, 1992, and 1991, respectively. The fair value of long-term debt, based on current market rates for debt of the same risk and maturities, was estimated at \$1,880 and \$1,400 as of December 31, 1992, and 1991, respectively. The Company's long-term debt, however, is generally not callable until maturity.

**Financial instruments with off-balance-sheet risk**

With regard to financial instruments with off-balance-sheet risk delineated in Note 15, it is not practicable to estimate the fair value of future financing commitments, and all other commitments are estimated to have only a nominal fair value. The terms and conditions reflected in the outstanding guarantees and commitments for financing assistance are not materially different from those that would have been negotiated as of December 31, 1992.

**QUARTERLY FINANCIAL DATA (UNAUDITED)**
*(Dollars in millions except per share data)*

Quarter	1992				1991			
	4th	3rd	2nd	1st	4th	3rd	2nd	1st
<b>Sales</b>	\$7,497	\$6,897	\$7,823	\$7,967	\$7,753	\$7,657	\$7,813	\$6,091
Earnings from operations	476	440	573	551	498	510	576	370
Net earnings before cumulative effect of accounting change	357	345	432	420	403	401	454	309
Cumulative effect of accounting change				(1,002)				
<b>Net earnings</b>	357	345	432	(582)	403	401	454	309
<b>Net earnings per share:</b>								
Before cumulative effect of accounting change	1.05	1.02	1.27	1.23	1.17	1.17	1.32	.90
Cumulative effect of accounting change				(2.94)				
	1.05	1.02	1.27	(1.71)	1.17	1.17	1.32	.90
<b>Cash dividends per share</b>	.25	.25	.25	.25	.25	.25	.25	.25
<b>Market price:</b>								
High	40.25	42.13	47.50	54.63	51.13	53.00	49.75	52.50
Low	33.13	34.13	38.63	43.38	41.25	42.63	45.00	43.13

The first, second and third quarter 1992 earnings have been restated from what was originally reported to reflect the Company's implementation in the fourth quarter of 1992 of Statement of Financial Accounting Standards No. 106, Employers' Accounting for Postretirement Benefits Other Than Pensions. The earnings per share impact due to cumulative effect of accounting change in the first quarter 1992 is calculated based upon the weighted average shares outstanding during the quarter.

**FIVE YEAR SUMMARY**
*(Dollars in millions except per share data)  
(Share data restated for applicable stock splits)*

	1992	1991	1990	1989	1988
<b>Operations</b>					
<b>Sales</b>					
Commercial	\$24,731	\$23,752	\$22,158	\$14,994	\$12,170
U.S. Government	5,453	5,562	5,437	5,282	4,792
Total	30,184	29,314	27,595	20,276	16,962
<b>Net earnings</b>	1,554**	1,567	1,385	675*	614
Per share	4.57**	4.56	4.01	1.96*	1.79
Percent of sales	5.2%	5.3%	5.0%	3.3%	3.6%
<b>Cash dividends paid</b>	\$ 340	\$ 343	\$ 328	\$ 269	\$ 237
Per share	1.00	1.00	.95	.77%	.68%
Other income, principally interest	230	263	448	347	378
Research and development expensed	1,846	1,417	827	754	751
General and administrative expensed	1,232	1,291	1,246	1,066	954
Additions to plant and equipment	2,160	1,850	1,586	1,362	690
Depreciation of plant and equipment	870	768	636	584	541
Salaries and wages	6,318	6,502	6,487	6,082	5,404
Average employment	148,600	159,100	161,700	159,200	147,300
<b>Financial position at December 31</b>					
Total assets	\$18,147	\$15,924	\$14,591	\$13,278	\$12,608
Working capital	1,947	2,462	1,396	1,689	1,507
Net plant and equipment	6,724	5,530	4,448	3,481	2,703
Customer financing	2,295	1,197	1,133	868	1,131
Cash and short-term investments	3,614	3,453	3,326	1,863	3,963
Total borrowings	1,793	1,317	315	280	258
Long-term debt	1,772	1,313	311	275	251
Stockholders' equity	8,056	8,093	6,973	6,131	5,404
Per share	23.74	23.71	20.30	17.73	15.67
Common shares outstanding (in millions)	339.4	341.3	343.6	345.8	344.8
<b>Firm backlog</b>					
Commercial	\$82,649	\$92,826	\$91,475	\$73,974	\$46,676
U.S. Government	5,281	5,090	5,719	6,589	6,925
Total	\$87,930	\$97,916	\$97,194	\$80,563	\$53,601

\* Exclusive of the cumulative effect of adopting Statement of Financial Accounting Standards No. 96, Accounting for Income Taxes. Net earnings including the effect were \$973 or \$2.82 per share.

