

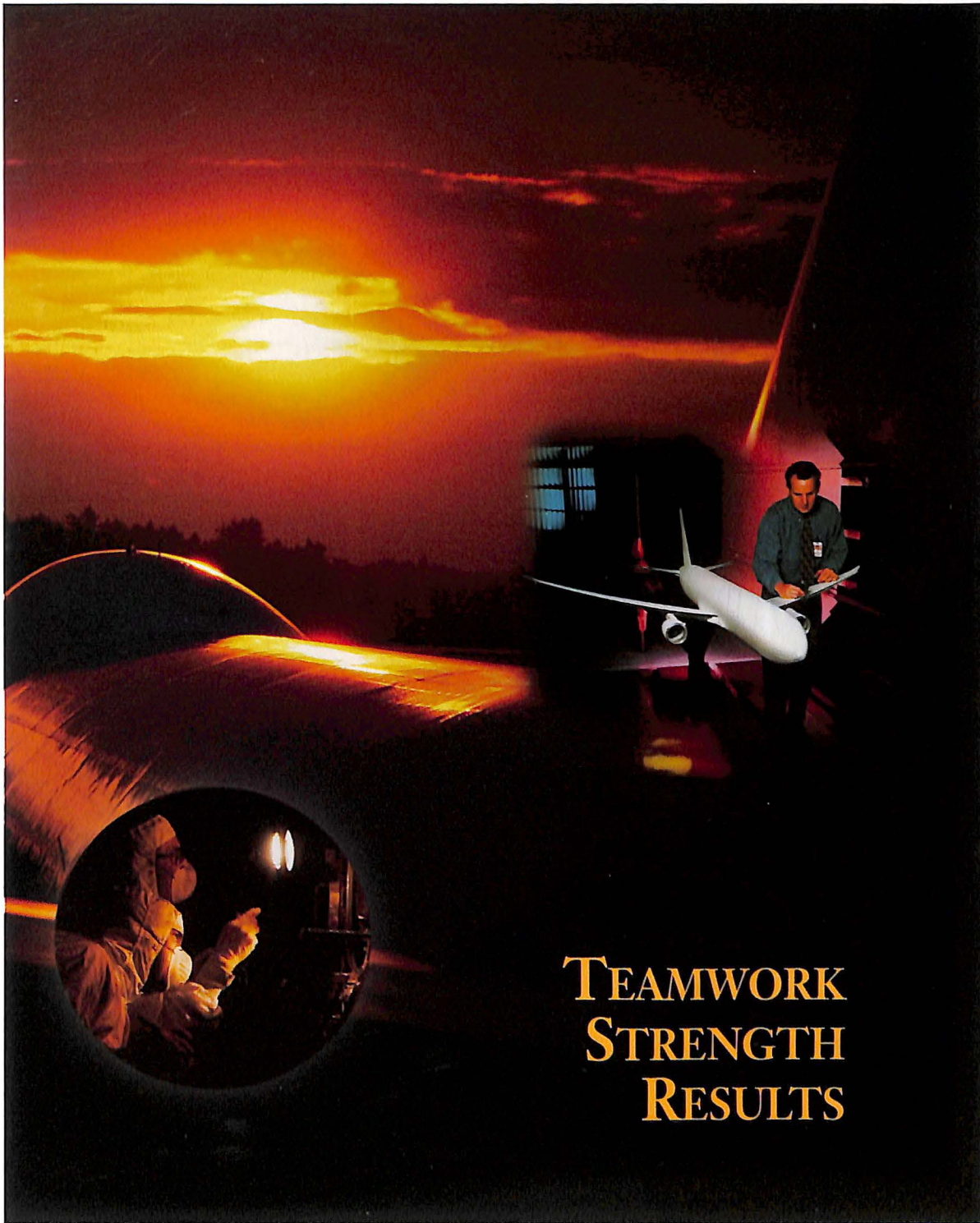
EXECUTIVE Update

Winter 1998-Spring 2002



EXECUTIVE
UPDATE

PREMIER ISSUE
WINTER 1998



**TEAMWORK
STRENGTH
RESULTS**

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AIA EQUALS
TEAMWORK, STRENGTH,
AND RESULTS

- ▲ AIA Identifies Issues
- ▲ AIA Creates Solutions
- ▲ AIA Effects Change

When considered together as the American Aerospace Team, AIA members make up a vitally important industry that is a very significant part of the U.S. economy.

I AM VERY PLEASED TO JOIN DON FUQUA IN LAUNCHING THE AIA EXECUTIVE UPDATE.

We are part of a great organization. For the past 75 years, AIA has been the aerospace industry's strongest advocate and when it needed to be, its strongest critic. It has trumpeted our strengths and worked diligently to correct our weaknesses. It will continue to do so.

Many challenges lie ahead of us. The aerospace industry most likely will consolidate further if the defense budget continues to shrink. We must work to turn these challenges into opportunities, maintain our nation's defense preparedness, and keep the American aerospace industry the world's best.

To accomplish these objectives, I propose that in 1998 AIA and its members commit to

- Increasing commercial applications of defense-specific technologies.
- Promoting increased use of commercial off-the-shelf hardware by the military.
- Continuing outsourcing of depot maintenance.
- Reinforcing our partnership that is in progress and the understanding we have with federal and local government agencies.

Today we have strong industry support for government to outsource those functions formerly done in-house by government. In DoD, for example, the cost savings are needed to support further modernization of our military forces. The aerospace industry is responding, but we need to assure a level competitive field in public/private competitions. And we must continue to push for open markets in this global industry.

Seventy-five years ago the United States was confident that its isolation from Europe would preclude its ever having to rush into conflict as in World War II. It had sharply reduced its armed forces and its military arsenal. The fledgling aerospace industry was then viewed more with amusement than for its potential value to commerce and defense.

The dynamics have changed sharply. Today, the United States knows that never again will it be isolated. It maintains its defense preparedness. The aerospace industry, now the world's best, faces intensifying international competition.

Never has the need for an AIA been greater, and never has its challenges loomed so large. Let us work together to, indeed, turn these challenges into opportunities.

I cannot close without making an important tribute. Don Fuqua has done a marvelous job in leading AIA during the past 12 years. His contributions to the aerospace industry are unrivaled. While his leadership will be sorely missed, we must work together to attract an able successor to face new challenges as we move into the next century.



Michael T. Smith
CHAIRMAN

A handwritten signature in black ink that reads "Michael T. Smith". The signature is written in a cursive, flowing style.

Michael T. Smith

Dear Association Member,

As we begin 1998, I am struck by the truly great strides our industry has made since the end of the Cold War in 1991.

We've streamlined our capacity to where we can claim the U.S. aerospace industry — its people and products — are the "best of the best," right down through the supply chain. We're beginning to settle into the acquisition reforms brought about by the Federal Acquisition Streamlining Act (FASA) of 1994 and the Federal Acquisition Reform Act of 1996 and are bringing efficiencies in cost and manufacturing to our government customers and taxpayers. We're maintaining our competitiveness and leadership in the global economy, and we're adapting well to the move from a workload pattern once driven by government contracts to one driven primarily by commercial sales.

We are, indeed, operating in a new business environment, and AIA has been a key player all along the way in bringing us to this point.

Change is a never-ending process, however, and AIA's staff, in partnership with member company representatives serving on our committees, remains highly motivated and committed to providing the best service possible to our member companies. This year we are introducing quarterly reports — *Executive Update* — to keep all AIA participants informed about AIA's action agenda on a more real-time basis. On page 7 of this first report is a listing of AIA's Top Ten Issues for 1998 approved by AIA's Executive Committee. I will be reporting on developments in these areas as the year progresses. For this issue, I will recap some of our major successes in 1997 and look at some of the challenges for 1998.

Progress Made on Key Legislation

AIA was successful in 1997 in repealing one burdensome and costly legislative provision and in limiting the potential impact of several others.

- AIA's persistence over several years resulted in the repeal in the FY 1998 DoD Authorization Act of a 1985 provision of the U.S. Code requiring contractor guarantees on major weapon systems. Repeal of the provision is an important element of acquisition reform efforts aimed at reducing costs, simplifying, and streamlining.
- The Chemical Weapons Convention is an international treaty that would ban chemical weapons. Out of



all the aerospace-related associations, AIA stood alone in speaking out against sections of the treaty. AIA's comments were heard and safeguards to protect the security of member company "secure" facilities were assured.

- AIA opposed user fees to fund FAA safety functions as potentially opening the door to charging manufacturers for certifying their products. For the time being, Congress has rejected the concept of funding FAA solely by user fees, also rejected by the National Civil Aviation Review Commission.
- Adverse legislation that would have denied contractors reimbursement for restructuring costs was removed from the FY 1998 DoD Authorization Bill.
- A provision in the FY 1998 Defense Authorization Act limits the reimbursement of senior executive salaries. However, AIA was able to restrict the number of executives affected by the limitations to five, significantly easing member company record keeping and costs. This action should end the debate on executive compensation.
- Bills to end religious persecution overseas would have used unilateral economic sanctions to punish offenders. None passed, saving U.S. companies from potential loss of business to foreign competitors.

Congressional debate in the second session of the 105th Congress on the size, structure, and capability of U.S. defense forces in the 21st century, including DoD's tactical aircraft program, could easily be submerged by bigger concerns in this election year — the environment (Superfund and climate change issues), tobacco and anti-smoking legislation, the president's initiatives on child care and health, and what to do with surplus budget monies, estimated as high as \$138 billion annually over the next 10 years. Less interest in aerospace and national security issues and funding of U.S. involvement in Bosnia (currently being drawn from DoD's budget rather than the general fund as we believe it should be) present a problem for the Clinton Administration as they plan for restructure of the Defense Department. The plan, which contemplated a sharp reduction in military forces offset by a continuing infusion of advanced weapon systems, was a good one but was never adequately funded.



Don Fuqua
PRESIDENT, AIA

Space, too, took a heavy hit in the past decade of deficit-trimming. I, along with member company CEOs, have written to President Clinton urging stability in NASA budgeting for 1999 and real funding increases thereafter. NASA technology advancement is critical to U.S. global competitiveness. We will work to see that funding for defense modernization and NASA is included in the debate over surplus budget monies. Coincidentally, AIA's Executive Committee has listed commercialization of space as one of the association's top ten issues for 1998, once again giving space prominence on AIA's action agenda. Commercial space promises almost limitless opportunities for AIA members, and for this reason, we need to be in the forefront of any legislative or regulatory activity that could affect business in this area.

One unresolved issue from the first session — H.R. 145 on foreign repair stations — will also remain on AIA's agenda. Because H.R. 145 would drastically limit the extent to which non-U.S. repair facilities could perform maintenance on U.S. registered aircraft, it potentially violates U.S. obligations in the World Trade Organization and other international agreements. It would also adversely affect U.S. aerospace employment: if U.S. operators were restricted from using foreign repair stations, foreign aviation authorities and the European Union (EU) might retaliate by restricting U.S.-based repair station work on foreign-registered aircraft. A survey of AIA members indicates that we currently enjoy a favorable trade balance of about 4 to 1 in maintenance services.

As for depot maintenance, we don't foresee any new legislation or changes in policy in 1998 as Congress evaluates how DoD implements changes made in the FY 1997 Authorization Act. In January several of our member company executives and myself met with Under Secretary of Defense for Acquisition and Technology Jacques Gansler to talk about industry competitions with depot facilities and how we might work with DoD to make them more equitable.

Operating in the New Business Environment

For both DoD and contractors, new ways of doing business are bringing significant cultural changes. Expanded use of commercial products and technology, aerospace standards, and acquisition reform figure prominently. AIA member company representatives are heavily involved in working with their government counterparts in all of these areas.

Both DoD and our industry support a Performance Based Business Environment (PBBE) with its great potential to reduce costs. The shift away from compli-

ance with military specifications and standards toward meeting performance requirements and using the contractor's own design are essential criteria in selecting contractors and in line with acquisition reform and the emphasis on using commercial business practices where possible to reduce costs. Both PBBE and the contractor Single Process Initiative emphasize company-owned management and manufacturing processes and help to assure the most affordable weapons systems for defense. Thanks to AIA, PBBE is gaining a toehold in the aviation sector of the federal government; AIA is also leading efforts to transfer PBBE to the government's space sector.

In the new business environment prime contractors and major subcontractors are moving towards becoming systems integrators and depending more on suppliers for innovation and cost reduction. The association's newly formed Supplier Management Council will meet for the first time in March to establish continuing dialogue and action between suppliers and customers on non-competitive, operational issues of mutual interest.

In this era of canceling MIL-SPECS and standards, AIA stood fast to protect those MIL-SPECS and standards in parts, materials, and processes essential to commercial aviation. Besides maintaining manufacturing integrity, these standards also contribute significantly to efficiency in manufacturing. The transition of about 400 MIL-SPECS and standards related to parts, materials, and processes to the more than 3,000 National Aerospace Standards

published by AIA will permit DoD to continue downsizing its acquisition work force and give industry what it needs to continue building aircraft and space vehicles. AIA's Early Warning Project Group is leading the way in broader-based MIL-SPEC conversion. Currently 700 of nearly 5,000 government documents AIA members use in designing and manufacturing aircraft are earmarked for conversion to nongovernment standards.

Underscoring all of the above is a shared emphasis on quality. AIA, working with the Electronic Industries Association, National Defense Industrial Association, and 12 government agencies on the Government-Industry Quality Liaison Panel, finalized a quality management guidebook outlining joint government-

Change is a never-ending process, however, and AIA's staff, in partnership with member company representatives serving on our committees, remains highly motivated and committed to providing the best service possible to our member companies.

industry initiatives for improving quality management products and processes.

Regarding the environmental issues related to manufacturing operations, we can expect increased scrutiny and tightening of environmental regulations. AIA is one of only two aerospace-related associations that employs full-time professional staff to work on environmental matters, and as such, is often the conduit to other groups on critical regulatory information.

Keeping the Playing Field Level

Global trade is now the engine driving the U.S. aerospace industry.

AIA was the lead association on several significant trade issues of economic consequence to our industry in 1997.

- Almost 25 years of policy denying modern defense equipment to Latin American countries was revised. The change permits treating Latin American countries like all other regions of the world: evaluating export licenses on a case by case basis.
- A small but significant victory was legislation clarifying that the FAA does not have jurisdiction over military aircraft leased to defense contractors. This clears up any potential inconsistencies that might have occurred with FAA regulations on registration, certification, and airworthiness meant for civil operations.
- AIA has been the intermediary between DoD and government agencies and industry, resulting in strong government support for the presence of U.S. military aircraft at major international air shows. Government and industry cooperation is mutually beneficial. The presence of U.S. military crews and equipment demonstrates our commitment to our allies while reminding potential customers that purchasing U.S. defense equipment implies a relationship with the world's best-trained and equipped military.
- AIA was instrumental in bringing together various government agencies and the aerospace and metals industry regarding the rising cost and demand for titanium. Several government actions are under review that would increase supplies to the United States.
- Working with other associations and member companies, AIA was instrumental in extending the Export-Import Bank's charter for four years and the Overseas Private Investment Corporation's for two years. AIA favors permanent extension inasmuch as demand for capital goods is rising and U.S. competitiveness



depends on our ability to finance foreign sales of commercial products.

- Most Favored Nation (MFN) status for China was renewed for another year. However, as the leading net exporter to China, the aerospace industry strongly advocates normalizing the trade relationship between the U.S. and China through permanent MFN status and bringing the Chinese into the world trading system.

AIA's international activity in the next few months will focus on three areas: 1) opposing unilateral trade sanctions, 2) improving the timeliness of export licensing and notification, and 3) upholding existing unilateral and multilateral trade agreements with foreign nations. Ironically, while other nations are eager to sell their military and commercial products to foreign governments, the United States is demonstrating an increasing tendency to use unilateral export controls to punish offending nations. This not only doesn't change what other nations do, but also helps our competitors.

We are also very concerned that U.S. export licensing and notification, particularly on the defense side, seems to be slowing down; the congressional notification process is also taking more time. Again the irony: this is happening at a time when, in the commercial arena, we are expected to service customers anywhere in the world within 48 hours. As foreign military sales emulate commercial practices, we risk becoming regarded as less and less dependable. The export control and notification system needs to be streamlined and made more flexible.

On the question of the EU's ability to compete with the United States in the commercial arena, I think we can anticipate increased tension. In an effort to slow us down, European industry will likely turn to its governments to help launch commercial products, and while we can compete with each other, we cannot compete with programs favored by government subsidies. We anticipate the United States will uphold the unilateral and multilateral agreements we have with various governments, and we will be working closely with U.S. officials to keep European markets open and competition level in the rest of the world.

U.S. participation in the global economy continues to build momentum, and, undoubtedly, more international trade agreements and industrial alliances will be sought. We can expect the debate to heat up on the division of thought between U.S. strategic policy and U.S. domestic policy. Balancing foreign policy interests against domestic special interests will significantly challenge our industry in this new era of global trade.

Safety and Emissions Issues Dominate Aviation Agenda

The robust demand for commercial transports worldwide intensifies the industry's policy efforts in three overriding areas: aviation safety, aircraft noise and emissions, and harmonization of the Federal Aviation Regulation (FAR) and European Joint Airworthiness Requirements (JAR).

Subtle but significant progress has been made that sets the stage for positive actions in 1998:

- AIA is a member of the Commercial Aviation Safety Strategy Team (CASST); membership includes manufacturers, U.S. carriers, and pilots. CASST was formed in January 1997 to identify areas with the greatest potential to improve aviation safety. During its first year, CASST developed a data-driven process to identify high-payoff areas, such as flight safety, cabin safety, and maintenance and material, and established partnerships with the FAA and NASA. Goals for 1998 include expanding participation overseas and to other parts of the commercial aviation industry, such as flight attendants.
- AIA will have to deal with a new regulatory regime on greenhouse gases likely to show up in 1998. Overhead costs for all — primes, subs, and suppliers — will be affected. Three AIA committees — the Environmental, Safety and Health Committee and the Civil Aviation Council's Aerospace Emissions and Airplane Noise Control Committees — are working together to monitor the UN's progress on a climate change treaty. The Emissions Committee is also engaged in the affiliated UN study on aviation's impact on climate change. Working with the Air Transport Association, AIA played a major role in supporting the U.S. government in its successful effort to maintain the International Civil Aviation Organization's status as the single venue with the expertise to develop an international consensus on aircraft emissions policy.
- AIA was instrumental in getting the FAA and the European Joint Aviation Authorities to agree to work more closely with the private sector in setting harmonization policy, goals, and priorities. They have reached consensus on how they will work together to certify

products and how they will reduce the harmonization work program to a manageable size. Both are major steps forward in relieving the burden on industry of showing compliance with both the FAR and the JAR.

Teamwork and Strength Bring Results

As has always been true, the issues we tackle are complex and, therefore, tough. Some of the more visible ones — aviation safety, executive compensation, depot maintenance work, and restructuring costs — become clouded by erroneous public perception. Yet, the excellent working relationship that AIA has nurtured over decades with policy makers has brought fact, reason, and balance to the discussion table and led to many successful solutions for all — government, taxpayer, and industry. The wins in such complex areas as acquisition reform come in stages, often years long, and sometimes the solutions aren't perfect. But that is the nature of compromise. This underscores to me, however, the importance of AIA and the continuity, expertise, and definitive expression of complex issues that AIA members and staff bring to the process.

Member feedback, through committee participation, is essential to how well the association can represent the industry. As we find our way in the new business environment, we must keep our ear to the ground in an effort to identify potential obstacles before they become problems. It's the people in the trenches — AIA member company representatives involved in the day-to-day of aerospace and defense manufacture, administration, and marketing — who have this responsibility. In a streamlined industry, their participation is all the more vital.

I feel confident that under the leadership of AIA's new chairman for 1998, Michael T. Smith, chairman of the board and chief executive officer of Hughes Electronics Corporation, AIA's time-honored tradition of Teamwork, Strength, and Results will be vigorously carried forward to new levels of accomplishment and success.



Don Fuqua

AIA 1998 TOP TEN ISSUES

- Integrate Aviation Safety Initiatives
- Resist Unilateral Trade Restrictions
- Implement Acquisition Reform
- Improve Contract Payment Process
- Increase Contractor Support of Defense Items
- Support Realistic Aerospace Environmental Regulations
- Support Commercial Space Activities
- Develop Aerospace Customer/ Supplier Relationships
- Improve Export Licensing and Notification Process
- Increase Use of Commercial Buying Practices

AIA

A Leader Among Leaders



TEAMWORK
STRENGTH
RESULTS

AIA Member Companies

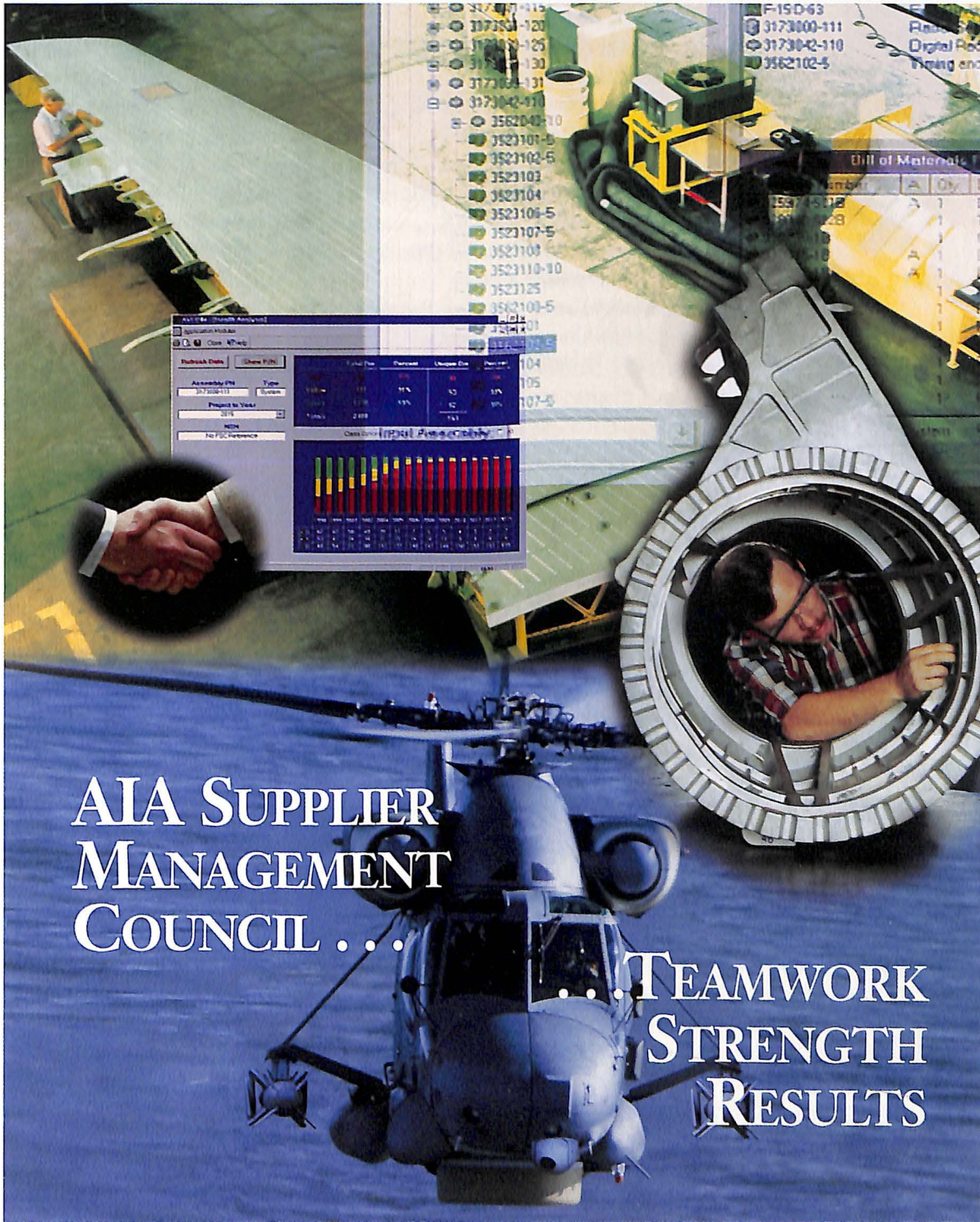
AAI Corporation
Aerojet, a Segment of GenCorp.
The Aerostructures Corporation
Allegheny Teledyne Inc.
Teledyne Controls
Teledyne Electronic Technologies
Alliant Techsystems Inc.
AlliedSignal Aerospace
American Pacific Corporation
Argo-Tech Corporation
B.H. Aircraft Company, Inc.
The Boeing Company
CMS, Inc.
Coltec Industries Inc
Chandler Evans
Delavan Gas Turbine
Menasco Aerosystems
Walbar
Digital Equipment Corporation
Dowty Aerospace
Los Angeles
Yakima
Ducommun Incorporated
DuPont Company
Dynamic Engineering Incorporated
Esterline Technologies
GEC-Marconi Hazeltine Corporation
General Dynamics Corporation
General Electric Company
The BFGoodrich Company
Aerostructures
Landing Systems
Maintenance, Repair and Overhaul
Sensors and Integrated Systems
Gulfstream Aerospace Corporation
Harris Corporation
HEICO Aerospace Corporation
Hexcel Corporation
Honeywell Inc.
Hughes Electronics Corporation
Delco Electronics Corporation
DIRECTV, Inc.
Hughes Network Systems, Inc.
Hughes Telecommunications and
Space Company
Interturbine Corporation
ITT Defense and Electronics Inc.
Kaman Aerospace Corporation
Kistler Aerospace Corporation
Litton Industries, Inc.
Lockheed Martin Corporation
Lucas Aerospace Inc.
MOOG Inc.
Northrop Grumman Corporation
Pacific Scientific Company
Parker Hannifin Corporation
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1250 Eye Street NW, #1200
Washington, DC 20005
Phone: (202) 371-8400 • FAX: (202) 371-8470
Web: www.aia-aerospace.org

EXECUTIVE UPDATE

SPRING 1998



AIA SUPPLIER
MANAGEMENT
COUNCIL . . .

. . . TEAMWORK
STRENGTH
RESULTS



Aerospace
Industries
Association

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Board of Governors

*The Aerospace
Industries Association is
unique among trade
associations. Founded
in 1919, AIA has been
bringing together the
experience and
expertise of its member
companies' CEOs and
senior executives for
nearly 80 years.*

On the cover:

*Photo montage courtesy of
The Aerostructures Corporation,
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Kaman Aerospace Corporation*

Daniel P. Burnham, Vice Chairman,
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Dear Association Member,

Since reporting to you in February, AIA has seen important progress in areas we have been working on for several years along with new developments on some of the more problematic issues AIA has undertaken on behalf of the industry.

Aviation Safety. The FAA has endorsed the data-driven approach to improve safety developed by the Commercial Aviation Safety Strategy Team (CASST). By comparing analyses of similar accidents, the strategy attempts to identify the common factors in a chain of events leading up to an accident. Focusing on the development of intervention strategies aimed at these common factors will allow us to leverage our investment of safety resources to produce the greatest benefit.

The CASST effort was given a boost and additional recognition by Vice President Al Gore in a safety announcement at an April 14 press briefing. As you may recall, AIA is a charter member of this team along with member companies General Electric, Pratt & Whitney, and Boeing.

At the same press briefing it was announced that an initiative to reduce uncontained engine failures was nearing formal completion and that a directive to order more focused checks of critical engine parts was expected by June. This announcement capped the work of the AIA Rotorcraft Committee which established a working group in 1991 to respond to the FAA's Titanium Rotating Components Review Team. The working group has expanded its scope over the years and provides technical assistance to the FAA in identifying ways to improve engine reliability and response to failures.

Aviation Environmental Matters. AIA's persistent efforts over several years have also netted positive results on aviation environmental matters. A top industry issue on AIA's 1997 Top Ten Issues agenda was achieving international consensus on aircraft noise and engine emissions standards through the UN International Civil Aviation Organization (ICAO). AIA, which has observer status in ICAO, recognizes ICAO as the only organization with the expertise to develop an international consensus on aerospace noise and emissions standards. As should be obvious, a patchwork of differing national standards is at cross-purposes with a truly international transportation network, but that is what we have been up against and want to stop.

Aircraft noise and engine emissions standards must have a sound technical, scientific, and economic basis, and AIA has been working with government and private sector partners to encourage international development and national adoption of ICAO standards and practices. An important step forward occurred at the April 6-8 meeting of ICAO's Committee on Aviation Environmental Protection (CAEP) when recommendations were adopted

supporting ICAO leadership as the basis for international cooperation. Environmental issues are a permanent part of the political agenda both within the United States and globally, and they must be addressed forthrightly. ICAO's reputation as the expert in aviation environmental matters is widely recognized and well deserved.

Private Sector Depot Maintenance. AIA has long been a leader in the effort to open depot-level work to private sector competition. On March 18 the Southern District of Ohio dismissed a lawsuit by the American Federation of Government Employees (AFGE) that sought to strike down contracts for depot-level maintenance at Newark Air Force Base (AFB) and prevent outsourcing depot-level workloads at McClellan and Kelly AFBs. AFGE has recently filed a notice of appeal of this decision in the U.S. Court of Appeals for the Sixth Circuit.

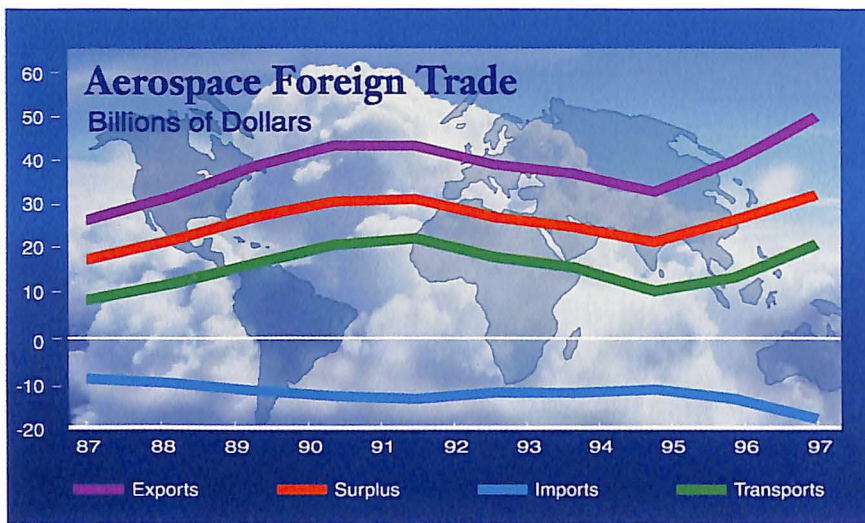
While this decision, if upheld upon appeal, should go a long way toward reducing the obstacles to increased privatization of depot-level aircraft maintenance, we remain alert to the fact that this issue is still very much alive and will probably generate more sparks in May during congressional markup of the defense authorization and appropriations bills. Coincidentally, an April 1 report to Congress from Secretary of Defense William Cohen on an implementation plan for streamlining acquisition organizations, the work force, and infrastructure of DoD, urges Congress to authorize two additional rounds of Base Realignment and Closure. The report was mandated by Section 912 of the FY 98 Defense Authorization Act.

Foreign Repair Stations. Despite a 10-year track record of safety and job creation, another bill — the fifth — has been introduced to repeal the 1988 congressionally reviewed changes to FAA regulations governing certification of foreign repair stations. AIA views this legislation as a throwback to the protectionist days of U.S. trade policies and inconsistent with the realities of today's global marketplace. We think it's time to lay this one to rest for good, and we are concentrating our efforts to stop this renewed effort in its tracks.

Commercial Space. Commercial space has become an exciting business arena as large investments in new technologies drive the market in different directions. The potential impact of these investments on the general public is enormous, yet few outside of industry fully understand what is taking place.



Don Fuqua
PRESIDENT, AIA



The trade numbers for 1997 demonstrate that the U.S. aerospace industry is a truly global industry leading the way in establishing transnational relationships.

In May the AIA Research Center will release a study called "The Race for Space: A General Survey of the Commercial Space Market" that provides an overview of this dynamic process. The report will look at the entire market, including launch vehicles, satellites, satellite operators, and customers. It will also highlight market trends and identify some important issues.

Aerospace Foreign Trade Balance. The trade numbers for 1997 demonstrate that the U.S. aerospace industry is a truly global industry leading the way in establishing transnational relationships. As the graph on this page indicates, aerospace exports, imports, and trade surplus set record highs in 1997. Exports soared \$10 billion to \$50 billion while imports jumped 33% to \$18 billion. The U.S. aerospace industry also posted a trade surplus of \$32 billion, up \$5.6 billion over 1996. Commercial transport aircraft exports rose \$7 billion, or 54%, accounting for the majority of the increase in aerospace exports.

Now I want to report to you in greater detail on the work of a new and very important part of AIA's membership: the Supplier Management Council.

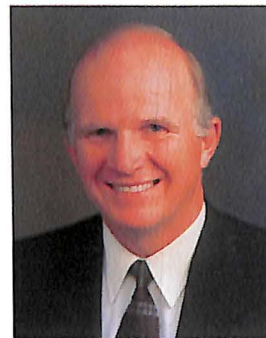
Suppliers Take Up the Challenge

To the old adage that says only two things in life are certain — death and taxes — I would add one more: change. During the course of its nearly 80-year history, AIA has always sought to do what is best for our members in changing times. That's why I am particularly pleased to report that AIA's new Supplier Management Council (SMC) is off to an excellent start in 1998. SMC Chairman Fred Finley, vice president, Raytheon Systems, Inc., SMC Vice Chairman Larry Resnick, president, Triumph Controls, and Bill Lewandowski, AIA vice president for supplier manage-

ment have taken the reigns of leadership with a tenacity and enthusiasm that tells me this group will be successful and will make a difference.

The SMC was authorized by the AIA Board of Governors in November 1997 at the recommendation of our Technical Operations Council and Manufacturing and Materiel Management Committee who recognized that in the new business environment suppliers were providing more of the end product to primes than ever before. Hence, a new category of membership was created — AIA Associate Member — whose purpose is to participate solely in SMC activities.

The changing role of primes towards becoming systems integrators has been the catalyst for pervasive change and greater opportunities for fewer suppliers. More is being demanded from suppliers in terms of technical expertise and future technology in order to satisfy customer demands for technical innovation, reduced cost, and increased performance and quality. Understandably, systems integration on the factory floor has created the need for closer working relationships, communication, and cooperation among prime contractors, major subcontractors, and their suppliers.



Fred Finley
SMC CHAIRMAN
Vice President,
Raytheon Systems, Inc.



Larry Resnick
SMC VICE CHAIRMAN
President, Triumph
Controls



Bill Lewandowski,
AIA VICE PRESIDENT
SUPPLIER MANAGEMENT

AIA member companies are therefore becoming more selective in choosing only those suppliers that can offer the best in product and cost. This situation provides an opportunity, however, for forward-thinking suppliers to move up the supplier chain by reassessing their business practices and capabilities now.

The beauty of AIA's Supplier Management Council is that it provides a much-needed forum where AIA member companies and AIA associate members supplying multiple AIA member companies can communicate their views on common, non-competitive issues with the goal of improving customer-supplier relationships. While there are many supplier organizations out there, AIA's Supplier Management Council is the only organization that gives suppliers the opportunity, working from the bottom up, to develop their ideas and solutions and bring them to the table for dialogue with their customers. Chairman, President, and Chief Executive Office of Northrop Grumman Corporation Kent Kresa put it best when he said: "We view our suppliers as an extension of our factories, and so their performance is crucial to our success. Further, the dynamics of the global marketplace have imposed a new paradigm on us. To be truly competitive, we must become more cooperative, more open, and more communicative with our colleagues. A forum like the Supplier Management Council can help us all realize that goal."

SMC's Top Four Issues

Officially activated on January 1, 1998, the SMC came together for the first time in March with a core membership of 40 suppliers. The agenda they have focused on is ambitious in scope and difficulty but totally essential to their overriding goal — improving communications between themselves and prime contractors and major subcontractors that leads to positive change in their relationships. Keep in mind that SMC members supply multiple companies. On average, each of the 40 associate members supplies at least six member companies: 80% supply Boeing, 60% United Technologies, 55% Northrop Grumman, 50% Lockheed Martin and General Electric, and 33% Raytheon.

The top four issues related to supplying multiple AIA member customers were arrived at through a survey of SMC members. The issues are multi-faceted, and so a "first focus" for each was identified and became the subject of a first round of workshops conducted at the council's first meeting on March 11-13 in Long Beach, California.

Both AIA associate members and AIA member company representatives participated in each workshop, each of which has had at least one follow-on meeting since then.

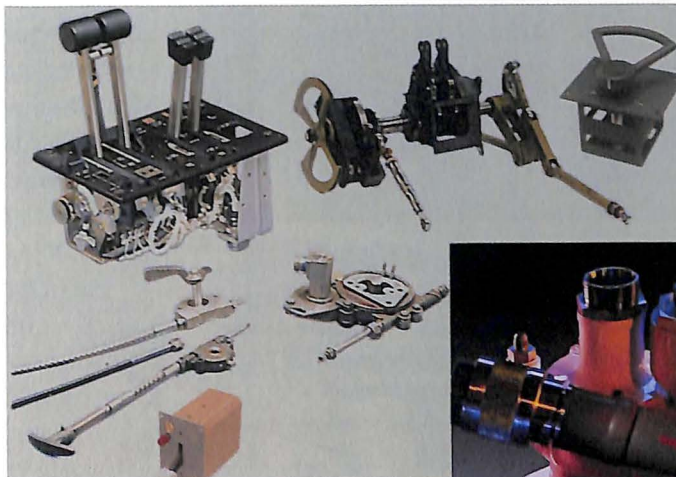
Clearly, the top four issues bring into focus the complexity of operating in today's business environment, and it's safe to assume that there will be no quick and easy solutions. The first of these issues, **Measuring Supplier Performance**, brings up a host of questions. For example:

- What are the fundamental capabilities required by primes for preferred suppliers?
- What is the correlation between supplier ratings and new awards?
- How does a supplier rating system affect a supplier's risk taking?
- Are primes measuring responsiveness to immediate requests and problem solving?

And more.

At the April 29 meeting the working group developed surveys to scope how current preferred supplier programs and rating systems affect suppliers from an administrative, fairness, and value-added point of view.

Implementing **Advanced Quality in the Supplier Base**, the second of the top four issues, focuses on the dilemma for suppliers of how to deal with different quality requirements from different divisions in the same corporation, for example. A difficulty for suppliers here is that primes and major subs aren't ready yet to allow suppliers to manage risk in quality. A potential first step toward a solution proposed in the March workshop was that



TRIUMPH CONTROLS, INC.
Clockwise from 12 o'clock: B757 strut drum assembly for the RB211- 535E4 engine; nose wheel steering unit for various applications; standard ball bearing push-pull control; standard engine-mounted fuel control box; landing gear control lever for various applications; CASA CN-235 throttle quadrant.



AEROQUIP-VICKERS, INC.
In the foreground, Aeroquip hose and fittings for fluid distribution and control; in background, Vickers for fluid power and actuation.

suppliers could share previous audit feedback with a customer's new audit team. These topics were taken up again at AIA's Quality Assurance Committee meeting on May 7-8.

Acquisition Reform for the Supplier Base, the third top issue identified by the SMC, addresses the difficulty of burdensome flow-down by primes to suppliers of government contract clauses — clauses that contain legislation and regulations having no relevance to a supplier's operations. AIA is working on this and other issues with the

Acquisition Reform Office in the Office of the Secretary of Defense, and an opportunity exists for these clauses to be identified and eliminated for suppliers in a legislative and regulation reform package we're expecting to see from Under Secretary of Defense for Acquisition and Technology Dr. Jacques Gansler.

AIA has been particularly active and successful in promoting acceptance by contractors of the Single Process Initiative (SPI). This is an acquisition reform initiative that would allow companies to rely on their own management and manufacturing processes to fulfill performance requirements instead of having to contend with government-imposed military specifications and standards. This initiative has value for subcontractors and suppliers as well as for primes inasmuch as SPI has demonstrated the potential for increasing efficiency and reducing costs for the government customer. The SMC's acquisition reform working group will allow both sides of the table — suppliers and primes-major subs — to work out the details of an industry-wide concept for supplier SPI.

The fourth of the issues identified for SMC dialogue and problem-solving — **Improving Quality, Timeliness, and Consistency of Communication between Customer and Supplier** — is, in my mind, pivotal to the overall goal of enhancing the prime-supplier partnership. The first focus of this working group is to bring into harmony the multiple and divergent requirements primes impose on suppliers in the realm of what is called Electronic Commerce (EC). EC and Electronic Data Interchange (EDI) refer to the electronic exchange of routine business transactions between customers and their suppliers.

EC/EDI has a tremendous potential to increase the efficiency of contracting. However, until it is simplified and the standards are consistently used, EDI is adding confusion and extra costs to suppliers by slowing down productivity. The approach the SMC is taking to solve this problem is exciting and, if successful, will be one more example of how AIA through its long history has been in the forefront of finding solutions that serve the entire community — government, the aerospace industry, and the taxpayer.

Basically, this working group is focused on developing and deploying a library of common electronic commerce business process models and data usage that will be accessible for use by the entire aerospace industry via AIA's Homepage. The working group will be defining a proof of concept to validate that the library approach is workable followed by an implementation strategy that includes education and training requirements for implementation in the supplier chain.

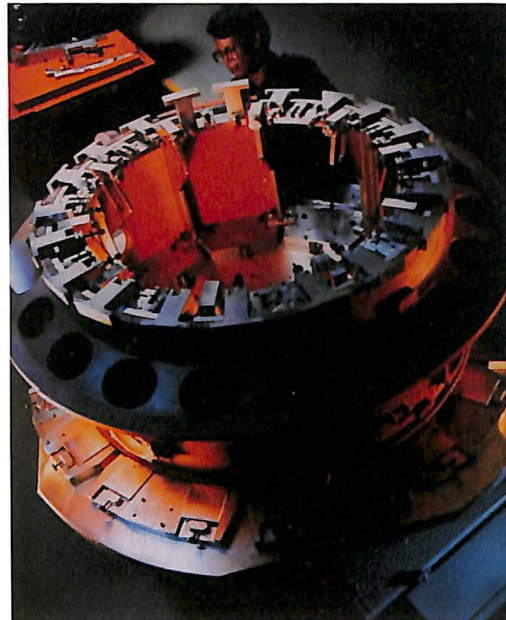
In addition to the above, three issues for consideration are including suppliers on Integrated Process Teams, management of environmental issues in the supplier-customer relationship, and inconsistency across the industry of the terms and conditions on subcontract documents.

Benefits of Participation in the SMC

In simple terms, two major benefits of becoming a member of the Supplier Management Council are first, the supplier's issues/concerns become AIA's issues and second, the supplier actively participates in developing industry-wide solutions.

Participation in the Council is limited to one representative per associate member, and to assure the vitality of the group, the SMC representative is either a general manager or senior executive who can authoritatively represent the company's position on council matters and commit resources for developing and implementing agreed upon solutions. Incidentally, associate members need to meet the membership requirements for becoming an AIA member and are assessed annual dues.

I'll close with another familiar adage: "There's strength in numbers." To our member companies I say if your suppliers aren't on board yet, let them know the benefits of their participating with you on AIA's Supplier Management Council. "AIA's Supplier Management Council Equals Teamwork, Strength, and Leadership."



HOWMET CORPORATION

Single, near-net-shape titanium castings typically provide customers with major savings by reducing machining and other labor-intensive operations.

