INDUSTRY AT A CROSSROADS

MathWorks Aerospace and Defense Conference 2007

John Douglass, President & CEO
Aerospace Industries Association
June 5, 2007
AIA Leadership

John W. Douglass
President & CEO
Aerospace Industries Association

William H. Swanson
AIA Chairman
Chairman & Chief Executive Officer
Raytheon Company

103 Regular Members
172 Associate Members

Clayton M. Jones
AIA Vice Chairman
Chairman, President & Chief Executive Officer, Rockwell Collins
AIA Top 2007 Issues

- Advance Ethical Business Practices Worldwide
- Promote the Development of a Modern Export Control System
- Promote U.S. Trade and Export Competitiveness in a Free and Fair Global Marketplace
- Promote Acquisition Excellence
- Support Transformational Improvements to the U.S. Aviation System
- Promote the Long-Term Vitality of the Aerospace Industrial Base and Sustain U.S. Military Preeminence
- Increase U.S. Government Financial and Policy Support for Civil and Commercial Space Projects
- Encourage the Revitalization of U.S. Aeronautics Research
- Support a Robust U.S. National Security Space Program
- Increase Awareness of the U.S. Aerospace and Defense Industry as a Strategic National Security and Economic Asset
Aerospace Industry Sales

Billions of Dollars

1991: $139.2
1992: $138.5
1993: $123.2
1994: $110.6
1995: $107.8
1996: $116.8
1997: $131.6
1998: $148.0
1999: $153.7
2000: $144.7
2001: $151.6
2002: $152.3
2003: $146.6
2004: $155.7
2005: $170.1
2006: $184.4
2007: $195.4
Aerospace Industry Sales

![Bar chart showing aerospace industry sales from 2003 to 2007 with breakdown by Civil Aircraft, Related Products, Space, Military Aircraft, and Missiles.](chart_image)

- **2003**: $144.6 billion
  - Civil Aircraft: $32.4 billion
  - Related Products: $24.4 billion
  - Space: $35.9 billion
  - Military Aircraft: $40.4 billion
  - Missiles: $13.5 billion
- **2004**: $155.7 billion
  - Civil Aircraft: $32.5 billion
  - Related Products: $26.0 billion
  - Space: $35.9 billion
  - Military Aircraft: $46.6 billion
  - Missiles: $14.7 billion
- **2005**: $170.1 billion
  - Civil Aircraft: $39.2 billion
  - Related Products: $28.3 billion
  - Space: $37.3 billion
  - Military Aircraft: $50.0 billion
  - Missiles: $15.3 billion
- **2006p**: $184.4 billion
  - Civil Aircraft: $47.5 billion
  - Related Products: $30.7 billion
  - Space: $38.6 billion
  - Military Aircraft: $52.8 billion
  - Missiles: $14.9 billion
- **2007e**: $195.4 billion
  - Civil Aircraft: $54.6 billion
  - Related Products: $32.2 billion
  - Space: $39.4 billion
  - Military Aircraft: $53.5 billion
  - Missiles: $15.8 billion
Aerospace Foreign Trade

Billions of Dollars

- Exports
- Imports
- Surplus

Year:
- 1992
- 1993
- 1994
- 1995
- 1996
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006 (Projected)

Exports:
- 1992: $30.5 billion
- 1993: $34.8 billion
- 1994: $36.7 billion
- 1995: $38.5 billion
- 1996: $40.3 billion
- 1997: $42.1 billion
- 1998: $44.0 billion
- 1999: $45.8 billion
- 2000: $47.6 billion
- 2001: $49.4 billion
- 2002: $51.2 billion
- 2003: $53.0 billion
- 2004: $54.8 billion
- 2005: $56.6 billion
- 2006 (Projected): $85.2 billion