\*\* Exclusive of the cumulative effect of adopting Statement of Financial Accounting Standards No. 106, Employers' Accounting for Postretirement Benefits Other Than Pensions. Net earnings including the effect were \$552 or \$1.62 per share.

Prior years have been restated to conform with the presentation used in 1992.

Cash dividends have been paid on common stock every year since 1942.

**BOARD OF DIRECTORS**

Robert A. Beck  
Chairman Emeritus  
The Prudential Insurance Company  
of America (insurance)  
Audit Committee

Philip M. Condit  
President  
The Boeing Company

John B. Fery  
Chairman of the Board  
& Chief Executive Officer  
Boise Cascade Corporation (forest products)  
Finance Committee

Paul E. Gray  
Chairman of the Corporation  
Massachusetts Institute of Technology  
(education)  
Audit Committee

Harold J. Haynes  
Retired Chairman & Chief Executive Officer  
Chevron Corporation (petroleum products)  
Compensation and Organization &  
Nominating Committees

Stanley Hiller, Jr.  
Partner, Hiller Investment Company  
(private investments)  
Audit Committee\*

George M. Keller  
Retired Chairman & Chief Executive Officer  
Chevron Corporation (petroleum products)  
Compensation Committee\*

Donald E. Petersen  
Retired Chairman & Chief Executive Officer  
Ford Motor Company (automotive products)  
Compensation Committee

Charles M. Pigott  
Chairman & Chief Executive Officer  
PACCAR Inc (transportation equipment)  
Organization & Nominating Committee\*

Rozanne L. Ridgway  
Co-Chair  
The Atlantic Council of the United States  
(association to promote understanding of inter-  
national economic, political and security issues)  
Audit Committee

Frank Shrontz  
Chairman of the Board  
& Chief Executive Officer  
The Boeing Company

George P. Shultz  
Distinguished Fellow, Hoover Institution  
Stanford University (education)  
Finance Committee

George H. Weyerhaeuser  
Chairman of the Board  
Weyerhaeuser Company (forest products)  
Organization & Nominating Committee

T. A. Wilson  
Chairman Emeritus  
The Boeing Company  
Finance Committee\*

\*Committee Chair

**CORPORATE OFFICERS**

Douglas P. Beighle  
Senior Vice President

Thomas M. Budinich, Jr.  
Vice President & Controller

Arlington W. Carter  
Vice President - Continuous Quality  
Improvement

Lawrence W. Clarkson  
Vice President - Planning &  
International Development

F. G. (Bud) Coffey  
Vice President - Government Affairs

Theodore J. Collins  
Vice President & General Counsel

Philip M. Condit  
President

Dennis J. Crispin  
Vice President -  
Employee Benefits, Insurance & Taxes

Deane D. Cruze  
Senior Vice President - Operations

Andre Gay  
Vice President - Facilities

Boyd E. Givan  
Senior Vice President &  
Chief Financial Officer

John F. Hayden  
Vice President - Washington, D.C., Office

Heather Howard  
Corporate Secretary &  
Corporate Counsel

David A. Jaeger  
Vice President & Treasurer

Larry G. McKean  
Vice President - Human Resources

B. Dan Pinick  
Executive Vice President - President of  
Boeing Defense & Space Group

Frank Shrontz  
Chairman of the Board &  
Chief Executive Officer

Dean D. Thornton  
Executive Vice President - President of  
Boeing Commercial Airplane Group