Don Fuqua

**Supplier Management Council
Executive Committee, 1998**

*“Enhancing the
Prime-Supplier
Partnership
Through Focused
Communication”*

Primes and Major Subcontractors

Fred Finley, SMC Chairman,
Raytheon Systems Inc., Vice President

Blair French, Boeing, Director of
Supplier Management Information &
Communication Systems

Chuck Lileikis, Lockheed Martin,
Vice President, Central Procurement

Joe Murphy, General Electric, Manager,
Sourcing & Government Support Programs

Dr. Don Edwards, TRW, Manager,
Space Facilities & Acquisition

Suppliers

Larry Resnick, SMC Vice Chairman,
Triumph Controls, President

Dick Kottler, Aerostructures,
Vice President, Operations

David Good, Aeroquip Corporation,
Vice President,
Sales & Marketing

Peter Rettaliata, Air Industries, President

David Squier, Howmet Corporation, President

Dr. Paul Hsu, Manufacturing Technology,
President & Chief Executive Officer

Associate Members

Aeroquip Corporation
Hose, quick disconnect couplings,
V-band, swivels

Air Industries Machining Corporation
Aircraft machine parts and sub-
assemblies

Avnet, Inc
Electronics and system components

**Caval Tool Division, Chromalloy Gas
Turbine Corporation**
Machined aerospace parts,
primarily major rotating parts for
turbine jet engines

Contemporary Constructors, Inc.
Turnkey construction of radar
tower sites including tower
erection, antenna and radome
installation, civil construction, and
other related services

**Continental DataGraphics, a
Continental Holdings Company**
IPC and provisioning databases,
ATA spec 2000 Databases, tech
writing and illustrating

Delta Industries
Fabrication shop weldments and
general machining

Dynamic Engineering, Inc.
Prototype development for marine
and medical systems

**Dynamic Metal Products
Company, Inc.**
Sheet metal fabrication, welded
assemblies, vane assemblies,
combustion, and linear assemblies

**EDO's Corporation's Marine and
Aircraft Systems**
Aircraft ejection release units
(bomb racks) and missile launchers

EFW, Inc.
F-16 LRU, V-22, and CV-22
avionics; pilot helmets HUD

EG & G, Inc.
Static and dynamic seals, ducting
joints, ducting systems, exhaust
systems

Fairchild Fasteners Division
Fasteners and fastening systems

Fansteel/California Drop Forge
Forging for the aerospace industry
both rotating and structural

Ferco Tech Corp
Tubes, manifolds, and brackets for
turbine engines

General Technology
Contract electronic assembly
services and printed circuit board
fabrication

The Gunver Manufacturing Company
Sheet metal fabrication and
weldments

Howmet Corporation
Aircraft engine components,
(principally turbine airfoils) and
certain components

Interstate Electronics Corporation
Test instrumentation, GPS-based
navigation and flight management
systems, ruggedized display
systems, GPS-based systems for
smart weapon guidance, test and
training range systems, SATCOM
systems

Kidde Technologies, Inc.
Aircraft fire protection

King Fifth Wheel Company
Rings for gas turbine engines

Lavelle Company
Precision sheet metal custom
manufacturing built to design
drawings and specs

Lefiell Manufacturing Company
Aircraft structural components,
engine shafts, space station
structural components, rocket
engine thrust chamber tubes

Manufacturing Technology, Inc.
Airborne avionics design,
development, and manufacture;
also simulators and trainers

MPC Products Corporation
Manufacture E.M. flight controls,
motors, sensors, and electronics

**MRC Bearings, a unit of SKF
U.S.A., Inc.**
Aeroengine, AESD gearbox,
helicopter transmission bearings

Orbital - Fairchild Defense Division
Develop, market, and manufacture
avionics mission management

PB Herndon Aerospace
Aerospace hardware

Pioneer Aluminum, Inc.
Aluminum sheet, plate, rod bar,
and extrusions

**Petersen Engineering Fabrication
Machining, Inc.**
Fixtures, jigs, tooling cases

Remmele Engineering, Inc.
Design and build tooling for
assembly and composite part
manufacturing; manufacturing
parts using high velocity machining
for monolithic parts

**Rexnord Corporation - Aerospace
Division**
Airframe bearings and power plant
mechanical seals

RV Metal Fabricating, Inc.
Sheet metal components and
assemblies

**SCI Systems, Inc., Government
Division**
Voice and communications systems,
global positioning systems, digital
audio intercommunications
systems, avionics processors

SPS Technologies
Fasteners for aircraft engines,
airframes, wheel and brake, and
space applications

**Sun Microsystems Computer
Company**
Computer systems, software used
to design aircraft, missiles avionics

Technical Products Group, Inc.
Composite structures for aircraft,
missiles, and space

Vickers, Inc.
Hydraulic pumps, motors, and
valves, electrical and hydraulic
controls; electric motors and
drives; filters and fluid power
products

Whittaker Aerospace
Pneumatic, hydraulic, fuel controls
for aircraft, fire and overheat
detectors

Wyman-Gordon Company
Bulkheads; landing gears; rotors;
wing hinges, flaps, spars for
aerostructures; combustor domes;
hubs; cases; fan, compressor and
turbine disks; seals; spacers, and
shafts for aerospace engines

AIA

A Leader Among Leaders

TEAMWORK
STRENGTH
RESULTS

*AIA speaks
aggressively and
effectively to convey
industry goals and
accomplishments
and voice common
concerns to
Congress, all
relevant federal
agencies, the news
media, and the
American public.*

AIA MEMBER COMPANIES

AAI Corporation
Aerojet, a Segment of GenCorp.
The Aerostructures Corporation
Alliant Techsystems Inc.
AlliedSignal Aerospace
American Pacific Corporation
Argo-Tech Corporation
B.H. Aircraft Company, Inc.
The Boeing Company
CMS, Inc.
Coltec Industries Inc
 Chandler Evans
 Delavan Gas Turbine
 Menasco Aerosystems
 Walbar
Cordant Technologies Inc.
Digital Equipment Corporation
Dowty Aerospace
 Los Angeles
 Yakima
Ducommun Incorporated
DuPont Company
Dynamic Engineering Incorporated
Esterline Technologies
GEC-Marconi Hazeltine Corporation
General Dynamics Corporation
General Electric Company
The BFGoodrich Company
 Aerostructures
 Landing Systems
 Maintenance, Repair and Overhaul
 Sensors and Integrated Systems
Gulfstream Aerospace Corporation
Harris Corporation
HEICO Aerospace Corporation
Hexcel Corporation
Honeywell Inc.
Hughes Electronics Corporation
 Hughes Network Systems, Inc.
 Hughes Space and Communication
 Company
Interturbine Corporation
ITT Defense and Electronics Inc.
Kaman Aerospace Corporation
Kistler Aerospace Corporation
Litton Industries, Inc.
Lockheed Martin Corporation
Lucas Aerospace Inc.
MOOG Inc.
Northrop Grumman Corporation
Pacific Scientific Company
Parker Hannifin Corporation
Raytheon Company
Robinson Helicopter Company, Inc.
Rockwell Collins, Inc.
Rolls-Royce North America Inc.
Science Applications International
 Corporation (SAIC)
Sundstrand Corporation
Teleflex, Inc./TFX Sermatech
 Mal Tool & Engineering
Textron Inc.
Tracor, Inc.
Triumph Controls, Inc.
TRW Inc.
United Defense
United Technologies Corporation
 Pratt & Whitney
 Sikorsky
 Hamilton Standard
Veridian Corporation
Woodward Governor Company

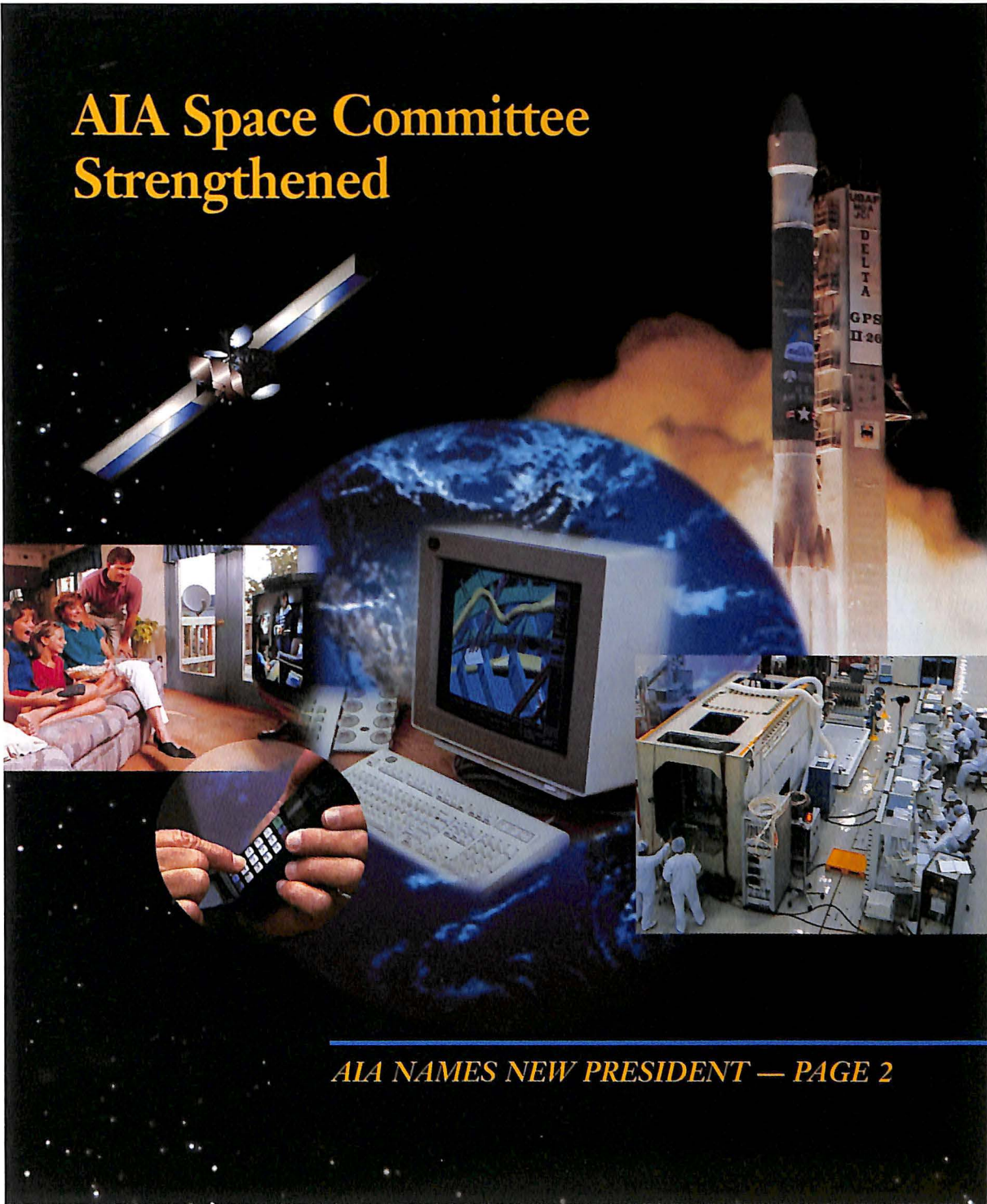


1250 Eye Street NW, #1200
Washington, DC 20005
Phone: (202) 371-8400 • FAX: (202) 371-8470
Web: www.aia-aerospace.org

EXECUTIVE
UPDATE

SUMMER 1998

**AIA Space Committee
Strengthened**



AIA NAMES NEW PRESIDENT — PAGE 2

John Douglass Is New AIA President and CEO

John W. Douglass, who has been assistant secretary of the Navy for research, development, and acquisition since November 1995, will succeed Don Fuqua in AIA's top executive position on September 18.

Fuqua, who has served AIA as president and general manager since January 1987, will remain with the association through November to provide counsel and help ensure a smooth transition.

As assistant secretary of the Navy, Douglass has been responsible for all research, development, and procurement of defense systems for the Navy and Marine Corps. He also has extensive acquisition experience in Congress, the Department of Defense, and the executive branch. Douglas, 57, is a nationally recognized expert in systems acquisition with extensive experience as a contracting officer, engineering officer, test and evaluation officer, program control officer, and research director.

In making the announcement in July, Michael T. Smith, chairman of the AIA Board of Governors, said: "We are very pleased that John Douglass has agreed to lead AIA in the years ahead. His knowledge of the industry and experience in the executive and legislative branches of government are invaluable assets to the association and the industry."

Fuqua also commended the AIA Board on its selection, noting "John Douglass' experience and knowledge of the Washington policy environment makes him eminently qualified to take over the role of leading and coordinating the efforts of the U.S. aerospace industry."

Smith, who is also chairman and chief executive officer of Hughes Electronics Corporation, paid tribute to Fuqua as well. "Don Fuqua has served AIA with distinction," he said. "Under his leadership, government confidence in the industry and the government-industry working relationships were restored."

Before joining AIA, Fuqua served 12 terms as a U.S. Congressman, representing Florida's 2nd Congressional District.



Defense Department executive John W. Douglass has been named president and chief executive officer of the Aerospace Industries Association.

Douglass previously was with the Senate Armed Services Committee where he was Foreign Policy and Science and Technology Advisor to Senator Sam Nunn. He also served as lead minority staff member for defense conversion and technology reinvestment programs.

He completed 28 years of Air Force service as a Brigadier General in 1992.

Douglass had numerous assignments in the Defense Department, including serving as the deputy U.S. military representative to NATO and director of plans and policy and director of science and technology in the office of the Secretary of the Air Force. He also served as special assistant to the Under Secretary of Defense for Acquisition.

Within the executive branch, Douglass was Director of National Security Programs for the White House, responsible for formulating national security policy on a broad range of national security issues. He served as President Reagan's personal representative to the Blue Ribbon Commission on Defense Management chaired by David Packard.

A native of Miami, Florida, he received his undergraduate degree from the University of Florida and earned advanced degrees from Texas Tech University and Fairleigh Dickinson University. Douglass has done postgraduate work at the Cornell University Center for International Studies where he was an Air Force Research Fellow with the Peace Studies Program.

AIA Welcomes New Member Barnes Aerospace; GEC-Marconi Hazeltine, Tracor Merge

The newest member of AIA is Barnes Aerospace, a division of Barnes Group, Inc. The company, located in Windsor, Connecticut, manufactures turbine engine components and aerostructures and overhauls and repairs turbine engines.

Representing Barnes Aerospace to AIA is its president, Cedric D. Beckett. Barnes Aerospace brings AIA membership to 53.

In another recent action among member companies, GEC-Marconi Hazeltine Corporation has merged with Tracor, Inc., and has changed its corporate name to Marconi North America Inc. Its president and chief executive officer, Mark H. Ronald, represents the merged company based in Wayne, New Jersey.

On the cover: Photo montage courtesy of The Boeing Company, Lockheed Martin Corporation, Hughes Space and Communications Company, and DIRECTV.

Dear Association Member:

Since AIA began publishing *Executive Update* this year, we've brought you news and updates on the status of issues affecting aerospace. This edition has an article of major importance to AIA and industry on Page 2. It's the announcement that Assistant Secretary of the Navy John W. Douglass has been selected to be the president of the association.

John Douglass knows the Washington policy arena, and he'll bring experience and competency in both the executive and legislative branches to industry. He starts in September, and I'll stay through November to give him all the help I can for a smooth and fruitful transition.

AIA's leadership in industry — and, therefore, the leadership of AIA itself — will be crucial in the months and years ahead as this industry continues to reshape itself in the wake of the end of the Cold War, as we struggle with more and more global trade issues, as Congress goes about making laws and approving budgets that affect us, and as aerospace reaches its 100th year early in the next millennium. With John, the Board of Governors has made a sound decision for leadership and responsibility.

Coincidentally, the announcement of John's selection came in the same month that AIA reached a unique milestone in its nearly 80-year history. On July 1, AIA began its 50th year as a fully-organized industry trade association with a full-time president. Former U.S. Navy Admiral DeWitt Ramsey was the first professional-level president of AIA, beginning his term on July 1, 1949. I subsequently became the sixth in succession, and John Douglass will now be the seventh.

Several people have asked what accomplishments stand out looking over the association's progress in the past 11-plus years. No doubt the most important has been the improvement in the working relationship between government and industry. That's not to my credit, though. It's something that all of industry working together brought about.

Other successful issues include getting away from fixed-price development contracts, establishing a system of commercial buying practices for DoD, opening depot-level work to private sector competition, raising the level

of business for small, disadvantaged, and women-owned businesses at a time of a declining industry business base, and getting support for foreign exports through Export-Import Bank funding of certain dual-use technologies.

Finally, the past few years have been dynamic for the aerospace industry as it has been successfully

“Several people have asked what accomplishments stand out looking over the association's progress in the past 11-plus years. No doubt the most important has been the improvement in the working relationship between government and industry.”

reshaping itself after the end of the Cold War. No other industry has ever had to change to the extent that aerospace has. We were either going to find ways to have economically and technologically strong companies or we would have weak companies that would go under. The results have been good and stem from strength and teamwork.

More recent issues on which AIA has made progress since our last *Executive Update* in May include:

Chinese Launches of U.S. Satellites.

The issue of Chinese launches of U.S. commercial satellites erupted into a stampede mentality in Congress in the weeks leading up to President Clinton's visit to the People's Republic of China in June.

The House of Representatives passed five amendments to the Defense Authorization bill, two of which would have serious implications for the aerospace industry and the U.S. national interest.

One of the amendments would prohibit satellite exports to China and the other would return the authority for licensing exports of dual-use products back to the State Department from the Commerce Department.

Needless to say, AIA is very concerned that the true facts of the satellite export issue and global satellite markets be known and that members of Congress, the media, and others understand the dynamics of U.S. trade policy and foreign relations. Fallout continues, but AIA is hopeful that restraint and understanding are leading to reason and balance.



Don Fuqua
PRESIDENT, AIA

To that end, we led a number of informational initiatives:

- Some 40 publications and electronic news organizations covered a joint press conference with the Satellite Industry Association.
- AIA testified in front of the House Rules Committee studying the issue.
- A series of fact sheets on satellite launch issues were prepared and distributed to key members of Congress and staff, the news media, and academic, business, and policy institutions.
- Personal contacts were made with key members of the Senate and House to help set the issue straight.

Overall, we gave our views and recommendations to as many people as we could for the sake of clarity and understanding.

Those who question the advisability of allowing U.S. satellite makers to use Chinese launches argue that possible technology transfer could compromise U.S. security interests and that the export control process administered by the Commerce Department is less thorough than that run by the State Department. Those claims are flat wrong.

Export licenses, whether from State or Commerce, specifically prohibit U.S. companies from providing information to the Chinese that would improve the performance or reliability of their rockets. Presidents Reagan, Bush, and Clinton and their respective Departments of Defense, State, and Commerce believed that cooperative launches could be conducted without technology transfer.

The existing launch policy is sound. It benefits the industry and consumers, and, therefore, it benefits the nation. Americans are increasingly reliant on telecommunications — the Internet, satellite television, low-cost international phone connections, and exchanges of verbal and written communications. The nation's economic and competitive strength benefits from our launch policy as the telecommunications industry continues a robust expansion that will guarantee U.S. leadership in space for decades to come. Thousands of U.S. jobs in aerospace and telecommunications are involved.

A ban on the launch of U.S. satellites on Chinese rockets will only lead to an increase in the purchase of European satellites at the expense of U.S. companies

rather than a reduction in the use of Chinese rockets — a lose-lose situation for the United States.

And let's not lose sight of the fact that our national interest is served by engagement with China. By continuing positive economic relations with China and by broadcasting Western values and ideas to a country of 1.4 billion, we have a solid opportunity to influence a country that sways all of Asia by the fact of its size.

The Year 2000 Problem. Let me be the first to wish us all a Happy New Year — for January 1, 2000. Along with those personal best wishes goes a business reason for my caring. AIA is working closely with industry and government on solutions to the so-called Y2K problem. That's the inability of many computer systems and embedded microprocessors to recognize the two-digit code "00" as the year 2000 — instead of 1900 — when the time changes at midnight December 31, 1999.

An extremely important industry meeting was scheduled to take place in mid-August on this effort. Because of deadlines for this edition of *Executive Update*, we'll report on the specific findings and recommendations of that meeting in our next edition. I mention the meeting now, though, to emphasize that the association has put its shoulder into accelerating industry momentum for this matter because precious time is running out. There are government and industry managers who predict that the Y2K software bug will do everything from creating an economic slowdown to shutting down manufacturing operations. We don't know if we can trust the severest predictions, and that's precisely why we should get the best information we can as soon as we can.

Presentations and discussion were scheduled by John Koskinen, chair of the President's Council on Year 2000 Conversion; Lee Holcomb, assistant administrator of NASA (the agency assigned to work with aerospace on this issue); representatives of Boeing, Lockheed Martin, Northrop Grumman, and United Technologies; and supplier panel representatives from Orbital Sciences, Computer Sciences, and Air Industries Machining Corporation.

Bill Lewandowski, AIA's vice president of supplier management, is coordinating this initiative. Also, he is conducting a survey to determine what Y2K solutions AIA's larger companies are considering and how they are relating the issue to their supplier base. In addition, AIA is



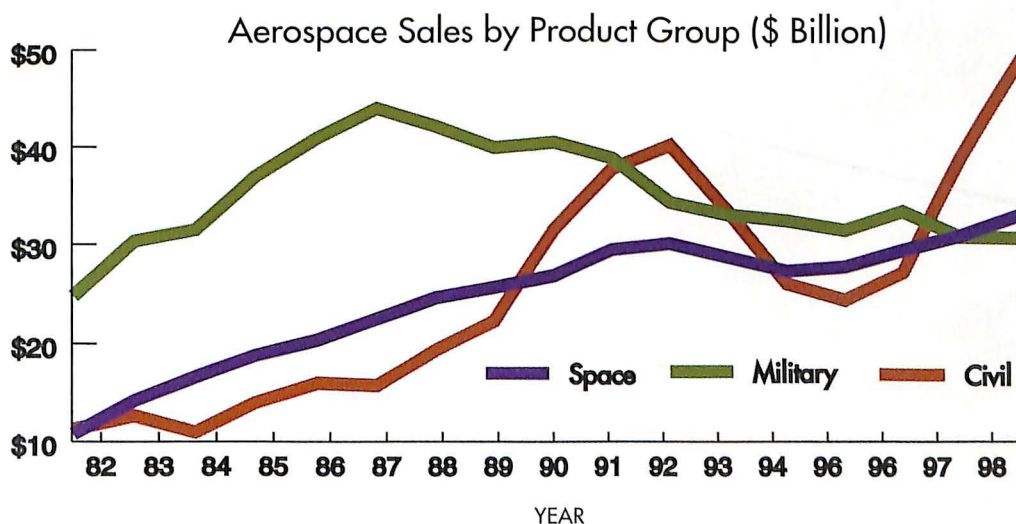
working with organizations such as the National Association of Manufacturers to assess the value of administration-sponsored legislation to limit liability because of possible manufacturing and product performance glitches that might occur after January 1, 2000.

Washington Public Relations Committee. In a move designed to enhance communication and promote aerospace industry goals, I approved the Communications Council's recommendation to create an official Washington Public Relations Representatives Committee. The committee was approved following a review and endorsement of the new body's charter at the Communication Council's spring meeting and a presentation by Communications Council Chair Cheryl Morosco of Parker Hannifin to the Board of Governors in May.

To get the group launched successfully this year, Gene Kozicharow, executive director of public affairs for Textron in Washington, has volunteered to be its first chairman. The formal committee replaces an ad hoc organization of Washington representatives that met regularly for the past few years but without a specific charter or statement of objectives.

The Washington Public Relations Committee will be the Washington-based arm of the Communications Council and will promote aerospace leadership, technological excellence, and strength in its manufacturing areas to the industry's many Washington constituencies. The committee will be instrumental in aligning the activities of the Communications Council with the Board of Governors, the AIA president, and other councils and committees.

SPACE HAS GROWN IN IMPORTANCE



Steady growth in space product sales has moved that sector to a point where its sales are nearly a third of the entire U.S. aerospace market.

(Source: Aerospace Industries Association data)

The Committee's activities will be coordinated through Alexis Allen, AIA's director of communications. All AIA member companies with Washington-based staff are eligible to be represented on the Committee.

AIA Launches Stand-Alone Space Committee

AIA has elevated the existing Space Committee from its position under the Technical Operations Council and made it a stand-alone committee reporting directly to the association president. To strengthen the committee further, we are asking AIA companies to review their representation on the Space Committee and consider assigning committee members from each manufacturing facility or division involved in space activities. The committee needs to represent all AIA space interests and be staffed at a high executive level.

It doesn't seem that long ago when man only dreamed about carrying on commercial activities in space. As space exploration went from Earth-orbit launches to manned flight to walks on the moon, it was hard to see how all

Commercial Space Issues

- National Space Policy
- Commercialization Policy
- Spectrum Allocation Policy
- Launch and Reentry Licensing
- Use of Government Launch Facilities
- Indemnification of Launches from U.S. Facilities
- Export Policy for Foreign Launches of U.S. Satellites
- Limit of Launches from Non-Market Economies
- Legal Framework for International Teams
- Government-to-Government Arrangements
- Company-to-Company Teams
- Space Debris: What is Allowed? Who Enforces/Cleans Up?
- Space Assets Security
- Launch/Flight Insurance
- Access to Remote Sensing Data



this would benefit mankind in an economical and profitable day-to-day way. It must have been the same some 95 years ago as the Wright Brothers brought powered airplane flight to reality.

Momentum is building in the space sector, and we're starting to see over the broad horizons of space and discover more and more benefits from the growth of technologies above Earth: satellite phones for clear and quick worldwide voice transmissions; data distribution for all sorts of business benefits, such as precision delivery of life-saving medical information, sometimes straight into an operating room; production and delivery of magazines and newspapers; global positioning to help track movements of aircraft, ships, and ground vehicles; pager systems to help speed contact with important people in our lives; educa-

tion delivered from a classroom in a large university to students in small towns and villages anywhere in the world through tele-courses. The list grows daily.



*Bruce Mahone
AIA Director
Space Policy*

Space Is Fastest Growing Sector

Today, the space market has reached a point where its sales are nearly a third of the entire U.S. aerospace market — an equal partner with military

aircraft and close behind civil aircraft technologies. And the business of space is the fastest growing sector.

The association needs to be in a strong position to address both its traditional government customers — working on NASA and DoD space issues — as well as the issues associated with the tremendous growth in commercial space markets. Under the direction of Bruce Mahone, AIA's director of space policy, the Space Committee will have a special meeting September 17-18 to identify issues of greatest concern to AIA members, assign task groups to address those issues, and set out timetables for the completion of specific tasks.

Larry Lewis, vice president of space systems at Boeing and chairman of the AIA Space Committee, highlighted the space issues to the Board of Governors in May.



*Larry Lewis
Space Committee
Chairman
Vice President-Space
Systems
The Boeing Company*

The space business is changing, he told the governors, pointing out that:

- The traditional government civil market is flat.
- The Air Force is becoming the "Air and Space Force."
- Commercial/international space markets are industry's growth future.

Lewis urged AIA to be more engaged in the transition to assure continued U.S. leadership in space and commercial space businesses. On behalf of the Space Committee, he asked us to look at goals for an AIA space initiative on policy issues, standards, regulatory matters, and an industry mechanism to influence decision-makers. While each company involved in space has its own business initiatives, space sector goals managed by the association can help establish a more focused industry and government arena for space, Lewis pointed out.

Today, there are 21 AIA member companies represented on the Space Committee. Later this year, Lewis likely will be succeeded as chairman of the AIA Space Committee by Dave Morris of Honeywell.

AIA Joining Space Technology Alliance

Among the wide and growing array of space issues for the association are the need for a national space policy, use of

government launch facilities, a legal framework for inter-

national teaming, and space assets security. These and other issues will be the core of discussions at the September special Space Committee meeting.

In a major recognition of the growing importance of the space sector of the aerospace industry, the Space Technology Alliance (STA) — an inter-agency government organization that joins together the space development interests of the Defense Department, NASA, the National Reconnaissance Organization, and the Department of Energy — has recently invited AIA to join the alliance as a partner representing industry.



*Dave Morris
Space Committee Vice
Chairman
Business Development
Manager
Honeywell Inc.*

AVAILABLE FROM AIA

Commercial Space Report

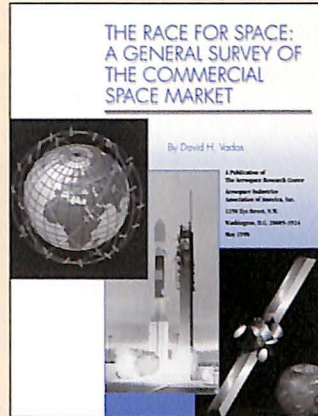
Commercial space is an exciting market with significant growth potential, according to a new report issued recently by the Aerospace Industries Association

The Race for Space: A General Survey of the Commercial Space Market

reports that billions of dollars are being invested into this business sector by private industry, resulting in new technologies, partnerships, and business ventures that are having a profound impact on the aerospace industry.

The effect of commercial space on the wider public will be significant. According to the report, within five years satellite networks are expected to transform forever the way people go about their daily lives.

"The U.S. commercial space industry is engaged in partnerships and ventures that will lead it and this country forward into the next millennium," said AIA



President Don Fuqua. "The government needs to address a number of issues, particularly in international forums, for this segment of the U.S. aerospace industry to continue its phenomenal expansion."

According to the report, some of the issues that need action before international forums include

frequency spectrum availability, orbital slot allocations, and access to local distribution systems for voice, data, video, and audio. Domestic policies on technology export controls, satellite and launch, launch and reentry licensing, and data sharing also need to be reexamined in light of current market conditions.

The Race for Space: A General Survey of the Commercial Space Market provides a basic overview of the marketplace and its various segments and identifies trends and competitors to U.S. industry.

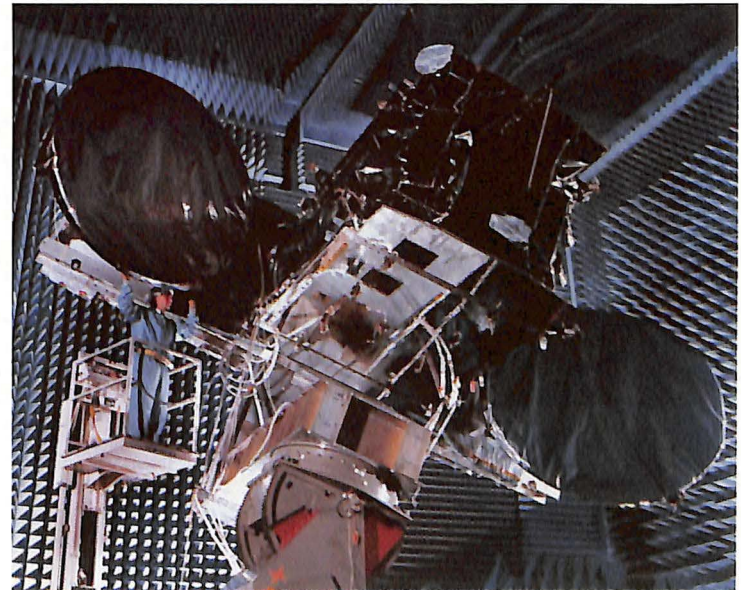
Copies of the report are available at no charge by calling (202) 371-8561.

STA said it wants industry at the table because of the tremendous growth in U.S. commercial space investment, now estimated at over \$100 billion. "The government doesn't drive the space market," STA said in a presentation to AIA. "There will be 1,500 to 1,800 satellite launches in the next 10 years, but only about 25 percent will be government. A half trillion dollars will be spent on space between 1996 and 2000, but only about 30 percent will be government funded."

The Alliance sees potential benefits in coordinating joint roadmaps with industry, integrating common thrusts, and having a shared inventory database.

AIA looks forward to the growing importance of space and the opportunities for better representation of member issues throughout that segment of government and industry.

Don Fuqua



A Lockheed Martin Telecommunications technician works on the company's A2100 satellite.

AIA SPACE COMMITTEE

Aerojet
Alliant Techsystems Inc.
AlliedSignal Aerospace
B.H. Aircraft Company, Inc.
The Boeing Company
Cordant Technologies Inc.
DuPont Company
General Dynamics Corporation
The BFGoodrich Company
Harris Corporation
Honeywell Inc.
Hughes Electronics Corporation
ITT Defense and Electronics Inc.
Kistler Aerospace
Lockheed Martin Corporation
Northrop Grumman Corporation
Raytheon Company
Rockwell Collins, Inc.
TFX Sermatech
TRW Inc.
United Technologies Corporation



1998 AIA TEN TOP ISSUE

Support Commercial Space Activities

Opportunities exist for growth in commercial space launch, communication satellite transmissions, and satellite-based imaging. Favorable policies regarding use of government launch ranges, liability, and data sharing need to be crafted to enhance U.S. competitiveness in commercial space.

AIA MEMBER COMPANIES

AAI Corporation
Aerojet, a Segment of GenCorp.
The Aerostructures Corporation
Alliant Techsystems Inc.
AlliedSignal Aerospace
American Pacific Corporation
Argo-Tech Corporation
Barnes Aerospace
B.H. Aircraft Company, Inc.
The Boeing Company
CMS, Inc.
Coltec Industries Inc
 Chandler Evans
 Delavan Gas Turbine
 Menasco Aerosystems
 Walbar
Cordant Technologies Inc.
Digital Equipment Corporation
Dowty Aerospace
 Los Angeles
 Yakima
Ducommun Incorporated
DuPont Company
Dynamic Engineering Incorporated
Esterline Technologies
General Dynamics Corporation
General Electric Company
The BFGoodrich Company
 Aerostructures
 Landing Systems
 Maintenance, Repair and Overhaul
 Sensors and Integrated Systems
Gulfstream Aerospace Corporation
Harris Corporation
HEICO Aerospace Corporation
Hexcel Corporation
Honeywell Inc.
Hughes Electronics Corporation
 Hughes Network Systems, Inc.
 Hughes Space and Communication Company
Interturbine Corporation
ITT Defense and Electronics Inc.
Kaman Aerospace Corporation
Kistler Aerospace Corporation
Litton Industries, Inc.
Lockheed Martin Corporation
Lucas Aerospace Inc.
Marconi North America Inc.
MOOG Inc.
Northrop Grumman Corporation
Pacific Scientific Company
Parker Hannifin Corporation
Raytheon Company
Robinson Helicopter Company, Inc.
Rockwell Collins, Inc.
Rolls-Royce North America Inc.
Sundstrand Corporation
Teleflex, Inc./TFX Sermatech
 Mal Tool & Engineering
Textron Inc.
Triumph Controls, Inc.
TRW Inc.
United Defense
United Technologies Corporation
 Pratt & Whitney
 Sikorsky
 Hamilton Standard
Veridian Corporation
Woodward Governor Company



1250 Eye Street NW, #1200
Washington, DC 20005
Phone: (202) 371-8400 • FAX: (202) 371-8470
Web: www.aia-aerospace.org

EXECUTIVE
UPDATE

FALL 1998



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Chairman

James R. Wilson,
Vice Chairman

John W. Douglass,
President

George F. Copsy,
Secretary-Treasurer

Executive Committee

AIA EQUALS TEAMWORK, STRENGTH, AND RESULTS

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Chief Executive Officer,
Lockheed Martin Corporation

John W. Douglass, President, AIA

John M. Leonis, Chairman,
Litton Industries, Inc.

Eugene F. Murphy, Vice Chairman
of the Board and Executive Officer,
General Electric Company

Michael T. Smith, Chairman and
Chief Executive Officer,
Hughes Electronics Corporation

Harry C. Stonecipher, President and
Chief Operating Officer,
The Boeing Company

James R. Wilson, Chairman,
President, and Chief Executive Officer,
Cordant Technologies Inc.

Board of Governors

On the cover:

An aerial view of the airfield serves as backdrop for this montage of some of the aircraft and systems of AIA member companies involved in marketing announcements during the Farnborough '98 Air Show. At top is the new Boeing 717, the subject of much marketing discussion at Farnborough after the first test flight of the new aircraft just a few days before the show. Clockwise from top right: Lockheed C-130J Hercules air transport, one of the newest aircraft at the show, the first model having been delivered to the United Kingdom only days before the show opened; Pratt & Whitney announced that the first application for its new PW6000 will be the new Airbus A318; the sign that welcomed air crews to the Operations Center hosted by AIA and the Defense Department; AlliedSignal introduced its first all-new turbofan engine in 25 years, the AS900, for regional and business aircraft; the Boeing/Sikorsky RAH-66 Comanche was a display centerpiece at the U.S. exhibit; Bell Helicopter Textron and Augusta said they plan a joint venture to develop the BA609 civil tiltrotor.

Dr. Peter A. Bukowick, President,
Chief Executive Officer, and
Chief Operating Officer,
Alliant Techsystems Inc.

Daniel P. Burnham, President and
Chief Operating Officer,
Raytheon Company

Robert M. Chiusano, Vice President &
General Manager,
Rockwell Collins, Inc.

Phillip W. Farmer, Chairman,
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ITT Industries, Defense and Electronics

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and Chief Executive Officer,
Rolls-Royce North America Inc.

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Vice President and General Manager,
Space & Electronics Group,
TRW Inc.

Stephen L. Hayes, President,
Parker Bertea Aerospace, and
Vice President,
Parker Hannifin Corporation

James T. Johnson, President and
Chief Operating Officer,
Gulfstream Aerospace Corporation

Karl J. Krapek, Executive Vice President,
United Technologies Corporation, and
President, Pratt & Whitney

Kent Kresa, Chairman, President,
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Frank Kundahl, President,
Mal Tool & Engineering,
Teleflex, Inc./TFX Sermatech

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BFGoodrich Aerospace,
The BFGoodrich Company

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Marketing Sales & Services,
AlliedSignal Inc.

Ronald F. McKenna, Corporate
Vice President and Chief Operating Officer,
Aerospace, Sundstrand Corporation

Thomas W. Rabaut, President and
Chief Executive Officer,
United Defense

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Triumph Controls, Inc.

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Space and Aviation Control,
Honeywell Inc.

Terry D. Stinson, Chairman and
Chief Executive Officer,
Bell Helicopter Textron,
Textron Inc.

Robert A. Wolfe, President,
Aerojet, a Segment of GenCorp.





John W. Douglass
President, AIA

Dear Association Member:
Mid-November marks about 75 days since I became president of the Aerospace Industries Association. They've been busy and productive.

As I came in the door, I suggested that people in AIA and in our industry fasten their seat belts. I said I thought we were in for a roller-coaster ride because of the forces here at home and in the world that are pressing for change: changes

in how countries rely on each other economically, changes in how the United States reacts to the world, and the continued changing shape of aerospace around the world.

The ride has begun. I'm not predicting how things will come out, but after two-and-a-half months on the job, I can say with confidence that AIA finds itself in a strong position to navigate the precipitous dips and turns.

My encouragement stems from meetings I've had with CEOs of member companies, council and committee representatives, and senior staff. These meetings have provided me with an opportunity to hear different perspectives on our organization and our issues. These meetings also have been a place for me to begin to organize my own thoughts on how we'll formulate strategies and carry out tactics as a team here.

The one-on-one and small-staff sessions led to a senior staff meeting last month during which we formulated plans for a staff retreat December 18 outside of the daily grind of downtown Washington. The retreat will be organized and conducted by a professional facilitator from an outside "thought-provoking" organization. When the last year of the current millennium begins in about 45 days, AIA will be running on track and in sync with a new strategic vision and plan for the future.

I'm committed to working with the CEOs of the association and with staff to learn where you think our industry is today and where it should be going. You've been in the front rank on these issues and you've scored a significant number of successes. I want to hear your ideas on what our roles should be, what strategies we should implement, and what shortfalls we might be leaving behind as we move along.

I welcome the opportunity this issue of *Executive Update* affords me in being able to report to you on where we've been so far. Those who attend our Board of Governors

meeting this month will get a first-hand account of these issues and my views.

Farnborough Air Show '98

One place we've been — literally — is Farnborough, England, for the Air Show '98. I've attended several Farnborough and Paris Air Shows over the years, but this was my first time as an observer from within industry. Our past president, Don Fuqua, and Joel Johnson, vice president of international, accompanied me.

Johnson and his staff once again organized AIA's formal presence at Farnborough, including co-hosting with the Defense Department the flight crews and ground teams who supported the military aircraft on display at the massive exhibition.



Joel Johnson
AIA Vice President
International

The joint AIA/DoD Operations Center served as a rest stop and refreshment area for dozens of U.S. military representatives. In addition, the joint team helped coordinate the visits of U.S. military and government representatives to the show.

Another good thing that happened at Farnborough was a reception co-hosted by AIA with the Society of Japanese Aerospace Companies — representing the aerospace manufacturing interests of the world's two largest economies. Another worthwhile event was the annual meeting of the International Coordinating Council of Aerospace Industries Associations, made up chiefly of representatives of aerospace industry associations from Canada, Japan, Europe, and the United States. During the session I was elected to chair this organization for the next two years.



John W. Douglass, president of AIA (at podium), takes a question from the floor at the conclusion of his luncheon address to the National Aviation Club in Arlington, VA, in September. More than 100 representatives of industry, government, and the media heard Douglass discuss his initial outlook of aerospace industry issues.

This year's air show was Farnborough's largest in numbers of exhibitors and aircraft displayed. New orders, joint ventures, and new programs were announced, despite the economic problems in Russia and Asia and the worldwide stock market declines.

On a side note, the first air show at the Farnborough Aerodrome was held 50 years ago in 1948. Coincidentally, this is one of five aerospace industry anniversaries noted in this issue of *Executive Update*. Elsewhere are items recognizing the Boeing 747, NASA, Sikorsky Aircraft, and AIA's 79th anniversary.

I like to acknowledge important anniversaries and key dates in aerospace history — it helps us have a greater appreciation of where the industry is going if we stop occasionally to note where our pioneering predecessors and we have been.

Centennial of Flight Commemoration

Speaking of anniversaries, it's appropriate that Congress passed the Centennial of Flight Commemoration Act in October, establishing a national commission to plan a celebration of the 100th anniversary of powered flight and the achievements of the Wright brothers. Already a First Flight Foundation has been established in North Carolina and a 2003 Committee in Ohio.

AIA's Communications Council has been assessing the impact the legislation could have on member companies and ways the association can play a role in marking this landmark anniversary. With their recommendations in hand I'll report on this to the Executive Committee and the Board of Governors in November.

International Trade Views and Export Issues

The business events at Farnborough gave me a chance to meet with many of our counterparts from the aerospace industries of the world, executives from aerospace manufacturing companies, government officials, and association leaders. I can tell you that there is a consensus that the world is in a period of uncertainty in both the private sector and in the government sector.

When you stand on the tarmac at Farnborough and look up and down the rows of new commercial and military aircraft made in the United States and marketed around the globe, you get a clear picture of the importance of American aerospace to international trade.

Our aerospace industry's exports are vital to the continued economic health of this nation. In 1997 the United States posted a trade deficit with the rest of the world of \$181 billion. That deficit would have been 18 percent larger — some \$214 billion — had it not been for our aerospace

exports. Our industry sold some \$50 billion worth of goods and services overseas in 1997 — and \$32 billion was pure trade surplus.

To survive and grow, the aerospace industry must be able to export. With that in mind, I have great concern over congressional language put in the Defense Department authorization bill restricting communications satellite exports. It is poor policy to restrict the sale of commercial products by treating them as though they were lethal weapons systems.

Come January, AIA will work with members of the new Congress and with the new administration to clarify that language. We want to see that kind of narrow, parochial language reversed.

Another challenge to growing aerospace exports is the general agreement in the industry that the State Department's export control system needs to be revamped.

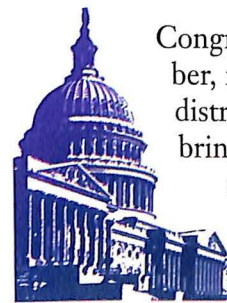
The current system, I fear, hobbles those who hold the trade deficit in check. Defense exporters — who shipped almost 17 percent of the industry's total overseas sales in the second quarter of 1998 — must cope with too few personnel administering too many export license requests.

The State Department processes about 45,000 license applications a year, including nearly 150 congressional notifications. Only 20 some licensing officers handle the workload. It's not their fault that they must administer a system rooted in the Cold War period.

The Cold War is over. The export controls that it left in place don't lend themselves to what we need to do as a nation to enable our industry to flourish. There are a lot of innovative people in Washington who can and will figure out a better way to deal with export controls. To solve the immediate problem, the State Department must find ways to increase resources and reduce the processing load.

AIA will continue in the forefront of this issue as the new year begins.

Congressional Actions Affecting Aerospace



Congress finally got out of Washington in October, rushing to get back to their states and districts to campaign for the elections that will bring a new legislative body in January and signaling the start of the political foot race that will bring a new executive administration in 2000.

Of the defense policy and procurement issues acted on, the aerospace industry was left with a mixed bag.

AIA was successful in defeating an amendment that would have dropped the threshold for pre-validation of invoices in defense purchases from the current \$1 million

down to \$500,000. Some 78 percent of the defense industry's cash flow would have been delayed if the lower level had been imposed.

In other good news, the Export Loan Guarantee Program was extended for another year. This is the program initiated a few years ago with AIA backing that supports the export of defense equipment through loan guarantees. AIA sought the extension on the grounds that the program helps the U.S. defense industry compete in the international marketplace.

In the depot maintenance arena, we obviously have more hard work ahead in trying to bring about a fair balance of competition and private-versus-public work sharing. Congress redefined the definition of depot maintenance, restricting the accounting of private-sector work in computing the existing 50/50 workload allocation arrangement. This will further impede DoD from selecting the best performer whether from the public or private sector.

The lawmakers also established a highly undesirable measurement standard of "core" capability in individual depot maintenance systems, replacing the existing measurement based on broader skills and capabilities. These changes are going to bear watching as they are implemented at the DoD work-selection level.

In another procurement matter, Congress addressed revisions to DoD's commercial buying capabilities — a possible good news/bad news scenario that needs to be monitored as it is implemented. The revision calls for regulations to clarify procedures for determining reasonableness of prices and for specific guidance on the use of price analysis tools. That's the good news — if the regulations are used for guidance.

On the other hand, if the regulations are written as rigid rules without flexibility, it would be a harmful step backward from the adoption of commercial buying practices in the defense marketplace.

In aviation, AIA played a leading role in averting the inclusion of language in the authorization of the Federal Aviation Administration's FY99 budget that would have restricted the ability of the FAA to approve the use of foreign repair stations to work on U.S.-registered aircraft.

Also, Congress approved language governing the disposition of parts removed from aircraft at or near the end of their design life. Proper implementation of the provision will help ensure that old parts aren't re-installed unless their life is extended under appropriate FAA procedures.

Trans-Atlantic Business Dialogue

AIA continued to play a leading role in the aerospace sector of the Trans-Atlantic Business Dialogue, helping set the agenda for the forum's annual meeting in Charlotte, NC, in

NASA — 40 Years

NASA celebrated its 40th anniversary on October 1— and AIA marked the occasion by presenting Administrator Dan Goldin a congratulatory resolution on behalf of all AIA member companies. Board of Governors Chairman Michael T. Smith, chairman of Hughes Electronics Corporation, and AIA President John W. Douglass signed the framed document. AIA Past President Don Fuqua joined Douglass in the presentation ceremony.

The resolution cited NASA's "magnificent contribution to a more complete understanding of the vast reaches of the universe which envelop mankind and its Earth," adding that "the U.S. aerospace industry has been privileged to share with NASA a highly productive partnership that has achieved unparalleled success in advancing the technology and management of space exploration, space communications, and space research."

On the day of the anniversary, Goldin issued a statement in which he thanked the American public for inspiring NASA through their "unquenchable thirst for knowledge and a relentless sense of adventure.

"A space program that is 40 years old has sent astronauts to the moon, robots to Mars, spacecraft to the farthest reaches of the solar system, and soon will help build the International Space Station," the administrator added. "And for every step we take out there, we have contributed to a better quality of life right here — whether it be the 'spin-off' technology that helps us detect breast cancer earlier or the child who looks up and knows that no longer is the sky the limit — it is the stars and beyond."




November. The organization seeks to achieve consensus between the United States and European industries on critical issues. In actions of particular interest to our industry, the forum:

- Endorsed progress toward harmonization of European and U.S. aviation regulations and called on the FAA and the European Joint Aviation Authority to work together to define their requirements for certification.

- Welcomed movement toward establishing a single European aviation safety authority with legislative powers delegated by member countries.
- Expressed concern that non-aviation technical regulations sometimes fail to recognize that civil aviation is already closely regulated by U.S. and European authorities and proposed a European Union-U.S. forum to review the application of such technical regulations to the aerospace sector.
- Expressed opposition to the effort in Congress to restrict the certification of foreign repair stations.

In another international aerospace issue, AIA prepared for the General Assembly of the International Civil Aviation Organization (ICAO) by crafting a U.S. position and gaining broad support for keeping ICAO as the recognized international forum for environmental matters relating to aviation operations. This action opposed efforts by the European Union (EU) to place unilateral environmental restrictions on the operation of aircraft in the EU.

Are You Y2K OK?

In the summer issue of *Executive Update*, we reported that AIA is working closely with industry and government to find solutions for the Y2K problem. One **YEAR.....**  outcome from an August meeting of approximately 50 industry and government representatives, co-hosted by AIA and NASA, was the establishment of a communications network to include all AIA member companies. The lack of exchange of information, particularly with respect to the Y2K status of smaller companies and suppliers, was repeatedly raised along with such issues as the potential legal liabilities relating to certification, disclosure of proprietary information, and system failures.

Subsequently, chief information officers or their representatives and legal representatives of AIA member companies met at AIA on October 9 to focus on information exchange and legal liabilities. It was decided to develop proposals for several areas involving Y2K. They include sharing audit data,

rating suppliers, encouraging suppliers to post their Y2K status on the Web, and listing their Y2K-compliant products on central listings.

With respect to questions of potential liability arising from the exchange of information and potential antitrust issues, AIA is requesting a waiver from the Justice Department's Antitrust Division.

We will keep you posted on developments in this area of urgent concern.