Imports:
- 1992: $3.5 billion
- 1993: $3.8 billion
- 1994: $4.0 billion
- 1995: $4.2 billion
- 1996: $4.4 billion
- 1997: $4.6 billion
- 1998: $4.8 billion
- 1999: $5.0 billion
- 2000: $5.2 billion
- 2001: $5.4 billion
- 2002: $5.6 billion
- 2003: $5.8 billion
- 2004: $6.0 billion
- 2005: $6.2 billion
- 2006 (Projected): $30.5 billion

Surplus:
- 1992: $26.0 billion
- 1993: $31.0 billion
- 1994: $32.0 billion
- 1995: $34.3 billion
- 1996: $35.9 billion
- 1997: $37.3 billion
- 1998: $38.2 billion
- 1999: $39.8 billion
- 2000: $42.2 billion
- 2001: $44.4 billion
- 2002: $45.6 billion
- 2003: $46.8 billion
- 2004: $47.8 billion
- 2005: $48.8 billion
- 2006 (Projected): $54.8 billion
Importance of Efficiency

• Manufacturing companies are in a constant battle to reduce cost, improve quality, and shorten delivery times

• Increasing importance of advanced technology, including software and electronics, for efficiency and cost-saving

• Supply chain integration essential to streamlined business practices
  • AIA Supplier Management Council facilitating partnerships between software providers and suppliers through Services Working Group
  • High-tech software application providers now eligible for AIA associate membership

• Improved productivity reflected in changing nature of aerospace and defense workforce

• International partnerships foster global technology sharing

• Aerospace advancements seen in a variety of industries
Challenges in R&D

- Changing nature of federal R&D funding – narrow, focused
- Increased global competition for most advanced technology
- Rise of private/company-funded R&D
- Space
  - Transition from the shuttle program
  - Real cost of exploration
  - National security space programs
- Civil
  - Air traffic control modernization
  - Equipage of users
  - Interagency dependence
- Defense/National Security
  - To do what? Long-term strategy for War on Terror?
  - Civil-military integration
  - Looming recapitalization bill
  - Export controls
Developing the Next Generation Aerospace Workforce

- Federal Initiatives
  - STEM education legislation (passed during 109th Congress)
  - Interagency Aerospace Revitalization Task Force (passed during 109th Congress)
  - Upcoming AIA/Labor Department national summit on technical education will shape the task force’s agenda.

- Industry Alliances
  - U.S. Chamber of Commerce and Business Roundtable effort underway; AIA to join
  - NDIA and DHS conferences
Developing the Next Generation Aerospace Workforce

- AIA Initiatives
  - Goal: Increase number of students choosing technical education (degree and non-degree)
  - Philosophy: Raise the tide for everybody and aerospace will get its share.
- Main thrusts:
  - Create excitement for math and science among K-12 students
  - Encouraging the development of qualified teachers.
  - Develop ideas on use of retirees to teach
  - Turn the brain drain into an asset

27% of aerospace engineering workforce eligible for retirement by 2008
Developing the Next Generation Aerospace Workforce

- AIA Initiatives (continued)
  - Hosting national summit on technical education in conjunction with Department of Labor in July.
  - AIA developing Web sites:
    - for teachers and students
    - for companies to share best practices and proven curriculum
  - Creating industry promotional video (YouTube, DVDs)
  - Organizing annual Team America Rocketry Challenge
  - AIA endorsed Project Lead the Way and National Collaborative for Engineering Education Reform
Team America Rocketry Challenge

- Sponsored by AIA and National Association of Rocketry (NAR)
- Created by AIA in 2003 to commemorate centennial of flight
- 2007 Challenge was to design, build, and fly a model rocket carrying a raw egg and return it safely to the ground while staying aloft for exactly 45 seconds and reaching an altitude of 850 feet
- Almost 600 students from the top 100 teams competed in the national finals (May 19 at Great Meadows in The Plains, Va.)
- Top 10 teams share more than $60,000 in scholarships
- A team from Newark (California) Memorial High School won the Team America Rocketry Challenge Saturday, with a score of 1.86.