A. D. (Bert) Welliver  
Senior Vice President -  
Engineering & Technology

**OPERATING DIVISIONS**

**BOEING COMMERCIAL  
AIRPLANE GROUP**

Dean D. Thornton  
President

Richard R. Albrecht  
Executive Vice President

Robert L. Dryden  
Executive Vice President

Bruce Gissing  
Executive Vice President - Operations

**BOEING DEFENSE &  
SPACE GROUP**

B. Dan Pinick  
President

C. Gerald King  
Executive Vice President

John Schmit  
Senior Vice President - Operations

John B. Sheridan  
Senior Vice President - Engineering

**BOEING COMPUTER SERVICES**

Arthur E. Hitsman  
President

**BOEING SUPPORT SERVICES**

Wallace E. Alder  
Vice President - General Manager

**PLEASE DIRECT INQUIRIES  
RELATING TO THE FOLLOWING  
SUBJECTS TO**

Public Relations & Advertising

Harold Carr  
Vice President  
Mail Stop 10-06

Investor Relations

Larry Bishop  
Vice President  
Mail Stop 10-16

**STOCKHOLDER & INVESTOR INFORMATION**

**THE BOEING COMPANY GENERAL OFFICES**  
7755 East Marginal Way South  
Seattle, Washington 98108  
(206) 655-2121

**STOCKHOLDER INQUIRIES  
TRANSFER AGENT AND REGISTRAR**  
The First National Bank of Boston

Our transfer agent is responsible for our stockholder records, stock transfers, issuance of stock certificates, and distribution of our dividends and the IRS Form 1099. Requests concerning these matters are most efficiently answered by corresponding directly with The First National Bank of Boston at the following address:

The Boeing Company  
c/o The First National Bank of Boston  
Mail Stop 45-02-09  
P.O. Box 644  
Boston, Massachusetts 02102-0644  
(617) 575-2900 or 1 (800) 442-2001

Pre-recorded information concerning various shareholder account matters is available toll-free from Shareholder Services, The Boeing Company, at 1 (800) 457-7723 or for local calls (206) 655-1976.

**WRITTEN INQUIRIES MAY BE SENT TO**  
The Boeing Company  
Shareholder Services  
Ms. Michelle Tramm  
P.O. Box 3707, Mail Stop 10-13  
Seattle, Washington 98124-2207

DESIGN: MARTIN BANKE  
DESIGN CONSULTANT: VAN DYKE COMPANY  
PHOTOGRAPHY: EDGAR TURNER

PRINTED IN USA ON RECYCLED PAPER

**ANNUAL MEETING**

The annual meeting of Boeing stockholders will be held at the company's auditorium in the 2-22 building located at 7755 E. Marginal Way South, Seattle, Washington, on April 26, 1993. Formal notice of the meeting, proxy statement, form of proxy and annual report were sent to stockholders about March 22, 1993.

**STOCK EXCHANGE LISTINGS**

The company's stock is traded principally on the New York Stock Exchange; the trading symbol is BA. Boeing common stock is also listed on the Amsterdam, Brussels, London, Swiss, and Tokyo stock exchanges. Additionally, the stock is traded on the Boston, Cincinnati, Midwest, and Philadelphia exchanges. The number of shareholders of record as of January 29, 1993, was 104,817.

**GENERAL AUDITORS**

Deloitte & Touche  
700 Fifth Avenue, Suite 4500  
Seattle, Washington 98104-5044  
(206) 292-1800

**NOTICE**

To holders as of March 29, 1966, of unregistered 4½% convertible subordinated debentures of The Boeing Company due July 1, 1980.

Boeing has made an undertaking in a proceeding entitled *Van Gemert, et al. v. The Boeing Company, et al.*, 66 Civ. 1820, filed in the United States District Court for the Southern District of New York, to pay certain sums to any person who provides evidence that he or she was a holder on March 29, 1966, of the debentures described above and did not convert the debentures on that date or that he or she is an assignee or transferee of such holder by purchase or operation of law.

If you believe you may be entitled to receive such payment, or desire further information, contact The Boeing Company, Shareholder Services.

The Boeing Company  
General Offices  
7755 East Marginal Way South  
Seattle, Washington 98108