Space Committee Agenda

As reported last quarter, AIA's Space Committee is adapting its focus and activities to a changed business environment. This committee reports directly to me, and with commercial and international space markets being the biggest growth areas in the aerospace industry, I intend to

Sikorsky Aircraft — 75 Years

Hear the name Sikorsky Aircraft and you immediately think of helicopters — the Boeing/Sikorsky RAH-66 Comanche, the UH-60 Black Hawk, the S-76 VIP chopper.

But when Igor Sikorsky started his company 75 years ago, it was to develop and manufacture an all-metal, twin-engine passenger plane — an amphibian at that.

The Sikorsky Aero Engineering Corporation began on a farm near Roosevelt Field, Long Island, in March 1923. It produced the S-29A ("A" denoted America, the adopted home of the Russian-born engineer).

Sikorsky perfected his designs until his eight-seat S-36 became the first practical amphibian and entered service with Pan American Airways in 1928. A year later, Col. Charles Lindbergh inaugurated airmail service between the United States and the Panama Canal Zone with the S-38.

With the success of the S-38, the company became the Sikorsky Manufacturing Corporation. In 1929 the firm became a subsidiary and later a division of United Aircraft Corporation, which later evolved into United Technologies Corporation.

After the success of his flying boats, Igor Sikorsky returned to his first quest, the helicopter. His steel tube, open cockpit VS-300 flew for the first time in 1939.

Sikorsky's following work in helicopter controls ultimately gave the world a stable, practical, versatile, vertical-lift flying machine.

Igor Sikorsky tests early helicopter.



spend considerable time on this endeavor. It will take a great deal of work to educate Congress about the technical issues related to commercial space. We will need to move quickly because never in the next eight years will our political leverage be stronger than in the next 18 months.

At its September 17-18 meeting in Washington, the committee outlined its goals. Each is aimed at ensuring continued U.S. leadership in space business. We want to be known by space decision-makers and peers as an effective organization that can formulate an industry view and provide a forum on key issues. To achieve this, we need committee members with ties to their corporate leadership.

Two subcommittees were formed from the Space Committee: Government and Commercial. The Government Subcommittee will participate in the Space Technology Alliance and in an overall AIA project to increase the DoD budget. The Commercial Subcommittee

has agreed to three major focus areas: indemnification renewal, reform of the export licensing process, and government's role in commercial space development.

The Space Committee will continue to meet four times yearly, next in a two-day session on December 10-11 at Cape Canaveral, Florida.

With the many critical issues AIA facilitates with its member companies, it is important to stay focused and work diligently toward solutions in the best interest of all — government, industry, and the taxpayer. I think we are in an excellent position to move full speed ahead.



John W. Douglass

Boeing 747 — 30 Years

The Boeing 747 celebrated its 30-year anniversary on September 30. Known as the world's first jumbo jet, the 747 is still the world's largest commercial jetliner.

With nearly 1,200 delivered and 15 different models, the 747 is the best-selling, twin-aisle jet in the industry.

"There's practically nothing this airplane can't do. It can haul more passengers and more freight faster and farther than any other commercial airplane," said Ed Renouard, vice president and general manager of the 747/767 programs. "It is flown by the president of the United States and dignitaries from around the world, as well as working folks and business travelers.

"Our armed forces use it for military operations, and our nation's space program uses it to ferry the space shuttle," Renouard added. "It's an intercontinental, long-range airplane as well as an ultra-high capacity, short-range airplane in Japan.

"On top of that, in the last 30 years the 747 fleet has flown 2.2 billion people, the equivalent of nearly 40 percent of the world's population."

Boeing launched the 747 program in 1966 with an order from Pan American World Airways. The 747 entered commercial service with Pan Am in 1970. With nearly 1,100 airplanes in service today and its distinctive trademark "hump," the 747 is the most recognizable commercial airplane in the world.

During its lifetime, the 747 worldwide fleet has logged more than 50 million flight hours, 12 million flights, and 20 billion miles — enough to make 42,000



Boeing 747 is 30 years old.

trips to the moon and back.

The 747 is capable of carrying up to 568 passengers, depending on the model and its interior configuration. The 747-400, currently the only model in production, entered commercial service in 1989 and has sold more than any other 747 version.

Engines for the early model 747s initially were available with 43,000 pounds of thrust. Today, Pratt & Whitney, General Electric, and Rolls-Royce offer engines for the 747-400 with up to 62,000 pounds of thrust.

"From the beginning, the 747 was designed with versatility in mind," said Joe Sutter, chief engineer of the original 747 program and now a retired Boeing executive vice president.

"Because of this, it has adapted easily to new technology and changing customer requirements. This flexibility is what makes the airplane so popular with the airlines and the flying public — it's what makes the 747 legendary," Sutter said.

Boeing is discussing with key 747 customers increased-gross-weight 747-400X versions.

AIA was founded in 1919 as the Aeronautical Chamber of Commerce of America (ACCA) with 100 charter members. Its purpose was "to foster, advance, promulgate, and promote aeronautics . . . and to do every act and thing . . . necessary . . . for the advancement of American aviation." Early members included Orville Wright, Glenn H. Curtiss, and nearly every important aircraft manufacturer of that time.

On July 1, 1949, the first full-time president took the helm of the association

The Aerospace Industries Association, now in its 50th year as a fully organized industry trade association with a full-time president, marked its 79th anniversary overall in 1998.

to represent in Washington the large aerospace industry that remained in existence at the end of World War II, an industry that was in need of refocusing into a peacetime economy. ACCA had become the Aircraft Industries Association in 1945.

The Aircraft Industries Association became the Aerospace Industries Association of America in 1959, reflecting the broader industry product lines — aircraft, missile, and space systems development and manufacturing.

Today, AIA is the trade association representing some 52 of the nation's leading manufacturers of commercial, military, and business aircraft, helicopters, aircraft engines, missiles, spacecraft, and related components and equipment. AIA believes high technology aerospace products are vital to the U.S. defense, the domestic economy, and the nation's trade balance.



AIA MEMBER COMPANIES

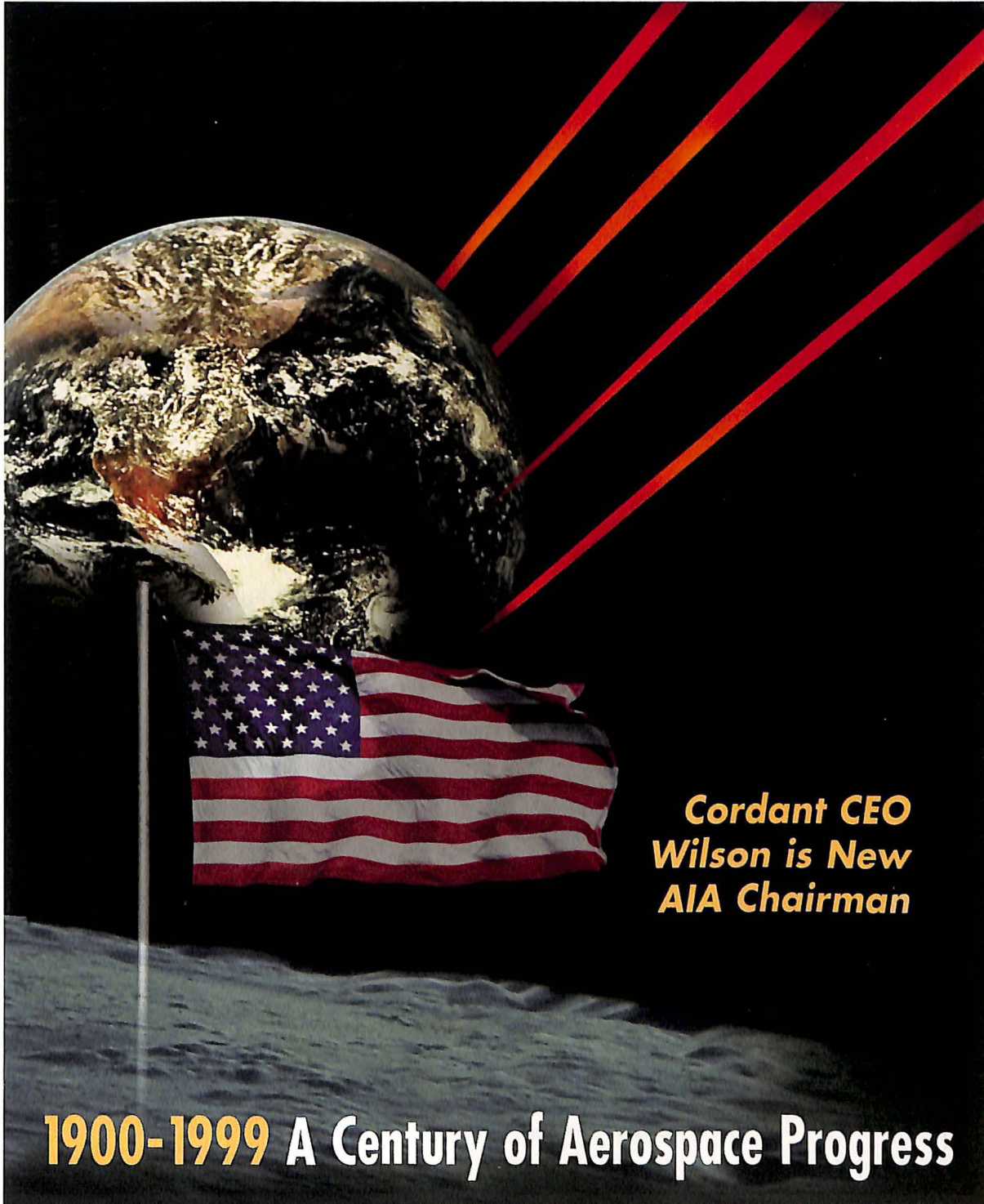
AAI Corporation
 Aerojet, a Segment of GenCorp.
 The Aerostructures Corporation
 Alliant Techsystems Inc.
 AlliedSignal Aerospace
 American Pacific Corporation
 Argo-Tech Corporation
 Barnes Aerospace
 B.H. Aircraft Company, Inc.
 The Boeing Company
 CMS, Inc.
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 Chandler Evans
 Delavan Gas Turbine
 Menasco Aerosystems
 Walbar
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 Digital Equipment Corporation
 Dowty Aerospace
 Los Angeles
 Yakima
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 Esterline Technologies
 General Dynamics Corporation
 General Electric Company
 The BFGoodrich Company
 Aerostructures
 Landing Systems
 Maintenance, Repair and Overhaul
 Sensors and Integrated Systems
 Gulfstream Aerospace Corporation
 Harris Corporation
 HEICO Aerospace Corporation
 Hexcel Corporation
 Honeywell Inc.
 Hughes Electronics Corporation
 Hughes Network Systems, Inc.
 Hughes Space and Communications Company
 Interturbine Corporation
 ITT Industries, Defense & Electronics
 Kaman Aerospace Corporation
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1250 Eye Street NW, #1200
 Washington, DC 20005
 Phone: (202) 371-8400 • FAX: (202) 371-8470
 Web: www.aia-aerospace.org

EXECUTIVE
UPDATE

WINTER 1999



**Cordant CEO
Wilson is New
AIA Chairman**

1900-1999 A Century of Aerospace Progress

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Chairman

Daniel P. Burnham,
Vice Chairman

John W. Douglass,
President

George F. Copey,
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Marshall O. Larsen, President and Chief Operating Officer, BFGoodrich Aerospace, The BFGoodrich Company

Eugene F. Murphy, Vice Chairman and Executive Officer, General Electric Company

Mark H. Ronald, President and Chief Executive Officer, Marconi North America Inc.

Michael T. Smith, Chairman and Chief Executive Officer, Hughes Electronics Corporation

James R. Wilson, Chairman and Chief Executive Officer, Cordant Technologies Inc.

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Michael S. Lipscomb, President & Chief Executive Officer, Argo-Tech Corporation

John M. Leonis, Chairman, Litton Industries, Inc.

Laurans A. Mendelson, Chairman & Chief Executive Officer, HEICO Aerospace Corporation

Ronald F. McKenna, Corporate Vice President & COO, Aerospace, Sundstrand Corporation

Thomas W. Rabaut, President & Chief Executive Officer, United Defense

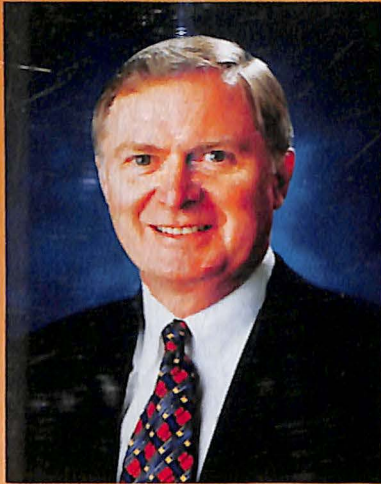
Donald K. Schwanz, President, Space and Aviation Control, Honeywell Inc.

Terry D. Stinson, Chairman and Chief Executive Officer, Bell Helicopter Textron, Textron, Inc.

Harry C. Stonecipher, President & Chief Operating Officer, The Boeing Company

Dick Wells, President and Chief Executive Officer, The Aerostructures Corporation





James R. Wilson
Chairman, AIA Board of Governors

AIA's 1999 Chairman is Jim Wilson, chairman and chief executive officer of Cordant Technologies Inc. — a new name for a company that's been part of the AIA team for many years.



Cordant Technologies, formerly Thiokol Corporation, is a technology-based company with three market-leading businesses — Howmet International (investment cast components for aircraft and industrial gas turbines), Thiokol Propulsion (solid rocket motors), and Huck International (industrial and aerospace fastener systems).

Cordant is derived from "concordant," defined as harmonious or in agreement. The company is headquartered in Salt Lake City, Utah.

Dear Colleague:

This is a great time in history to be part of the aerospace industry, and I am fortunate to have the opportunity to be chairman of the Board of Governors of the Aerospace Industries Association in such a dynamic period.

Depending on your perspective, 1999 is simply the last year of the 20th Century, or it's the close of the First Century of Aerospace Progress. For us, it's obviously the latter. It's the final year of the century in which man learned to fly, developed a commercial airline industry, built jumbo jets, landed on the moon and returned, explored Mars, developed social and economic advantages of commercial space, began to build a meaningful research laboratory in space, and used military and aerospace technology for our national defense.

So what's ahead for AIA?

John Douglass has come aboard as president of the association, bringing a wide and successful background of accomplishments in military, legislative, and public service careers. John conveys a renewed vision for AIA and a commitment for the association to fulfill its role as the strongest advocate for aerospace in Washington, in America, and around the globe. He is shaping AIA for the task ahead, and the Board and I will help him with the plan and the tools.

We have growing issues:

- Industry and DoD are wrestling with how consolidation and globalization in aerospace and defense industries will affect economic interests and national security.

- We need to modernize the export control system.
- It's time for new government support of U.S. space industry competitiveness to help ensure sufficient commercial and government launch facilities and provide indemnification for space launch liability.
- Industry must continue an aggressive campaign for additional federal acquisition reform.

Another crucial issue that matters significantly to AIA is membership growth. We have many of the leading aerospace and defense corporations on our team, and they find meaningful value in our objectives and accomplishments. But we don't count as members all of the firms that should be on our roster. We're going to put renewed effort into membership recruitment and retention this year.

The Aerospace Industries Association was founded in 1919 and this year will celebrate its 80th year. It is the premier trade association representing the nation's manufacturers of commercial, military, and business aircraft, helicopters, engines, missiles, spacecraft, and related components and equipment. It speaks with an aggressive and effective voice.

My vision for AIA in the year ahead is that members and staff working together will turn our industry challenges into gains, strengthening our voice and letting it be heard wider and further as we enter the 21st Century — the Second Century of Aerospace Progress.

James R. Wilson

Together, we — the Board of Governors, the Executive Committee, the staff and I — have begun drawing up a vision for AIA, supported by a mission statement, guiding principles, and a strategic plan and goals

Dear Association Member:

In his welcome message elsewhere in this edition of *AIA Executive Update*, Cordant Technologies Chairman and CEO Jim Wilson, the AIA Board of Governors chairman for 1999, credits the years 1900-1999 as the Century of Aerospace Progress. His commentary is absolutely correct. The progress we've made in this century is in large part due to the leadership of Jim and those who have served before him as CEOs in America's aerospace industry.

Everything that is aerospace happened within the past 99 years — from the tinkering of Wilbur and Orville Wright in a bike shop in Dayton, Ohio, to the two historic flights of space pioneer John Glenn 36 years apart.

The end of the 20th Century brings our industry to several important crossroads and a period of momentous change. In about 300 days we'll embark on a new decade, a new century, a new millennium.

About a year later we'll seat a new president, a new administration, and a new Congress. The events that will lead to decisions determining

who those new leaders will be have already begun. Posturing is already taking place toward the first presidential primary less than a year away.

I've been president of AIA for some 180 days or roughly half a year. Six months ago I said I would work with the CEOs of our industry and with the professional staff of AIA to formulate a strategic plan for our industry for the next century.

I met with the Board of Governors in late November and drafted our association objectives. I met with the senior staff in an all-day off-site dialogue in December to develop our vision for the future of AIA. I've met with the Executive Committee several times to focus on our issues and strategies.

Together, we — the Board of Governors, the Executive Committee, the staff and I — have begun drawing up a vision for AIA, supported by a mission statement, guiding principles, and a strategic plan and goals. You'll see the specifics of this activity at our Board meeting in May.



John W. Douglass
President, AIA

Commerce Secretary William Daley (left, at head of table) met with senior AIA representatives in January to discuss aerospace export and trade issues. Daley pledged administration support on a number of key issues. With Daley at the head of the table is James R. Wilson, chairman of the Board of Governors. Inset: AIA President John W. Douglass and Secretary Daley share points of view.



AIA 1999 Top Ten Issues

One of the first tangible results of our planning was the determination of the 1999 AIA Top Ten Issues, targets that identify the industry's major challenges and encompass the broad objectives of the Board of Governors. This was no easy task.

The Top Ten are the most urgent and compelling, but there are many more issues. The full list is highlighted on this page. Policy statements, which include detailed explanations of each issue and AIA's action strategies, are also available.

We're also working to identify the top five or six issues which, in concert with you, we intend to shape into our industry platform for the presidential 2000 election. We'll have an opportunity to discuss those at the May Board meeting.

In the meantime, here are a few off the top of the critical issues list:

Modernize the Export Control System:

The two Cold War-vintage laws that are the framework for U.S. export controls need to be rewritten to reflect current political and business reality. Industry must formulate its views on a modernized export control regime and work with Congress to legislate such a system. In the meantime, we'll do our best to make the existing laws work. At a minimum, current laws need to be administered more efficiently by adding resources to the State Department and streamlining the export licensing process.

Everyone who participated in prioritizing this year's issues mentioned export modernization. Its importance was brought home in late January when the State Department report to Congress on transferring licensing of commercial communications satellites was delivered. In the report the State Department established a goal of 90 working days in which to complete review of licenses. When combined with a marketing license, export license, and congressional notification, this process could easily reach a year.

We must educate congressional and government representatives that business decisions and capital can't be put on standstill while the government decision process grinds on in a long, drawn out process. AIA, working with

other associations, sponsored an export control briefing attended by more than 25 congressional staff to try to bring home these points in what will surely be a major issue in the 106th Congress.

Develop a National Strategy for Aerospace R&D Funding: The development of new U.S. technologies is threatened by a steep decline in government and industry spending on research. A vigorous national debate is necessary to ensure a U.S. strategy to accelerate advanced technologies in the aerospace industry.

AIA will lead an effort to examine ways to encourage industry and government investment in aerospace R&D, including recommending a specific level to which we need to work in order to ensure that U.S. national leadership in aerospace is not lost. The tremendous trade story that we can point to with such pride (see export chart on page 6) is directly linked to our national investment in R&D. We are strongly advocating the permanent passage of R&D tax credit legislation.

Upgrade Launch Range Infrastructure:

Demand for commercial space launches is growing rapidly, outstripping U.S. launch capacity. The technical infrastructure at most U.S. ranges is based on 1960s technology and funds for upgrading are often diverted, leaving ranges to degrade even further. Policies are needed to support U.S. space industry competitiveness and ensure equitably shared commercial and government facilities.

As Congress gets back to business, we'll maintain an information and action campaign to bring about meaningful change in all the issues facing our aerospace industries.

Globalization of Aerospace and Defense

In another critical area, the continued trend of consolidation and globalization in aerospace and defense industries is bringing about concern on how national security and economic interests are being affected.

The Defense Department has begun three studies to address globalization of the aerospace and defense industries, as well as the increased reliance by those industries on commercial products. Furthermore, consolidation of some

Continued on page 7.

1999 AIA Ten Top Issues

- Modernize the Export Control System
- Renew Space Launch Indemnification
- Upgrade Launch Range Infrastructure
- Reform the Civil False Claims Act
- Achieve Global Aircraft Noise and Engine Emissions Standards
- Develop a National Strategy for Aerospace R&D Funding
- Continue Aggressive Federal Acquisition Reform
- Finance FAA Certification Activities Through the General Fund, Not User Fees
- Amend the Defense Export Loan Guarantee Program
- Improve DoD Contract Payment Process

Other Important 1999 Issues

- Ensure Clear Government Procedures and Criteria for Aerospace Mergers & Acquisitions
- Implement the Commercial Aviation Safety Team Recommendations
- Expand Industry Role in DoD Life Cycle Support
- Serve As a Clearinghouse on Y2K for the Aerospace Industry
- Develop Long Term Safety Regulations for the Commercial Launch Industry
- Develop Environmental Standards for Engine Testing and Rocket Firing
- Maintain FAA Authority to Certificate Foreign Repair Stations
- Reform Government Ethics Legislation
- Ensure Industry Goals and Objectives in 2003 Celebration Planning

Aerospace Trade Surplus Helps Keep U.S. Strong

“Aerospace industry sales in 1998 hit a record \$140.5 billion, an increase of \$6.8 billion or more than five percent from a year earlier.”



AIA President John W. Douglass highlights aerospace accomplishments during the annual AIA 1998 Year-End Review and Forecast Luncheon in Washington. More than 300 journalists and industry communicators attended the December event to hear Douglass give his inaugural report on the state of aerospace industries and answer queries in a lively question-and-answer session with reporters.

In December I had the pleasure of delivering one of my favorite aerospace messages for the first time to one of my favorite audiences — more than 300 reporters and industry and government communicators. You couldn't keep a secret in that room — and that's why they were such a good audience when I had such a good message to tell.

The core message was how significant the U.S. aerospace industry is in its relationship to all other U.S. industries in chalking up global sales, in keeping America strong, and in helping keep the imbalance of imports to exports from tumbling even worse than it is.

Aerospace exports are the engine of America's high tech economy. In the accompanying chart, you can see for yourself that aerospace is the leading sector of our economy in terms of favorable trade balances. We're way ahead of agriculture, chemicals, and all others.

I highlighted this statistic to the communicators because I think everyone should know about the genuine importance of aerospace to the national economy and to the global economy.

America's aerospace industrial strength is crucial to our nation's health. It's crucial because of national security. It's crucial to our continued technological leadership. And it's crucial because of jobs — nearly 900,000 American workers are taking home paychecks from the aerospace industry. Despite some

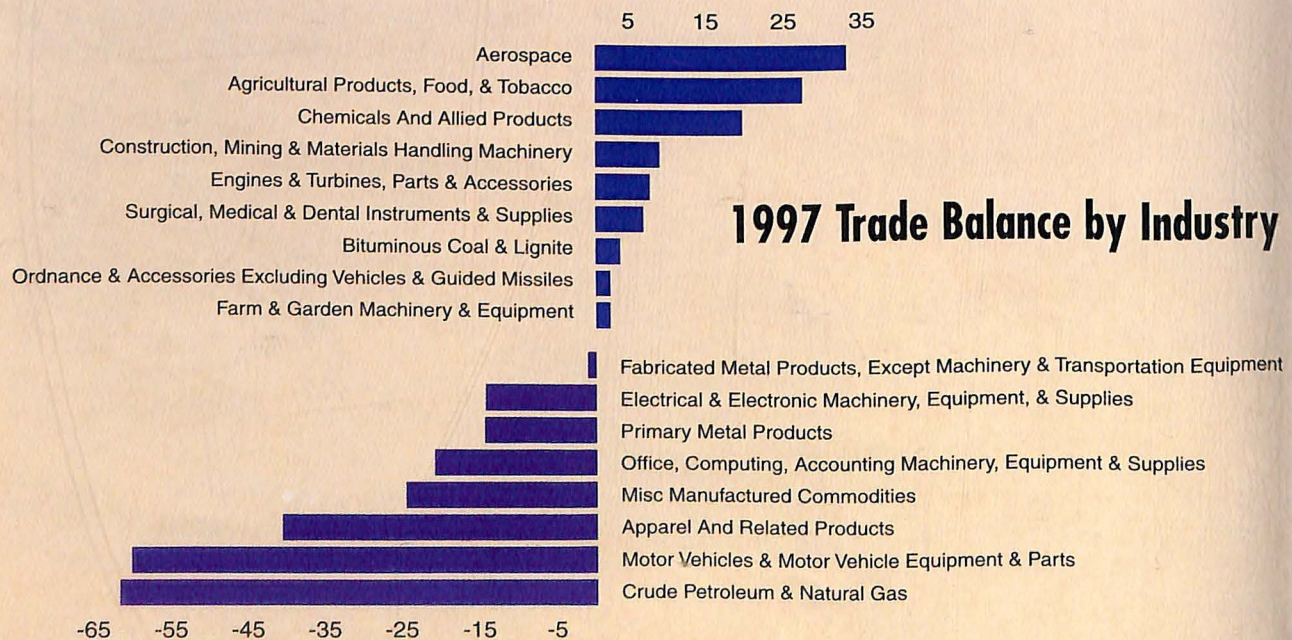
recent reduction announcements, that's still 100,000 more than in 1996.

I shared other figures with the communicators that tell a story of continued aerospace strength: Civil aircraft sales were the strongest aerospace segment in 1998, up by \$8.6 billion to \$47.2 billion — a year-to-year growth of more than 22 percent. Military aircraft sales were \$30.6 billion — a not so surprising drop of \$2.2 billion considering the slowdown in military modernization at this time.

And remarkably last year was the first time that sales to customers other than the U.S. government topped the 50 percent mark, coming in at 56 percent — a trend that will continue this year.

Aerospace industry sales in 1998 hit a record \$140.5 billion, an increase of \$6.8 billion or more than five percent from a year earlier. Space sales last year were nearly \$32 billion. Civil space is the place where huge investments in the American economy are being made and it's where NASA continues its exciting exploration and development programs.

The forecast for 1999 shows aerospace sales increasing by \$4.5 billion to \$145 billion. Beyond that, the future is more uncertain. We expect further growth in some sectors such as military aircraft and commercial space, but other sectors will depend on the state of the global economy.



of the major U.S. prime contractors has increased pressure on the European aerospace and defense industries to accelerate efforts to restructure.

Among options being explored by both American and European companies are various forms of trans-Atlantic relationships, ranging from outright acquisitions to strategic alliances and joint ventures.



National Center for Advanced Technologies Celebrates 10 Years

The National Center for Advanced Technologies (NCAT), a not-for-profit research and education foundation providing a bridge between industry, government, and academia, is marking its 10th anniversary this year.

Established in 1989 by AIA, the organization encourages cooperative efforts among industry, government, and academia for the advancement of product and process technology in the public and national interest.

NCAT's initial task was to develop and publish eight national strategic plans for technology development under an umbrella program of "Key Technologies for the Year 2000." That effort expanded to include demonstrations that combined technologies, manufacturing processes, and design efforts in development of a single product. NCAT then expanded into several new areas, including affordability initiatives, integrated product/process development, and submission of industry viewpoints toward developing government policies.

Later, NCAT formed the Industry Affordability Task Force and developed a report on Technology for Affordability. The effort evolved into the Multi-Association Industry Affordability Task Force and resulted in an expanded role in support of the Defense Manufacturing Council and the Defense Systems Affordability Council.

NCAT's Aerospace Technology Policy Forum meets up to three times a year to review technology and policy issues.

The center operates under the direction of a Board of Trustees comprised of senior AIA officers and aerospace industry representatives. NCAT's staff of four is located in the same building with AIA staff at 1250 Eye St. in Washington, D.C.

AIA has been in contact with all three study groups and has urged them to work closely with industry to find policies that involve minimal and predictable government intervention in what are essentially commercial practices.

Increasing Our Washington Profile

One strategy I've set in dealing with the top issues facing our aerospace and defense industries is to increase the AIA profile in Washington. That means greater recognition of our strengths, more willingness among decision makers to listen to our solutions, and a better image wherever we go for action and assistance.

We took that road in January when Commerce Secretary William Daley met with senior AIA representatives to discuss the trade and export issues facing our companies. It was an opportunity to put in front of the secretary and his staff some powerful examples of how an inadequate Defense Export Loan Guarantee Program limits our competitiveness abroad or how the lack of a modern export control system works against our economy.

I also expressed AIA's strong opposition to a directive proposed by the European Commission, since approved by the European Parliament, prohibiting certain hushkitted and re-engined commercial aircraft from operating in Europe even though they meet Stage 3 noise standards. Secretary Daley said he was aware of the issue and that he and the U.S. trade representative would continue to strongly express U.S. objections to the Europeans.

Secretary Daley was impressed with the issues and open-minded to our suggestions. We told him that we as an industry were raising our voices in these concerns and that we needed government, in this case the Commerce Department, to become aggressive with us in finding the answers.

If a picture is worth a thousand words, that meeting was worth a thousand "Dear Mr. Secretary" letters.

Vision, mission, objectives, strategies, issues identification, and profile are the key words as AIA begins the last days of the 20th Century and prepares for the era beyond.

John W. Douglass

GTE CyberTrust Solutions Is Newest Member of AIA

The newest member of AIA is GTE CyberTrust Solutions, a leading provider of public key infrastructure products and services designed to ensure secure communications and electronic commerce over the Internet.

Based in Needham, Mass., GTE CyberTrust is linked with GTE Internetworking, a unit of GTE Corporation, to deliver complete network solutions, including network and security consulting, managed Internet security services, systems integration, web-based application development, and certification authority products and services.

Diane A. Albano, the company's vice president of sales, marketing, and product management, will be GTE CyberTrust Solutions' senior representative to AIA.

GTE CyberTrust serves global enterprises that rely on secure communication of sensitive, mission-critical information. It has been a leader in Secure Electronic Transaction-compliant electronic payment pilots worldwide.

Customers and partners of the innovative, technology-driven company include the Department of Defense, American Express, the Commonwealth of Massachusetts, Control Data Services, Hewlett-Packard Company, MasterCard International, Netscape, Oracle Corporation, Microsoft, Mitre, and Sun Microsystems.

GTE CyberTrust Solutions brings AIA's membership ranks to 52.

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Aerobet, a Segment of GenCorp.
The Aerostructures Corporation
Alliant Techsystems Inc.
AlliedSignal Aerospace
American Pacific Corporation
Analytical Graphics, Inc.
Argo-Tech Corporation
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1250 Eye Street NW, #1200
Washington, DC 20005
Phone: (202) 371-8400 • FAX: (202) 371-8470
Web: www.aia-aerospace.org

EXECUTIVE
UPDATE

SPRING 1999

EXPORTS

R&D

TRM

EAA

**AIA Frequents
Capitol Hill &
Agencies on Top
Industry Issues**

AIA Testifies on Key Export & Space Bills

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Ronald D. Sugar, President & Chief Operating Officer, TRW Aerospace & Information Systems, TRW Inc.

Dick Wells, President & Chief Executive Officer, The Aerostructures Corporation





John W. Douglass
AIA President & CEO

Maintaining a healthy trade relationship with each other is important to the United States and the United Kingdom, AIA's John Douglass (seated, second from right) pointed out during a March presentation at a meeting of the Society of British Aerospace Companies in England.

Dear Association Member:

As the AIA Board of Governors gathers for its annual spring meeting in Williamsburg to consider issues critical to the association, it's appropriate to note the May 28 anniversaries of two events that were very significant in the research and development that helped create one of our most important aerospace business segments.

The need for a national strategy for research and development is one of the main topics of our Williamsburg agenda.

Forty years ago, on May 28, 1959, the first primates were launched into space. The rhesus monkeys Able and Baker successfully completed a suborbital flight, opening the pathway to safe manned space exploration.

It was crucial research.

Five years later another key stride was taken in the continuing development of space exploration. One of the daunting challenges NASA faced in its effort to land astronauts on the Moon was the need for a rocket powerful enough to send three men and their spacecraft out of Earth's gravitational field.

Thirty-five years ago, on May 28, 1964, NASA successfully launched a Saturn rocket topped with a boilerplate

Apollo capsule. The unmanned mission, known as SA-6, featured an onboard active guidance system that determined the most efficient way to steer the rocket's engines.

It was a crucial development.

After another five years of continuing research and development, the Apollo 11 mission successfully put astronauts on the Moon and returned them safely to Earth. We'll celebrate the 30th anniversary of that feat on July 20.

These anniversaries stand as reminders of one of the most important goals of AIA in this congressional cycle and the election process to come — the creation of a national strategy for aerospace research and development.

Critical Need for R&D Capital

This effort combines the goals of NASA, the FAA, the Defense Department and its subordinates, as well as other agencies involved in aerospace research. We must offer convincing evidence of our critical need for access to capital for research and development purposes. During the Carter Administration the United States invested 15 percent of our research and development funding in the U.S. aerospace industry. That amount increased to 19 percent during the Reagan years. In the last year for which we have data, it was only eight percent and declining.

For most of the post World War II period, the government played a critical role in financing basic high-risk aeronautical and space research that was later used in military and civil products. The government also plays a lead role in developing technologies that make the air transport system safer. As an industry we have to be very concerned when these investments are reduced or eliminated. If our government and industry don't invest in research, we won't be competitive with others who produce aerospace products for the global economy. This is a concern that AIA is taking to policymakers this year and is making a key issue for the next election.



Why a national strategy for aerospace research and development? The aerospace industry today is changing rapidly and profoundly. Just a little more than 10 years ago, approximately two-thirds of aerospace sales went to the Defense Department. At that time, research and development was funded mostly by DoD. Today, this situation is reversed. The Defense Department constitutes only one-third of aerospace sales, and company funds make up a larger share of research and development.

As America prepares to go into this next century, we mustn't underestimate the impact of advanced technology on our lives. It would be far better to anticipate the extraordinary rather than to expect the ordinary. I believe we're on the verge of a more rapid rate of technological change than we can possibly foresee. We must dream of fantastic possibilities as we prepare for an exciting and challenging future where the sky won't be the limit.

The Global Marketplace

Aerospace must have access to the global economy in order to thrive and grow. In fact, the global economy is now our biggest customer. In 1998 the aerospace industry was responsible for \$64 billion in exports and \$23 billion in imports. This resulted in a positive trade balance of \$41 billion — the single biggest trade balance of any sector in the entire American economy.

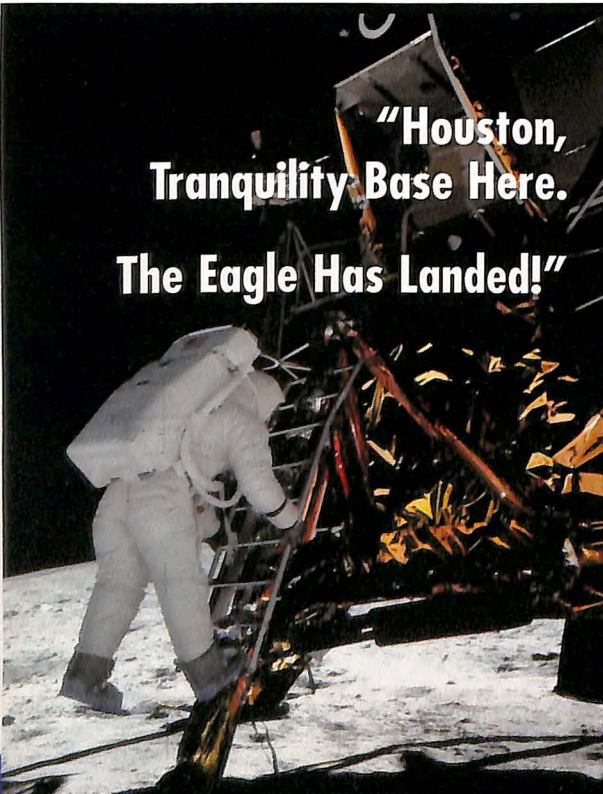
We are competing in a truly global marketplace today with many implications for our industry. Take, for example, the hushkit situation and European Union (EU) attempts to ban U.S.-manufactured hushkits and certain airplanes from the skies of Europe in a unilateral departure from International Civil Aviation Organization (ICAO) noise standards. In April the EU's implementing rule was delayed for a year pending U.S. commitment to develop a Stage 4 standard during that time. While averting a trade war, this action leaves U.S. manufacturers in the unpalatable position of negotiating within ICAO, still facing the threat of the rule being implemented in May 2000. We remain committed to having the rule completely withdrawn with negotiations on noise standards remaining within ICAO.

AIA is developing a strategy to address this problem and convince the EU that it has more to gain through up-front cooperation than it does through unilateral actions that risk unnecessary trade confrontations.

AIA Staff Strengthened

We've had a busy spring on Capitol Hill, striving to make progress on our overall list of critical issues facing aerospace. We've added some welcome resources to help.

In the legislative arena I've named Jonathan W. Etherton to the newly created position of



**"Houston,
Tranquility Base Here.
The Eagle Has Landed!"**

Those were the words that ushered in a new era of human space exploration at 4:18 p.m. on July 20, 1969, as the Lunar Module "Eagle" arrived on the surface of the Moon. It was the first manned flight to the Moon and was followed some six hours later by Commander Neil Armstrong's leap from the module, becoming the first human to set foot on the Moon.

The 30th anniversary of the Apollo 11 mission and the Moon landing is coming up in a few weeks. Several AIA member companies that participated in the Apollo program are expected to celebrate the landmark event in various ways in July.

Lunar Module Pilot Edwin "Buzz" Aldrin during the 1969 Apollo 11 mission.

In addition to Armstrong, the crew of Apollo 11 included Command Module Pilot Michael Collins and Lunar Module Pilot Edwin "Buzz" Aldrin, who joined Armstrong on the Moon's surface. The footprints left by the astronauts in the Sea of Tranquility are more permanent than many solid structures on Earth and are expected to last in the lunar soil for millions of years.

The Apollo program hasn't yet really ended. Instruments placed on the Moon by the crew are still transmitting important data to scientists throughout the world, according to NASA, on subjects such as the effects of gravitational fields on the Earth, Sun, and Moon.

Assistant Vice President of Legislative Affairs. Jon has been a professional staff member of the Senate Armed Services Committee for the past 14 years and is an enormously positive force in acquisition reform and industrial base issues.

In the Senate, Etherton was responsible for managing public policy and budget issues for the Acquisition and Technology Subcommittee, including acquisition policy, funding for technology base and research and development programs, industrial base policy, and selected defense trade issues.

Also, I have named John P. Stevens to the newly

created post of Director of Space Operations. He'll be responsible for AIA's Government Space Committee as it handles issues related to NASA and the Defense Department and will be active in legislative efforts regarding the space industry.

Stevens joins us after spending five years as legislative assistant to Senator John Glenn where he provided legislative support on space, national security, public works, veterans affairs, and banking issues.

Both Jon and J.P. are welcome additions to respective staffs that are facing new and growing issues and workloads in legislative and administrative arenas.

AIA Testifies on Export Reform

A major overhaul is needed of U.S. export control laws for the 21st century, AIA told two congressional committees in a recent double-barreled presentation. In the interim we support revisions to the existing Export Administration Act (EAA) if they contain safeguards for U.S. exporters.

I delivered that message in testimony to the Senate Subcommittee on International Trade and Finance, and Joel Johnson, our vice president, international, keyed on it in an appearance before the House International Relations Committee's Subcommittee on International Economic Policy and Trade. Here's a summary of our testimony and position:

The EAA, as passed by the House in 1996, provides an adequate starting point to draft legislation for the next three years, during which time more appropriate laws can be drafted for the future. Unless our export control system is revamped, we will weaken the very industries that produce the technology upon which U.S. security depends. The United States must gain international consensus for export controls so that there is agreement on what should be controlled, on whom we want controls to be imposed, and the best way to exert those controls.

The distinction between military and commercial products has become less clear, and the military increasingly looks to commercial research and development and products to meet its needs. But lower costs and rapid technological innovation in the commercial sector are only possible for companies producing for a global marketplace with the flexibility to rapidly penetrate new markets and take on foreign partners.

The importance of exports to U.S. high technology industries has increased dramatically over the past decade. Ten years ago more than 60 percent of the aerospace industry's business was with the Defense Department. Today the government accounts for approximately 40

percent of our sales, and of the remainder, foreign sales account for two-thirds.

The current export license system requires too many export licenses and too many agencies involved in the review and administration of such licenses. These overlapping and confusing regulatory systems have led to prolonged waiting periods for licenses. In some cases the waiting period extends from four months to a year — clearly a handicap for American companies competing in the global marketplace against other countries that have no licensing requirements.

AIA urged Congress to adopt a revised Export Administration Act with certain new safeguards, including:

- **Foreign Availability.** U.S. companies should be allowed to sell products that are available from other sources. Shifting the source of the supply does not punish the importer; it punishes the exporter.
- **Contract Sanctity.** Companies should be able to honor existing contracts except when multilateral sanctions cut all contracts.
- **Multilateral vs. Unilateral Controls.** Unilateral controls should only be imposed as an interim measure leading to multilateral controls. There should be a time frame in which the United States would gain multilateral support for controls, or U.S. controls would be terminated.
- **Support of Formerly Exported Products.** Companies should be able to support products previously exported to a country, even if new sales are prohibited. This is particularly true for products related to safety.



AIA President John Douglass (right) delivers testimony to a U.S. Senate committee on the need for an overhaul of export control laws.

Continuing Legislative, Executive Visits

My objective to bring AIA's presence into focus with key legislators and government administrators is also on track. I've had a number of discussions with members of the leadership in the House and Senate, and I've met with Commerce Secretary William Daley, NASA Administrator Dan Goldin, FAA Administrator Jane Garvey, NTSB Chairman Jim Hall, and executives at the State Department and the White House Office of Science and Technology Policy.

Also, I've visited the headquarters and plant facilities of several of our member companies. I believe it's important to keep a vision of the impact of Washington issues on our plant floors, and I intend to make it to every member company as time permits. So far I've met with executives from AAI Corporation, B.H. Aircraft, General Dynamics, Hexcel, United Technologies, and Lockheed Martin.

My most recent field trip was to Gulfstream Aerospace Corporation where I discussed important issues facing the business aviation aircraft

manufacturing segment with President and Chief Operating Officer Bill Boisture. We've featured an overview of Gulfstream Aerospace on the back cover of this edition of *Executive Update*.

Progress on Issues

In addition to a report elsewhere in this edition of *Executive Update* on AIA's testimony on revisions to the Export Administration Act, here's a review of the progress we've made in this busy congressional season on some of our other top aerospace issues:

- The Federal Aviation Administration has backed off a proposal to charge fees for certification of foreign suppliers. In opposing the fee, AIA expressed doubt about its cost effectiveness and objected to the establishment of a precedent for user fees. As a result of discussions with key members of Congress, language was

inserted into the pending FAA reauthorization bills prohibiting user fees for certification of foreign suppliers.

- On the issue of reform of the Civil False Claims Act, we met with representatives of the industry coalition and presented them with a focused plan for realistic short-range and long-range action. One of the first steps is to focus on achieving a set of guidelines from the Justice Department to help clarify the reform issue.
- With AIA's support, it appears that Congress will extend the authority for the Defense Department to continue the Mentor-Protégé program to help small and disadvantaged businesses (SDBs) partner with aerospace and defense companies in long-term business relationships. AIA member companies have been significant participants in the program, which has created a growing base of stable, qualified SDB suppliers.
- We're optimistic that Congress will adopt legislation to reform the Fastener Quality Act, eliminating procedures that are costly to industry. Progress in Congress was bolstered by industry efforts that resulted in a Commerce Department report that concluded that allegations of safety concerns with fasteners were severely overstated. The findings mirror what industry for the past nine years had said were the facts.

Space Launch Issues

In another appearance before Congress since my last report to members, AIA presented testimony on space launch issues. Bruce Mahone, director of space policy, told the Space and Aeronautics Subcommittee of the House Science Committee that our outdated launch range infrastructure is in need of careful attention.

While new space ports and launch sites are being developed for some launch vehicles, most of our current capability relies on facilities at the Kennedy Space Center and Vandenberg Air Force Base. Much of the equipment is based on



Viewing a step in the production of the Gulfstream V business jet is the AIA team of President John Douglass (center); Vice President, Civil Aviation, Bob Robeson (second from right); and Assistant Vice President, Policy and Planning, Sandy Carney-Talley. They're flanked by two Gulfstream executives. Inset: Douglass discusses aerospace manufacturing policy matters with Gulfstream Aerospace President & COO William Boisture (left) during the visit. (See Gulfstream feature on back cover.)



Bruce Mahone
AIA Director, Space Policy

F-16 Fighting Falcon Celebrates 25 Years; More Than 3,000 Are Still Active

A quarter of a century ago the first prototype U.S. Air Force F-16 Fighting Falcon took its fledgling flight, ushering in a new era of lightweight fighters for the Air Force.

Originally developed and produced by General Dynamics, the F-16 has undergone a technological evolution in its 25 years. Now produced by Lockheed Martin's Tactical Aircraft Systems Division, the Fighting Falcon has gone from an aircraft that was primarily a day, visual-flight-rule fighter with infrared missiles to one that performs suppression-of-enemy-air-defenses missions using data-link capability, color displays, and multi-mission computers.

"The United States currently is flying 1,475 F-16s," according to Col. Jeffrey R. Riemir, director of the Air Force's F-16 System Program Office. "And approximately the same number are being flown by air forces of 19 other nations. With roughly 3,000 active-flying F-16s in the world at 86 bases in 20 countries there isn't a second that goes by without someone, somewhere, airborne in an F-16," Riemir said.

The 3,882nd F-16 recently rolled off the assembly line, and 3,040 are still flying today. There are three production lines — in Fort Worth, Korea, and Turkey — which produced 150 F-16s during 1998. "Four air forces have accumulated more than 200,000 hours of combat," Riemir noted. "And the F-16 combat score-

card is 69 kills, no losses. We plan to keep it that way through this approach of continuous improvement."

The F-16's eagerness to fly was demonstrated on its first, unexpected flight on Jan. 20, 1974, at Edwards Air Force Base. While performing a high-speed taxi test, the aircraft suddenly showed a desire to fly. The General Dynamics test pilot lifted the prototype into the air to keep it from veering off the runway into the desert. The official flight evaluation of the YF-16 began Feb. 2, 1974, and was completed nearly a year later on Jan. 31, 1975.

The F-16 was conceived as a speculative "what-if" demonstrator of advanced technologies and gained favor with the Air Force during evaluations in 1974. The cost of the original aircraft was about \$7 million each. The newest models cost about \$25 million. When compared in real 1975 dollars, today's F-16 would cost about \$9 million — a minimal cost increase considering a 500 percent increase in capability between the first and latest models.

The U.S. Air Force Thunderbirds thrill audiences with precision flight demonstrations in their F-16s. The Fighting Falcon aircraft has undergone a technological evolution in its 25 years of flight.



1960's technology. Needed funds are often diverted, causing ranges to fall into greater disrepair and degradation. We can't turn our aging infrastructure over to industry and expect them to compete against foreign launch providers who have been able to modernize their systems through government-supported programs.

In another space issue, Mahone asked the subcommittee to support renewed launch indemnification through provisions outlined in amendments to the Commercial Space Launch Act, which are about to expire on December 31. The provisions have allowed our U.S. launch providers to keep the price of launches competitive with those of foreign launch providers. At AIA we're advocating that indemnification be renewed for a period of at least five years. This would give us

time to begin to rebuild our space infrastructure in order to attract investment capital and long-term customers.

As I start the last quarter of my first year at the helm of the association, I firmly believe that progress is being made in building AIA's strengths, enhancing our presence in Washington and around the world, and in bringing clarity and support to our issues. I'll discuss these and other issues of importance to our industry at our Williamsburg board meeting in May. I look forward to seeing you there.

John W. Douglass



Gulfstream

The most recent stop in a continuing series of leadership visits to member companies by AIA executives was Gulfstream Aerospace Corporation in Savannah, Georgia. (See photos, page 6)

Founded in 1958, Gulfstream

Aerospace is the world leader in business aviation. The company has produced more than 1,000 aircraft for corporate, government, private, and military customers around the world. It employs approximately 7,800 people at eight

Gulfstream Aerospace Hosts AIA Executives

locations. More than one-quarter of Fortune 500 companies operate Gulfstream aircraft.

The company's flagship products are the Gulfstream IV-SP and the Gulfstream V, the world's most technologically advanced business aircraft.

Introduced two years ago, the Gulfstream V is the world's first ultra-long-range business jet. It has the ability to travel 6,500 nautical miles at speeds up to Mach 0.885, making nonstop flights between such destinations as New York-Tokyo and San Francisco-Moscow routine.

Last year the National Aeronautic Association awarded the prestigious Collier Trophy to Gulfstream and the GV Industry Team. The Gulfstream V has set 55 world and national records.

More than 125 Gulfstream aircraft are in service with some 35 nations in photo reconnaissance, maritime surveillance, medical evacuation, weather research, and astronaut training roles.

Photo above: Gulfstream V, the world's first ultra-long-range business jet.

AIA MEMBER COMPANIES

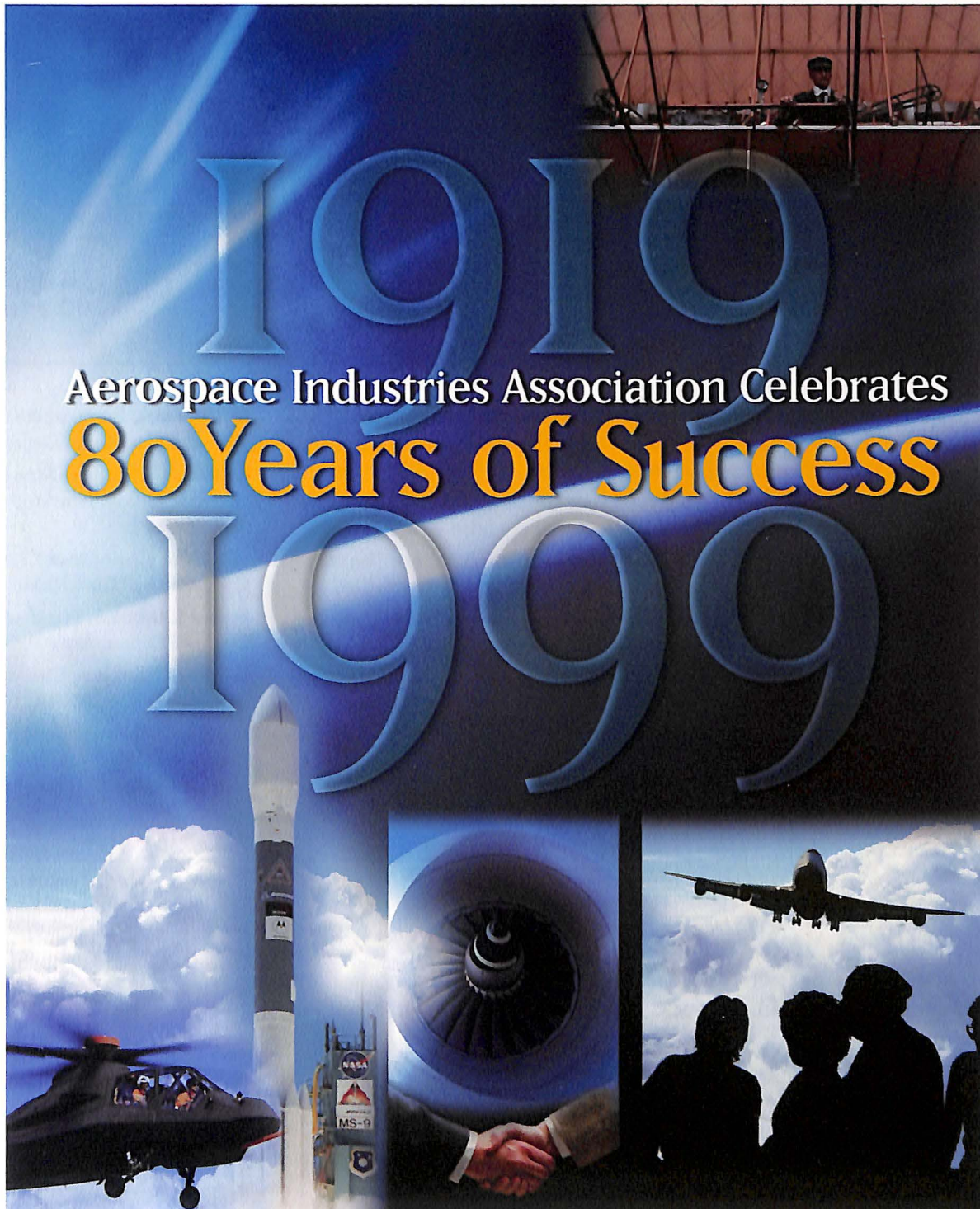
- AAI Corporation
- Aerojet, a Segment of GenCorp.
- The Aerostructures Corporation
- Alliant Techsystems Inc.
- AlliedSignal Aerospace
- American Pacific Corporation
- Analytical Graphics, Inc.
- Argo-Tech Corporation
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- Rockwell Collins, Inc.
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 - Sikorsky
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1250 Eye Street NW, #1200
 Washington, DC 20005
 Phone: (202) 371-8400 • FAX: (202) 371-8470
 Web: www.aia-aerospace.org

EXECUTIVE
UPDATE

FALL 1999



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John W. Douglass
AIA President & CEO

Dear Association Member:

Didn't America celebrate just a few months ago the 30th anniversary of Apollo 11, the first manned flight to the Moon, culminating in man's first footstep on that surface? Now a short four months later — November 19 — we mark the 30th anniversary of "Apollo 12" in which astronauts Charles Conrad and Alan Bean made man's second landing on the Moon.

I point this out to underscore just how quickly significant achievements and milestones occur in the aerospace industry: men walking on the Moon only 50 years after the Aerospace Industries Association is formed by aviation pioneers, including Orville Wright and Glenn Curtiss, during the infancy of this industry in 1919.

One day aviators learn how to guide balsa wood and cloth air machines over the sands of Kitty Hawk, and in a blink astronauts are leaping from lunar modules onto the dusty soil of the Moon. Visionaries in a young "aero" industry one day create an association to cope with the issues of their hopeful enterprises, and in a breath that organization's representatives are slicing an anniversary cake to celebrate the effort's 80th year.

In addition to a reception on Capitol Hill with some of the legislative and executive leaders of Washington, AIA celebrated its 80th anniversary by organizing and publishing a collection of recollections of significant aviation and aerospace achievements of this industry since the Wright Brothers.

Ernest Hemingway cautioned us not to confuse motion with action. In reviewing *Milestones of the First Century of Flight*, there's no confusion over the fact that aerospace is an industry of technological genius that derives results from the courage of action.

AIA Membership Growth

The AIA Board of Governors meets November 18-19 in Phoenix for the last time this year, this decade, this century. One of its action items will be the review

of new membership applications. And, unique to our 80th anniversary celebration, one of the applicants on the agenda will be Curtiss-Wright Flight Systems, Inc., a subsidiary of the Curtiss-Wright Corporation.

Curtiss-Wright was formed 70 years ago from a merger of separate companies created by Orville and Wilbur Wright and Glenn Curtiss. It will be a pleasure to welcome the legacies of the Wrights and Curtiss back to the family. And it will be a family reunion of sorts for me, too. Back in the early days of my military career in the mid-1970s, I was the Air Force plant representative at the Curtiss-Wright headquarters facility in New Jersey.

On the subject of membership, one of our visions for the year 2000 is to broaden the representation of AIA in the aerospace industry. Clearly our need to focus on membership is heightened by the continuing trend toward mergers and acquisitions among

our long-**VISION 2000**
time base

of member companies. Because of consolidations, we have taken some time to look at the various sectors that make up the aerospace industry today, and we believe that there are good opportunities to grow.

We are setting targets of growth in 2000 for AIA's full membership roster as well as for our Supplier Management Council (SMC) category. There are quite a few successful companies, particularly in the space arena, that should consider the value of membership in AIA. And there are hundreds of smaller firms, sub-contractors, and vendors that would find strength for themselves and our association by signing on to the benefits of SMC membership.

I commend J.P. Stevens, who earlier this year joined our staff as director of space operations, for his contribution in taking on the added temporary duties of cultivating new members. His hard work led to the addition of a score of new member companies, and there are others that are still being nurtured.

We have taken another step forward in membership growth by adding

Distributed with this issue of AIA's Executive Update is a brochure that was produced by Cordant Technologies on behalf of AIA and its member companies.



Discussing the capabilities of a Kaman Aerospace Corporation helicopter with a Kaman pilot (back to camera) during a recent visit to that company's Connecticut facilities are Kaman President Walter Kozlow, left, and AIA President John Douglass. It was one of nine member company visits Douglass carried out in the past six months.

Amanda D. Matthews as manager of membership development and relations. Amanda will spearhead our growth strategies by looking at ways to broaden the association's scope in order to increase member value. She also will be involved in trade shows and air shows, scouting for companies that invest in visibility in those marketplaces and have the desire to benefit even further by being part of the AIA team.

The executive committee of the Board has been very supportive of our membership growth and renewal efforts as have a number of current member companies. For instance, Raytheon, Northrop Grumman, and The BFGoodrich Company each invited us to participate in management conferences they hosted for their suppliers and vendors. Being there helped us identify and get to know additional candidates for SMC membership, and it helped candidates see the benefits our strategies.

So far the various recruitment techniques are working, and I expect to report at this time next year significant growth in both categories of membership.

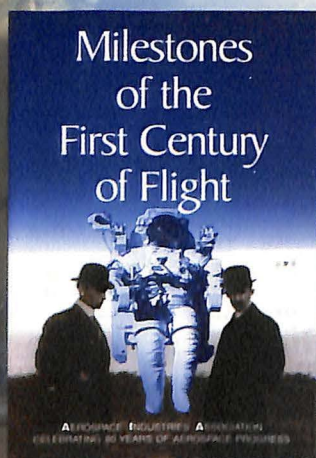
Added-Value Initiatives

I want to applaud AIA Board of Governors Chairman Jim Wilson, chairman of Cordant Technologies; Mike Smith, chairman of Hughes Electronics; and others among the executive leadership for their foresight and support in the initiatives that have been formulated to fix issues and bring added-value to our membership ranks.

For example, under their leadership the AIA Board of Governors has passed three resolutions intended to streamline working relations between aerospace prime contractors and their suppliers. We announced the initiatives at a Washington press briefing this summer after the action was taken by the 35 chief executive officers from AIA member companies who provide leadership and policy guidance to this organization.

These resolutions will make the American aerospace industry more competitive in the global economy and are part of the aerospace industry's transformation from a defense marketplace to a commercially-driven marketplace.

AIA Celebrates 80 Years with Multitudes and Milestones



AIA celebrated its 80th anniversary in September by highlighting the achievements of its member companies over nearly a century of aviation and aerospace development.

The Board of Governors, represented by Chairman Jim Wilson, myself, and several others, hosted a reception on Capitol Hill for members of Congress, representatives of the administration, member company CEOs, and other guests. We had a good turnout all around, including the chairman of the Space and Aeronautics Subcommittee of the House Science

Committee and the incoming chairman of the House Aerospace Caucus.

It was a special opportunity to showcase the strengths of our industry, increase the association's profile in Washington, and position our strategies in dealing with major issues facing aerospace and defense.

In a nutshell, our message was that over the past 80 years AIA has worked with manufacturers and the government to create an industry that is a vital asset to the nation and the technological leader of the aerospace world.



We are convinced that the resolutions will provide relief to suppliers who are burdened with excess requirements and specifications, non-value administrations, surveys, audits, and performance reviews by multiple customers. Overseeing implementation of the resolutions will be AIA's Vice President of Supplier Management William Lewandowski. Here's a summary:

- The first resolution will reduce the number and length of time needed for supplier management quality surveys at a time when many suppliers are being audited on a weekly basis.
- The second resolution will improve the fairness and accuracy of the supplier measurement system with provisions to reduce the administrative burden on suppliers. Suppliers want to be measured, but they want the system to be fair and accurate.
- The third resolution will implement the supplier single-process initiative, allowing the supply base to benefit from the Defense Department's acquisition reform.

It is important to note that prime contractors and suppliers agreed that there is a clear need for

change. And it is a positive sign that all tiers of aerospace manufacturers have expressed a desire to work together to create consistent policies and procedures that reduce costs and make the industry more competitive.

The resolutions were developed by AIA's Supplier Management Council (SMC), a group of 48 suppliers that in 1998 began studying, along with AIA member company representatives, the problems suppliers were experiencing trying to satisfy conflicting requirements among customers. After a year and a half, the SMC proposed the three resolutions to streamline the relationship between customer and suppliers.

I expect implementation will take place within the next two years.

Setting standards for how suppliers and prime contractors can and should work together better is one important example of how AIA can integrate administrative initiatives in the aerospace industry.

Another example is a need to establish a new constituent electronic commerce system for the industry. When the Defense Department was 70 percent of defense and aerospace business, it was

AIA's 80th anniversary seemed an ideal opportunity to examine how far we've come in the last century. With that in mind, the association published a collection of the top aerospace achievements in that period, a booklet titled *Milestones of the First Century of Flight*.

Showing the development of aviation and space flight in chronological order, it begins with the flight of the Wright Brothers and traces, among other things, the development of aircraft instrumentation, airmail, flying boats, rocketry, jet engines, air traffic

control, helicopters, satellites, and manned flight into space.

A panel of four aerospace historians compiled the *Milestones* booklet: F. Clifton Berry, author of several books on aerospace and technologies; Walter J. Boyne, former director of the National Air and Space Museum; Tom D. Crouch, senior curator of the Division of Aeronautics at the National Air and Space Museum; and David M. North, editor-in-chief of *Aviation Week & Space Technology* magazine.

Al Frascella, public relations executive for the TRW Systems and Infor-

mation Technology Group, moderated the panel.

AIA was chartered in 1919 by aviation pioneers, including Orville Wright and Glenn Curtiss. Known originally as the Aeronautical Chamber of Commerce, the association worked to promote aviation and then aerospace.

Today, AIA represents 50 aerospace manufacturers and nearly that many industry suppliers.

If you'd like copies of the *Milestones* booklet, call 202/371-8561 or e-mail sager@aia-aerospace.org.

JWD



As part of its 80th anniversary celebration, AIA published *Milestones of the First Century of Flight* (cover at far left), a collection of the top aerospace achievements in the period since the Wright Brothers first flight. Hard at work identifying major aerospace milestones (center photo) is the selection panel of four aerospace historians, from left, Walter Boyne, Clif Berry, Tom Crouch, and Dave North. In addition, AIA hosted a major reception on Capitol Hill in September. Cutting the cake (right photo) are Congressmen Dana Rohrabacher (R-CA), left, chairman of the Space and Aeronautics Subcommittee of the House Science Committee, and Dave Weldon (R-FL), incoming chairman of the House Aerospace Caucus. Watching are James W. Wilson, chairman and CEO of Cordant Technologies and chairman of AIA's Board of Governors, and John W. Douglass, AIA president and CEO.

that agency's responsibility to set up and administer a broad, acceptable quality control system known as "Mil Q." Now that DoD is the less than 30 percent of our overall business, it's necessary for industry to become the focal point for standards in the way that ISO 9000 has become the international recognized industry quality standardization.

A Year of Attainment

I have been president of the association for some 450 days—about two and a half months past a

year. There are only about 40 days left in the century as the Board of Governors convenes for its fall meeting. Someone asked me recently to recall some of the important achievements of the association in these past 14 months.

As this is written, the 106th Congress has not finished its business so I cannot list the gains we have made on our Top 10 Issues in those tumultuous halls. We will try to give a recap of congressional action on aerospace in the December issue of the *AIAUPDATE* newsletter.

Within AIA, I'm happy to note that we've strengthened the organization by adding to our

AIA Door Swings Open to New Members

Two new corporate members have joined AIA's ranks, and two more applicants will be reviewed for membership during the November Board of Governors meeting in Phoenix. In addition, five other companies are in the wings, applying for membership at the start of the year 2000.



heritage in providing engineering and programming support to NASA and DoD space and science programs. Specializing in innovative approaches to small satellite production, the company was founded in 1992 with a commitment to space commercialization through low-cost access. Its experience ranges from the development of small spacecraft to the analysis and design of launch vehicle and other space mission projects.

Headquartered in Lanham, Maryland, Final Analysis features four main business enterprises: mobile satellite systems, satellite development, aerospace engineering services, and secondary payload services.

Final Analysis has grown from a small engineering contractor to an end-to-end turnkey provider of spacecraft, operations, and launch services. The company has emerged as a leader in the "Little LEO" satellite industry for global, digital, two-way data messaging communications.

The Final Analysis global satellite system will provide low-cost, high-quality, two-way data transmission and messaging services such as mobile asset tracking, remote monitoring and control applications, data acquisition, and two-way paging

and e-mail using small, affordable mobile and fixed terminals. Target markets include utility automation, transportation, environmental and governmental applications, and messaging services for areas under-served by terrestrial networks.

Final Analysis has announced a strategic equity partnership with fellow AIA member General Dynamics. That company will perform the overall system engineering and integration of the Final Analysis global satellite system and will be the prime contractor for the system's ground segment. Commercial service will begin in 2001.

GKN Aerospace Inc., the U.S. operations of GKN Westland Aerospace, is a leading supplier of aerostructures and propulsion systems for the global aerospace market.

It specializes in composite structures, including resin transfer molding, and manufactures complex metallic engine and airframe components using chemical milling and super plastic forming.

With manufacturing facilities in Connecticut, Alabama, and California, GKN Aerospace Inc. employs 1,750. Its U.S. operations are headquartered in Reston, Virginia.

Final Analysis, Inc., one of AIA's newest members, is developing a global telecommunications system, which will begin commercial service in 2001.

The two newest member companies are Final Analysis, Inc., and GKN Aerospace Inc.

Up for review at the November meeting are Curtiss-Wright Flight Systems, Inc., and Omega Air, Inc.

Expected aboard at the start of the new year are Fairchild Aerospace Corporation, Stellex Aerostructures, Inc., Senior Flexonics Inc., Groen Brothers Aviation, Inc., and Swales Aerospace.

Here are brief descriptions of the two newest team members:

Final Analysis is a privately held aerospace and telecommunications company with a strong

professional capabilities in Legislative Affairs, Space, the International Division, and Communications without cutting our strengths elsewhere. Since the elevation of the Space Committee to a Council about a year ago, its membership has doubled. The Procurement & Finance Council has reinstated its Washington Procurement Committee to have a more AIA-focused procurement activity in Washington. A comprehensive metrics system for the staff helps measure progress against goals. It's helped us focus on where we're going and how we're going to get there.

We've increased AIA's profile in Washington and in key states around the United States. That's been crucial in our strategies for dealing with the top issues facing our industries. There isn't an aerospace issue that hits the street these days that doesn't lead to a request within AIA for a key media interview or a meeting with a key committee member on Capitol Hill.



And we've positioned ourselves for the all-important leap into the 21st century. The year 2000 will be a challenging period. It marks the end of the current presidential administration and the turmoil that accompanies the end of an eight-year presidency. Add to that the financial impact on our industries of the Asian recession and we have challenges.

But we'll be ready. We fully intend to carry our aerospace industry issues to the attention of the presidential and congressional campaigns in 2000. We'll demand the attention of the political party platform writers and the candidates in seeking solutions to such crucial issues as the need for long-term reinvestment in research and development.

At stake are more than 800,000 aerospace jobs and the economic impact on those workers' families and communities. Aerospace accounts for the biggest balance of trade in the U.S. export economy, and we won't be lax in our responsibility to put aerospace issues at the doorstep of the election process.

AIA can point to progress in two other key issues in 1999:

We achieved a delay in the European Union's plan to ban aircraft fitted with engine hushkits, and we won't be satisfied until the rule is scrapped for good.

And our efforts to modernize the export control system have begun to show success in Congress, the administration, and the Defense Department. The Pentagon, for instance, recently announced that it would implement within 90 days a new arms export licensing process in the hope of cutting in half the time it takes to review the approximately 13,000 license applications it receives from the State Department each year. Congress has earmarked additional funds for the State Department's Office of Defense Trade Controls. Even a leading Republican candidate for president has addressed the need for a better export control system. We applaud DoD's initiative.

Visiting the Front

Finally, I want to take a minute to mention an effort I've undertaken to improve AIA's presence within the industry. It seems to have had more impact than I even imagined at first.

Harking back to my military days, I've always thought it important that leaders should visit their forward units to see the challenges and accomplishments taking place "at the front." I've now managed to visit about a third of the member companies, and I plan to keep up this pace next year and beyond.

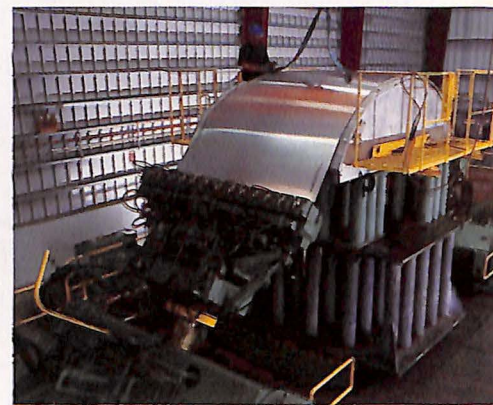
In the past six months, I've added Triumph Controls, Ducommun Incorporated, Litton Industries, MOOG, Parker Hannifin, HEICO Corporation, Teleflex, Rockwell Collins, and Kaman Aerospace to the growing list.

The comments of Kaman's founder, Charles Kaman, make the effort worthwhile:

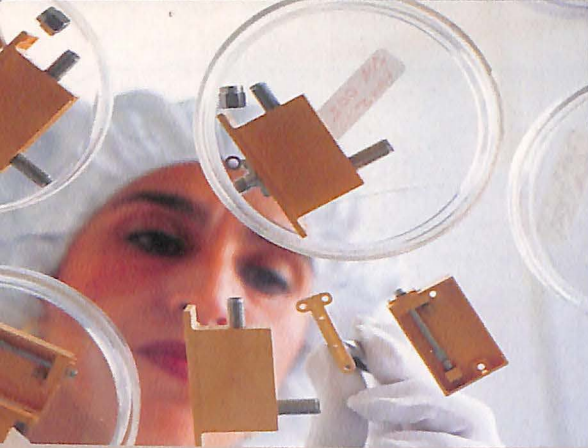
"During my 53 years in the aerospace industry," said Mr. Kaman in his company's employee newsletter, "your visit marked the 'first ever' for a president of AIA to make a trip to our facility. I applaud your efforts to credibly support the industry and to personally call upon association members to seek personal inputs in order to enhance the efforts of the organization."

I look forward to seeing more of you in 2000.

John W. Douglass



Among John Douglass' recent member company visits was California-based Ducommun Incorporated, which offers the aerospace industry structural components (above), avionics products, and aircraft seating and cabin interior components. (See Ducommun feature on back cover.)



AAI member Ducommun Incorporated might be the oldest company in the U.S. aerospace industry. Founded in 1849, it is recognized as the oldest enterprise in California and this year is celebrating its 150th anniversary.

Ducommun began as a small store in Los Angeles opened by Swiss immigrant Charles Louis Ducommun who repaired watches during the California Gold Rush. Ducommun got to California the old-fashioned way — he walked from Ft. Smith, Arkansas, along the Santa Fe Trail.

As California grew, Ducommun's business prospered as a supplier to ranchers, townsfolk, and

Ducommun Celebrates 150th Anniversary

those just passing through. After his death near the end of the century, Ducommun's four sons took over the business, and it was incorporated in 1907 as the Ducommun Hardware Company.

Eventually, the firm became a source of metals for western companies that couldn't buy the large quantities eastern mills demanded. So Ducommun ordered the metals and processed them in various shapes and sizes to order.

Thus the company came to assist in the birth of the aerospace industry in Southern California, providing aircraft aluminum to fledgling pioneers Douglas and Lockheed.

Today, Ducommun manufactures a range of aerospace products, including exterior aircraft skins, commercial airline seats, ruggedized flight systems enclosures, microwave communications components, and satellite and launch vehicle components — the new hardware of the 21st Century.

Photo above: A Ducommun technician inspects components that will be used in satellite launches.

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- Parker Hannifin Corporation
- Raytheon Company
- Robinson Helicopter Company, Inc.
- Rockwell Collins, Inc.
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1250 Eye Street NW, #1200
 Washington, DC 20005
 Phone: (202) 371-8400 • FAX: (202) 371-8470
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EXECUTIVE
UPDATE

WINTER 2000

AIA Calls for Presidential
Commission on
Aerospace



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Daniel P. Burnham
Chairman
AIA Board of Governors

Serving as Chairman of the AIA Board of Governors for 2000 is **Dan Burnham**, chairman and chief executive officer of Raytheon Company — a leader in defense and government electronics.

From its early days as a maker of radio tubes, its adaptation of World War II radar technology to invent microwave cooking, and its development of the first guided missiles, Raytheon has successfully built upon its pioneering tradition to become a global technology leader. Today, Raytheon is focused on three core businesses: defense and commercial electronics, business aviation and special mission aircraft, and engineering and construction.

Raytheon has operations throughout the United States and serves customers in more than 80 countries.

Dear Colleague:

Our aerospace industry has entered a crucial period. We must shine the spotlight now on several strategic issues that will have far-reaching implications for national security, our economy, and our industry, including: skill retention, R&D funding, globalization, the export control system, the need for multi-year defense funding, sharing of defense savings, improved cost recovery, launch range infrastructure and indemnification, and electronic commerce for aerospace suppliers.

Our industry has awe-inspiring depth and breadth of technology, skilled and committed employees, and a history of performance second to none. However, "what's past is prologue." Our challenge is to prepare our industry for its second century: to meet the needs of our customers, shareholders, and employees; to build on our technological strength; and to preserve a legacy of global leadership.

I believe that the Aerospace Industries Association is uniquely equipped to meet this challenge. That is due in no small measure to the leadership of my predecessor as AIA's chairman, Jim Wilson, chairman and CEO of Cordant Technologies Inc., supported by the vision of the executive committee and other member company CEOs.

We are fortunate to have John Douglass as our president and chief executive officer. John gets high marks from industry and government leaders for the way he has rejuvenated the association and brought visibility to its issues during his first year and a half at the helm.

The period ahead is especially important with the election of a new president, a new administration, and many new members of Congress. We must make sure that our industry's issues receive an airing during this political season, that the candidates reflect on the vital contribution our industry has made to this country's period of peace and prosperity.

We need to get the facts on the table of the candidates and their advisors:

- The Defense Department is engaged in a far wider range and faster tempo of missions on a budget that is only now just beginning to turn up from historic lows.
- Our country needs policies to ensure a strong defense industrial base — to develop and produce the technological systems to maintain our nation's strength.
- The aerospace industry must be strong, vital, and growing to attract and retain top talent.
- More than half the 50 states have significant aerospace and aviation manufacturing facilities that in total account for more than 800,000 good paying American jobs.
- International defense sales of U.S.-developed and produced systems promote U.S. security interests, as well as the interests of our friends around the world.
- Aerospace is the single largest U.S. net exporter with a positive trade balance in 1999 of \$41 billion, at a time when the United States was running a record trade deficit.
- The U.S. aerospace industry last year had record sales of \$155 billion, and exported more than 40 percent of its total production and 75 percent of its commercial products.

As we move forward, we are fortunate to have an experienced and confident AIA team, a clear vision, and a defined strategy.

Thank you in advance for your support.

Warmest regards,

Daniel P. Burnham



John W. Douglass
AIA President & CEO

Dear Association Member:

The aerospace industry has crossed the "Bridge to the Future" that we identified last year as an integral part of AIA's Vision 2000 for the future. We're now at the place where we take our first steps in the new beginning.

Raytheon Chairman and CEO Dan Burnham has taken the helm of the AIA Board of Governors and along with the other officers and Board of Governors will steer this industry into the crucial years that lay just ahead.

I welcome Dan to the post. I know he'll pick up the momentum that Cordant Chairman and CEO Jim Wilson inspired. Jim brought us to the bridge, and we thank him for his valuable guidance. No one knows more clearly than I do how important Jim's leadership has been.

At the sunrise of the Second Century of Flight, it is our vision for global aerospace that by 2003 — the celebration of the Centennial of Flight — we can look back to the challenges we face today and say that we found answers.

How Do We Get There?

To help guide us, AIA has identified a set of issues of paramount importance to the aerospace industry

that the candidates and the parties need to address during the coming election year. Perhaps the most important of these is the creation of a presidential commission on the future of aerospace.

A summary of the Election 2000 issues and our recommendations to the candidates for action are highlighted elsewhere in this *Executive Update*.

Presidential Commission on Aerospace

We feel the next president needs to convene a presidential commission similar to the Packard Commission, which had such an important and lasting impact on our industry in the late 1980s and early 1990s.

The commission would help us develop a plan to make sure that this wonderful industry, some would say the crown jewel among America's technological sectors, stays healthy, viable, and competitive and has the right kind of relationship with the federal government.

The Aerospace Industries Association represents more than 100 U.S. aerospace manufacturers and suppliers who employ more than 800,000 workers. This industry is crucial to America's economic health and its ability to maintain global trading leadership.



"AIA has identified a set of issues of paramount importance to the aerospace industry that the candidates and the parties need to address during the coming election year."

Create a Presidential Commission on the Future of the Aerospace Industry

Issue: The U.S. aerospace industry is facing a number of challenges to its long-term health. The industry needs to be examined by our country's best and brightest from industry, academia, labor, and government to develop a new vision for its future.

Recommendation: AIA urges candidates to commit to the establishment of a presidential commission to examine the issues facing the aerospace industry and to develop a long-term vision for the industry's future.

Modernize the Export Control System

Issue: The export control and licensing systems that are in place

today are outdated and inefficient. These systems no longer effectively protect U.S. security interests, and they undermine our commercial competitiveness.

Recommendation: AIA urges the candidates to develop new systems to control the most advanced technologies while allowing the export of equipment and technology already on the commercial market. The export control and licensing systems should be flexible enough to respond to rapid changes in technology and commerce, yet strong enough to maintain U.S. military superiority. Finally, a new export control system should be developed in concert with our closest allies to facilitate international joint ventures and partnerships and ensure that agreed upon controls are effective.

Increase U.S. Aerospace Access to the Global Economy

Issue: The aerospace industry must be able to operate in an open and orderly global economy. Any actions that discriminate against U.S. aerospace products must be vigorously opposed.

Recommendations: AIA urges the candidates to vigorously support fair and open trading system within which the U.S. aerospace industry can prosper and to resist any foreign efforts to discriminate against U.S. aerospace products or to subsidize our competitors.

Implement a National Strategy for Aerospace R&D Funding

Issue: Technological leadership is essential if the U.S. aerospace industry is to successfully

Let me summarize why the association, with the solid support of the Board of the Governors, wants the candidates to focus on these particular items.

A presidential commission would investigate ways to increase investment in aerospace research and development (R&D). Strong investment in R&D is critical to the nation's national security, economic well-being, and international competitiveness.

AIA continues to be alarmed as the Defense Department chips away at its investment in R&D. The FY 2001 budget proposes a half billion dollar decrease in RDT&E funding from the current budget. After adjusting for inflation, FY 2001 R&D would be at its lowest level in 18 years.

This steady decline in research investment is bound to have a negative effect on the quality of equipment provided to America's men and women in uniform

National R&D Strategy Needed

In the past year we developed a national strategy for R&D funding, calling for a \$70 billion increase in aerospace R&D with industry providing about \$20 billion. The good news now is that at least one candidate has publicly endorsed the strategy, others are looking at it, and the people that represent those areas in the current administration have pretty much endorsed the numbers.

Another issue of concern to the aerospace industry is the pressing need to overhaul administration of the export controls licensing system. AIA is seeking improvements in the way licensing of weapons systems and components is administered by the State and Defense Departments

Also, the association continues to argue that the Commerce Department, rather than the State Department, should administer controls for commercial exports under rules designed for commercial commodities.

There is some good news. The Defense Department, under the leadership of Dr. John Hamre, has undertaken a review of its licensing process. In many cases they've already shortened the amount of time it takes to review a request for an export license. Instead of weeks, the review can now often be measured in days.

And we've made progress in Congress on export licensing. Two years ago conservative



AIA President John Douglass discusses aerospace manufacturing with Rockwell Collins Vice President and General Manager Robert Chiusano during a visit to the AIA member company facilities in Cedar Rapids, Iowa.

compete in an increasingly complex world economy. The aerospace industry has the greatest trade surplus of any U.S. manufacturing industry. AIA is concerned that without a national strategy for R&D investment, the industry could lose its international technological lead and competitive edge.

Recommendation: AIA urges the candidates to work with Congress, other interested parties, and industry trade associations to increase the national investment in aerospace R&D.

Ensure American Leadership in Space in the 21st Century

Issues: It is essential to the national security and economic well-being of the United States that we maintain our lead in the global space market.

Recommendations: AIA urges the candidates to develop a comprehensive plan for the future of U.S. launch ranges. This would include extending launch range indemnification for at least five years.

Financial incentives for developing new space infrastructure and systems should be provided to encourage innovation. Along with this, NASA funding for basic research in new propulsion, material, and power technologies needs to be dramatically increased. And unquestionably, a new export control regime for commercial space systems must be developed to protect national security while promoting U.S. exports worldwide.

Remove Barriers to Public/Private Cooperation

Issue: Federal agencies could benefit from many of the same business practices as those used in the private sector, but too many artificial barriers exist.

Recommendation: AIA urges the candidates to commit to rescinding Executive Order 12674. AIA also urges the candidates to make a commitment to work with Congress to remove those statutes that restrict the ability of federal agencies to contract out or privatize their opera-

tions where appropriate. Finally, AIA urges the candidates to work with Congress and the executive branch to implement commercial budgeting practices where prudent.

Continue Reform of Government/Industry Business Practices

Issue: The federal government needs to continue moving reform of its business practices toward commercial industry practices and away from costly regulatory oversight.

Recommendation: AIA urges the candidates to commit themselves to updating government policies, procedures, practices, and legislation to encourage improved government/industry business relationships. Also, we urge candidates to ensure that government business process improvements already implemented are not reversed while they strongly support further improvements to streamline and simplify government business practices.



AIA President John Douglass tests a Gyroplane with Jay Groen, chairman of Groen Brothers Aviation, Inc., during a tour of facilities in Phoenix, Ariz.

Congressman Dana Rohrabacher and others were concerned about exports of U.S. satellites to China, leading to legislation that affected all satellite exports. Rohrabacher last session sponsored a bill on our behalf to put all NATO and certain other allies on a fast licensing track within the State Department.

CEOs Take Issue to White House

We continue to bring high level attention to the issue. In early February a group of AIA member company CEOs met with White House Chief of Staff John Podesta in an effort to resolve the issue of which agency — State or Commerce — should control export licenses for space-qualified components.

A presidential commission also could study ways to increase U.S. aerospace industry access to the global economy — an essential issue.

Because aerospace plays such a huge role in U.S. economic and national security, we can't tolerate other economic blocs telling us we can't have access to the global economy.

And that's exactly what we've been facing in Europe where they've passed a rule specifying that American planes of certain types can't fly in Europe even though the aircraft meet established international regulatory standards.

We're really hanging tough on this issue. The Commerce Department has indicated that the United States will file an official international complaint in this matter, and the association endorses that action. As this article goes to press, I am on my way to Brussels to carry our message to top officials of the European Union.

Now we want the next president of the United States to promise support in this area, too.

Legislative Matters Ahead

Meanwhile, I'd like to review some important legislative issues that have carried over from 1999 to the second session of the 106th Congress now underway.

One will be the debate over permanent normal trade relations and World Trade Organization membership for the People's Republic of China. AIA continues to support these efforts, and we'll do everything we can to keep the record straight concerning our aerospace trade record with China.

Another issue soon to be faced in Congress is a multi-billion dollar supplemental appropriation to help pay for U.S. military intervention in Bosnia and Kosovo. We support the supplemental funding

because replenishment of ordnance, weapons systems, and components is crucial to maintaining strong American forces.

Reauthorization of the Federal Aviation Administration will again be argued, centering on how to pay for FAA operations. AIA will continue to support an FAA budget that splits financing between aviation trust fund and general fund revenues. We support the hybrid plan because of a strong belief that the agency's safety initiatives and their administrative costs should be the responsibility of the government, not just the users.

Language for a new Export Administration Act is ready to go to the floor in the Senate, but it's nowhere near ready in the House. We'll keep striving for congressional support of aerospace export issues and global access as lawmakers try for the first update of this act in 12 years. I have already been invited to testify before the House on this important issue.

We also hope to see approval this session of a measure that would extend space launch indemnification for another five years, improving the global competitiveness of American companies. A one-year extension granted last session just isn't enough for the long-range strength of our space industries.

A legislative victory of note last session was the adoption of an AIA-developed accounting innovation that limits delays in the payment of defense invoices to the final month of the fiscal year rather than across all 12 months. The action saved industry more than \$60 million in nonrecoverable annual interest expenses — a real bottom line benefit for our members.

SMC Initiatives Underway

On the subject of member benefits, we've made excellent progress in broadening AIA representation in the aerospace industry. We've added nine new corporate members in recent months, and our Supplier Management Council roster has grown to nearly half a hundred on its way to a target of 200 members by the end of the year.

I've asked staff members J.P. Stevens and Amanda Matthews to work with Bill Lewandowski, our vice president of supplier management, on developing new SMC membership, retention, and value strategies for associate members. J.P. was a whirling dervish last year in a program to gain new corporate members, and the SMC team already has significant SMC initiatives underway.



AIA Welcomes New Members — One Is "Family"

Nine new members have recently joined the ranks of AIA, two with aviation pioneering links and one of them like family coming home. Four are profiled here:



Fairchild Aerospace Corporation, a new AIA member, is developing the Fairchild 728 70-seat regional jet aircraft.

Curtiss-Wright Flight Systems, Inc. traces its roots to the dawn of aerospace when the Wright Brothers first achieved powered, controlled, and sustained manned flight and to the achievements of early aircraft design pioneer Glenn H. Curtiss.

Separate companies created by Orville and Wilbur Wright and Glenn Curtiss were competitors and rivals in the formative years of American aviation but eventually merged in 1929 to form the Curtiss-Wright Corporation.

It's like having family home to welcome Curtiss-Wright Flight Systems back to AIA. When AIA's predecessor organization, the Aeronautical Chamber of Commerce of America, was created in 1919, Orville Wright and Glenn Curtiss were charter members.

Furthermore, it's a family reunion of sorts for AIA President John Douglass who was the Air Force plant representative at Curtiss-Wright headquarters in Lyndhurst, N.J., in the mid-1970s in his early military career.

Fairchild Aerospace Corporation is another new member with a significant connection to the past. One of its roots is Dornier Luftfahrt GmbH, formed in 1922 by Claude Dornier. The Dornier company has been a leader in aircraft manufacturing for nearly 80 years and introduced the Flying Boat, its first aircraft, in 1922.

Fairchild Aerospace took flight in 1996 when Fairchild Aircraft of San Antonio, Tex., acquired Dornier. The histories of Fairchild Aerospace, Fairchild Aircraft, and Dornier have involved revolutionary changes to meet the demands of the growing aircraft industry through the years.

For example, Fairchild Aircraft, which developed the Dornier 328 turboprop, has now converted the aircraft to the 328JET, the first regional jet aircraft in the 32- to 34-seat market.

Today Fairchild Aerospace is a leader in the design, manufacture, and support of aircraft for airline, business jet, and government markets. Fairchild maintains service centers in the United States and Germany and fixed-base operations in San Antonio.

Omega Air, Inc. is a Virginia-based aerospace company. Omega Air currently modifies Boeing 707 airframes for use as supplemental aerial refueling tankers in support of U.S. and foreign military forces.

The company is involved in a venture with Pratt & Whitney, Nordam, and BFGoodrich Aerospace in the re-engineing of Boeing 707 aircraft using JT8D-219 engines, a program expected to receive FAA certification this year. Omega also has an FAA-certified engine repair station in Ireland.

Omega Air owns a large fleet of DC10 aircraft participating in the United Kingdom's Strategic Future Tanker Program, a lease of aerial refueling/transport services that will replace the aging fleet of UK tankers.

The parent Omega firm is an international organization headquartered in Ireland and operating in Europe, South America, and the United States. Omega business activities include aerospace, communications, and construction.

Stellex Aerostructures, Inc., is a leading provider of highly engineered subsystems and components for aerospace, defense, and space industries, offering engineering, low cost manufacturing, and systems integration for original equipment manufacturers.

Its four manufacturing subsidiaries are Stellex Monitor Aerospace, Inc., of Long Island, N.Y.; Stellex Precision Machining, Inc., of Wellington, Kan.; Stellex Bandy Machining, Inc., of Burbank, Calif.; and Stellex Paragon Precision, Inc., of Valencia, Calif. Stellex has about 900 employees and uses state-of-the-art information and production systems.

One is a series of teleconferences to provide ideas and dialogue between supplier base executives and prime contractor leadership. Another is a plan to have all AIA companies represented on the SMC in order to interface better on all AIA issues. A third initiative is establishment of an SMC rapid communications system through e-mail. Another will offer a cost-effective way for associate members

to participate in international air shows, such as Farnborough and Paris, and assist them in product marketing.

As you can see, the year 2000 is filling up with challenges for aerospace. It's time to get started.

John W. Douglass



AAI Corporation Celebrates 50th Anniversary

AAI Corporation, alphabetically first on the AIA membership roster, is celebrating its 50th anniversary. Now a leading designer and manufacturer of military training systems, electronic defense technologies, unmanned air vehicles, and other products, AAI's roots grew from a big dream and a small stake.

Six men in 1950 walked into a vacant supermarket in what's now Hunt Valley, Maryland, near Baltimore and put down \$1,000 to begin Aircraft Armaments, Inc. Their original dream was to develop aircraft weapons as systems, an idea that grew out of the increasing complexity of World War II-era technology.

Aircraft Armaments, Inc., shifted into other defense-related technologies and never did make armaments for aircraft. It was decided to change the name through a contest among employees. Cleverly, the winning employee chose the initials of the old company name for the new entity — AAI Corporation.

Today, AAI is an award-winning company in the forefront of several innovative defense technologies.

In one of its biggest product victories, AAI's Shadow 200 Tactical Unmanned Air Vehicle team was selected recently by the U.S. Army to provide surveillance and reconnaissance capabilities in battlefield and peacekeeping deployments.

Photo above: The AAI Shadow 200 unmanned air vehicle selected for tactical missions by the U.S. Army performs a test flight.

AIA MEMBER COMPANIES

- AAI Corporation
- The Aerostructures Corporation
- Alliant Techsystems Inc.
- American Pacific Corporation
- Analytical Graphics, Inc.
- Argo-Tech Corporation
- BAE Systems North America Inc.
- Barnes Aerospace
- B.H. Aircraft Company, Inc.
- The Boeing Company
- Cordant Technologies Inc.
- Curtiss-Wright Flight Systems, Inc.
- Dowty Aerospace
Los Angeles
Yakima
- Ducommun Incorporated
- DuPont Company
- Dynamic Engineering Incorporated
- Esterline Technologies
- Fairchild Aerospace Corporation
- Fairchild Fasteners
- Final Analysis, Inc.
- GenCorp
- General Dynamics Corporation
- General Electric Company
- GKN Aerospace Inc.
- The BFGoodrich Company
Aerostructures
Landing System
Maintenance, Repair and
Overhaul
Sensors and Integrated Systems
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- GTE Internetworking
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- HEICO Corporation
- Hexcel Corporation
- Honeywell
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Hughes Space and
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Defense and Electronics
- Kaman Aerospace Corporation
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- Lockheed Martin Corporation
- MOOG Inc.
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- Northrop Grumman Corporation
- Omega Air, Inc.
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- Raytheon Company
- Robinson Helicopter Company, Inc.
- Rockwell Collins, Inc.
- Rolls-Royce North America Inc.
- Senior Flexonics Inc.
- Stellex Aerostructures, Inc.
- Swales Aerospace
- Teleflex, Inc./TFX Sermatech
Mal Tool & Engineering
- Textron Inc.
- Triumph Controls, Inc.
- TRW Inc.
- United Defense
- United Technologies Corporation
Pratt & Whitney
Sikorsky
Hamilton Sundstrand
- Woodward Governor Company



**Aerospace
Industries
Association**

1250 Eye Street NW, #1200
Washington, DC 20005-3924
Phone: (202) 371-8400 • FAX: (202) 371-8400
Web: www.aia-aerospace.org

EXECUTIVE UPDATE

SPRING 2000



AEROSPACE

Maintaining Our Financial Soundness



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On the cover: Aerospace employees at work represent, from top, Teleflex, Inc.; Ducommun Incorporated; and Cordant Technologies Inc.





John W. Douglass
AIA President & CEO

“The health of aerospace and the defense industrial base depends on remaining competitive and ... in shaping our financial and acquisition strategies for the future.”

Dear Association Member:

We've entered the core of a crucial period that will determine what directions aerospace will take in the months ahead. Fortunately, the annual spring meeting of the association's Board of Governors in Williamsburg, Va., gives us an opportunity to assess the issues and determine courses of action.

Among the topics we need to talk about:

- A special task force of the Defense Science Board (DSB), just as this *Executive Update* was going to press, was poised to release its recommendations from a three-month study of the acquisition policies of the defense industry.
- AIA's campaign to generate support for its Election 2000 issues and the continuing momentum toward a presidential commission on aerospace.
- Needed export control reforms.
- The financial soundness of the U.S. aerospace industry.

The health of aerospace and the defense industrial base depends on remaining competitive, and that will depend in part on how the government responds to the DSB study in shaping our financial and acquisition strategies for the future.

Leadership of the Defense Department chartered the DSB task force to review alternative acquisition policies and recommend changes to strengthen the health and competitiveness of the U.S. defense industry. The study was prompted by concerns that the Pentagon is in danger of losing its most important tool — competition — in reducing costs and increasing innovation.

Reported DSB Conclusions

Here is a summary of the task force's preliminary conclusions as reported in the press:

- Revise policies/practices to restore cash flow to historical levels.

- Restore progress payments to 85 percent, reflecting higher interest costs and the impact of current tax practices.
- Recommend tax law changes to defer taxes on profits until they are received.
- Implement new automated systems to speed contractor payments.
- Provide profit incentives to industry to cut costs and rationalize past consolidations.
- Educate defense acquisition officials that reasonable profits are needed to ensure a healthy defense industry.

The DSB task force is headed by Philip Odeen, executive vice president of Washington operations for TRW Inc. Work on the study began last December at a time when the Standard and Poor's Aerospace Index for the year fell about eight percent, while the S&P 500 Index rose 21 percent in the same period.

According to published reports, the DSB study concludes that “stock multiples and prices will likely remain depressed unless margins and cash flow improve markedly,” and “the return on invested capital will also continue to be low — below the cost of capital for many companies.” These are life threatening financial concerns for our aerospace and defense industries.

I had the opportunity to meet with the task force in late February. I described several issues that AIA's Executive Committee agreed were critical to profitability and a strong industrial base.

Resolving these issues, I pointed out, will be a very important step in developing a new business model for the Defense Department, a model that should include:

- The use of commercial business practices.
- More equitable sharing of the cost savings from mergers and acquisitions.
- Improved government practices for prompt payment.

- Multiple-year procurements in government acquisitions to permit cost-efficient production schedules.
- Increased R&D funding for aerospace.
- More R&D and procurement funding for modernization of the armed forces.

Erosion of the economic soundness of aerospace can be traced back to the Pentagon's post-Cold War drive to fund fewer programs. That brought about a heightened competitive environment and deep investment by companies anxious to win contracts.

The shift from a defense-driven to a commercial-driven industry led to mergers of aerospace companies that achieved cost savings (primarily realized by the govern-

ment), but at a cost that included integrating different corporate cultures and incurring higher debt.

Companies bidding for defense contracts faced higher risk and diminishing returns in an area that had always been low-profit but at least was stable and predictable.

AIA Legislative Strategy

We congratulate the DSB task force for its focus in conducting a difficult review. The association will examine the findings and recommendations and set a course for supporting the necessary changes as soon as possible. We are developing an AIA legislative strategy to address issues raised by the DSB and to prepare legislation needed to get a presidential commission approved by Congress this year.

Our campaign to generate support for a presidential commission on aerospace and our other Election 2000 issues continues to gain momentum.

We've distributed Election 2000 policy papers

to Republican and Democratic leaders, members of Congress, and key executives in the Bush and Gore campaigns. At the same time, we're seeking support from the presidential candidates and party platform writers preparing for the November elections.

I briefed Vice President Gore's top advisors recently on our Election 2000 issues. They expressed keen interest in the issues and promised that the Gore campaign would be represented at our Williamsburg discussions.

The Republican National Committee has included four AIA Election 2000 issues in its consensus recommendations to Republican candidates for national office. I'm also pleased that the AIA package has received a strong endorsement from the co-chair of the Aerospace Caucus in the U.S. House of Representatives, Congressman Dave Weldon (R-Fla.).

The Election 2000 issues also have been shared with governors and other leaders in states with large numbers of aerospace workers, other defense related associations, think tanks, and labor unions.

John Sweeney, head of the AFL/CIO, and Tom Buffenbarger, president of the International Association of Machinists and Aerospace Workers, told me they would help in the call for a presidential commission. Furthermore, we've sent Election 2000 issue papers to the Air Line Pilots Association, the National Air Traffic Controllers Association, and the International Union of Automobile, Aerospace and Agricultural Implement Workers.

We're asking the union leaders to join with us in support of aerospace workers and jobs by forging a relationship to influence aerospace policies on common issues within the next administration.

The health of aerospace and defense is the foundation on which much of America's economic and defense security rests. In support of that, a very high value must be placed on the more than 800,000 high-technology jobs in the aerospace and defense industries.



A panel of trade authorities, including AIA President John Douglass, participated in a panel discussion in February on "The Future of U.S. Export Controls." The Henry L. Stimson Center, a Washington non-profit organization for research into arms control, defense policy, and issues of war and peace, hosted the talks. Douglass, seated second from top at right, presented an aerospace industry perspective on the need for export control reforms. He was joined by John Kirkland, vice president of Washington International Operations for Lockheed Martin Corporation.

Export Control Reform

Another matter that continues to concern us is the need for improvement in U.S. export control policies.

This spring I testified before the Senate Armed Services Committee, the Senate Commerce, Science and Transportation Committee, and the House International Relations Committee on the current attempt to reauthorize the Export Administration Act (EAA) of 1999.

I suggested that Congress should create a balance between protecting national security and allowing the aerospace industry to export and remain competitive in the global marketplace.

Also, a delegation from AIA met with White House Chief of Staff John Podesta to express concern over export administration issues. Following Podesta's expression of interest, the Departments of State and Defense increased their dialogue and agreed to a



The F/A-18E/F Super Hornet, winner of the prestigious Collier Trophy presented this spring, is the most capable strike fighter in the history of naval aviation.

AIA's Vote Counts in Collier Trophy Selection

In fact, AIA itself was awarded a Collier Trophy 50 years ago.

In 1950 the association's Helicopter Council represented eight leading U.S. helicopter manufacturers.

The Collier Trophy for that year was presented "To the helicopter industry, the Military Services, and the Coast Guard ..." for air rescue operations, especially of wounded or stranded personnel in the Korean conflict.

AIA's Collier Trophy is displayed in its reception lobby.

The Boeing F/A-18E/F Super Hornet fighter aircraft was awarded the prestigious Collier Trophy this spring, and AIA President and Chief Executive Officer John W. Douglass was among the panelists who made the selection from a list of industry nominees.

The Boeing Company, the Hornet Industry Team, and the U.S. Navy were recognized at the Collier Dinner on May 3 for "designing, manufacturing, testing, and introducing into service the F/A-18E/F multi-mission strike fighter aircraft, the most capable and survivable carrier-based combat aircraft."

The Collier Trophy was established in 1911 and is

awarded annually by the National Aeronautic Association, the National Aero Club of the United States and the nation's oldest aviation organization founded in 1905.

In presenting the Collier Trophy, NAA President Don Koranda said, "The selection of the Super Hornet is an excellent example of the technical achievement and teamwork of America's aerospace industry."

"Receiving the 1999 Collier Trophy for the F/A-18E/F Super Hornet is a tremendous honor," said Phil Condit, chairman and chief executive officer of The Boeing Company. "The selection of the Super Hornet acknowledges that this aircraft is the most versatile, capable, and survivable strike fighter in the history of naval aviation. We are proud of that fact and the team that made it all possible."

Working as an integrated team, the U.S. Navy and the

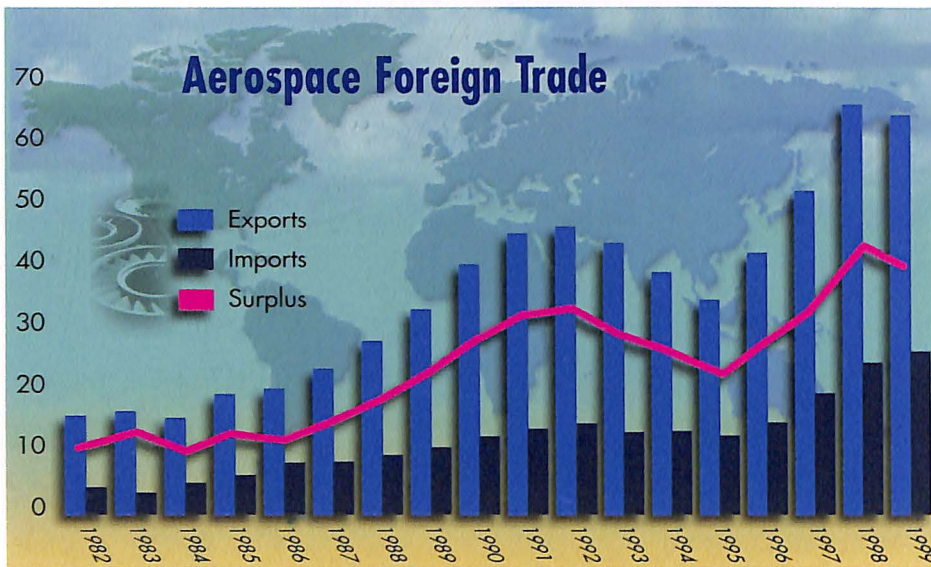
members of the Hornet Industry Team demonstrated the Super Hornet's superb performance, efficiency, and safety throughout 1999. Specific accomplishments include completion of almost 7,000 mishap-free flight hours and completion of the development program on schedule and under cost.

Boeing has been honored with the Collier Trophy on 15 previous occasions for programs that include the DC-1/DC-2, F-4 Phantom II, 757/767, 777, Space Shuttle, V-22 Osprey, and C-17 Globemaster III.

An industry team led by Boeing builds the Super Hornet. Boeing makes the forward fuselage and wings and conducts final assembly. Northrop Grumman is the principal airframe subcontractor, supplying the center and aft fuselage. General Electric produces the F414 engines, and Raytheon builds the APG-73 radar.

number of proposed improvements in the export control process. They continue to meet to try to solve differences on other enhancements.

It is critical to our industry and to our ability to serve our customers and partners overseas that the U.S. export system be made as efficient as possible.



Record imports and lower exports in 1999 combined to reduce the aerospace industry's trade surplus from 1998's record level. The aerospace industry still held the largest trade surplus among U.S. export industries.

Many of our allies have grown increasingly impatient with the performance of our export control system, using that as justification to seek European solutions to their technology and armament requirements. A commitment by the administration to improve the system would be regarded by our allies as a sign of renewed cooperation and interoperability.

Eventually, we need a complete review of the entire export control system so that all export controls can be consolidated under a single permanent act. Passage of an improved EAA this year in Congress is an important step in that direction, especially because the act that governed the control of dual use exports expired six years ago, and controls have been exercised under temporary executive orders ever since.

In a related area, the association pointed out to Congress that extending permanent normal trade relations to China is vital to the continued

good health of the U.S. aerospace industry and its workers and in turn will have important security and economic implications for the United States.

The U.S. aerospace industry is one of the leading exporters to China and would benefit directly from improved access to Chinese markets. Aerospace exports to China have increased significantly in recent years and promise to continue growing in the next quarter-century. Over the period 1997-1999, aerospace exports to China averaged \$2.8 billion a year, which was approximately one-fifth of all U.S. exports to that country. Aerospace exports to China provide high wage jobs for more than 28,000 U.S. workers.

Technical Manpower Needs

Finally, we need to be aware that a shortage of technical talent is beginning to affect the aerospace industry as it competes for skilled professionals.

AIA is joining the Air Force Association in updating a 1989 study on this topic. We'll be looking at current and projected requirements for technical manpower in various skill areas, causes of shortages, effects on national security and global leadership, and the roles of federal and private entities in helping solve the shortages.

The study — *The Crisis in America's Technical Workforce* — will conclude in September with recommendations for solutions. We want this issue included in congressional hearings on the 2002 budget.

As you can see, this mid-year is a busy time for the association as we grapple with important fundamental issues, preparing to bring them into the open air of the election process as it enters the stretch drive this summer and fall. There is work to be done.

John W. Douglass



NEW MEMBERS

Association Roster Continues to Grow

AIA continues to add new members to its ranks, drawing in unique companies with evolving technologies and those with state-of-the-art manufacturing capabilities. Four are profiled below.

Fairchild Fasteners, the global leader in advanced aerospace and industrial fastening systems, is among AIA's newest members.

A division of Fairchild Corporation, Fairchild Fasteners is headquartered with its parent at Dulles, Virginia. The fastener manufacturer has 17 production facilities in North America, Europe, and Asia.

The company designs and produces more than a million parts a day for more than 1,000 customers who can choose from some 400,000 parts.

Fairchild Fasteners are used in products that include high-performance jet fighters, commercial aircraft, submarines, satellites, high-speed trains, racecars, and family automobiles.

The company initially joined AIA with associate member status as part of the Supplier Management Council.

Groen Brothers Aviation, Inc., was formed by David and Jay Groen in 1986 to bring the gyroplane to the forefront of modern aviation. They initially worked as the sole employees, inventing the technologies that led to the development of their Hawk 4 four-seat gyroplane.

Today, the company has 67 employees and is headquartered in Salt Lake City with a flight operation center in Buckeye, Ariz.

The Hawk 4 provides vertical takeoff and landing capabilities and offers a safe and economic alternative to the rotorcraft and fixed-wing markets, according to the company.

Last month, the Hawk 4 was demonstrated for the first time for an aviation audience at an Experimental Aircraft Association fly-in at Lakeland, Fla. Orders have been placed for nearly 150 Hawk 4s. FAA type certification of the aircraft began in 1998 and is expected to be completed in 2001.

The Hawk 4 will be the first in a series. Development will follow on a turbine-powered Hawk 4T, Hawk 6, and Hawk 8. Preliminary designs for even larger gyroplanes have been completed, the company said.

The NORDAM Group, a leader in aircraft component manufacturing and repair, is another new aerospace company to join AIA.

Founded in 1969, the NORDAM Group is comprised of six operating divisions serving commercial air carriers, aircraft and engine manufacturers, U.S. and foreign military services, and aircraft maintenance facility operators.

NORDAM manufactures, overhauls, and repairs a wide variety of airframe and engine parts, reversers, and nacelles for commercial, regional, and executive aircraft. Its hush kit systems are the leading choice for Stage 3 noise suppression on 737-200 aircraft.

Other components produced or repaired by the company include bonded flight control surfaces, interior

structures, radomes, and aircraft transparencies for commercial, regional, and executive jets and helicopters.

The NORDAM Group is headquartered in Tulsa, Okla., where it has its major facilities. Other plants are located in Ft. Worth, Texas; Singapore; and the United Kingdom.

Swales Aerospace is a full-service provider of satellites and associated flight hardware. The company is headquartered in Beltsville, Md.

Founded in 1978, Swales Aerospace provides solutions for small satellite missions as well as a broad range of structural and thermal management systems for the global satellite industry.

The company's end-to-end mission capabilities include spacecraft and instrument design and analysis, fabrication, integration and test, ground control, and data collection. Swales employs more than 700 aerospace professionals.

Swales Aerospace acquired Pasadena, Calif.-based Welch Engineering in December, 1998, and established it as a wholly owned division. Besides having extensive experience in guidance, navigation, and control, the division provides systems engineering and integration, launch and on-orbit mission operations, and applied intelligent technology.

The Welch Engineering division is working on NASA's New Millennium Program Earth Orbiter-1 (EO-1) spacecraft, for which Swales is the prime contractor.



APACHE HELICOPTER

A Fountain of Youth

Design engineers at Boeing's rotorcraft works in Arizona have come up with their version of the Fountain of Youth — the Apache. The world's premier attack helicopter will celebrate 25 years of flight this year, yet the newest variant is the toughest kid on the block.

The prototype Apache made its first flight on September 30, 1975, as the YAH-64. A year later Hughes Helicopters, the original design company, received a full-scale development contract, and in 1982 the Army approved the AH-64A Apache for production. Deliveries began in 1984 — the year Hughes Helicopters became part of McDonnell Douglas, which later merged into Boeing.

Highly maneuverable and heavily armed, the combat-proven Apache helicopter is today the backbone of the U.S. Army's all-weather, ground-support capability. The newest version is the AH-64D Apache Longbow.

The Apache Longbow's fire-control radar and advanced avionics suite give combat pilots the ability to rapidly detect, classify, prioritize, and engage stationary or moving enemy targets at standoff ranges in nearly all weather conditions.

The Boeing Company and its predecessors delivered 937 AH-64A Apaches between 1984 and 1997. More than 140 next-generation Apache aircraft have been delivered to the U.S. Army, the United Kingdom, and The Netherlands.

Photo above: Apache Longbow, latest version of the premier attack helicopter.

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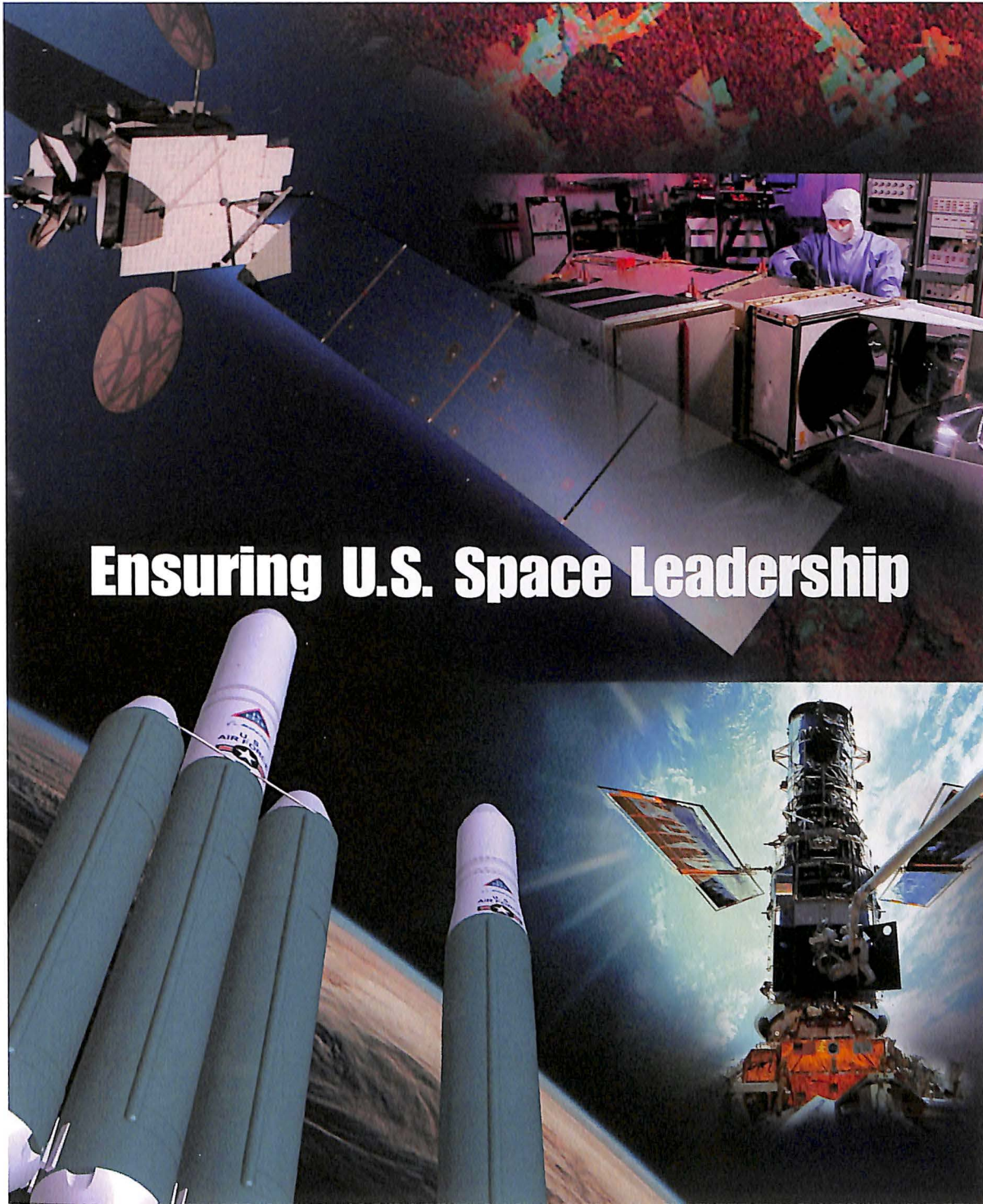


**Aerospace
Industries
Association**

1250 Eye Street NW, #1200
Washington, DC 20005-3924
Phone: (202) 371-8400 • FAX: (202) 371-8400
Web: www.aia-aerospace.org

EXECUTIVE
UPDATE

SUMMER 2000



Ensuring U.S. Space Leadership



Aerospace
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Increasing AIA's Profile

An AIA objective in place over the past 18 months or so is increasing the association's profile in Washington. It's a strategy that means greater recognition of the strengths and contributions of the aerospace industry and a better image wherever we go for action and assistance for our needs.

One tactic to achieve that strategy has been the use of commentaries, op-eds, and opinion articles in major media that follow aerospace business issues.

Results have been good.

For example, in January AIA addressed the global economy in an opening commentary of *World Aerospace Development*, which also was distributed at the Farnborough Air Show. Then in June the *Washington Times* daily newspaper ran an op-ed bylined by John Douglass — "Export Control Repair" — putting in perspective the uphill battle to develop a modern export control system not embedded in the Cold War.

Space News, a respected aerospace industry weekly trade newspaper, published an AIA opinion article in July signed by Douglass on the need to upgrade U.S. space launch facilities, marking the 50th anniversary of launches from the Cape Canaveral Spaceport.

Here's a digest of that commentary:

"...unless we modernize the infrastructure at Cape Canaveral Air Force Station and Vandenberg Air Force Base — the systems that make it possible to carry out space launches — we risk failing to meet the needs of commercial organizations that buy and launch satellites.

"Consider for a moment the support given to

airports by federal, state and local governments. The airline industry would never have grown or developed into the transportation behemoth it is today without that support. Imagine the development of our commercial airline industry if it had been limited to landings at a few U.S. Air Force bases. Under the same restrictions, airlines would have been granted only one flight a week, and that flight would have been delayed if the U.S. government required the landing strip.

"Because U.S. government payloads have priority for launches, the Air Force almost always has more important things to spend available funds on. If improvements at these launch sites are not needed to meet Air Force objectives, they tend not to be made.

"The United States needs to change the management of Cape Canaveral to make it more responsive to a commercial space industry that is increasingly important to our nation's economic and technological leadership.

"As Cape Canaveral moves into its sixth decade as the nation's principal spaceport, the United States and partner nations will complete assembly of the international space station and begin operations. This will add to launch activity at the Cape and increase the burdens on its infrastructure. So will growth in commercial space activity.

"It would be a shame if the United States' history of being first in so many space undertakings in the second half of the 20th century leaves it with an aged infrastructure that puts it at a competitive disadvantage in the first half of the 21st."

NEW MEMBERS Four More Companies Bring Skills to AIA

Ball Aerospace & Technologies Corp. (BATC) provides imaging, communications, and information systems, products, software, and services to government and commercial aerospace customers.

A subsidiary of Ball Corporation, BATC built NASA's second satellite in history, flew the first Skylab science instruments, and built the first space-based cryogenically cooled telescope to map the universe in infrared.

Based in Boulder, Colo., BATC employs some 1,900 people worldwide.

Its customers include NASA, the U.S. Defense Department, and prime contractors within the aerospace industry. Ball also provides services for the academic community, including the University of Arizona, Harvard-Smithsonian Astrophysical Observatory, and Johns Hopkins University/Applied Physics Laboratory.

Continued on page 7.

Ball Aerospace & Technologies Corp. has been part of the aerospace industry since 1956 and today is a leading supplier of imaging and communications products.





John W. Douglass
AIA President & CEO

Dear Association Member:

We are only six months away from the opening gavel of the presidential commission to study the future of the aerospace industry. It was a major objective of the association in the Election 2000 process, and it looks like we were successful.

The sound of that gavel will be a crucial moment for our companies, our employees, our competitiveness, and our financial soundness.

At this writing the House and Senate have each passed legislation to create the blue ribbon panel. We expect the small differences between the two versions to be reconciled, and a final bill should land on President Clinton's desk by the end of September. There's no reason at this time to think he won't sign it.

Just nine months ago AIA first called for creation of a presidential commission on aerospace. We said then that a serious examination of the aerospace industry is needed to help ensure America's economic health and its ability to maintain leadership in global markets.

The Executive Committee and the Board of Governors of AIA stood squarely behind our staff recommendation to seek the commission in Congress. The CEOs of our member companies agreed that there are too many unsolved economic and competitive issues chipping at the foundation of this great industry.

For instance, investment in research and development (R&D) is vital to the continued health of the aerospace industry and to the expansion of our national technology base. R&D investment needs to be increased to continue this growth.

Also, the attraction of advanced technology research remains one of the best lures to young, brilliant minds, and significant R&D opportunities will lure top talent to our industry.

Access to Global Economy

Ways to improve U.S. aerospace industry access to the global economy and concern for America's continued leadership in space in this new century are other major issues. We will look to the commission for recommendations in these and many other areas.

Anyone who's ever been involved in a commission process, as I have, knows that focus is needed to ensure feasible recommendations and solutions. There's a lot to do before the commission convenes March 1.

Early next year the newly inaugurated president and congressional leaders will appoint members to the study panel. I'm certain they'll be well aware of the magnitude of our aerospace issues at that time. Senior representatives of both major party campaigns attended the Williamsburg Board of Governors meeting and took a lot of information back with them, especially from a panel discussion on the health of the aerospace industry.

Export Control Reforms

In another of our Election 2000 campaign issues, I'm happy to report that an initiative to streamline the current export control system has been announced by the State and Defense departments.

The Defense Trade Security Initiative is the result of months of meetings between State and Defense department officials and has been approved by President Clinton and the National Security Council.

Daniel R. Burnham, chairman of the AIA Board of Governors and chairman and CEO of Raytheon, addresses U.S. and Japanese business executives at the AIA/Society of Japanese Aerospace Companies reception at the U.S. Embassy in London during the Farnborough Air Show.

On the cover:
Montage photos courtesy of the Boeing Company (Delta IV launch family), Hughes Space and Communications Company (HS 601HP satellite), Raytheon (Landsat image and scanner), and Lockheed Martin (Hubble Space Telescope). More than 30 AIA member companies — about half of total membership — are involved in the design and production of space products and systems as prime contractors, sub-contractors, and suppliers.





AIA executives participated in a demonstration flight of the Dornier 328JET in June. The group included (from left) Robert P. Daly II of Fairchild Dornier Corporation; Karin Kammann-Klippstein of the German Embassy; John Douglass, Sandra Carney-Talley, and Bob Robeson, all from AIA; Peter Ammon of the German Embassy; and Tom Jobe of Fairchild Dornier Corporation.

A catalyst for the reforms was a meeting in February between a delegation of senior executives of AIA member companies and White House Chief of Staff John Podesta.

The reforms will affect program and project licenses, multiple destination licenses, expedited licenses, license exemptions, and overall system procedures.

If the steps are promptly and enthusiastically implemented, they will go a long way toward closer industrial cooperation with U.S. allies and eliminate a major competitive barrier for U.S. companies.

Farnborough Air Show

AIA a few weeks ago had a unique presence at the Farnborough International 2000 Air Show, the UK's renowned international aerospace exhibition and flying display organized by the Society of British Aerospace Companies.

The association had a display area in the U.S. pavilion and for the first time hosted eight AIA member and associate member companies and one Defense Department protégé firm.

AIA also organized a United Kingdom Buyers' Day to bring procurement representatives of British Aerospace Systems and Rolls-Royce together with

U.S. company marketing executives to learn ways to work together better.

The strategy was developed as a means for small- and medium-sized companies to participate in international air shows and have affordable logistics support.

The air show was a productive experience for the AIA team. As we've done for several consecutive shows, we co-hosted a reception with the Society of Japanese Aerospace Companies attended by 200 American and Japanese business leaders, sponsored a dinner at the U.S. ambassador's residence for 100 U.S. aerospace executives, and hosted the Defense Department's operations center.

Also, I had meetings with representatives of several potential member companies and with industry colleagues from the United Kingdom, Canada, Europe, and Japan.

The mood at the show was upbeat for U.S. industry with widespread interest in how European and transnational cooperation and consolidation is developing. A meeting between senior European and U.S. industry executives concluded that it was in the best interest of everyone to establish mechanisms to work together and to encourage our governments to address some of the issues hindering cooperation and consolidation.

AIA will coordinate follow-on meetings with our European colleagues to coincide with our Board meetings this fall in Phoenix.

1950-2000 Cape Canaveral Spaceport



Bumper 8 photos (above & left) courtesy of USAF/Spaceline.

When President John F. Kennedy in 1961 challenged America to land a man on the Moon — a moment some believe to be the dramatic conception of the U.S. space program — rockets and missiles had already been undergoing testing and launch from a small complex on the eastern shore of central Florida for 11 years.

Known today as Cape Canaveral Spaceport — composed of Cape Canaveral Air Force Station and NASA's John F. Kennedy Space Center — the world's most famous space launch center this year is celebrating its first 50 years of operations.

The first rocket launch from Cape Canaveral took place on July 24, 1950. It was a captured German V-2 missile that the U.S. Army had modified and named Bumper 8.

U.S.-EU Aircraft Issues

In line with our concerns over cooperation, I had an opportunity at Farnborough to issue a statement on the need to achieve consensus between the European Union (EU) and the United States on a growing list of aircraft issues.

There's increasing concern as political forces on both sides of the Atlantic advocate trade policies that pit America against Europe while economic and national security forces are encouraging U.S. and EU aerospace manufacturers to cooperate and consolidate.

These trends are clearly contradictory. Despite the fact that the United States and the EU are collaborating more and more at the industrial level, significant trade issues have developed.

Hushkits: The European Parliament passed a rule last May that bans U.S. aircraft with hushkits from flying in Europe, ostensibly to reduce airport noise. Those aircraft, however, meet noise standards agreed to by the EU in the 143-member International Civil Aviation Organization. The economic impact on the U.S. aerospace industry from the rule is estimated to be \$2 billion.

Subsidies: The governments of France, Germany, and the United Kingdom have refused to provide the U.S. government with information on the A3XX and on the A340-500/600 program to ensure that assistance provided to Airbus by its sponsor governments isn't in violation of trade agreements. The information is also needed to ensure that the European governments don't provide

financing and leasing terms to airlines that are more favorable than those available from commercial sources, also a violation of existing trade agreements.

Foreign Sales Corporation (FSC): This provision provides U.S. companies tax deferrals on a portion of profits earned from exporting goods and was recently ruled to be an illegal export subsidy by the World Trade Organization (WTO). This program allowed U.S. exporters to offset the trade advantage of countries that refund value added taxes at the border. The United States is in the process of restructuring the FSC to conform it to the WTO, but so far the EU has rejected the recent U.S. proposal.

Certification: Due to the rapid increase in air travel worldwide, the growth of cross-border leasing, chartering, and the international design and production of commercial aircraft, the European Joint Aviation Authorities (JAA) and the U.S. Federal Aviation Administration have worked to harmonize airworthiness requirements.

However, the JAA's interpretation of some certification requirements has increased the cost of certification for American manufacturers, and some products such as the Gulfstream V have still not received type approval by the JAA member authorities.

How the United States and the European Union can find common ground and arrive at a consensus on aircraft issues will be another major agenda item for the upcoming presidential commission on aerospace. The development of international business must be recognized in the formation of government policies.

As rocket launch facilities are measured today, Cape Canaveral that day in 1950 wasn't deluxe — the just-poured concrete launch pad had barely enough time to set, the gantry for servicing the rocket was a converted paint scaffold, and an Army tank filled in as the safety blockhouse.

The launch was a success. Though Bumper 8 reached an altitude of only 10 miles, it pointed the nation's way from Cape Canaveral to the Moon, the planets, and beyond.

Half a century later, Cape Canaveral Spaceport has grown into an \$8 billion complex where America's space industry has partnered with NASA and the Air Force in the launch of more than 3,000 space missions. They have ranged from the Earth-orbit Saturn flights of the 1960s, the series of Apollo missions to the Moon in the 1970s, development of the space shuttle program in the 1980s, to the

start of construction of the International Space Station in the 1990s.

Now the U.S. launch industry, represented by many AIA member companies as prime and subcontractors, is striding into a new era of commercial activities at the spaceport.

Next year, for example, Boeing plans to inaugurate its new Delta IV Evolved Expendable Launch Vehicle (EELV) from a \$250 million 330-foot service tower it built on the former Saturn site at the Cape. And Lockheed Martin is constructing a 30-story, \$300 million launch complex on a former Titan IV pad from which it plans to launch its Atlas V EELV in 2002.

A recent *Aviation Week & Space Technology* magazine article on the spaceport summarized: "As space industry stakeholders from government, the private sector and academia celebrate 50 years of achievement, they are learning how to improve future prospects by studying Cape Canaveral's colorful past."

**AIA
Space Issues
2000**

**Modernize the Export
Control System**

**Update National
Commercial
Imaging Policy**

**Serve as Industry's
Sounding Board for the
Space Technology
Alliance**

**Work to Streamline
Spectrum Allocation**

**Promote Deep
Space Exploration**

**Recognize Space
as Essential to
America's Well-Being**

**Encourage International
Participation in Launch
Programs**

**Establish Confidence in
Commercial
Launch Practices**

**Develop a
National Plan for
Launch Range
Infrastructure and
Indemnification**

Ensuring U.S. Space Leadership

The dynamic cover of this edition of AIA's *Executive Update* highlights some of the powerful products and services the aerospace industry provides for commercial, NASA, and military space programs.

Steady growth in space product sales has moved that sector of our aerospace business to a point where its sales are one-third of the entire U.S. aerospace market.

Recent data shows that U.S. manufacturers have won 77 percent of the worldwide space market, and nearly 90 percent of that chunk was produced by AIA member companies — some \$33 billion worth.

There are now more commercial space launches each year in the United States than government launches.

It is essential to the national security and economic well-being of the United States that we maintain our lead in global space. That's at risk unless the nation focuses on the importance of space and takes steps to ensure our competitiveness.

Space Authority Needed

Foremost, we see a need for a high-level authority to oversee space issues on our national agenda. It might be a National Space Council, a Space Transportation Authority, or a "Space Czar," but it must be an entity that can arbitrate civil, military, and commercial infrastructure needs at our launch facilities and elsewhere. Too often we've seen individual federal agencies following their own mandates with their own budgets while the commercial sector has been left behind. A high-level coordinating authority could help avoid the problems presented by competing interests.

In our Election 2000 campaign issues, AIA has urged development of a comprehensive plan for the future of U.S. launch ranges. This would include extending launch range indemnification for at least five years.

In addition, financial incentives for developing new space infrastructure and systems should be provided to encourage innovation. Along with this, NASA funding for basic research in new propulsion, material, and power technologies needs to be dramatically increased. And unquestionably, a new export control regime for commercial space systems

must be developed to protect national security while promoting U.S. exports worldwide.

In this regard, we welcome this summer's action by the House International Relations Committee in passing legislation that would waive congressional notification of commercial satellite exports to certain countries.

The committee has recognized that shifting of satellite licensing from the Commerce Department to the State Department last year may have cost American companies nearly 40 percent of their satellite customer base. The amendment would expedite commercial satellite exports for launch from and by the United States, NATO countries, the Russian Federation, Ukraine, Australia, Japan, or New Zealand.

AIA's Space Council now has representation from about 30 of our member companies and with the association's Space staff has raised the industry's profile in Washington — a very important achievement.

Giving Satellite Counsel

For instance, we've been asked by the Federal Communications Commission (FCC) to provide industry counsel on the next generation of regulations that will govern the satellite industry.

The FCC said it wants to work with an organization that represents the space industry and can provide positions and information on numerous matters. As an association represented by senior executives of aerospace companies, AIA fits the role, the FCC said it believes.

The agency is focused on three space issues, including streamlining the licensing of satellites; security, such as law enforcement access to communications systems; and industry's ability to carry out security measures in foreign countries.

Also, the FCC is seeking information from industry on orbital debris and might build debris control requirements into the design of future satellite systems.

Space Staff Enlarged

Two years ago, space issues were handled "part-time" by one executive within the association. Today, we have a three-person crew in orbit full-time. Director of Space Policy Bruce Mahone is assisted

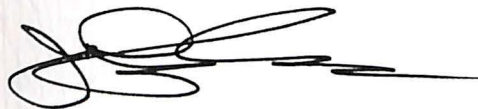
by two recent newcomers — Space Operations Manager David Logsdon and NASA Fellow Donna Fortunat. They work as a team with other staff units, especially the legislative, communications, and international groups.

Logsdon has a background in the satellite sector and is responsible on staff for remote sensing, spectrum allocation, and export licensing issues.

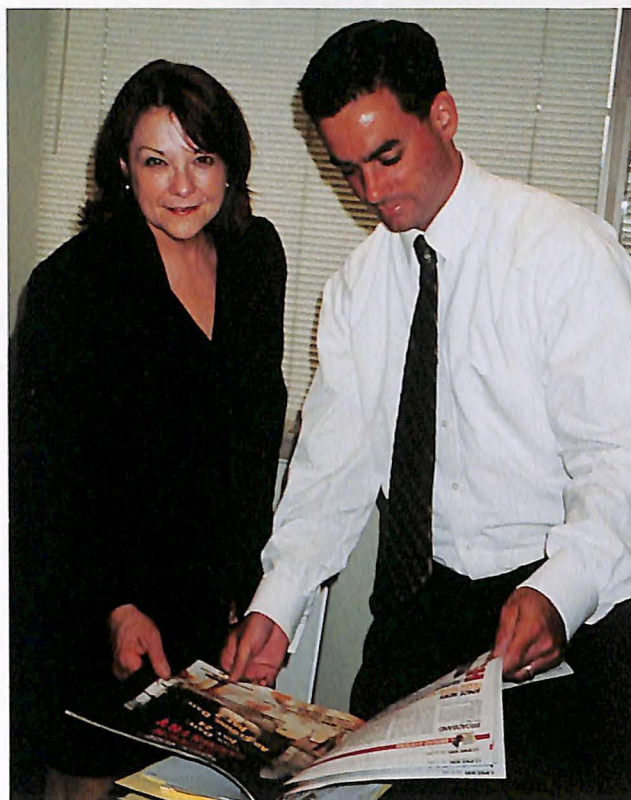
Fortunat is a senior procurement analyst in NASA's Contract Analysis Division and is working with us this year in the AIA Fellows Program. She is responsible for launch issues.

Their work has achieved important results on many member-company issues.

Results is a key word at this time as the nation enters the final weeks before deciding who will be the first president of the 21st Century. And it's a key word at the association as we tally up the results of our Election 2000 issues campaign. So far the results for us have been good.



John W. Douglass



Reviewing data on space manufacturing are Donna Fortunat, a NASA procurement executive participating in the AIA Fellows Program, and David Logsdon, AIA Space Operations manager.

NEW MEMBERS *Continued from page 2.*

The company has formed international partnerships that include Spar Aerospace of Canada, the space division of Japan's Fujitsu Ltd., and Spain's Instituto Nacional de Technica Aerospacial, Officine Galileo.

Davis Tool, Inc., (DTI) has provided custom manufacturing services for more than 17 years, including machining and tooling, precision metal finishing, injection molds, assembly services, and inventory management.

Based in Hillsboro and Forest Grove, Oregon, DTI's 200 employees operate in two facilities with more than 190,000 square feet of manufacturing space. The company serves aerospace, high technology, electronic, heavy equipment, and biotechnology industries.

Davis Tool's representative to AIA, Mike Derman, advisor to the

company's board, is chairman of the AIA member company advisory group to the joint AIA/Air Force Association study on the decline of technical talent in aerospace industries.

Space Access, LLC, is developing a reusable satellite launch system capable of deploying large commercial satellites to geosynchronous transfer orbit and multiple satellites to low Earth orbit.

Founded in 1994, the company is headquartered in Palmdale, Calif.

Variants of the Space Access launch system will accommodate passengers and government payloads. The first stage of the company's system is powered by ejector ramjet engines, which allow horizontal takeoff and landing.

According to Space Access, tests have shown that its system has the

potential to change access to space by enhancing reliability and availability of service while reducing costs.

Spectrum Astro, Inc., is a diversified, full service aerospace corporation specializing in the development of high performance, lower-cost space systems for sophisticated defense, scientific, and commercial customers.

Founded in 1988, the company operates from a 100,000-square-foot facility in Gilbert, Ariz., and has offices in California, Colorado, and Virginia.

Plans are underway to expand the company's space systems and space electronics products and to further diversify into commercial and international markets.

Spectrum Astro is preparing to build a new high technology manufacturing plant near Phoenix, Ariz.

AIA member Analytical Graphics, Inc., (AGI) marked this year's 30th anniversary of the rescue of Apollo 13 by using its aerospace analysis software to challenge what history books have predicted as the worst-case outcome.

It was mid-April of 1970 when mission crews overcame substantial obstacles to narrowly return the three Apollo 13 astronauts to Earth after an on-board explosion — a tense rescue made famous in books and a recent feature film.

No rewriting would have changed the outcome from being a tragedy had the rescue not been successful. But the end would have been different in a way that would have mattered significantly to the close-knit astronaut community.

Most accounts indicate that if

Apollo 13 had been unable to perform rescue maneuvers, the crippled craft would have missed returning to Earth's atmosphere to be left in space forever. Mission Commander Jim Lovell reportedly said that he would have preferred that Apollo 13 burn up rather than be left in permanent orbit.

AGI and a business partner, Space Exploration Engineering, determined that the spacecraft would have re-entered Earth's atmosphere and been destroyed. They re-created actual Apollo 13 trajectories, including the maneuvers executed to bring the crew to Earth, and contacted key NASA personnel who worked the Apollo 13 mission to help analyze the "what if" scenario.

Analytical Graphics, Inc., provides commercial off-the-shelf analysis and visualization software to support aerospace systems from mission planning through operations. Its core product, Satellite Tool Kit[®], is available free to all aerospace professionals.

StK image courtesy of Analytical Graphics, Inc.



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 Alliant Techsystems Inc.
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1250 Eye Street NW, #1200
 Washington, DC 20005-3924
 Phone: (202) 371-8400 • FAX: (202) 371-8477
 Web: www.aia-aerospace.org

EXECUTIVE
UPDATE

FALL 2000

2001

Key Issues Ahead

▶ **PRESIDENTIAL TRANSITION**

▶ **COMMISSION ON AEROSPACE**



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John W. Douglass
AIA President & CEO

“Throughout the transition process we want incoming leadership in the executive branch and Congress to be aware of aerospace issues and their impact on the nation and the more than 800,000 people in the American aerospace workforce.”

Dear Association Member:

As *Executive Update* was going to press, the closest presidential race in American history was still undecided and the question of which party would control the U.S. Senate wasn't yet settled.

The association, however, is certain of this: as the transition to new leadership takes place, we will provide important data on why the nation needs to maintain a strong and healthy aerospace industry.

We will offer resources in information, ideas, and objectives the new administration can study and use as they prepare to guide the nation's future in so many important areas, including national security, the global economy, American competitiveness, trade leadership, new technology development, and exploration of space.

Aerospace, a jewel of the American economy with the best balance of trade record of all industries, is a stakeholder in all of those elements. It's up to us who care about the industry to devote ourselves at this time to fostering a business environment conducive to its growth and financial strength.

But time for action is short.

There are only 36 days between the November 7 election and AIA's annual year-end aerospace business forecast. There are about 68 days between the election and the inauguration in late January.

Then there are 30 days from the inauguration until the new president's first budget is due on Capitol Hill, some 44 days until the opening gavel of the Presidential Commission on the Future of the U.S. Aerospace Industry, and about 130 days to the first markup of the FY2002 budget in the new 107th Congress.

Did I say time is short!

Post-election Initiatives

After developing a plan of action, AIA staff several months ago began to focus on strategies for post-election initiatives. We established a schedule of milestones and a blueprint to reach them. We prepared suggestions to the new administration of a series of aerospace issues and information important to keep in mind in establishing a new government.

Throughout the transition process we want incoming leadership in the executive branch and Congress to be aware of aerospace issues and their impact on the nation and the more than 800,000 people in the American aerospace workforce.

Transition issues fall under major categories that affect various aspects of aerospace business: the continued stability and strength of the aerospace industry, international trade and competitiveness, civil aviation concerns, government budget targets in aerospace, and workforce initiatives.

We have an exciting opportunity in the next few months to make a long-term investment with the leaders of the new presidential administration to help them set the priorities and objectives for defense, space, and commercial aviation for at least the next four years, maybe the next eight.

Recommendations to Presidential Commission

In another related arena, the association has begun to identify issues to offer to the agenda that will be developed by the Presidential Commission on the Future of the U.S. Aerospace Industry, scheduled to convene March 1.

The commission is a unique opportunity for a comprehensive look at the impact of a wide range of government policies affecting our industry.

During its yearlong life span the commission is expected to assess the future of the U.S. aerospace industry in the global economy and the importance of the industry to national and economic security.

If successful, the work of the commission will serve as a solid blueprint for the policies of the next administration and the next Congress. The commission could also be the catalyst for a more effective partnership between our industry and the government.

We expect the commission to develop a number of reports with recommendations to the president and Congress on:

- Budget levels for research and development and procurement investment.
- Acquisition reform by federal departments and agencies.
- Policies for financing government contracts.

- Export license process reform.
- Trade policies affecting the competitiveness of the industry.
- Tax policy.
- Launch range infrastructure.
- Support of science and engineering education.

To assist the commission, we're putting together a volume of aerospace issues offering advice and supporting data, including bibliographies of reports and information available to their inquiry.

Commission to Take Shape

As the new government begins to form early next year, the president and Congress will each appoint six commissioners from among individuals with extensive experience and national reputations in aerospace management, manufacturing, economics, finance, national security, international trade, or foreign policy.

Labor organizations associated with aerospace will also be represented.

The president will name a chairman from among his appointments, and AIA is identifying potential candidates to offer as possible nominees to the commission.

Now that the commission is about to become a reality, we again thank the AIA Executive Committee and the Board of Governors for their strong support of our staff recommendation to seek the commission in Congress.

The CEOs of the association's member companies gave us the momentum to find ways to seek long-range solutions to the economic and competitive issues eroding the foundation of the aerospace industry. We intend to make the outcomes of the commission's work meaningful.

Legislative Gains Recorded

Speaking of momentum, there were a number of significant gains for aerospace issues in the 106th Congress just concluded.

The past two legislative years have been unique for the association in the way the Washington offices of our member companies have come together with AIA staff to work toward positive legislative outcomes on matters of importance to us all. We couldn't issue a meaningful report card without that teamwork.

Here are some of the gains that were made in Congress in addition to establishment of the commission on the aerospace industry:

Foreign Sales Corporation (FSC) — The industry was able to preserve a competitive tax structure that we believe is consistent with World Trade Organization (WTO) rules after the United States was forced to replace the established FSC following a European Union WTO complaint.

The revised FSC preserves the ability to defer corporate income tax on a portion of earnings from exports, helping equalize economic benefits enjoyed by European companies whose governments rebate value-added taxes on exports.

In addition, the FSC revision eliminated a provision of the previous law that reduced benefits for defense exports by 50 percent — a change worth tens of millions of dollars annually to AIA member companies.

Research & Development (R&D) Funding — Congress boosted the administration's aerospace R&D budget request by more than \$1 billion, helping support the nation's need for increased investment in new technology development.



For the past two years, AIA and its member companies have sought to reverse the long-term decline in federal investment in aerospace R&D funding that's been occurring since the 1980s. This will continue as a prime objective in the year ahead.

Export Control Reform — In addition to the Defense Trade Security Initiative announced earlier this year by the State Department, Congress approved a change in the Export Administration Act that protects industry export license applications from certain Freedom of Information requests.

Defense Export Loan Guarantee (DELG) Program — Industry won approval of a provision to ensure funding for the continued administration of the DELG program. This is expected to help American companies compete economically against foreign companies in the world market for defense products.

China Trade — With strong aerospace industry support behind it, Congress at last extended permanent normal trade relations to China. The vote was an important step in maintaining the continued good economic health of the U.S. aerospace industry and its workers. Total aerospace exports

provide jobs for more than 328,000 U.S. workers.

Acquisition Streamlining — We won improvements to the process for approving multiyear contracts to accelerate payments under service contracts, including interest penalties for late government payments. Congress included a requirement for a report supporting the next stage in our efforts to win reform of the Civil False Claims Act.

Slow Pay Provisions — Congress repealed the law enacted last year that would have delayed Defense Department payments to contractors at the end of FY2000 and chose not to enact so-called slow pay provisions for future years.

NASA Funding — AIA and companies with interest in space put their shoulders behind a successful effort to restore FY2001 funding for NASA to the \$14.3 billion level of the president's request. That included keeping a \$290 million item for the Space Launch Initiative that will result in new technologies for more cost-effective space missions.

Space Launch Indemnification — Extending launch range indemnification for four more years was another industry gain in the 106th Congress. A comprehensive plan for the future of U.S. launch ranges continues to be an AIA objective.

Facing the Changing Spacepace

The transition period awaiting the new administration in Washington is also the right time to develop a blueprint to ensure America's continued leadership in space.

AIA and the National Space Society a few weeks ago agreed to present the incoming administration with a set of issues that concern the U.S. space industry. The idea stemmed from an AIA roundtable discussion celebrating the first U.N.-designated International Space Week.

An overriding conclusion of the group was that an executive-level space authority should be appointed to pull together all the resources industry and government need to make progress on space issues.

The four most crucial space issues identified by the roundtable were:

- **Export Control Reform** — Space exports require expedited export licenses for U.S. allies, streamlining of the overall licensing process, and a legislative solution to the problems resulting from the transfer of satellite exports to the U.S. munitions list.
- **Increased Federal Research and Development Funding** — Sectors requiring more funding include basic research in propulsion and materials science plus areas of research that would benefit from a microgravity environment.
- **Space Launch Range Modernization** — A paradigm shift in range operations is needed, addressing to a greater degree the needs of commercial users.

There also is a need to modernize technology at our national ranges.

- **Commercialization of the International Space Station** — With a view toward its completion in a few years, a new policy is needed to shift funding for the International Space Station from the government to private investors.

The association is pleased with the teamwork that's led to the space issues initiative. It was remarkable to see the participants at our roundtable wholeheartedly agree on the major issues facing the aerospace industry.

With such a strong consensus, we expect to make great strides with the next administration and the next Congress.

— JWD

NEW MEMBERS Three More Companies Join Aerospace Leaders

Another three aerospace companies recently joined the roster of AIA members.

DRS Technologies, Inc. is a leading supplier of defense electronic systems for government and commercial markets worldwide.

The company develops and manufactures a broad range of mission critical products from computers and peripherals to systems and components for combat information, communications, data storage, digital imaging, electro-optics, flight safety, and space.

Based in Parsippany, N.J., DRS Technologies produces defense electronics systems that are used by all U.S. military branches, intelligence agencies, major aerospace and defense contractors, international military forces, and commercial customers.

Its commercial and industrial products are used by the airline, banking, computer disk drive, security, transportation, retail sales, and broadcast industries.

Teledyne Technologies Incorporated is a leading provider of sophisticated electronics and communications products, systems engineering solutions,



Litron Industries photo © Ron Elias

DRS Technologies produces defense electronics systems used by U.S. military, such as the advanced display center seen here.

and aerospace products and components.

Headquartered in Los Angeles, Teledyne Technologies has operations in the United States, the United Kingdom, and Mexico. The company's skilled workforce of approximately 5,800 includes some 1,400 individuals with engineering, physics, mathematics, or computer science degrees.

Teledyne Technologies' customers include aerospace prime contractors, general aviation companies, govern-

ment agencies, and major communications companies.

Its products include avionics systems that collect and communicate information for airlines and business aircraft systems; broadband communications subsystems for wireless and satellite systems; engineering and information technology services for space, defense, and industrial customers; and engines for general aviation aircraft and cruise missiles.

Vought Aircraft Industries, Inc., the world's largest independent supplier of aerostructures, is another among the newest members of the association.

The Texas-based company was formed when Northrop Grumman Corporation in July sold its aerostructures business to The Carlyle Group, a Washington, D.C., investment firm.

Vought operates manufacturing sites in Dallas, where it also has its headquarters; Hawthorne, Calif.; Milledgeville and Perry, Ga.; and Stuart, Fla.

The company supplies fuselage subassemblies, integrated wing systems, nacelles, thrust reversers, and other aerostructures components to prime manufacturers of commercial and military aircraft.

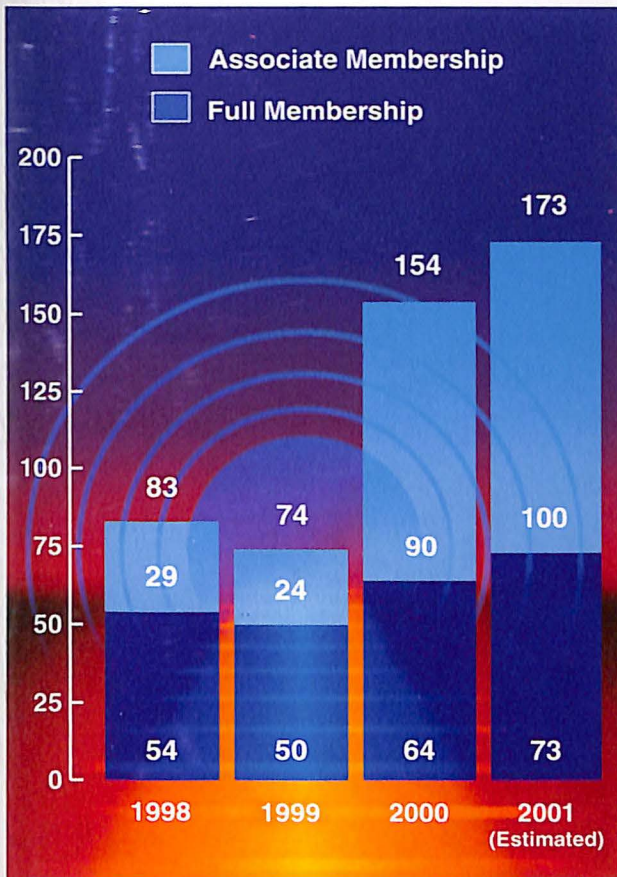
We want to see this trend continue in the next administration and Congress through increased funding for modernization of our national launch ranges, increased funding for research and development of new launch technologies, and realistic and safe procedures for the export of aerospace products to the global marketplace.

As you can see, it was an extremely busy year in Congress and around the executive agencies for the aerospace industry.

Civil Aviation Initiatives

AIA's Civil Aviation Council has established an Air Traffic Committee to help guide and manage association issues in U.S. and international aviation communications and traffic control systems.

The committee will coordinate and review proposed requirements and regulations proposed by government authorities and other aviation entities. In addition, the new panel will monitor and respond to International Civil Aviation Organization standards and practices as



AIA Growth Strategy Producing Good Results

Despite continued consolidation in the aerospace industry, AIA full and associate membership is growing at a strong pace.

It isn't just luck, but it is good timing.

I'm very pleased that the membership growth plan the association put in place two years ago is paying off. Without the strategic effort to add companies to our roster, the association would be down in members.

Instead, our full member category has grown nearly 20 percent since 1998, jumping from 54 companies to 64. And the associate member category has rocketed nearly three-fold from 29 two years ago to 90 today — maybe more since this writing. We've more than made up what could have

been a financial deficit.

The success of the membership drive is indicative of the overwhelming need for the U.S. aerospace industry to be heard as a single voice. The rapid expansion in the Supplier Management Council's associate member category is testimony that industry suppliers have found a forum in which to build a stronger relationship with their customers.

Membership growth and retention will continue to be a major AIA initiative. With the confidence of the Board of Governors and the support of member companies in helping identify candidates, our membership team is doing a remarkable job in this effort.

— JWD

"...our full member category has grown nearly 20 percent since 1998..."

well as represent AIA to the International Coordinating Council of Aerospace Industries Associations.

Also, AIA accepted an invitation to join the Aviation Safety Alliance (ASA), an advocacy organization dedicated to educating the media and the general public about aviation safety.

ASA members include the Air Transport Association, The Boeing Company, Parker Hannifin Corporation, Honeywell, General Electric, The BFGoodrich Company, Pratt & Whitney, Rolls-Royce North America Inc., and the General Aviation Manufacturers Association.

In recent testimony on aircraft noise to the Aviation Subcommittee of the House Transportation and Infrastructure Committee, I pointed out that the impact of aircraft noise around major airports has been cut dramatically even while the number of operations has grown.

While the aviation industry believes continued effort is necessary to preserve and protect the noise climate around airports, it is the communities served by the air transportation industry that perhaps have the most significant role to play.

In 1975 U.S. airlines carried 250 million passengers, exposing 7.5 million people on the ground to noise greater than the acceptable limit. Thanks to effective

international noise policies applied globally, some 600 million passengers will travel the airways this year while on the ground fewer than 450,000 people will experience objectionable noise. This improves on the original goal of 600,000 by 25 percent.

We must not lose sight of what the industry has accomplished. Airframe and engine manufacturers have made a substantial contribution by incorporating noise reduction technologies into new and older aircraft. We must remember the bedrock on which this is based — NASA and FAA research and development programs that focus on high-risk, high-payoff technologies.

Finally, I mentioned earlier that teamwork between AIA and member companies was a key ingredient in attaining many of our Election 2000 and Year 2000 Top Ten Issues objectives.

As America transitions to a new administration and as the Commission on Aerospace starts its work, aerospace teamwork will be no less crucial to our success.

John W. Douglass



Pratt & Whitney Exhibits Its Age

Pratt & Whitney, a division of AIA member United Technologies Corporation, has opened an "on-line" exhibit highlighting the company's accomplishments during its 75-year history in aerospace propulsion.

Included is silent film footage taken in 1925 showing the building of the first Wasp

Pratt & Whitney 75th Anniversary

Engines," with shots of Pratt & Whitney founder Frederick Rentschler and other pioneering engineers working in the original Pratt & Whitney building in Hartford, Conn.

It was a factory of the Pratt & Whitney Machine Tool Co. that had been vacant and used as a tobacco warehouse. Rentschler and his small team, determined to build an efficient, reliable air-cooled aircraft engine, came to Hartford in 1925. They borrowed money, the building, and the name from the original Pratt & Whitney to start their company.

The on-line exhibit also features vintage photographs and stories on Pratt & Whitney history, including one written in 1935 by Amelia Earhart. She describes a flight from Mexico City to New York City in only 14 hours, powered by her "faithful Wasp" engine.

The anniversary exhibit is on the Pratt & Whitney web site (pratt-whitney.com) and continues through this year with new films, photos, and stories added regularly.

Pratt & Whitney is a world leader in the design, manufacture, and service of aircraft engines, space propulsion systems, and industrial gas turbines.

Photo Above: Pratt & Whitney's first "Dependable Engine" — the Wasp.

AIA MEMBER COMPANIES

- | | |
|-------------------------------------|------------------------------------|
| AAI Corporation | HEICO Corporation |
| The Aerostructures Corporation | Hexcel Corporation |
| Alcoa Industrial Components | Honeywell |
| Alliant Techsystems Inc. | Hughes Electronics Corporation |
| American Pacific Corporation | Hughes Space and Communications |
| Analytical Graphics, Inc. | Interturbine Corporation |
| Argo-Tech Corporation | ITT Industries |
| Aviall, Inc. | Defense and Electronics |
| Ball Aerospace & Technologies Corp. | Kaman Aerospace Corporation |
| BAE SYSTEMS North America Inc. | Kistler Aerospace Corporation |
| Barnes Aerospace | Litton Industries, Inc. |
| B.H. Aircraft Company, Inc. | Lockheed Martin Corporation |
| The Boeing Company | MOOG Inc. |
| Curtiss-Wright Corporation | The NORDAM Group |
| Curtiss-Wright Flight Systems, Inc. | Northrop Grumman Corporation |
| Metal Improvement Company | Omega Air, Inc. |
| Davis Tool, Inc. | Parker Hannifin Corporation |
| Dowty Aerospace | Raytheon Company |
| Los Angeles | Robinson Helicopter Company, Inc. |
| Yakima | Rockwell Collins, Inc. |
| DRS Technologies, Inc. | Rolls-Royce North America Inc. |
| Ducommun Incorporated | Senior Flexonics Inc. |
| DuPont Company | Space Access, LLC |
| Esterline Technologies | Spectrum Astro, Inc. |
| Fairchild Dornier Corporation | Stellax Aerostructures, Inc. |
| Fairchild Fasteners | Swales Aerospace |
| Final Analysis, Inc. | Teledyne Technologies Incorporated |
| GenCorp | Teleflex, Inc./TFX Sermatech |
| General Dynamics Corporation | Mal Tool & Engineering |
| General Electric Company | Textron Inc. |
| Genuity Solutions Inc. | Triumph Controls, Inc. |
| GKN Aerospace Inc. | TRW Inc. |
| The BFGoodrich Company | United Defense |
| Aerostructures | United Technologies Corporation |
| Landing System | Pratt & Whitney |
| Maintenance, Repair, and Overhaul | Sikorsky |
| Sensors and Integrated Systems | Hamilton Sundstrand |
| Groen Brothers Aviation, Inc. | Vought Aircraft Industries, Inc. |
| Harris Corporation | Woodward Governor Company |

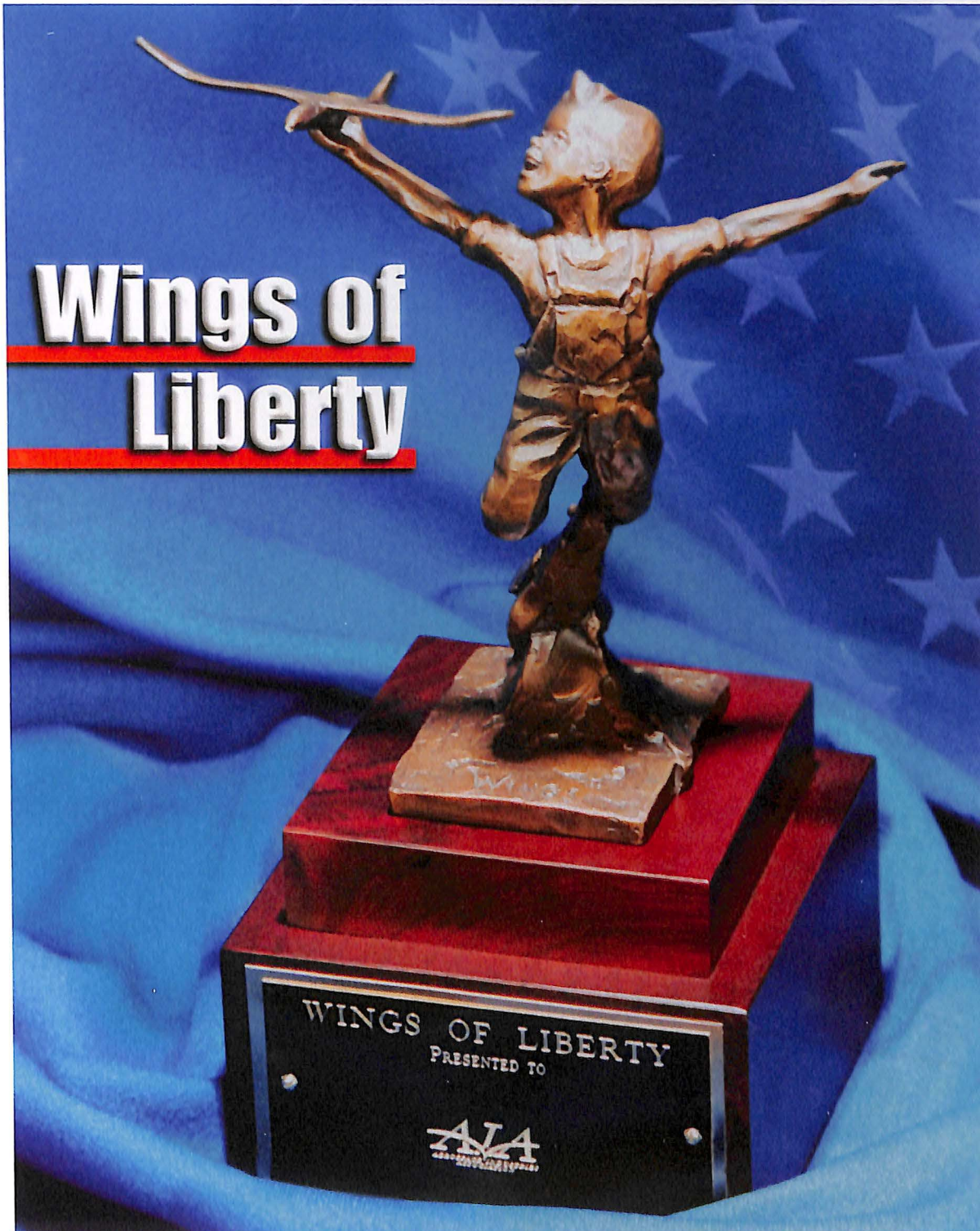


**Aerospace
Industries
Association**

1250 Eye Street NW, #1200
Washington, DC 20005-3924
Phone: (202) 371-8400 • FAX: (202) 371-8470
Web: www.aia-aerospace.org

EXECUTIVE
REPORT

WINTER 2001



AIA
AEROSPACE INDUSTRIES
ASSOCIATION

Officers

Executive Committee

Board of Governors

On the cover: Wings of Liberty Award, an Aerospace Industries Association initiative to honor congressional leaders for their support of aerospace. (See Pg. 6)



Karl J. Krapek,
Chairman

Marshall O. Larsen,
Vice Chairman

Michael R. Brown, Chairman & Chief Executive Officer, Litton Industries, Inc.

Daniel P. Burnham, Chairman & Chief Executive Officer, Raytheon Company

Nicholas D. Chabreja, Chairman & Chief Executive Officer, General Dynamics Corporation

Vance D. Coffman, Chairman & Chief Executive Officer, Lockheed Martin Corporation

John W. Douglass, President & Chief Executive Officer, AIA

William Bernardo, President, Triumph Controls, Inc.

David L. Calhoun, Exec. Vice Pres. & Chief Operating Officer, GE Aircraft Engines, General Electric Company

Robert M. Chiusano, Vice President & General Manager, Rockwell Collins, Inc.

Phillip W. Farmer, Chairman & Chief Executive Officer, Harris Corporation

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Paul L. Graziani, President & Chief Executive Officer, Analytical Graphics Inc.

James M. Guyette, President & Chief Executive Officer, Rolls-Royce North America Inc.

L. Patrick Hassey, Group President, Alcoa Industrial Components

Stephen L. Hayes, President, Parker Aerospace, & Vice President, Parker Hannifin Corporation

Walter R. Kozlow, President, Kaman Aerospace Corporation

Kent Kresa, Chairman, President & Chief Executive Officer, Northrop Grumman Corporation

Larry A. Kring, Group Vice President, Esterline Technologies

Frank Kundahl, President, Teleflex Inc. /TFX Sermatech, Mal Tool & Engineering

John W. Douglass,
President & Chief Executive Officer

George F. Copsey,
Secretary-Treasurer

Robert D. Johnson, President & Chief Executive Officer, Honeywell Aerospace, Honeywell

Karl J. Krapek, President & Chief Operating Officer, United Technologies Corporation

Marshall O. Larsen, President & Chief Operating Officer, BFGoodrich Aerospace, The BFGoodrich Company

Mark H. Ronald, President & Chief Executive Officer, BAE SYSTEMS North America, Inc.

Harry C. Stonecipher, President & Chief Operating Officer, The Boeing Company

John J. Lee, Chairman & Chief Executive Officer, Hexcel Corporation

Michael S. Lipscomb, President & Chief Executive Officer, Argo-Tech Corporation

William O. McCabe, Director, Aviation & Market Initiatives, DuPont Company

Laurans A. Mendelson, Chairman & Chief Executive Officer, HEICO Corporation

Paul David Miller, Chairman & Chief Executive Officer, Alliant Techsystems, Inc.

Gregory Milczik, President, Barnes Aerospace

Philip A. Odeen, Executive Vice President, Washington Operations, TRW Inc.

Charles P. Pieper, Chairman & Chief Executive Officer, Fairchild Dornier Corporation

Peter D. Rettaliata, President, Air Industries Machining Corporation

Michael T. Smith, Chairman & Chief Executive Officer, Hughes Electronics Corporation

Terry D. Stinson, Chairman & Chief Executive Officer, Bell Helicopter Textron, Textron Inc.

C. Phillip Turner, Vice President, Woodward Governor Company

Robert A. Wolfe, Chairman & Chief Executive Officer, GenCorp

George J. Yohrling, President & Chief Executive Officer, Curtiss-Wright Flight Systems, Curtiss-Wright Corporation



Karl J. Krapek
Chairman
AIA Board of Governors

The chairman of AIA's Board of Governors for 2001 is Karl Krapek, president and chief operating officer of United Technologies Corporation (UTC), which provides a broad range of high technology products and support services to the aerospace and building systems industries.

These products include Pratt & Whitney aircraft engines, space propulsion systems, and industrial gas turbines; Carrier heating, air conditioning, and refrigeration systems; Otis elevators, escalators, and people movers; Hamilton Sundstrand aerospace and industrial systems; Sikorsky helicopters; and International Fuel Cells power systems.

Hartford, Connecticut-based UTC, a component of the Dow Jones Industrial Average, has operations in 1,900 locations in 183 countries and employs 148,300 people, including approximately 75,000 outside the United States.

Dear Colleague:

The 106th Congress was wise to adopt legislation last year — with strong bipartisan support — to establish the Presidential Commission on the Future of the U.S. Aerospace Industry. AIA President and CEO John Douglass and outgoing Board of Governors Chairman Daniel Burnham were equally wise to have championed the idea and gotten it on the national agenda. Now it is up to Congress and the new administration to make it a reality.

The U.S. aerospace industry is stable and profitable. Post-Cold War restructuring has made it leaner, more productive, and more commercially oriented than ever before. The core of America's industrial base, it accounts for nearly 800,000 jobs and exported nearly \$60 billion worth of products and services last year. Our \$33 billion annual trade surplus makes our sector America's single largest net exporter.

But not all of the news is good. Federal funding for aerospace procurement and R&D in 1998, the last year for which data are available, has fallen by more than half in real terms since 1987. Many observers believe current funding to be woefully inadequate to support a responsible defense strategy and a vibrant American aerospace manufacturing sector. Additionally, our system of export controls is outdated and cumbersome, constituting a major impediment to international competitiveness and to defense cooperation. It has surely contributed to the 16 percent decline in the U.S. share of the global aerospace market since 1985.

Because of our vital role in ensuring national security, we have always had a close relationship with government. The same government that is our customer and provider of R&D funding is also our regulator, tax assessor, and auditor, subjecting us to a panoply of policies and regulations.

These are administered broadly and too often work neither in concert nor to the benefit of our industry.

The commission's mandate is to consider the broad range of issues associated with our industry's future. Important questions need to be answered:

- Are federal budgets for procurement and R&D sufficient to meet future defense requirements and maintain a strong industrial base?
- Do government acquisition policies permit industry to remain competitive in the global marketplace?
- Do U.S. laws governing trade and the export of technology strike the proper balance between national security concerns and the need to compete internationally?
- Is our nation producing, and can our industry retain, the skilled scientific and engineering talent necessary to support the aerospace industrial base?

We look forward to a thoughtful assessment of these and other questions of vital interest not only to our industry but also to the society we serve.

The Bush campaign supported the formation of the commission. Now it is incumbent on the new administration and Congress to set it up, to see that it represents a broad range of constituencies, and to provide it with the resources to fulfill its mandate. By statute, the commission will have a year to do its job.

AIA's leadership and members, who fought hard for the establishment of the commission, must now do all that we can to ensure that it does so thoroughly and successfully.

A handwritten signature in black ink, appearing to read 'K. Krapek'.

Karl J. Krapek



John W. Douglass
AIA President & CEO

Dear Association Member:

We've been burning the midnight candle and the midday oil at AIA in the first few weeks of 2001 as the new administration has been settling in around Washington and the start of the Presidential Commission on the Future of the U.S. Aerospace Industry approaches.

The association staff has been astir preparing strategies on the most pressing issues awaiting the commission and those already on the desks of incoming agency heads in the new Bush Administration.

The aerospace industry is fortunate in the crucial year ahead to have an effective Board of Governors and Executive Committee led by a chairman of the caliber of Karl Krapek, president and chief operating officer of United Technologies.

We welcome Karl's leadership, business acumen, and energy for the tasks at hand in the next 300 days or so. He understands the challenges facing industry and clearly spells out his vision in a message to the association on page 3 of this *Executive Report*.

The change of command for the board will be seamless, thanks to the foundation put down in the past year by Raytheon Chairman and CEO Dan Burnham. Dan's guidance as the industry transitioned into the new millennium was a valuable investment for a stronger future.

Aerospace Is Non-Partisan

In another change of command, it is time to move away from the emotional political issues of the battle for the presidency. Now we need to concentrate on reinforcing the historic partnership that aerospace has with government on behalf of a strong economy and national security.

We are fortunate in America that aerospace is accepted as a non-partisan issue of importance to the nation as a whole. That's one of the benefits of a democracy. The changeover to a new government is an opportunity to continue with new leaders our quest to foster a business environment conducive to the growth and financial strength of the American aerospace community.

On behalf of the 170-plus AIA member and associate member companies and their employees, we welcomed President Bush with a sincere offer of support and with a package of well-organized white papers on the 16 important issues we believe his transition team needs to address quickly.

You can review the issues on page 6. I want to congratulate the association staff for creating in a short amount of time a very powerful collection of the nation's most pressing aerospace issues.

Among the topics we addressed in the transition package is a recommendation for a significant increase in government spending for procurement

The 2001 AIA Executive Committee:

Seated from left are Vice Chairman Marshall O. Larsen, president and chief operating officer, BFGoodrich Aerospace, The BFGoodrich Company; Chairman Karl J. Krapek, president and chief operating officer, United Technologies Corporation; and Daniel P. Burnham, chairman and chief executive officer, Raytheon Company. Standing from left are Nicholas D. Chabreja, chairman and chief executive officer, General Dynamics Corporation; John W. Douglass, president and chief executive officer, AIA; Michael R. Brown, chairman and chief executive officer, Litton Industries, Inc., and Vance D. Coffman, chairman and chief executive officer, Lockheed Martin Corporation. Not pictured: Robert D. Johnson, president & chief executive officer, Honeywell Aerospace, Honeywell; Mark H. Ronald, president & chief executive officer, BAE SYSTEMS North America, Inc.; Harry C. Stonecipher, president & chief operating officer, The Boeing Company.



and aerospace research and development in defense, space, and civil aviation infrastructure.

In addition, there are papers on topics in the areas of aerospace industry stability and strength, international trade, civil aviation, and various government business policies and procedures.

All 16 issue papers can be read or copied on the AIA Web site at www.aia-aerospace.org.

As an immediate step we asked the new administration for a supplement to the FY 2001 budget that would increase DoD aerospace procurement this year by \$10 billion and aerospace research and development by \$4 billion.

Low production rates for major weapon systems are threatening the capability and capacity of industry. The United States must research and produce at a rate sufficient to maintain a healthy and responsive defense industrial base. We need to act now. If we don't, we'll be facing a loss of our defense development and production capabilities.

Commission: Roadmap for Aerospace

Concurrent with our transition agenda, we undertook a major effort to encourage a timely start to the presidential commission on aerospace.

Drawing on our past experiences with presidential commissions, we prepared a guide for the administration to use in organizing the commission. And we put together another series of white papers pertinent to aerospace industry issues focused on those requiring study by the commission.

AIA staff has been working with member companies to

complete the commission issue papers in time for the anticipated start of the panel's work.

A major objective of the commission is expected to be development of a plan to maintain a vigorous U.S. industrial base.

It is critical to the health of the aerospace industry and the U.S. economy for the commission to get underway promptly. After all, the results of the commission's efforts will be the roadmap America will follow for years to come in pursuit of its destiny in aerospace, national security, and global competitiveness.

Aerospace Stakeholder Leadership

Leadership, it's been said, is taking action not just taking a position.

In that regard, I am proposing that the association act this spring to bring about a coordinated position of leadership in aerospace by strengthening the industry's profile in Washington.

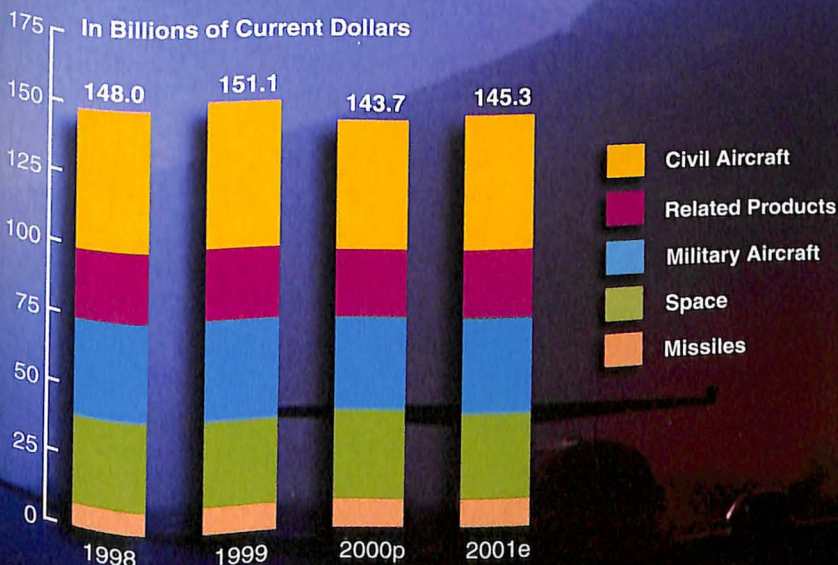
This strategy will help resolve the top issues facing aerospace and defense industries at a time when the new administration and the presidential commission on aerospace are open-minded and enthusiastic toward solutions.

The initiative has three parts:

- *Organize a stakeholder forum through which aerospace manufacturers and suppliers can interface with their varied commercial and military customers.* Let's bring together airline CEOs, agency heads such as the administrators of NASA and the FAA, senior executives of the Defense, State, and

Aerospace Growth Expected This Year

Aerospace Industry Sales



Orders for defense and aerospace products increased 21 percent last year, signaling growth for the industry in 2001.

According to figures released in AIA's annual Year-end Review and Forecast in December, aerospace generated nearly \$144 billion in sales during 2000, down \$7.4 billion from the 1999 record of \$151 billion. Commercial aircraft deliveries accounted for the majority of the sales decline.

Sales are forecast to rise \$1.6 billion in 2001 to more than \$145 billion. This news indicates that the aerospace industry is stable and has emerged from the post-Cold War downsizings leaner, stronger, and more productive.

The analysis of industry business activity showed that foreign sales fell last year \$3.5 billion from the 1999 total of \$62.4 billion. Imports rose from 1999's record level – primarily due to foreign civil aircraft production.

Exports of civil spacecraft, satellites, and parts fell 59 percent in 2000 – further evidence of the damage caused by a shifting of export licensing authority from the Commerce Department to the State Department.



Senate Armed Services Committee Chairman John Warner (right) accepts AIA Wings of Liberty Award from Board of Governors Chairman Karl Krapek (left) and AIA President and CEO John Douglass.

Commerce departments, and even members of the presidential commission on aerospace to focus on the road ahead and find the best ways to travel it together.

- *Develop a Washington-based coalition of all the organizations that are stakeholders in aviation.* Representatives of various aviation, aerospace, and defense industry groups occasionally sit down together under various banners to review

issues and compare agendas. But the flicker of synergy usually dims until the next time. We need to turn those roundtable discussions into drafting table action for meaningful solutions.

- *Revitalize the aerospace caucus on Capitol Hill.* There's been an aerospace caucus in Congress whose members have been helpful. But squeakier wheels sometimes distract its attention. AIA companies are a powerful and important component of the national economy. Hundreds of plants and nearly 800,000 workers are located in nearly every state and have an economic impact on hundreds of congressional districts. The aerospace caucus needs to be strengthened.

The initiative could be underway in time for the upcoming AIA Board of Governors spring meeting in Williamsburg. Now more than ever AIA must serve as the bridge to the future for our industry.

Wings of Liberty

A new initiative we've already taken graces the cover of this *Executive Report* — creation of the AIA "Wings of Liberty" award.

Designed to acknowledge congressional leaders who recognize the unique role aerospace plays in the nation's economy and its security, the first "Wings of Liberty" statue was presented to Senate Armed Services Committee Chairman John Warner (R-Va.) in January.

Warner has for many years been a strong supporter of the aerospace industry and was instrumental in the adoption of aircraft modernization programs, acquisition reform, and increased defense spending. The senator has always placed

2001 AIA Transition Issues

Stability and Strength of the Aerospace Industry

- Support Presidential Commission on Aerospace
- Establish White House-level National Aerospace Council

International Issues

- Diffuse U.S.-European Union Dispute over Foreign Sales Corporations
- Continue Reform of Export Controls
- Continue Presidential Commission on Offsets
- Support Pending Aerospace Export Sales

Civil Aviation Issues

- Establish Consensus to Reduce Airplane Noise and Emissions through International Civil Aviation Organization (ICAO)
- Ensure Adequate Funding of Safety Initiatives

Required Policy Positions

- Increase Defense Department Progress Payments
- Establish Guidelines for Implementation of the Civil False Claims Act
- Update Policies on Defense Industry Mergers and Acquisitions

- Rescind Executive Order 12674 Regarding Ethics Rules (Rescinded Dec. 28, 2000)
- Eliminate Third-Party Certification of Small Disadvantaged Businesses

Procurement and Research and Development (R&D) Budgets

- Increase Defense Department Budget for Aerospace Procurement and R&D
- Increase NASA Budget for Aerospace Procurement and R&D
- Increase FAA Budget for Aerospace Procurement and R&D

America's interests first and has been a major force in developing bipartisan support for national defense.

A robust U.S. aerospace industry played a major role in ending the Cold War, bringing a period of relative peace around the world. Liberty and freedom have truly ridden upon the wings of American aircraft, and congressional leaders such as Senator Warner have worked hard to guarantee that a strong aerospace industry will continue to ensure peace around the world.

Additional "Wings of Liberty" awards will be made during the year.

New AIA Fellows Arrive

I want to welcome two new arrivals to the association. Joining us for the year as participants in the AIA Fellows Program are Lyn Cywanowicz, a senior policy analyst in NASA Headquarters' Office of Space Flight, and David Duda, a procurement analyst with DoD's Defense Supply Service in Washington.

AIA

Fellows are selected from government posts to gain an understanding of the aerospace industry, its issues, and the role of the association on regulatory and legislative affairs.

This will be a year in which Lyn and David — and all the rest of us in aerospace — won't see the dust settle. It will be a great year for progress.



Lyn Cywanowicz

David Duda

John W. Douglass

NEW MEMBERS

Aviation History Rooted in Association

Two companies whose names are legend in global aviation history have joined the ranks of AIA. Each was formed more than 70 years ago in 1929 by aviation pioneers.

Curtiss-Wright Corporation has expanded its membership in AIA to include subsidiaries Curtiss-Wright Flight Systems and Metal Improvement Company. Until now, Curtiss-Wright Flight Systems has been the AIA member for nearly two years.

Curtiss-Wright Flight Systems traces its roots to Orville and Wilbur Wright, the first to achieve powered, controlled, and sustained manned flight, and to early aircraft design pioneer Glenn H. Curtiss.

Separate companies created by the Wrights and Curtiss were at first competitors and rivals in the formative years of aviation, but they merged in 1929 to form the Curtiss-Wright Corporation.

When AIA's predecessor organization, the Aeronautical Chamber of Commerce of America, was created in 1919, Orville Wright and Glenn Curtiss were charter members.

Headquartered in Lyndhurst, N.J., Curtiss-Wright is a diversified multinational manufacturing and service company that designs, manufactures, and overhauls precision components and systems.

Curtiss-Wright provides highly-engineered services to the aerospace, defense, automotive, shipbuilding, oil, petrochemical, agricultural equipment, power generation, railroad, metalworking, and fire and rescue industries.

Martin-Baker America Incorporated is a unit of the world's longest established and most experienced manufacturer of aircraft ejection seats and related equipment.

Founded as an aircraft manufacturer in Europe in 1929 by James Martin and Capt. Valentine Baker, the company successfully developed five prototype fighter aircraft to support the United Kingdom during WWII.

In 1944 Martin-Baker began pioneering work in the field of aircrew ejection, carrying out its first live demonstrations in 1946. Since 1949, the company has been solely dedicated to the design, development, and supply of military aircraft escape systems.

To date, Martin-Baker ejection systems have saved the lives of more than 6,800 aircrew, including 3,320 American flyers.

Martin-Baker America opened a plant in Johnstown, Pa., last June and a support facility in Boothwyn, Pa., in October.

The company's corporate headquarters is at Higher Denham in Buckinghamshire, England.



NORDAM Sets ISO Pace

The criteria bar was raised — so AIA member NORDAM leaped higher.

The NORDAM Group Repair Division in January became one of the first companies in the world certified under new, more complex requirements of the International Organization for Standardization (ISO) released only weeks before.

To achieve ISO 9001:2000 registration, a company must meet stringent ISO requirements, including management responsibility, resource management, process management, measurement analysis, and improvement.

Companies have three years to transition from the previous standard, which was focused on product quality — NORDAM's repair organization did it in one month.

AIA President and CEO John W. Douglass, continuing his commitment to visit member companies, toured NORDAM's operations as the certification achievement was announced. "Aerospace technological achievements start with quality and service commitments in organizations such as NORDAM," he noted. The NORDAM Group is headquartered in Tulsa, Okla., where it has its primary facilities. Other plants are in Ft. Worth, Texas, Singapore, and the United Kingdom.

Last October, the NORDAM Repair Division received the Oklahoma Quality Award of Excellence for leadership, commitment to customer satisfaction, and continuous improvement.

Founded in 1969, The NORDAM Group is a world leader in aircraft component manufacturing and repair serving the aviation industry, including commercial air carriers, engine manufacturers, U.S. and allied military services, and aircraft maintenance facility operators.

Photo above: A NORDAM technician inspects a commercial jet engine reverser.

AIA Member Companies

AAI Corporation
The Aerostructures Corporation
Alcoa Industrial Components
Alliant Techsystems, Inc.
American Pacific Corporation
Analytical Graphics, Inc.
Argo-Tech Corporation
Aviall, Inc.
Ball Aerospace & Technologies Corp.
BAE SYSTEMS North America Inc.
Barnes Aerospace
B.H. Aircraft Company, Inc.
The Boeing Company
Curtiss-Wright Corporation
Curtiss-Wright Flight Systems, Inc.
Metal Improvement Company
Davis Tool, Inc.
Dowty Aerospace
Los Angeles
Yakima
DRS Technologies, Inc.
Ducommun Incorporated
DuPont Company
Esterline Technologies
Fairchild Dornier Corporation
Fairchild Fasteners
Final Analysis, Inc.
GenCorp
General Dynamics Corporation
General Electric Company
Genuity Solutions Inc.
GKN Aerospace Inc.
The BFGoodrich Company
Aerostructures
Landing Systems
Maintenance, Repair and Overhaul
Sensors and Integrated Systems
Groen Brothers Aviation, Inc.
Harris Corporation
HEICO Corporation
Hexcel Corporation
Honeywell
Hughes Electronics Corporation
Hughes Space and Communications
ITT Industries
Defense and Electronics
Kaman Aerospace Corporation
Kistler Aerospace Corporation
Litton Industries, Inc.
Lockheed Martin Corporation
Martin-Baker America Incorporated
MD Helicopters, Inc.

MOOG Inc.
The NORDAM Group
Northrop Grumman Corporation
Omega Air, Inc.
Parker Hannifin Corporation
Raytheon Company
Robinson Helicopter Company, Inc.
Rockwell Collins, Inc.
Rolls-Royce North America Inc.
Space Access, LLC
Spectrum Astro, Inc.
Stellax Aerostructures, Inc.
Swales Aerospace
Teleflex, Inc./TFX Sermatech
Mal Tool & Engineering
Textron Inc.
Triumph Controls, Inc.
TRW Inc.
United Defense
United Technologies Corporation
Pratt & Whitney
Sikorsky
Hamilton Sundstrand
Vought Aircraft Industries, Inc.
Woodward Governor Company

AIA Associate Member Companies

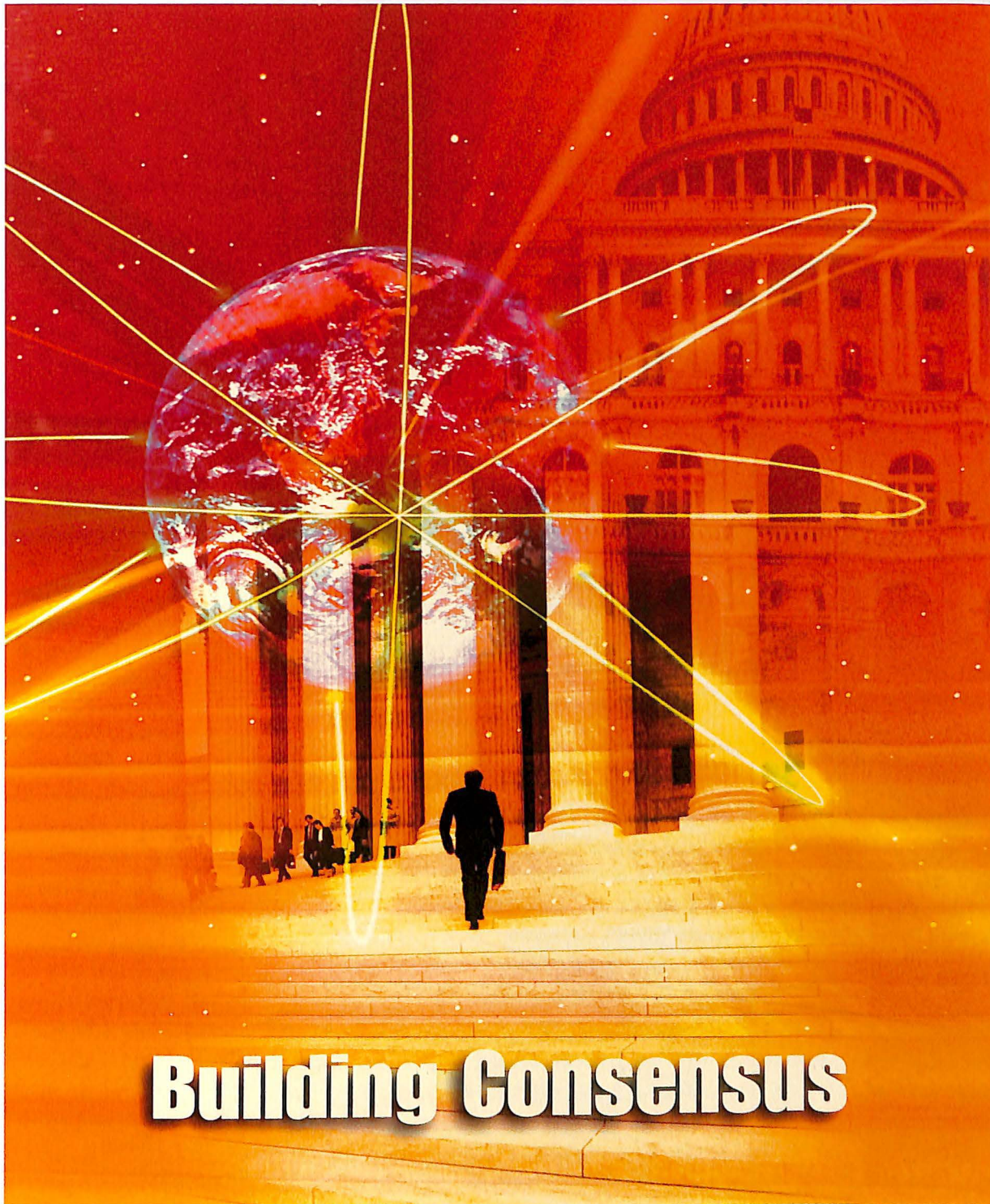
AAR CORP.
Adaptive Consulting, Inc.
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Fansteel Inc.
Fansteel/Wellman Dynamics
Fansteel/California Drop Forge
The Fero Group
Fero Tech Corporation
L&E Engineering Company
Ferguson Perforating
Firth Rixson Viking
Flexfab
G.S. Precision, Inc.
General Mechatronics Corporation
General Tool Company, Inc.
Greene, Tweed & Company
Group Technologies Corporation
H&B Tool & Engineering Company, Inc.
Hartwell Corporation
Hitchcock Industries, Inc.
Industrial Precision, Inc.
KomTek
Kulite Semiconductor Products, Inc.
Lefell Manufacturing Company
LMI Aerospace, Inc.
Leonard's Metal, Inc.
LMI Finishing, Inc.
Precise Machine Company
M/A-COM, Inc.
Magnetico, Inc.
Manzi Metals, Inc.
Marotta Scientific Controls, Inc.
Minco Technology Labs, Inc.
Minco Technology Labs, Inc.
The Mexmil Company
Meyer Tool Inc.
MIL-I Precision, LLC
Morris Machine Company, Inc.
MPC Products Corporation
New Hampshire Ball Bearings, Inc.
HiTech Division
Astro Division
Precision Bearing Division
Pacific Scientific, Electro Kinetics
Park Engineering & Mfg. Co., Inc.
PerkinElmer Fluid Sciences
Port Electronics Corporation
Precision Machine & Manufacturing Co.
Precision Components Company
Precision Tube Bending
The Prince & Izant Company
Pro Fab, Inc.
The Purdy Corporation
QualPro Corporation
DJ Industries
Nelson Aerospace Inc.
Stratoflight Engineering
Quick-Wright Associates, Inc.
Radant Technologies, Inc.
RAM Manufacturing Company, Inc.
Rayon Yarn Corporation
Remmele Engineering Inc.
Safe Flight Instrument Corporation
Sechan Electronics, Inc.
Servotronics, Inc.
Sparton Corporation
Spectra Lux Corporation
Spirit Electronics, Inc.
STADCO
Stein Seal Company
Bessinger and Stein
Stewart Manufacturing, Inc.
Summa Technology, Inc.
Sunshine Metals
SV Microwave, Inc.
Therm, Inc.
Thermal Solutions, Inc.
American Avionic Tech. Corp.
Brazonics, Inc.
Performance Metal Fabricators, Inc.
Trans World Alloys Company
Transtar Metals, Inc.
Trylon Machine Company
UFC Aerospace Corp.
United Tool & Die Company
Uni-Tek, LLC
Valco Manufacturing Company, Inc.
Valley Manufacturing Corporation
Welding Metallurgy, Inc.
Western Data Systems
WPI
Burton Electrical Engineering
Cable Systems
Viking Electronics



1250 Eye Street NW, #1200 • Washington, DC 20005-3924
Phone: (202)371-8400 • FAX: (202)371-8470 • Web: www.aia-aerospace.org

EXECUTIVE
REPORT

SPRING 2001



Building Consensus

AIA
AEROSPACE INDUSTRIES
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Chairman

Marshall O. Larsen,
Vice Chairman

John W. Douglass,
President & Chief Executive Officer

George F. Copsy,
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Robert D. Johnson, President & Chief Executive Officer, Honeywell Aerospace, Honeywell

Karl J. Krapek, President & Chief Operating Officer, United Technologies Corporation

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Harry C. Stonecipher, Vice Chairman, The Boeing Company

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Stephen L. Hayes, President, Parker Aerospace, & Vice President, Parker Hannifin Corporation

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C. Phillip Turner, Vice President, Woodward Governor Company

Robert A. Wolfe, Chairman & Chief Executive Officer, GenCorp

George J. Yohrling, President & Chief Executive Officer, Curtiss-Wright Flight Systems, Curtiss-Wright Corporation





John W. Douglass
AIA President & CEO

Dear Association Member:

The AIA Board of Governors meeting in May will be my third spring session with industry leadership in Williamsburg, Virginia, since I came aboard as the association's president and CEO in mid-1998.

More than before, this year's agenda features several significant topics that can be categorized under a heading of "winds of change" – appropriate to the season for sure.

Forming a Washington-based coalition of stakeholder organizations in aviation, defense, and space is one of our most important objectives right now in meeting a long-term AIA commitment to serve as a bridge to the future for our industry.

I'm pleased to say that we have broken ground toward this goal.

A few weeks ago, we opened a dialogue among industry organizations that represent aerospace and general aviation manufacturing, major and regional air carriers, labor, business and general aviation, airports, and others. Participants in the initial meeting formed a steering committee to continue moving the initiative forward.

The aim is to build a consensus so that we can work together in strength to resolve common issues at a time when the new administration in Washington and the developing presidential commission on aerospace are most receptive to fresh ideas and endeavors.

So far the steering group is focusing its initial efforts on developing two industrywide models that should provide important insights into certain aspects of our industry.

The first will be a comprehensive economic model that would assess the economic impact of the entire aviation and space industries on the American economy. The second will be a capacity model for America's air traffic control system.

At its next meeting the group will discuss the need for the models and other issues of common interest to the various segments of the nation's aviation, defense, and space industries.

A lot has been accomplished toward this initiative, yet there's a long road to travel to finalize a meaningful coalition. We need to focus on that road ahead and find the best ways to travel it together.

Synergy for our issues will emerge by showing that the related industries together create jobs that number in the millions, contribute triple to the gross national product what each sector

alone represents, and have a wider, deeper footprint before the legislative and executive branches of government.

Presidential Commission on Aerospace

In another category signifying "winds of change," we anticipate that the Bush Administration, which recently passed only its first 100 days, will soon set up the crucial Presidential Commission on the Future of the U.S. Aerospace Industry.

There's a clear link between the need for a broader industry coalition on issues and the fact that the commission is charged with examining public policy in aerospace.

The need to modernize air traffic control, build new runways, increase funding for aerospace research and development, reform our export control laws, and increase the defense procurement budget are serious issues that require cohesive recommendations from stakeholders and comprehensive action by government.

The nation expects and needs the safe and efficient air transportation system and the technologically superior defense that we enjoy today. To meet these expectations in the future, we must develop a plan to maintain a healthy aerospace industrial base for the next 10, 20, and even 30 years.

AIA is pleased with the appointments to the commission thus far – Dr. William Schneider, Jr., former under secretary of state for security assistance, science and technology; Robert J. Stevens,
Continued on page 4.

“Forming a Washington-based coalition of stakeholder organizations in aviation, defense, and space is one of our most important objectives right now in meeting a long-term AIA commitment to serve as a bridge to the future for our industry.”



Karl J. Krapek, president and chief operating officer of United Technologies Corporation and AIA Board of Governors chairman, in April addressed the board of the European Association of Aerospace Industry Associations (AECMA). He spoke of his vision for a multilateral, free trade aerospace community. The full text is available on AIA's Web site (www.aia-aerospace.org). Here is a summary:

Krapek Offers Trade Vision

European manufacturers want to be number one, and so do U.S. producers. That's a given. My position is that excellence can only be achieved through open markets and free trade. It is the marketplace and competition that spur us to be better.

Furthermore, it is the reality of comparative advantage that we are better off investing capital in things we do well and partnering with others whenever they do things better than we do.

Fortunately, most people in Europe and the United States understand the value of open markets. Ninety-six percent of the goods and services we provided to each other last year moved in a relatively unimpeded way.

Unfortunately, it seems to be hush kits and other aerospace products, along with beef and bananas, that made up the other four percent. I want all of us to be part of the unimpeded majority. Let me remind you that trade retaliation is a fine

that both parties pay, but nobody collects.

This is particularly true when you have two powerful trading blocs like the United States and the European Union involved. Nations used to talk about mutually assured destruction when referring to nuclear armament. It applies equally well to the trade between us.

Transatlantic trade is hugely important to both of us. The United States exports \$270 billion worth of goods and services yearly to Europe, while Europe exports nearly the same amount to the United States. Seven million Americans owe their jobs to transatlantic commerce. That's the same number of people living in Switzerland. Half of them actually work for European companies. A similar number of Europeans depend on transatlantic trade.

The world economy is lagging at the moment. U.S. aerospace sales are forecast to grow only \$1 billion this year, after seeing a \$7.5 billion drop last year.

Message from the President, continued from page 3.

president and chief operating officer of Lockheed Martin; and former Deputy Secretary of Defense John Hamre.

The delay in starting the commission has given us one unexpected advantage – AIA staff and member company representatives have had extra time to develop very detailed background papers that will help the commission focus more quickly on issues vital to our industry.

I am very appreciative of the contributions to these papers by executives and staff of many AIA member companies.

Supplier Management Council

The association's Supplier Management Council (SMC) continues to grow in numbers and significance.

The SMC, representing nearly 120 associate member companies, recently conducted a workshop to identify supplier issues that will be presented to the presidential commission on aerospace.

Among them: attracting workers skilled in industrial talents with enough computer knowledge to work in today's modern computer-based manufacturing centers, assuring defense program stability to support investment of resources

and manpower, examining the impact of offsets, and gaining access to government research and development funding.

Other supplier issues identified were developing e-business initiatives, reforming export and import rules for suppliers, and reducing an imbalance in global competition caused by regulations.

In a separate step, we've arranged for the executive committee of the Board of Governors to join associate members at their supplier council meeting in July for a reception and dinner. It will be an opportunity to discuss mutual industry issues to the benefit of both groups and industry as a whole.

Paris Air Show

Next month the association will again host a large selection of associate member companies at the Paris Air Show at Le Bourget. We're repeating the initiative we took last year at the Farnborough Air Show in England and improving on it.

Many major aerospace companies from the United States and around the globe exhibit their products and technologies in large chalets at the world's two alternating major aerospace
Continued on page 6.

You're feeling the same pressures here. The politicians will react accordingly, wanting to protect their home court advantage and keep their voters employed. I would argue that the home court is the globe, not Europe or the United States.

I am a strong proponent of the World Trade Organization and believe that only through this sort of multilateral approach can we hope to create jobs and increase wealth for everyone concerned.

Fortunately, this seemed to be the prevailing view at Farnborough last year. European and U.S. aerospace industrialists attended a meeting there arranged by AIA and AECMA. We agreed to start a regular dialogue. We also agreed on many other things.

There was strong agreement on the need to reform export controls.



"...Excellence can only be achieved through open markets and free trade."

The United States needs to simplify such (export) regulations, and the Bush administration needs to light the appropriate flare under those who oversee them. Quite simply, we must adapt our export control system to the multilateral reality of today's industry. We can learn from the Europeans on how to do this.

I'm glad to note that the AIA and AECMA are working on a joint recommendation to our governments along these lines.

If you agree that a multilateral, free trade vision could conceivably

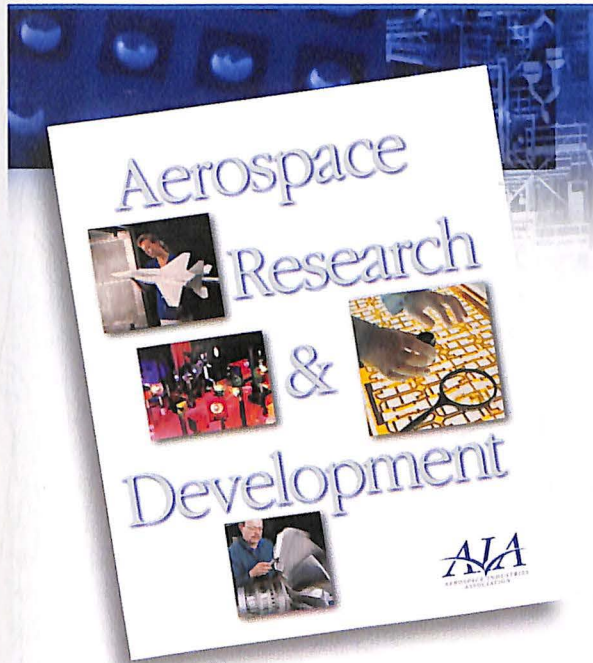
confer greater benefits to European industry, then the next question is: how do we get there?

It starts with pressuring our governments to sit down together and resolve the nagging issues that divide them: beef,

extraterritorial income taxes and the other irritants. The recent accord over bananas shows us how it can be done. Our goal must always be freer trade and fewer controls, consistent with national security principles that are truly vital rather than simply convenient:

- Working within ICAO to establish mutually agreeable noise and emissions standards for jet engines.
- Ensuring that our respective governments use their regulatory powers fairly – whether over noise, emissions, certification or even mergers and acquisitions – and not to simply enhance the competitive position of domestic companies in an effort to create "national champions."
- Removing barriers to cooperation to create an environment with incentives to work together on common projects, not merely to compete against each other.

Obviously, all of these things are easier said than done. But we've built an industry out of doing the impossible.



Media Briefed on R&D

The association in late April briefed trade and business reporters on AIA's plan to increase aerospace research and development (R&D) funding by \$50 billion over the next five years.

President and CEO John Douglass said growth is needed to reverse a serious decline that has seen aerospace R&D cut in half from \$34.1 billion in 1987 to \$17.3 billion in 1997.

According to Douglass, the decline in research and development spending is attributable in part to the huge structural shift brought about by

the end of the Cold War. In addition, exports and commercial sales are overtaking the traditional emphasis on defense and national security.

Douglass praised President Bush's proposal to increase defense research and development, pointing out that NASA and FAA funding increases are lagging behind by nearly \$5 billion, according to AIA's preliminary budget analysis.

Continuing its campaign to increase aerospace R&D, AIA plans to brief new administration and congressional members and staff on the issue.

AIA has produced a dynamic brochure in support of its campaign to win higher funding for research and development.



AIA has extended industry's appreciation to nearly two dozen members of Congress in the first few months of this year by presenting each of them with the association's unique "Wings of Liberty" award.

"Wings" Over Congress

A small bronze casting of a young man launching a model glider, the trophy is reserved for congressional leaders who have recognized and supported the unique role aerospace plays in the nation's economy and security.

The award draws attention to America's liberty and the roles that aviation and aerospace have played in preserving freedom and world peace.

Its name derives from a description of aviation's early years from the 1919 yearbook of the Aeronautical Chamber of Commerce – the founding year and predecessor organization of AIA:

"The airplane came at a time when the world urgently needed it (WWI). The physical need was great and the mind of man was ready to accept it – so it came with liberty riding upon its wings."

Here's a complete list of members of the 107th Congress who have been presented with "Wings of Liberty" thus far:

Senators

John Warner of Virginia
Ted Stevens of Alaska
Pat Roberts of Kansas

Robert Byrd of West Virginia
Trent Lott of Mississippi
Chris Dodd of Connecticut
John Breaux of Louisiana

House Members

Doug Bereuter of Nebraska
James Oberstar of Minnesota
Floyd Spence of South Carolina
Ben Gilman of New York
Martin Frost of Texas
Joe Skeen of New Mexico

Norm Dicks of Washington
Ralph Hall of Texas
Bob Stump of Arizona
Jim Hansen of Utah
Charles Stenholm of Texas
Martin Sabo of Minnesota
Hal Rogers of Kentucky
Mike Oxley of Ohio
Bill Young of Florida

Pictured above: U.S. Representative Bob Stump (R-Ariz.), fourth from left, accepts an AIA "Wings of Liberty" award from a delegation of association members. Stump is chairman of the House Armed Services Committee. Taking part are, from left, Jim Rohacik of Spectrum Astro, John Mullet of United Defense, Mike Mattone of Boeing, Stump, Bill Inglee of Lockheed Martin, Al Barry of AAI Corporation, Tom Rabut, president and CEO of United Defense, and John Douglass, president and CEO of AIA.

Message from the President, continued from page 4.

shows. The cost of space and logistic support makes it almost prohibitive for the supplier community to participate.

At Paris, AIA has tripled its space commitment from the past to 75 square meters of floor space to help showcase the talent, technologies, and know-how of our small- and mid-sized companies. Eighteen suppliers have signed up to have an affordable place to exhibit at Paris in the AIA-sponsored display area.

Suppliers are invited to participate in symposiums with British, French, and German business representatives to help stimulate international sales for the U.S. companies.

At the same time, AIA is continuing its traditional role as sponsor of the U.S. aerospace exhibit and coordinating arrangements for U.S. military aircraft and equipment.

In addition, association staff are organizing the dinner for Senator Ted Stevens (R-Alaska) chairman of the Senate Appropriations Committee and President Bush's representative to the air show. Other AIA events include a reception with the Society of Japanese Aerospace Companies and luncheons with U.S. dignitaries.

Competitive Trade Issues

Featured elsewhere in this *Executive Report* is a summary of remarks on trade delivered by AIA Board of Governors Chairman Karl Krapek of United Technologies to the board of the European Association of Aerospace Industry Associations. I recommend reading the summary here or the entire speech, which is on AIA's Web site.

In his comments, Karl points out that it needs to be the leaders of industry who champion the solutions to common trade issues that threaten to divide trading partners, and industry must build a fire under those who administer trade regulations to get action. This association will adhere to that advice.

Here in the United States, for example, AIA has joined with other trade policy interests and associations in a coalition to develop strategies and tactics for continuing reform of U.S. export controls.

AIA, along with organizations such as the National Defense Industrial Association and the Electronic Industries Alliance, are seeking to catalogue specific reforms that could be made in the next few months to assure that U.S. industry will continue to compete in world markets.

In that light, higher imports and lower exports combined last year to drop the aerospace trade balance to \$26.7 billion, down nearly 35 percent from the 1998 record high of \$41 billion.

One thing we've done to remedy this drop is call on President Bush to support full funding of \$1.4 billion for the U.S. Export-Import Bank's FY 2002 budget. The 25 percent cut he is suggesting is ill timed and will further erode U.S. aerospace

NEW MEMBERS

Aerospace Production Diversity Continues to Mark AIA's Growth in New Members.

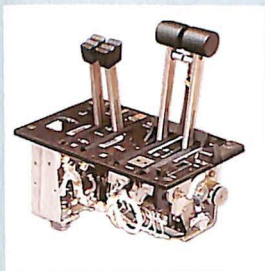
Recent additions to the roster include a helicopter manufacturing firm and a rocket motor and propellant producer. Also, an existing member's role has expanded to include full corporate representation.

Triumph Group, Inc., parent of Triumph Controls, Inc., has taken on the association membership responsibility for its family of aviation services and metals companies. And Triumph Group President and CEO Richard C. III has been elected to AIA's Board of Governors.

Formed in 1993, Triumph Group employs more than 3,000 workers and operates 30 subsidiaries in 16 states and three countries. The company has its headquarters in Wayne, Pa.

Triumph's Aviation Segment, comprised of 27 operating companies, designs, engineers, manufactures, distributes, repairs, and overhauls

aircraft components such as mechanical and electromechanical control systems, aircraft and engine acces-



New AIA member Triumph Group, Inc., produces aircraft components such as control systems, accessories, auxiliary power units, avionics, and instruments.

sories, auxiliary power units, and avionics and aircraft instruments.

The segment serves worldwide original equipment manufacturers of aircraft and aircraft components, commercial airlines, military aircraft, and air cargo carriers. Triumph's other segment distributes, processes and fabricates metal products.

Atlantic Research Corporation (ARC), a unit of Sequa Corporation, is one of the newest members of AIA.

In business for more than 50 years, ARC has extensive experience in solid propellant rocket and gas generator development and production, liquid propellant engines for satellites, and hybrid inflators for automotive air bags.

The company is the world's largest producer of tactical rocket motors and HTPB propellants. ARC also has warhead production capability and offers a complete spectrum of propellant types.

Its liquid engine facilities are located in New York and in the U.K. The inflator business manufactures over 25,000 units a day in plants in Knoxville, Tenn., and Italy.

Located near Washington D.C., ARC's corporate headquarters in Gainesville, Va., has facilities to design, fabricate, and test solid rocket motors, including a test chamber capable of firing ramjet rocket motors under simu-

lated altitude and Mach numbers conditions. The plant also includes composite motor filament winding equipment.

ARC's Camden, Ark., plant is its primary production facility with more than 1,500 acres and 896,000 square feet of floor space.

Atlantic Research recently added a new facility in Orange County, Va., on 2,454 acres with complete propellant processing equipment and large-scale rocket test capabilities.

MD Helicopters, Inc., is another new member of AIA.

Headquartered in Mesa, Ariz., the company is one of the fastest-growing producers of helicopters for corporate, law enforcement, and emergency medical service uses.

MD Helicopters designs, tests, manufactures, assembles, overhauls, and repairs helicopters. The firm is known for its quiet NOTAR system on the Explorer, MD 600N, and 520N. Hovering at 500 feet, the helicopters can't be heard on the ground, a benefit that has increased public acceptance of the aircraft.

Fuselages for MD Helicopter rotorcraft are supplied by Kaman Aerospace and Turkish Aircraft Industries, and engines come from Pratt & Whitney Canada and Rolls-Royce North America.

The firm has 360 workers, including 200 in production and operations.

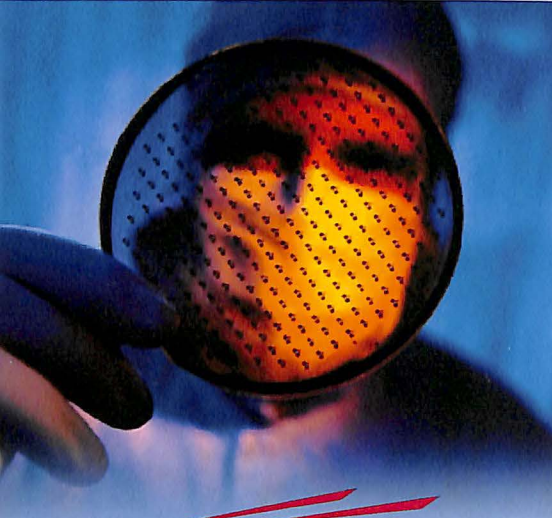
exports. As our competitors gain market share, they can reinvest further into new efforts to gain a technological edge.

Also, I am planning to meet with Commerce Secretary Don Evans and Transportation Secretary Norm Mineta to point out how a declining trend in the aerospace trade balance can damage America's lead in technology and impair our national security.

Spring, they say, is a time of renewal. For aerospace in Washington, it's a new administration, a new Congress, a

budding presidential commission on aerospace, and seeds planted for a new aviation, defense, and space coalition. This spring, we see, is also a time of opportunity.

John W. Douglass



GOODRICH

Small Change...

As the Web site opens, a familiar BFGoodrich logo appears from a haze. Suddenly, from behind, a new logo emerges and blends with the first. The letters BF fly away into the mist, leaving simply: Goodrich. One company, one vision.

And that's one unique way the AIA member company is telling audiences that it has a new legal name **...Big Difference.** and will implement a new corporate identity program on June 1.

The new identity caps the transformation of the 130-year old company, once one of the world's largest and most respected manufacturers of rubber products, into a leading aerospace and industrial company.

Approximately 84 percent of the company's \$4.4 billion in annual revenue now comes from the aerospace industry, with the remaining 14 percent from sealing products, compressor systems, and other highly engineered industrial products.

In 2000, Goodrich, which ranks among Fortune magazine's top 10 "most admired" aerospace companies, achieved its sixth consecutive year of record operating results.

"We believe that our corporate identity program, which is off to a very good start, will effectively communicate the story of Goodrich's transformation, reinforce our strong reputation in the aerospace industry, and extend it to our industrial businesses," noted Dave Burner, Goodrich chairman, president, and CEO.

The company has its headquarters in Charlotte, N.C., and employs 23,000 people worldwide.

Photo Above: A Goodrich technician inspects a wafer for one of the company's aerospace products.

AIA Member Companies

AAI Corporation
The Aerostructures Corporation
Alcoa Industrial Components
Alliant Techsystems Inc.
American Pacific Corporation
Analytical Graphics, Inc.
Argo-Tech Corporation
Atlantic Research Corporation
Aviall, Inc.
Ball Aerospace & Technologies Corp.
BAE SYSTEMS North America Inc.
Barnes Aerospace
B.H. Aircraft Company, Inc.
The Boeing Company
Curtiss-Wright Corporation
Curtiss-Wright Flight Systems, Inc.
Metal Improvement Company
Davis Tool, Inc.
Dowty Aerospace
Los Angeles
Yakima
DRS Technologies, Inc.
Ducommun Incorporated
DuPont Company
Esterline Technologies
Fairchild Dornier Corporation

Fairchild Fasteners
Final Analysis, Inc.
GenCorp
General Dynamics Corporation
General Electric Company
Genuity Solutions Inc.
GKN Aerospace Inc.
The BFGoodrich Company
Aerostructures
Landing Systems
Maintenance, Repair and Overhaul
Sensors and Integrated Systems
Groen Brothers Aviation, Inc.
Harris Corporation
HEICO Corporation
Hexcel Corporation
Honeywell
Hughes Electronics Corporation
i2 Technologies
ITT Industries
Defense and Electronics
Kaman Aerospace Corporation
Kistler Aerospace Corporation
Lockheed Martin Corporation
Martin-Baker America Incorporated
MD Helicopters, Inc.

MOOG Inc.
The NORDAM Group
Northrop Grumman Corporation
Omega Air, Inc.
Parker Hannifin Corporation
Raytheon Company
Robinson Helicopter Company, Inc.
Rockwell Collins, Inc.
Rolls-Royce North America Inc.
Space Access, LLC
Spectrum Astro, Inc.
Stellux Aerostructures, Inc.
Swales Aerospace
Teleflex, Inc./TFX Sermatech
Mal Tool & Engineering
Textron Inc.
Triumph Group, Inc.
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Hughes Bros. Aircrafters, Inc.
Industrial Precision, Inc.
International Business Machines, Inc.
Kennebec Tool & Die Co., Inc.
KomTeK
Kulite Semiconductor Products, Inc.
Lefell Manufacturing Company
LMI Aerospace, Inc.
Leonard's Metal, Inc.
LMI Finishing, Inc.
Precision Machine Company
M/A-COM, Inc.
Magnetico, Inc.
Manzi Metals, Inc.
Marotta Scientific Controls, Inc.
Minco Technology Labs, Inc.
Metal Innovations Inc.
The Mexmil Company
Meyer Tool Inc.
MIL-I Precision, LLC
Morris Machine Company, Inc.
MPC Products Corporation
New Hampshire Ball Bearings, Inc.
HiTech Division
Astro Division
Precision Bearing Division
Pacific Scientific, Electro Kinetics
Park Engineering & Mfg. Co., Inc.

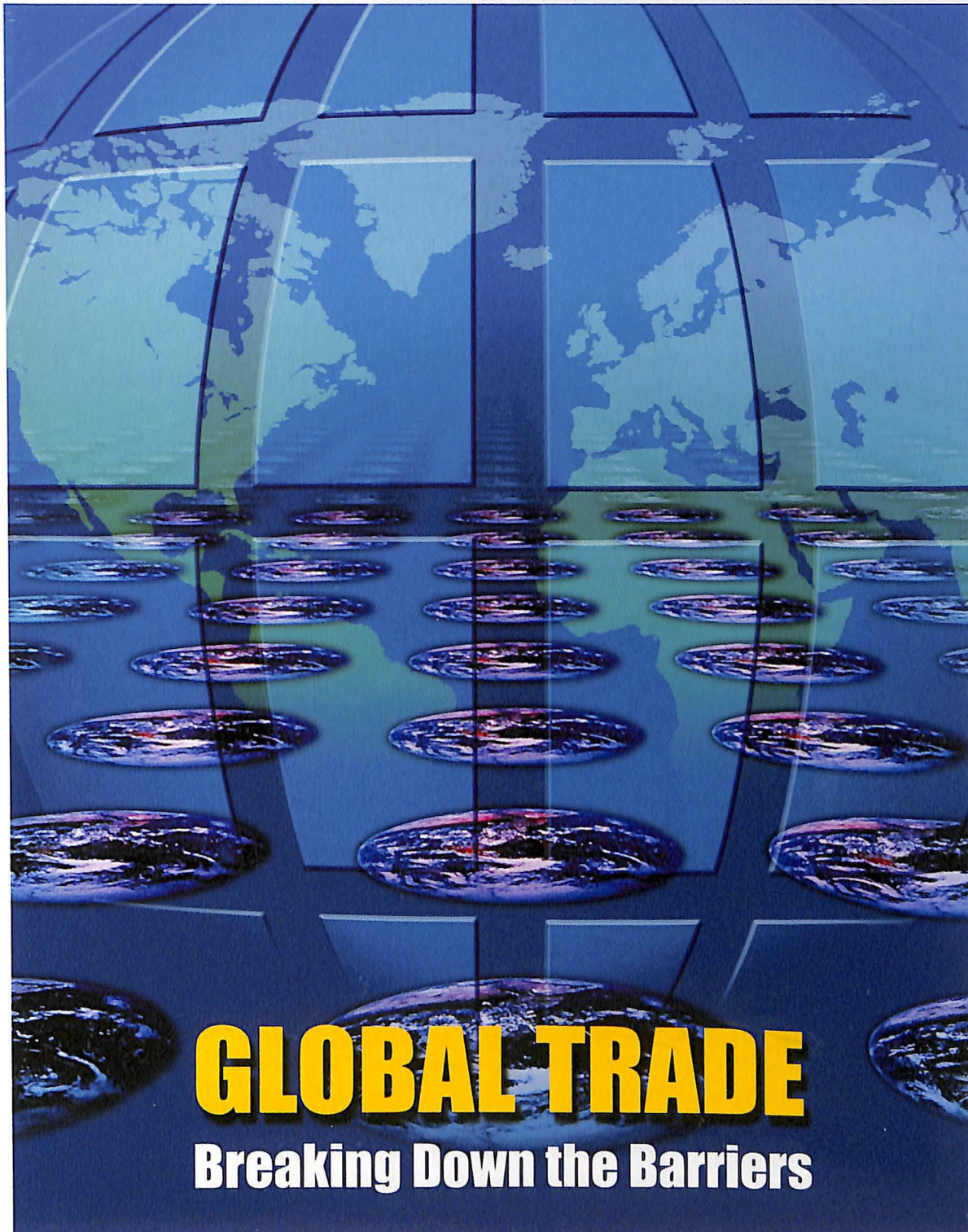
PerkinElmer Fluid Sciences
Port Electronics Corporation
Precision Machine & Manufacturing Co.
Precision Components Company
Precision Tube Bending
The Prince & Izant Company
Pro Fab, Inc.
The Purdy Corporation
QualPro Corporation
DJ Industries
Nelson Aerospace Inc.
Stratoflight Engineering
Quick-Wright Associates, Inc.
Radant Technologies, Inc.
RAM Manufacturing Company, Inc.
Rayon Yarn Corporation
Remmele Engineering Inc.
Safe Flight Instrument Corporation
Sechan Electronics, Inc.
Servotronics, Inc.
Sparton Corporation
Spectra Lux Corporation
Spirit Electronics, Inc.
STADCO
Stein Seal Company
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Stewart Manufacturing, Inc.
SUMMA Technology, Inc.
Sunshine Metals
SV Microwave, Inc.
Therm, Inc.
Thermal Solutions, Inc.
American Avionic Tech. Corp.
Brazonics, Inc.
Performance Metal Fabricators, Inc.
Trans World Alloys Company
Transtar Metals, Inc.
Tylon Machine Company
UFC Aerospace Corp.
United Tool & Die Company
Uni-Tek, LLC
Valco Manufacturing Company, Inc.
Valley Manufacturing Corporation
Welding Metallurgy, Inc.
Western Data Systems
WPI
Burton Electrical Engineering
Cable Systems
Viking Electronics



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EXECUTIVE
REPORT

SUMMER 2001



GLOBAL TRADE
Breaking Down the Barriers

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Karl J. Krapek
Chairman,
AIA Board of Governors

My vision is of a 2020 in which trans-Atlantic partnerships, joint ventures, and merged companies will sell aircraft that meet global noise, emission, and certification standards. They will do business not only in an Atlantic free-trade area but also all over the world, competing for military programs in an offset-free environment.

Dear Colleague:

July saw the establishment of Star 21, a European advisory group on aerospace. This panel of senior business and government representatives will recommend ways to modernize Europe's political and regulatory framework in order to keep pace with rapid economic and technological change in our industry.

Like our Presidential Commission on the Future of the U.S. Aerospace Industry, which will soon convene for the first time, it will consider structural and systemic issues like R&D funding, government regulation, and enhancing competitiveness and will issue its report in 2002.

Star 21 is a first step in implementing the Vision 2020 report issued in January by European Research Commissioner Philippe Busquin, which lays out a plan for the development of Europe's aerospace industry. Vision 2020 includes some laudable aspirations on which we all can surely agree. It predicts a world where "aeronautics is a dynamic, global business in which the drive for competitive advantage seeks out the best possible synergies wherever they can be found." I don't think U.S. industry would have any trouble thriving in such a world.

But there are also some provisions in Vision 2020 with which we disagree, such as developing a "strategic research agenda" under which EU member states subsidize commercial R&D efforts. Furthermore, the document is nearly silent on the value of trans-Atlantic partnerships in creating open markets. The aspirations set forth by "Vision 2020" will become a reality with a strong, mutual commitment to opening markets on both sides of the Atlantic.

A global, free-trade system based on fair rules, fair competition, and cooperation would result in better products and services and ever-greater economies of scale. It

would actively encourage cooperative ventures based on complementary strengths.

It's unlikely we will ever see wholesale globalization in the defense industry. Even to those who argue for greater international collaboration, former Deputy Secretary of Defense John Hamre has observed that it is

not surprising that countries do, and probably always will, factor in domestic defense industrial capability when they evaluate defense-related products for purchase.

That's understandable. But national security needs should not be used as an excuse for wholesale protectionism in non-sensitive areas. We can create an environment with incentives to work together on common projects, not merely to compete against each other. A goal of freer trade and fewer controls, consistent with national security principles, is achievable and is in our mutual interest.

My vision is of a 2020 in which trans-Atlantic partnerships, joint ventures, and merged companies will sell aircraft that meet global noise, emission, and certification standards. They will do business not only in an Atlantic free-trade area but also all over the world, competing for military programs in an offset-free environment.

It's a vision that includes a harmonized and expedited system of export controls under which most controls governing trans-Atlantic trade in military and dual-use products have been eliminated. It also includes a rationalized tax regime under which companies are taxed equally and fairly.

Impossible? Remember we've built an entire industry out of doing the impossible.

Karl J. Krapek
President & Chief Operating Officer,
United Technologies Corporation

Viewing Trans-Atlantic Aerospace with "2020" Vision



John W. Douglass
AIA President & CEO

Dear Association Member:

Almost two years ago the AIA Executive Committee approved a project to ask Congress and the presidential candidates to create the Presidential Commission on the Future of the U.S. Aerospace Industry.

Our efforts were successful. Then-candidate George W. Bush made the promise of a commission and Congress put it into law.

News of the commission now is good – and we're about to see the fruits of our labor.

As this *Executive Report* was going to press, there were reports in Washington that President Bush was close to naming his six appointees and a chairman in time for the panel to begin meeting in early September. Leaders in Congress appointed the first six commissioners earlier this year.

On behalf of the member companies of AIA, the association is looking forward to the start of the commission's proceedings and the opportunity to contribute all that we can in energy and ideas to this once-in-a-lifetime event.

Aerospace began as the dreams of visionaries some 100 years ago and will continue to advance and prosper for the next century as a result of the

vision of today's forward-looking leaders, including those who will serve on the commission.

The results of the Aerospace Commission will help decide our industry's future capabilities and competitiveness and our national security and economic well being. It's our opportunity – actually our mandate – to ensure that the commission achieves all that it can.

We have commitments from Capitol Hill that the commission will have up to a full year to carry on its work with authority to examine all the issues relevant to the aerospace industry. In addition, it will have a grace period of 60 days at the end to wrap up its report.

Positive Paris Results

Looking at other association initiatives, we returned from the Paris Air Show with several objectives accomplished.

For instance, there was strong representation there by members of the Bush Administration and Congress. I was happy to host Commerce Secretary Donald Evans and Transportation Secretary Norman Mineta, in addition to several U.S. senators and representatives.

Export Reform — Breaking Down Barriers to Global Trade

Reform of export controls has been a primary concern of the aerospace industry, and it's the number one objective of AIA's International Division executive staff.

A stroll through product and technology exhibits at this summer's Paris Air Show provided a sharp reminder of the growing and potent challenges we face from our European competitors and highlighted the futility of operating a complex export control system that is not closely linked to other producers.

The Europeans have in the past few months shifted from rhetoric suggesting that they want parity with U.S. aerospace companies to speeches and reports openly aimed at wresting leadership away from the United States in aircraft, engine, and equipment sales. Add in, as well, mounting challenges from Asia, Canada, Latin America, and former Soviet bloc countries.

To complicate life further, many of our competitors in global aerospace are also our trading

partners in a world of mergers, joint ventures, and teaming arrangements as companies seek to share risk, obtain the best technology, and improve market access.

Yet, many foreign producers are reducing and removing U.S. content from their products because our outdated export control system is unwieldy and often requires customers for our parts and components to obtain U.S. permission to export their final products.

Reform of export controls has been a primary concern of the aerospace industry, and it's the number one objective of AIA's International Division executive staff.

There's serious reason for our concern. U.S. aerospace exports have declined significantly in each of the last two years while imports have risen. While the trade surplus generated by aerospace sales is still the largest of any sector in the U.S. economy, last year's surplus – nearly \$27 billion – was a stunning 34 percent under the \$41 billion



Joel Johnson

We are grateful for their recognition of the global importance of our industry by coming to Paris to observe U.S. aerospace products and technology alongside those of our competitors.

Their observation of the nature of global competition in the aerospace industry should assist them in grappling with policy and legislative decisions that will affect U.S. competitiveness ahead.

Our meetings with Secretaries Evans and Mineta were productive, and both promised to follow up with us on key issues back in Washington.

As has been our practice at Farnborough and Paris, AIA once again hosted the Defense Department's operation center. In addition, we sponsored a dinner for Senator Ted Stevens, the president's representative to the Paris Air Show, attended by more than 100 senior government and aerospace executives. And we co-hosted a reception with the Society of Japanese Aerospace Companies.

Also, we once again organized a successful series of events for associate members who took advantage of our effective and inexpensive joint AIA display booth. There were 18 suppliers with us this year, double the number at Farnborough the year before.



AIA hosted the Defense Department's Operation Center at the 2001 Paris Air Show in June, coordinating the display of 15 military aircraft – including the rotorcraft seen here – and logistics for more than 100 crew members.

surplus of 1998 because of growing imports and dropping exports.

Recognizing that the export controls system did need an overhaul, the Clinton Administration in its final two years launched the Defense Trade Security Initiative (DTSI). One of the initiatives involved bilateral negotiations with the United Kingdom, Canada, and Australia on agreements intended to allow waivers of export licensing requirements. But the two-way talks and the DTSI initiative bogged down because of inconsistencies in export laws of the competing countries.

There's increasing concern based on the lack of progress in the U.K. and Australian talks that a bilateral approach isn't going to work in an increasingly multilateral world.

A bilateral effort assumes that each country has a predominantly national workforce employed by a domestically-owned industry. That's no longer realistic in the increasingly global arrangements

we have today, particularly in Europe.

Multilateral agreements could be the answer.

For example, six European countries – Britain, France, Germany, Italy, Spain, and Sweden – set out last year to reduce export barriers among themselves and harmonize their export policies to other countries. It might make better sense for the United States to try to negotiate an arrangement with the group than to try to arrange bilateral agreements with each of the member countries.

AIA and its counterpart, the Association of European Aerospace Manufacturers (AECMA), are working together to come up with recommendations to their respective governments that might help spark such multilateral talks between these trans-Atlantic partners.

Meanwhile, AIA and its member companies continue to work to achieve the package of 17 export reforms that were included in the DTSI initiative.

These include:

- Development of umbrella project licenses for major programs between U.S. and foreign companies.
- A streamlined licensing process for export to NATO countries.
- Improvements to the ability of government agencies to communicate electronically among themselves and with industry in the licensing process.
- Review and reduction of the products and technologies on the U.S. munitions list.

If implemented effectively, the reforms have the potential to improve the State Department's licensing performance while protecting the security and economic interests of the United States.

— Joel Johnson, Vice President,
International Division

Trans-Atlantic Dialogue

Paris was also an opportunity for representatives of the association and member companies to have important meetings with our counterparts in Europe and continue the dialogue begun last year at Farnborough.

The Farnborough initiative was a meeting of U.S. and European aerospace industrialists arranged by AIA and its counterpart association of European manufacturers seeking improved trading relationships among our nations and companies.

We're fortunate that Karl Krapek, president and COO of United Technologies and Chairman of AIA's Board of Governors, has initiated an unprecedented and vigorous attempt to communicate across the sociological and governmental barriers that exist in trade matters between us and our European Union counterparts.

(For more on global competitiveness and multilateral trade efforts, see the related articles elsewhere in this *Executive Report* by Karl Krapek and AIA International Division Vice President Joel Johnson.)

The dialogue will continue in September and October with a new set of trans-Atlantic meetings between the U.S. and European aerospace groups. I'm planning to attend along with others, including Vance Coffman of Lockheed Martin, Marshall Larsen of Goodrich, and our chairman, Karl Krapek.

Planning for the Future

The number one goal for the U.S. aerospace industry is strengthening our access to the global marketplace. Our future economic and national security depend on our ability to overcome struc-

tural obstacles to that goal – obstacles generated by our overseas competitors and by the slow response of our national policies to the evolution of the aerospace marketplace.

With issues as important as global trade nipping at us every day and with the Aerospace Commission about to begin its vast work, the Executive Committee of the Board of Governors has scheduled an off-site meeting in September to begin strategic planning for the future.

It's a way the executive committee can begin to form a larger national vision to bolster the American aerospace industry in the important period immediately beyond the commission's life, the years between 2003 and 2010. In these times, it's never too soon to plan ahead.

U.S. Defense Industrial Base

On the subject of planning ahead, the association has cautioned for some time now that U.S. spending for military procurement and research and development are inadequate to maintain our national security and a healthy defense industrial base. National security and technological leadership are dependent on increased investment in the development and production of advanced weapon and aerospace systems.

I commend Under Secretary of Defense for Acquisition, Technology and Logistics Pete Aldridge, a veteran former aerospace industry executive, who recognizes that improvements in the defense procurement process are needed.

His announced goals include:

- Improving the credibility and effectiveness of DoD's acquisition and logistics support processes.
- Revitalizing the quality and morale of the acquisition workforce, which has been reduced by 50 percent in recent years and will have 50 percent of the current workforce eligible for retirement in five years.
- Ensuring the health of the industrial base in order to attract the talent and investment necessary to develop new weapon systems.
- Rationalizing weapon systems and infrastructure to the ongoing defense review by DoD Secretary Rumsfeld.

Senate Armed Services Committee Chairman Carl Levin (right) accepts a "Wings of Liberty" award from AIA President John W. Douglass. The Michigan Democrat is one of 30 members of Congress who have accepted the AIA award of appreciation, representing congressional support of the roles aviation and aerospace have played in preserving freedom.



- Leveraging “war-winning” technologies that will give the United States an asymmetric advantage in future conflicts.

The association will provide all the information and data we can to support the development of Secretary Aldridge’s strategic objectives.

Progress and Optimism

Overall, I’m pleased with the progress the association has made this year in many of its issues and objectives, and I’m very optimistic about the road ahead.

For example, there’s a heightened awareness on both sides of the Atlantic of the need to remove barriers to global trade, and a dialogue to that end is growing.

Successful activities at the Paris Air Show spotlighted the association’s capabilities as the synergist of America’s aerospace industry.

In addition to the meetings in Paris with Secretaries Evans and Mineta, I recently had an excellent meeting in Washington with FAA Administrator Jane Garvey on various aviation and aerospace matters.

That was followed by a meeting with Mitch Daniels, director of the Office of Management and Budget, in which I discussed issues in the federal budget for aerospace research.

On Capitol Hill, the bipartisan House Aerospace Caucus has been reinvigorated with our support, and its leaders are encouraging colleagues and the administration to help maintain U.S. preeminence in aeronautics and astronautics.

Also, we’re happy to see that the industry’s first quarter shipments and orders were up 9 and 12 percent from last year, suggesting that an economic slowdown might bypass the aerospace industry.

Last – and certainly not least – the anticipation is over and the Aerospace Commission is about to launch its crucial work.

At AIA, I’d say we’re definitely moving forward.



John W. Douglass

NEW MEMBERS

AIA Welcomes Three Innovative Aerospace Companies

The newest additions to AIA’s roster of member companies reflect innovative growth segments of today’s aerospace and defense industries – an e-commerce enterprise supporting aviation with business solutions, a leading manufacturer of aircraft for regional airlines as well as general and military aviation, and a leading developer of training, avionics, and communications systems.

Cubic Corporation, founded in 1951 as an electronics firm, today is the parent company of two major business segments – Defense and Transportation Systems.

The Cubic Defense Group provides instrumented training systems for military forces as well as avionics, data links, aerospace systems, and product logistic support. The group also offers battle command training, field service operation and maintenance, and radio communication systems for air traffic control and maritime industries.

Cubic’s other major segment, the Transportation Systems Group, designs and manufactures automatic revenue collection systems for public transit projects throughout the world, including rail, bus, and parking lot systems.

The company is headquartered in San Diego, Calif.

Embraer Aircraft Corporation develops, produces, and markets aircraft and aviation-related structural parts, components, and equipment.

One of the largest aircraft manufacturers in the world, Embraer focuses on regional, military, and corporate aviation.

In the commercial marketplace, Embraer makes jets and turboprops that seat from 30 to 50 passengers. Embraer also serves military markets, mainly the Brazilian Air Force, with transport, light attack, and surveillance aircraft. The company also provides spare parts and training.

The aircraft manufacturer’s family of regional airliners places it among the four largest commercial aircraft manufacturers in the world. The ERJ 145 twin-turboprop jetliner operates in the 50-seat category, its derivative ERJ 135 serves the 30- to 40-seat market, and the ERJ 140 fills the 44-seat niche.

Embraer is developing a new jetliner family in the 70- to 110-seat category, comprised of the ERJ 170/190-100/190-200.

The company is based in Brazil and has production facilities in Ft. Lauderdale, Fla.

i2 Technologies, Inc., is another of AIA’s newest members. The firm is a leader in e-commerce, providing bottom-line benefits by helping companies reduce the cost of goods sold, shrink inventories, accelerate time-to-market, and create new e-marketplaces.

Founded in 1988, i2 is headquartered in Dallas and has more than 5,600 employees worldwide.

i2 Technologies supports Cordiem, Inc., previously known as myaircraft.com. Cordiem provides the aviation industry with end-to-end e-business solutions comprising supply chain management, e-procurement, and engineering services.

Based in Washington, D.C., the independent company is the aviation industry’s first B2B exchange and application services provider jointly owned by buyers and sellers.



Cubic Defense Systems is a leading provider of live combat training systems to help prepare military forces for warfare on the ground and in the air.



TRW, a technology company involved in aviation since the beginning of flight, is celebrating its 100th anniversary this year.

Founded in Cleveland in 1901 as Thompson Products, the firm originally developed fasteners, adapting its cap screw technology to create engine valves for the emerging auto industry.

TRW Marks 100 Years

Soon afterward, the young firm's product line included aircraft engine valves used in Allied fighter planes during World War I.

Its experimental hollow sodium-cooled valve helped power the Spirit of St. Louis on Lindbergh's historic solo flight in 1927. The company continued developing its aircraft technology, and by the early 1940s its engine valves and fuel booster pumps enabled the first high-altitude flights.

By 1958 Thompson Products entered the growing electronics and defense markets by merging with the Ramo-Wooldridge Corporation, resulting in Thompson Ramo Wooldridge - today's TRW.

TRW has been a national asset in the design and manufacture of unmanned spacecraft for scientific and defense purposes. Its Pioneer 1, the first industry-built satellite, was launched in 1958 as NASA's first step into space. Since then, TRW has built nearly 200 spacecraft.

The company is the prime integration contractor for the U.S. Air Force intercontinental ballistic missile program and provides a range of command and control systems for aerospace applications.

In commercial and military aviation, TRW engine controls, flight controls, avionics systems, electric power generation and management systems, cargo systems, hoists, and winches are found on practically any Western aircraft.

Photo above: TRW Chairman, Chief Executive Officer, and President David M. Cote (center at podium) presides at the closing bell of the New York Stock Exchange on June 1, marking the company's 100th anniversary.

AIA Member Companies

AAI Corporation
The Aerostructures Corporation
Alliant Techsystems Inc.
American Pacific Corporation
Analytical Graphics, Inc.
Argo-Tech Corporation
Atlantic Research Corporation
Aviall, Inc.
Ball Aerospace & Technologies Corp.
BAE SYSTEMS North America Inc.
Barnes Aerospace
B.H. Aircraft Company, Inc.
The Boeing Company
Cubic Corporation
Curtiss-Wright Corporation
Curtiss-Wright Flight Systems, Inc.
Metal Improvement Company
Dassault Falcon Jet Corporation
Davis Tool, Inc.
DRS Technologies, Inc.
Ducommun Incorporated
DuPont Company
Embraer Aircraft Corporation
Esterline Technologies
Exostar LLC
Fairchild Dornier Corporation
Fairchild Fasteners
GenCorp
General Atomics Aeronautical Systems, Inc.
General Dynamics Corporation
General Electric Company
Genuity Solutions Inc.
GKN Aerospace Inc.
Goodrich Corporation
Aerostructures & Aviation
Technical Services
Engine and Safety Systems
Electronic Systems
Landing Systems
W.L. Gore & Associates
Groen Brothers Aviation, Inc.
Harris Corporation
HEICO Corporation
Hexcel Corporation
Honeywell
i2 Technologies
ITT Industries
Defense and Electronics
Kaman Aerospace Corporation
Kistler Aerospace Corporation
Lockheed Martin Corporation
MatrixOne, Inc.
Martin-Baker America Incorporated
MD Helicopters, Inc.
MOOG Inc.

The NORDAM Group
Northrop Grumman Corporation
Omega Air, Inc.
Parker Hannifin Corporation
Raytheon Company
Robinson Helicopter Company, Inc.
Rockwell Collins, Inc.
Rolls-Royce North America Inc.
Smiths Aerospace Actuation Systems
Los Angeles
Yakima
Space Access, LLC
Spectrum Astro, Inc.
Stellax Aerostructures, Inc.
Swales Aerospace
Teleflex, Inc./TFX Sermatech
Mal Tool & Engineering
Textron Inc.
Triumph Group, Inc.
TRW Inc.
United Defense
United Technologies Corporation
Pratt & Whitney
Sikorsky
Hamilton Sundstrand
Vought Aircraft Industries, Inc.
Woodward Governor Company

AIA Associate Member Companies

AAR CORP.
Adaptive Consulting, Inc.
The Advanced Products Company
Advanced Technical Products
Aeroquip Corporation
Engineered Systems Division
Jackson Hose Plant
Jackson Coupling Plant
Toccoa Plant
Aerospace Sales Industries, Inc.
Air Industries Machining Corporation
Air Methods Corporation
Allen Aircraft Products, Inc.
Ambel Precision Manufacturing Corporation
AMI Metals
Arkwin Industries, Inc.
Avionics Specialties, Inc.
Avnet Electronics Marketing
Babcock, Inc.
Banneker Industries Inc.
Berkshire Industries, Inc.
Bill-Jay Machine Tool Corporation
Brek Manufacturing Company
BTC Electronic Components.
California Amforge Corp.
California Screw Products
CEF Industries, Inc.
Centric Machine & Instrument Corp.
Charles E. Gillman Company
Cherokee Nation Distributors
CII Technologies, Inc.
Hartman
Kilovac
Circle Seal Controls
Cohesia Corporation
Compass Aerospace Corporation
Corry Manufacturing Company
CPI Aerostructures, Inc.
Crane Co. Lear Romeo
Delco Machine & Gear
The Deutsch Company
Dixie Aerospace
DynaBil Industries, Inc.
Dynamic Gunner Technologies LLC
EDO Marine & Aircraft Systems
EFW, Inc.
Ellanef Manufacturing Corporation
EMS Technologies, Inc.
Ensign-Bickford Aerospace & Defense Company
EPCO Plastics Corporation
F.A.G. Bearings Limited
Faber Enterprises, Inc.
Fansteel Inc.
Fansteel/Wellman Dynamics
Fansteel/California Drop Forge
The Ferco Group
Fero Tech Corporation
L&E Engineering Company
Ferguson Perforating
Flexfab
G.S. Precision, Inc.
General Mechatronics Corporation
General Tool Company, Inc.
Greene, Tweed & Company
Group Technologies Corporation
Hangsterfer's Laboratories Inc.
Hartwell Corporation
Hitchcock Industries, Inc.
Hobart Machined Products Inc.
Hughes Bros. Aircrafters, Inc.
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HiTech Division
Astro Division
Precision Bearing Division
OnBoard, Software, Inc.
Pacific Scientific, Electro Kinetic
Park Engineering & Mfg. Co., Inc.

PerkinElmer Fluid Sciences
Port Electronics Corporation
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Precision Components Company
Precision Tube Bending
The Prince & Izant Company
Pro Fab
The Purdy Corporation
QualPro Corporation
DJ Industries
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Therm, Inc.
Thermal Solutions, Inc.
American Avionic Tech. Corp.
Brazonics, Inc.
Performance Metal Fabricators, Inc.
Trans World Alloys Company
Transtar Metals, Inc.
Trylon Machining Company
UFC Aerospace Corp.
United Tool & Die Company
Uni-Tek, LLC
Valco Manufacturing Company
Valley Manufacturing Corporation
Viking Metallurgical Corp. (Firth)
Welding Metallurgy, Inc.
Western Data Systems
WPI
Burton Electrical Engineering
Cable Systems
Viking Electronics



1250 Eye Street NW, #1200 • Washington, DC 20005-3924
Phone: (202)371-8400 • FAX: (202)371-8470 • Web: www.aia-aerospace.org

EXECUTIVE
REPORT

FALL 2001

Resolving Security and the
Economic Aftermath of Terrorism

Presidential Commission
Weighing New Vision

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STANDING
STRONG

AIA
AEROSPACE INDUSTRIES
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Marshall O. Larsen, President & Chief Operating Officer, Aerospace, Goodrich Corporation

Alan R. Mulally, Senior Vice President, The Boeing Company, and President & Chief Executive Officer, Commercial Airplanes

Mark H. Ronald, President & Chief Executive Officer, BAE SYSTEMS North America Inc.

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John R. Gibson, Chairman, President & Chief Executive Officer, American Pacific Corporation

Paul L. Graziani, President & Chief Executive Officer, Analytical Graphics Inc.

James M. Guyette, President & Chief Executive Officer, Rolls-Royce North America Inc.

Stephen L. Hayes, President, Parker Aerospace, & Vice President, Parker Hannifin Corporation

Richard C. Ill, President & Chief Executive Officer, Triumph Group, Inc.

Clayton M. Jones, President & Chief Executive Officer, Rockwell Collins

Kent Kresa, Chairman, President & Chief Executive Officer, Northrop Grumman Corporation

Larry A. Kring, Group Vice President, Esterline Technologies

Frank Kundahl, President, Teleflex Inc. /TFX Sermatech, Mal Tool & Engineering

Michael S. Lipscomb, President & Chief Executive Officer, Argo-Tech Corporation

Joseph H. Lubenstein, President, Kaman Aerospace Corporation

William O. McCabe, Director, Aviation & Market Initiatives, DuPont Company

Laurans A. Mendelson, Chairman & Chief Executive Officer, HEICO Corporation

Paul David Miller, Chairman & Chief Executive Officer, Alliant Techsystems Inc.

Gregory Milzcik, President, Barnes Aerospace

John R. Murphey, Chairman & Chief Executive Officer, Bell Helicopter Textron, Textron Inc.

Charles P. Pieper, Chairman & Chief Executive Officer, Fairchild Dornier Corporation

Peter D. Rettaliata, President, Air Industries Machining Corporation

C. Phillip Turner, Vice President, Woodward Governor Company

Robert A. Wolfe, Chairman & Chief Executive Officer, GenCorp

George J. Yohrling, President & Chief Executive Officer, Curtiss-Wright Flight Systems, Curtiss-Wright Corporation





John W. Douglass
AIA President & CEO

Dear Association Member:

America was full of dreams and hopes and plans on September 10, 2001.

It's hard to focus on those now after terrorists one day later shocked our sensibilities by turning commercial aircraft into guided missiles and attacking the United States with them, killing and injuring thousands of innocent victims.

It has truly become a new world since that day.

But America has responded to the challenge of the attacks with leadership in Washington and New York, aid and compassion for victims and survivors, resolve for bringing justice to terrorists, and support for economically battered industries.

The aerospace industry, I'm not surprised, has reacted with determination and is standing strong.

AIA Chairman Karl Krapek, president and chief operating officer of United Technologies Corporation, is right on target in his words elsewhere in this *Executive Report* when he points out that the aerospace industry is going to see profound change in the next few years in the aftermath of 9-11.

As Karl notes, there is likely to be a significant decrease in the commercial aircraft market, offset to some degree by some increases in the defense market and continued progress in established science and technology programs in space.

He recognizes that the overall critical objective ahead for AIA, its members, and its associate members is to ensure a robust and healthy aerospace industry.

An Aerospace Community

In the ensuing 60 or 70 days since the attacks and the launching of the war on terrorism by the United States and other nations, it's been too soon to try to precisely quantify what the impact on industry will be. It's already in the tens of billions of dollars, however.

We know that now more than ever it is important for the industry to stick together as a community to solve these unexpected safety, security, and economic issues.

For instance, an important aerospace community action in the days immediately after the attacks came from the industry stakeholder coalition that AIA inspired and engendered earlier in the year.

Some 35 stakeholder organizations jointly urged the president to support America's aviation industry by quickly approving a combination of loan guarantees, tax suspensions, and cash infusions and by assuming responsibility for security at the nation's airports.

President Bush proposed an action plan and Congress enacted it within days with full bipartisan support. AIA is grateful for their action and leadership.

Further, the stakeholders assured the president that the associations that represent manufacturers, airlines, other commercial and general aviation operators, airport operators, aviation maintenance providers, unions, and professional societies support a national security strategy to deal with America's war on international terrorism.

The industry group also pointed out that only the federal government has complete access to the full range of information and resources needed to provide complete security for America's air transport system.

For that reason, federal authorities should take control of the airline passenger screening process, elevate the visibility of law enforcement at airports, and expand the federal air marshal program. Those issues are still being worked out.

Association Responds to Terrorism

In one post-attack matter, AIA quickly sought legislative help for member companies facing a serious impact in the cost and scope of their liability insurance.

The assistance legislation enacted after the terrorist hijackings and crashes provides insurance availability and liability parameters for airlines. But it doesn't address some issues critical to aircraft and parts and components manufacturers and suppliers, such as the availability and reasonable cost of insurance for them.

Most AIA companies need and have war-risk riders on many of their insurance policies, provisions that usually cover hijackings and terrorism. Since September 11, several insurance companies have dramatically increased premiums, reduced or cancelled coverage, or given notice that rates will increase substantially when policies are renewed.

*"The aerospace industry
...has reacted with
determination and is
standing strong."*



Karl J. Krapek
Chairman,
AIA Board of Governors

Beyond September 11

Dear Colleague:

No industry was affected more profoundly by the tragic events of September 11 than aerospace. Products we designed and built to the highest standards of flight safety were commandeered and perverted into weapons of mass destruction. The heinous acts of that day have exacerbated issues our industry already faced and created entirely new ones as well.

September 11 will prove to be the new great divide between the way things were and the way they will be, bringing changes — and a war — whose implications we are only beginning to understand. In crisis, however, there is always challenge and opportunity. And this crisis will be no exception.

Just over a month after the attacks, U.S. airlines have announced employment reductions of nearly 100,000 and aerospace manufacturers nearly 60,000, numbers likely to grow before year's end. The \$1.6 billion increase in industry sales previously projected for 2001 now appears likely to become a \$400 million decline, with decreases over previous estimates for 2002 and 2003 in the tens of billions of dollars. In the first two weeks in October, passenger traffic was down approximately 30 percent from the same time last year. That's an improvement over the 42 percent fall in the immediate aftermath of the attacks, but it is still a far cry from healthy levels.

The attack may have ushered an already teetering economy into full-blown recession, though decisive government action could minimize its duration and pain. Steps already taken include cash and loan guarantees for airlines, a \$40 billion emergency appropriation for disaster relief and counterterrorism (\$20 billion of which may be used for defense) and a Federal Reserve Board decision to increase liquidity. Still to come are an economic stimulus package, supplemental defense appropriations, and government insurance guarantees against future terrorist attacks.

Our industry has endured difficult economic times before, and we will surely weather this storm. A sustainable return to health will elude us, however, until the economy rebounds and the public feels safe enough to fly again. Many factors will go into restoring confidence in air transportation. We must decide as a nation the future role of government in airport and in-flight security and what additional resources to invest in the pursuit of safety.

For our part, manufacturers need to work closely with our customers to make aircraft more secure. This doesn't end with quick-fix reinforcement of cockpit doors; it begins there. Preventing terrorism must become a prime consideration in the design and manufacture of commercial aircraft. We need to innovate in avionics, surveillance systems, and other areas to enhance in-flight safety.

AIA is concerned that the insurance industry proposal doesn't sufficiently address the aerospace community, such as the needs of companies with overseas assets. Nor does it provide aerospace-specific war risk insurance, which manufacturers historically have had.

The association will work with Congress to improve the insurance industry's proposal. We've provided legislative language that specifically and independently addresses aerospace insurance needs.

In other actions, we formed a Rapid Response Team within the association to coordinate and focus staff resources on critical issues. For example, we worked with Boeing in support of the Transportation Department's airplane security task force, and our Civil Aviation Division assisted our rotorcraft manufacturers get permission to resume test and customer training flights.

Further, I testified before Congress on behalf of AIA members concerning post-attack matters, and we issued statements in support of immediate aid for airlines and the need for new federal initiatives in airport security.

Industrial Base at Risk

Other matters need to be assessed as well. For example, I can envision a plan that would protect industry resources and assets from eroding away during a period of severe decline in U.S. commercial aircraft orders brought on by the aftermath of terrorism.

We've already had more than 60,000 skilled workers laid off from aerospace manufacturing jobs in just the first few weeks since the 9-11 crisis began. There might be more in the months ahead.

The supplier base is another area of concern. We need to ensure that suppliers of aerospace component products and technologies be preserved during hard times. We need to cushion the impact of contractions now so that when the economic tide turns and orders begin to rise again — and that will happen in a matter of time — we'll have a healthy and capable supplier base at the ready.

Because combating terrorist organizations and the rogue nations that harbor them will require greatly expanded military air capabilities, we will likely see a rise in defense-related business. After a decade and a half of decline, military aerospace budgets will increase, and far sooner than anticipated only a month or so ago. No one is predicting such sales will come close to offsetting setbacks on the commercial side, but as the Pentagon and our NATO allies rethink their defense strategies to cope with non-traditional threats, there will surely be enhanced opportunities to provide military aircraft, spare parts, and overhaul and repair services.

Other opportunities could present themselves on the international stage. On September 12, NATO made the historic decision to invoke Article V of the 1949 North Atlantic Treaty, which states that an attack against one NATO country is an attack



against all. This decision could prove to be the long-awaited catalyst that will lead to meaningful export control reform. The current U.S. export control system impedes the ability of our militaries to operate jointly, a problem whose solution now carries a new urgency. Streamlining procedures for selling technology to allies, while enhancing safeguards to keep it out of the hands of those who would misuse it, could now be closer to realization.

The enormity of the war against terrorism could also serve as an impetus to resolve some U.S.-EU trade and regulatory squabbles like taxation, subsidies, and noise standards. It might also create incentives for the two sides to work together on common projects and even set the stage for progress in transatlantic partnerships and joint ventures.

Also, as the U.S. government proceeds to build an international alliance against terrorism and rewards those who cooperate,

actors will inevitably shift position on the geopolitical stage. We will surely find ourselves able to do business in markets closed to us only a matter of months ago. This could apply as much to commercial as to defense business.

The Presidential Commission on the Future of the U.S. Aerospace Industry will convene formally this month. Its broad charter enables it to address the impact of the events of September 11, and it must endeavor to do so.

Ensuring a robust future for the aerospace industry has never been more urgent than now as we wage this historic war against terror. If these events force us to make an honest appraisal of ourselves and our industry and help the commission identify the steps necessary to sustain its health, then perhaps we will have salvaged something of value from the tragic wreckage of September 11.

Karl J. Krapek
President & Chief Operating Officer
United Technologies Corporation

America's aerospace capabilities and competitiveness will depend on actions formulated now. We can't wait until damage to our resources is too severe to repair. We'll need help from the federal government in the months to come as we identify all the problems that we can't see right now.

Don't doubt that our long-term competitiveness is at risk. For instance, Vice Chairman Marshall Larsen, president and chief operating officer of Goodrich Aerospace, and I attended a meeting of the European Association of Aerospace Industry Associations (AECMA) in Italy in early October.

European industry speakers went out of their way to note our presence and to say with sincerity that in light of the tragic events they wanted us to know that their hearts are with us and they have never before felt more solidarity with America.

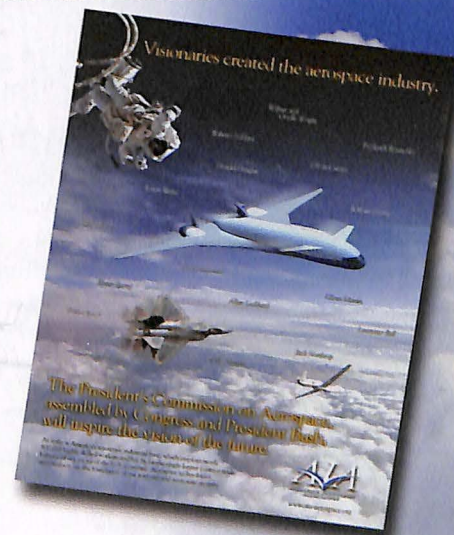
When we went to the AECMA workshops, however, we heard business reports that indicated growing optimism concerning Europe's competitiveness with the United States in commercial aviation products along with urging themselves to "keep it up, we're doing all the right things."

We aren't surprised. Aerospace competition is tough. It's all the more reason to take steps now to be stronger when we come out of this crisis.

Commission on Aerospace

The Presidential Commission on the Future of the U.S. Aerospace Industry will begin its work in earnest on November 27. I am very proud to be one of the 12 commissioners, representing all of the members and associate members of AIA in these important deliberations.

Legislation that established the commission directs that it investigate technologies, global trade and market



An ad developed by AIA that supports the Commission on Aerospace is set to appear in *The Hill*, an issue-oriented newspaper read widely by members of Congress and staff.

NEW MEMBERS AIA Welcomes Three New Members

Three more companies recently joined the ranks of AIA — two prominent players in the rising field of electronic commerce and the company that is the major contractor for unmanned aircraft systems for the U.S. Air Force.

General Atomics Aeronautical Systems, Inc., (GA-ASI) is a leading provider of unmanned aircraft systems for military and commercial customers worldwide.

Headquartered in San Diego with flight operations and research and development facilities in the Mojave Desert, GA-ASI provides remotely operated aircraft (ROA) systems for surveillance, reconnaissance, targeting, weapons delivery, scientific research, and other missions.

The company's GNAT and RQ-1 Predator systems offer flight-proven performance and versatility backed by extensive operational and real-world experience. GA-ASI also manufactures the Prowler II for tactical surveillance and ALTUS for high altitude scientific missions. GA-ASI also has developed Predator B, a propjet-powered ROA that expands the mission performance and capability of Predator.

Customers include the U.S. Air Force, U.S. Navy, the U.S. Energy Department, NASA, Turkey, Italy, and classified U.S. and foreign customers.



Pictured Above: A remotely operated aircraft designed and built by new AIA member General Atomics Aeronautical Systems.

Cordiem, LLC, is an emerging electronic commerce company that provides the aviation industry with end-to-end e-business solutions such as supply chain management, e-procurement, and engineering services.

Based in Washington, D.C., with offices planned for Europe and Asia, the independent company is the aviation industry's first B2B exchange and application services provider jointly owned by buyers and sellers.

The company was formed earlier this year on the previous efforts of AirNewco, an airline-led B2B initiative, and MyAircraft, a manufacturer-led exchange. Cordiem's founding aviation members include Air France, American Airlines,

Goodrich Corporation, British Airways, Continental Airlines, Delta Air Lines, Honeywell, Iberia Airlines, SAirGroup, United Airlines, United Parcel Service, and United Technologies Corporation.

Cordiem has partnered with AIA member i2 Technologies and Ariba, Inc., two leading B2B technology providers, to deliver its secure, reliable, and scalable solutions.

Exostar LLC is a cooperative electronic commerce venture of several of the world's leading aerospace and defense companies, including AIA members BAE SYSTEMS, Boeing, Lockheed Martin, Raytheon, and Rolls-Royce.

The company's services connect manufacturers, suppliers, and customers for trade and collaboration in a secure and open environment. Located in Herndon, Va., near Washington, the firm automates and standardizes processes and communication — from planning, design, sourcing, and procuring through sales, delivery, and support — for increased productivity, efficiency, and savings.

Through its electronic marketplace, Exostar offers information, services, and tools that the aerospace industry uses to standardize systems, increase efficiencies, and reduce costs.

trends, budget issues, acquisition processes, space launch infrastructure, and technical talent issues involving the aerospace industry.

I expect the commission will direct a considerable portion of its attention to the issue of aviation security. Other crucial issues will be trade and the sources of capital necessary to finance the industry.

The commission is a rare opportunity for aerospace to bring attention to the economic and political hurdles facing the industry. The terrorist attacks have made it crystal clear just how important the aerospace industry is to our nation's transportation system, the economy, and national defense.

I pledge that in the war against international terrorism, the aerospace industry will support the president and the Defense

Department in their efforts to do whatever is necessary to deter and eventually defeat terrorist activity.

Aerospace will play a primary role in this fight, creating products that will support the men and women who will protect freedom and stand guard over our homeland to prevent future attacks.

Americans are standing strong to defend our values and our people, and the men and women of America's aerospace industry are ready to do all we can to bring the current crisis to a swift and successful conclusion.

John W. Douglass

Civil Aviation – Working on Partnerships

Aviation safety, security, and efficiency are major topics in normal times, now magnified in the aftermath of terrorist attacks.

AIA's Civil Aviation Division (CAD) is continuing to strengthen its partnerships among manufacturers, the FAA, and airlines with immediate emphasis on post-September 11 critical needs.

While there are scores of initiatives on CAD's docket, here's a summary of some current issues:

Aviation Security — The division is working numerous security issues with AIA member companies, the federal government, and airlines in the aftermath of the September 11 terrorist attacks.

For example, AIA learned that after U.S. airspace reopened, continuing restrictions were grounding operations of rotorcraft manufacturers who couldn't conduct test or customer training flights. CAD staff worked with FAA and DoD to get the restrictions lifted, enabling companies to resume flights.



William O. McCabe,
director of Dupont
Aviation, DuPont
Company, and chair
of AIA's Civil
Aviation Council.

Concerning airplane security, AIA participated in briefings with FAA and the Air Transport Association on a special air regulation allowing temporary installation of bars across cockpit doors to increase resistance to forcible entry.

In addition, FAA in early October asked the Transport Airplane and Engine Rulemaking Advisory Group to accelerate recommendations concerning revision of regulations pertaining to door design and other security elements.

Commercial Aviation Safety Team (CAST) — Three years into a 10-year plan to reduce aviation accidents, government and industry safety experts believe that the data-driven Safer Skies approach is on course toward improving aviation safety. The plan has already produced several actions to prevent some leading causes of accidents in commercial operations.

As part of Safer Skies, CAST is well on its way toward implementing safety improvements for two leading causes of commercial accidents: controlled flight into terrain and uncontained engine failures.

CAST has developed safety enhancements for approach and landing accidents and is beginning the implementation phase. Government and industry CAST participants continue to develop safety enhancements for runway incursions and loss of control — the leading causes of commercial aviation accidents based on an in-depth CAST analysis process.

CAST is also developing a new data analysis methodology to help identify and rank the next areas for safety enhancements.

International Civil Aviation Organization (ICAO) — ICAO held the 33rd session of its triennial assembly between late September and early October. AIA staff and member company representatives participated as observers and worked closely with the U.S. delegation in what became the Environmental and Security Assembly.



AIA's Civil Aviation Division staff is composed of, from left, Marianne Semeria, administrative assistant; Skip Jones, director of engineering and certification; Bob Robeson, vice president; Beth Van Emburgh, manager of aircraft noise and emissions; and Howard Aylesworth, director of air traffic systems and aircraft noise and emissions.

AIA objectives for the assembly were to:

- Establish cost-benefit analysis as the basis of ICAO decisionmaking.
- Ensure no phase-out of ICAO Chapter 3 (U.S. Stage 3) aircraft.
- Agree upon an international framework for noise management to be applied on an airport-by-airport basis.
- Define an operational restriction as any noise-related action that limits or reduces an aircraft's access to an airport and establish any such restriction on the noise performance of the aircraft as determined by the certification procedure consistent with ICAO Annex 16, Volume 1 (Aircraft Noise).
- Ensure that the special needs of developing countries would be met when operating restrictions are applied.

All were achieved.

AIA has consistently held that states should work within ICAO to develop internationally accepted standards and recommended practices and adopt the ICAO framework. The assembly continued to see the need for safety and security to be treated as separate complementary subjects and decided to take a measured approach.

Aviation security issues will be evaluated over the next several months in preparation for a high-level meeting to take place early next year.

AIA/Air Transport Association /FAA Joint Management Team (JMT) — The JMT includes representatives from the FAA, AIA, Air Transport Association, and Regional Airline Association.

AIA staff and member company representatives from the Commercial Customer Support, Transport, and Propulsion Committees participate. ATA support includes senior engineering staff and senior airline officials responsible for engineering and maintenance. FAA participation includes the directors of the Aircraft Certification Service (AIR) and Flight Standards Service (AFS) as well as AIR managers for engineering and quality and the AFS manager of maintenance.

Each JMT quarterly meeting focuses on a limited agenda in order to maximize progress on the issues.

Other CAD Issues — CAD staff handles numerous other issues in conjunction with various committees, including Aircraft Emissions, Airplane Noise Control, Air Traffic Systems, Commercial Customer Support, Propulsion, Rotorcraft, Transport Airplanes, and Manufacturing, Maintenance and Repair.

— Bob Robeson, Vice President,
Civil Aviation Division



AIA member Ball Aerospace & Technologies Corp. is celebrating its 45th anniversary.

Formed as Ball Brothers Research Corporation, the firm has been a major contributor to aerospace and is a long-time contractor to NASA and U.S. military branches.

The company began in 1956 with seven employees, most drawn from the University of Colorado in Boulder where it

is still headquartered. It is a wholly owned

subsidiary of Ball Corporation, one of the world's leading suppliers of metal and plastic packaging to the food and beverage industries.

Ball Aerospace built NASA's second science satellite, the Orbiting Solar Observatory (OSO), and more recently was selected prime contractor to correct the Hubble Space Telescope's mirror. By its final mission, seven Hubble instruments will have been designed and built by Ball Aerospace.

As part of the U.S. Strategic Defense Initiative, Ball Aerospace developed advanced laser pointing on orbit with its Relay Mirror Experiment launched in 1990.

Ball Aerospace contributions include invention of lubrication technology that enables moving components to operate within extreme conditions of space, instruments that monitor the ozone hole above Antarctica, and antenna equipment in astronaut backpacks. Every space shuttle is equipped with Ball Aerospace star trackers, cryogenic tanks, and actuators.

Looking ahead, Ball Aerospace is the prime contractor for NASA's Deep Impact mission, designed to fire a 1,100-pound projectile into the Comet Tempel 1 to study comet formations and their links to the origin of our solar system.

Photo above: A Ball-built conformal antenna for missiles and other aerospace vehicles.

AIA Member Companies

AAI Corporation
The Aerostructures Corporation
Alliant Techsystems Inc.
American Pacific Corporation
Analytical Graphics, Inc.
Argo-Tech Corporation
Atlantic Research Corporation
Aviall, Inc.
Ball Aerospace & Technologies Corp.
BAE SYSTEMS North America Inc.
Barnes Aerospace
B.H. Aircraft Company, Inc.
The Boeing Company
Cordiem, LLC
Cubic Corporation
Curtiss-Wright Corporation
Curtiss-Wright Flight Systems, Inc.
Metal Improvement Company
Dassault Falcon Jet Corporation
Davis Tool, Inc.
DRS Technologies, Inc.
Ducommun Incorporated
DuPont Company
Embraer Aircraft Corporation
Esterline Technologies
Exostar LLC
Fairchild Dornier Corporation
Fairchild Fasteners

GenCorp
General Atomics Aeronautical Systems, Inc.
General Dynamics Corporation
General Electric Company
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Aerostructures & Aviation
Technical Services
Engine and Safety Systems
Electronic Systems
Landing Systems
W.L. Gore & Associates
Groen Brothers Aviation, Inc.
Harris Corporation
HEICO Corporation
Hexcel Corporation
Honeywell
i2 Technologies
ITT Industries
Defense and Electronics
Kaman Aerospace Corporation
Kistler Aerospace Corporation
Lockheed Martin Corporation
MatrixOne, Inc.
Martin-Baker America Incorporated
MD Helicopters, Inc.
MOOG Inc.
The NORDAM Group

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Omega Air, Inc.
Orbital Sciences Corporation
Advanced Program Group
Parker Hannifin Corporation
The Purdy Corporation
Raytheon Company
Rockwell Collins
Rolls-Royce North America Inc.
Smiths Aerospace Actuation Systems
Los Angeles
Yakima
Space Access, LLC
Spectrum Astro, Inc.
Swales Aerospace
Teleflex, Inc./TFX Sermatech
Mal Tool & Engineering
Textron Inc.
Triumph Group, Inc.
TRW Inc.
United Defense
United Technologies Corporation
Pratt & Whitney
Sikorsky
Hamilton Sundstrand
Vought Aircraft Industries, Inc.
Woodward Governor Company

AIA Associate Member Companies

AAR CORP.
Adaptive Consulting, Inc.
The Advanced Products Company
Advanced Technical Products
Aerospace Sales Industries, Inc.
Air Industries Machining Corporation
Air Methods Corporation
Allen Aircraft Products, Inc.
Ambel Precision Manufacturing Corporation
AMI Metals
Arkwin Industries, Inc.
Avionics Specialties, Inc.
Avnet Electronics Marketing
Babcock, Inc.
Banneker Industries Inc.
Berkshire Industries, Inc.
Bill-Jay Machine Tool Corporation
Brek Manufacturing Company
BTC Electronic Components.
California Amforge Corp.
California Screw Products
CEF Industries, Inc.
Centric Machine & Instrument Corp.
Charles E. Gillman Company
Cherokee Nation Distributors
CII Technologies, Inc.
Hartman
Kilovac
Circle Seal Controls
Cohesia Corporation
Compass Aerospace Corporation
Corry Manufacturing Company
CPI Aerostructures, Inc.
Crane Co. Lear Romec
Delco Machine & Gear
The Deutsch Company
Dixie Aerospace
DynaBil Industries, Inc.
Dynamic Gunver Technologies LLC
Eaton Corporation
EDO Marine & Aircraft Systems
EFW, Inc.
Ellanef Manufacturing Corporation
EMS Technologies, Inc.
Ensign-Bickford Aerospace & Defense Company
EPCO Plastics Corporation
F.A.G. Bearings Limited

Faber Enterprises, Inc.
Fansteel Inc.
Fansteel/Wellman Dynamics
Fansteel/California Drop Forge
The Fercro Group
Fercro Tech Corporation
L&E Engineering Company
Ferguson Perforating
Flexfab
G.S. Precision, Inc.
GenMech Aerospace
General Tool Company, Inc.
Greene, Tweed & Company
Group Technologies Corporation
Hangsterfer's Laboratories Inc.
Hartwell Corporation
Hitchcock Industries, Inc.
Hobart Machined Products Inc.
Hughes Bros. Aircrafters, Inc.
Industrial Precision, Inc.
International Business Machines, Inc.
Kennebec Tool & Die Co., Inc.
KomTeK
Kulite Semiconductor Products, Inc.
Lefell Manufacturing Company
LMI Aerospace, Inc.
Leonard's Metal, Inc.
LMI Finishing, Inc.
Precision Machine Company
M/A-COM, Inc.
Magnetico, Inc.
Manzi Metals
Marotta Scientific Controls, Inc.
Metal Innovations Inc.
Minco Technology Labs, Inc.
The Mexmil Company
Meyer Tool Inc.
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Morris Machine Company, Inc.
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HiTech Division
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Pacific Scientific, Electro Kinetic
Park Engineering & Mfg. Co., Inc.
PerkinElmer Fluid Sciences
Port Electronics Corporation

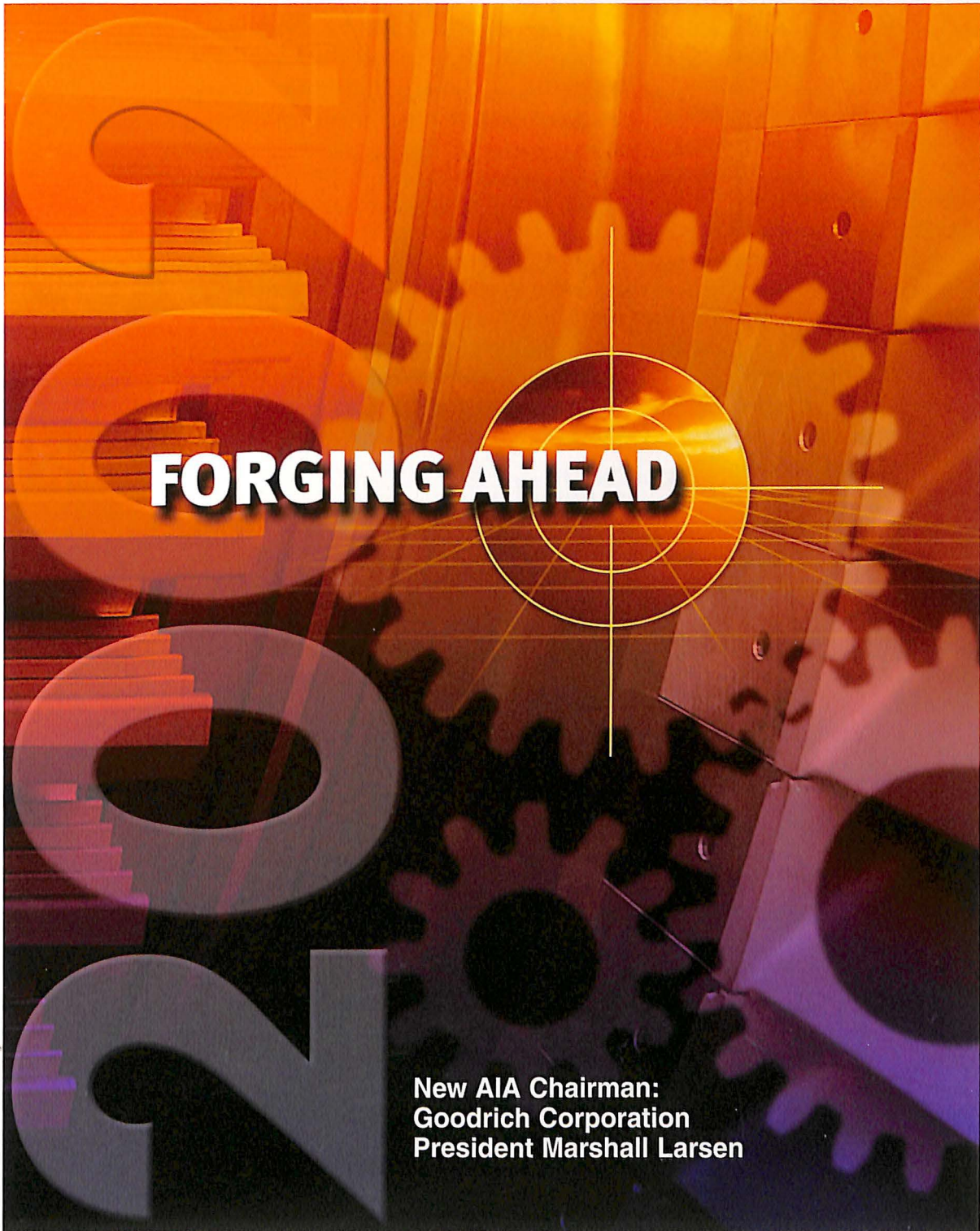
Precision Machine & Manufacturing Co.
Precision Components Company
Precision Tube Bending
The Prince & Izant Company
Pro Fab
The Purdy Corporation
QualPro Corporation
DJ Industries
Nelson Aerospace Inc.
Stratoflight Engineering
Quick-Wright Associates, Inc.
Radant Technologies, Inc.
RAM Manufacturing Company, Inc.
Rayon Yarn Corporation
Remmele Engineering Inc.
Safe Flight Instrument Corporation
Sechan Electronics, Inc.
Servotronics, Inc.
Sparton Corporation
Spectra Lux Corporation
Spirit Electronics, Inc.
STADCO
Stein Seal Company
Bessinger and Stein
Stellex Aerostructures, Inc.
Stewart Manufacturing, Inc.
Summa Technology, Inc.
Sunshine Metals
SV Microwave, Inc.
Therm, Inc.
Thermal Solutions, Inc.
American Avionic Tech. Corp.
Brazonics, Inc.
Performance Metal Fabricators, Inc.
Trans World Alloys Company
Transtar Metals, Inc.
Trylon Machining Company
UFC Aerospace Corp.
United Tool & Die Company
Uni-Tek, LLC
Valco Manufacturing Company
Valley Manufacturing Corporation
Viking Metallurgical Corp. (Firth)
Welding Metallurgy, Inc.
Western Data Systems
WPI
Burton Electrical Engineering
Cable Systems
Viking Electronics



1250 Eye Street NW, #1200 • Washington, DC 20005-3924
Phone: (202)371-8400 • FAX: (202)371-8470 • Web: www.aia-aerospace.org

EXECUTIVE
REPORT

WINTER 2002



FORGING AHEAD

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President Marshall Larsen

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Vance D. Coffman, Chairman & Chief Executive Officer, Lockheed Martin Corporation

John W. Douglass, President & Chief Executive Officer, AIA

Stephen L. Hayes, President, Parker Aerospace, and Vice President, Parker Hannifin Corporation

Robert D. Johnson, President & Chief Executive Officer, Honeywell Aerospace, Honeywell

John W. Douglass,
President & Chief Executive Officer

George F. Copsey,
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Marshall O. Larsen, President & Chief Operating Officer, Goodrich Corporation

Ronald F. McKenna, President, Hamilton Sundstrand, United Technologies Corporation

Paul David Miller, Chairman & Chief Executive Officer, Alliant Techsystems Inc.

Alan R. Mulally, Senior Vice President, The Boeing Company, and President & Chief Executive Officer, Commercial Airplanes

Mark H. Ronald, President & Chief Executive Officer, BAE SYSTEMS North America Inc.

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Brian A. Miller, Vice President, Martin-Baker America Incorporated

John R. Murphey, Chairman & Chief Executive Officer, Bell Helicopter Textron, Textron Inc.

Mark S. Newman, Chairman, President & Chief Executive Officer, DRS Technologies, Inc.

John J. Quicke, President & Chief Operating Officer, Atlantic Research Corporation

Hugh J. Quigley, President, DynaBil Industries, Inc.

Thomas W. Rabaut, President & Chief Executive Officer, United Defense

W. David Thompson, President, Spectrum Astro, Inc.

Gordon L. Williams, Chairman, Vought Aircraft Industries, Inc.

Robert A. Wolfe, Chairman & Chief Executive Officer, GenCorp

George J. Yohrling, President & Chief Executive Officer, Curtiss-Wright Flight Systems, Inc., Curtiss-Wright Corporation





Marshall O. Larsen
Chairman
AIA Board of Governors

Serving as chairman of AIA's Board of Governors for 2002 is Marshall O. Larsen, president and chief operating officer of Goodrich Corporation, a leading worldwide supplier of aerospace components, systems, and services.

Goodrich provides essential products and services to commercial, military, general aviation, and space industries, producing high quality, original-equipment systems, aftermarket components and systems and providing maintenance, repair, and overhaul services.

Headquartered in Charlotte, N.C., Goodrich Corporation is ranked by Fortune magazine as one of the "Most Admired" aerospace companies and is included on Forbes magazine's "Platinum List" of America's best big companies. The company employs 19,000 aerospace people worldwide.

Dear Colleague:

As the chair of the Board of Governors of the Aerospace Industries Association (AIA), I look forward to the mission of renewal that will characterize our work in 2002. It is clear that one of our major objectives has been written for us by the historic events of the past six months. In the aftermath of September 11, the association must lead our industry in economic recovery and a return to sustained growth.

I am buoyed in this challenge by evidence over the past six months that the aerospace industry is standing strong in the wake of all that has affected its roots. No other industry faced an impact so extreme when terrorists turned our own commercial aircraft into weapons. No other industry could have responded so well.

We were fortunate that immediate past Board of Governors Chairman Karl Krapek was at the helm of the association's leadership organization. Karl's effectiveness – and the support he received from AIA President and CEO John Douglass and his capable staff – helped steer us through the dark events of last year.

During his tenure, Karl also led the association in identifying AIA's expectations for the Commission on the Future of the U.S. Aerospace Industry and encouraged solutions to a bevy of significant international trade issues. Karl has since retired as president and COO of United Technologies Corporation, and we wish him well.

The impact on aerospace manufacturing of the terrorist attacks will be evident in 2002. Orders for new civil transport aircraft are down due to the soft economy and the decline in passenger traffic precipitated by airport and in-flight security concerns.

As new security policies and programs take hold, airline business will recover. We are already seeing more and more passengers coming back to air travel every day, and AIA is playing a significant role in stimulating the recovery.

For instance, we encouraged formation last year of the Aviation and Space Stakeholders coalition as a means by which manufacturers, airlines, labor, and government could work together on public policy issues to influence a healthy future for aerospace. Many stakeholders jointly supported President Bush's airline relief package

passed by Congress last September, helping bolster U.S. airlines suffering major revenue losses. We will continue to champion such unity.

Another major mission this year is continued support for the Commission on Aerospace, which is in the opening stages of its initial review and fact-finding. John Douglass, one of the 12 commissioners, will help guide our strategies in seeking commission conclusions and recommendations that will inspire a strong aerospace vision for the future.

Meanwhile, the aerospace industry must also ensure an effective industry response to the War on Global Terrorism. National defense and homeland security depend not only on well-trained, well-equipped military units but also on a strong and healthy defense industrial base. We have seen U.S. air power at work over the skies of Afghanistan and in missions elsewhere. We understand that national defense objectives and industry objectives are intertwined, and we will continue to respond our fullest in the fight against terrorism.

These and all of our most important issues for 2002 are summarized on Page 5 of this AIA *Executive Report*.

Finally, we have targeted AIA membership growth as a major objective this year. Vice Chairman of the Board of Governors Vance Coffman, chairman and chief executive officer of Lockheed Martin, has accepted the responsibility to lead that effort, and I'll be working closely with him. Our overall membership roster grew 25 percent last year, but pressure on companies from the economic downturn threatens a negative effect on our member company and associate member representation.

The Aerospace Industries Association is a strong and respected organization today because of the ongoing commitment and foresight of its leaders and members over many years. As we work together in 2002 to prepare for the approaching centennial anniversary of our industry, we must pledge to do all that we can to keep U.S. aerospace united and strong.

Marshall O. Larsen



John W. Douglass
AIA President & CEO

Dear Association Member:

So much has happened in the world that has involved aviation, aerospace, and national security since September 11.

In a "bad news, good news" paradox, attention has been focused on the crucial importance of aviation and aerospace capabilities and their value and vulnerability in America's economic well-being and security.

The shocking use of domestic airliners by terrorists in attacking New York and Washington caused an abrupt slowdown in commercial air travel, idling thousands of airline and travel industry employees and causing air carriers to take hundreds of expensive aircraft out of service to reduce wasteful excess capacity.

With urging from AIA and other aerospace and aviation interests, Congress reacted quickly to help stem the impact of airline revenue losses, passing a \$15 billion federal loan guarantee relief package before the end of September to help guard against the demise of airlines.

At the same time, America has demonstrated the indispensable role of military air power and aerospace technology in destroying Taliban and al-Qaeda strongholds in Afghanistan and bringing about a decisive victory on the first battlefield in the war against terrorism.

Now, six months after 9-11, we have a clearer sign of progress ahead for a number of reasons – the Commission on the Future of the U.S. Aerospace Industry is hard at work, the president has proposed significant increases in defense spending, and efforts to promote recovery for the aviation industry are underway.

In the light of a brighter horizon, industry and the nation are forging ahead.

Larsen Leads Board of Governors

I am happy to welcome Marshall Larsen, president and chief operating officer of Goodrich Corporation, to the chairmanship of AIA's Board of Governors.

We are fortunate to have a business leader of his experience and insight in aviation and aerospace business issues at a time when those qualities are needed most.

In his message to the association on page 3, Marshall says that in the aftermath of September 11 the association must now lead the aerospace industry in economic recovery and a return to sustained growth in the years ahead. We also bid a warm farewell to Karl Krapek, the immediate past chair of the Board of Governors who retired at the end of January as president and chief operating officer of United Technologies Corporation.

Karl's leadership helped us weather the tumultuous events of last year. Also, he focused the aerospace industry's sights on the Commission on Aerospace and took steps in smoothing trade issues with our international partners and competitors.

A Trilogy of Aerospace Forums

As we swing into 2002, a trilogy of significant initiatives formed and nurtured with energy and enthusiastic support from the association will be among our major activities in the months ahead.

One is the Commission on the Future of the U.S. Aerospace Industry, an AIA concept generated in 1999. The White House and Congress have taken seriously the potential of the commission and



Members of the Commission on the Future of the U.S. Aerospace Industry gather in Washington for a discussion of issues and recommendations to ensure a strong aerospace vision. AIA President John W. Douglass (fifth from right) is one of the 12 commissioners.

appointed strong commissioners and an outstanding chairman in former Congressman Bob Walker.

At work since November, the panel has already issued its first interim report, calling for a full government review of the federal budget process for aerospace and defense funding and how it might be improved. A second interim report is scheduled for release in March on aerospace investment, air traffic capacity and infrastructure, and export control reform.

Several other reports will be made in the months ahead, helping lay out an aerospace agenda for Congress to take up in the spring and summer.

Another important forum is the resurgent House Aerospace Caucus, which has sought and won support beyond committee boundaries to ensure a strong national aerospace constituency in the House. Under the leadership of Reps. Dave Weldon (R-Fla.) and Dennis Kucinich (D-Ohio), the caucus fights for broad aerospace interests in matters such as NASA's space and aeronautics programs and other legislative issues.

In February several congressmen and more than 25 House staff took part in the caucus's first meeting this year, which was sponsored by the Aviation and Space Stakeholders Coalition, the third part of the trilogy that is shaping our agenda in Washington this year.

Marshall Larsen and I also participated on behalf of AIA and its member companies.

Briefings by stakeholder representatives – Air Transportation Association President Carol Hallet, General Aviation Manufacturers Association President Ed Bolen, and International Association of Machinists and Aerospace Workers Director Owen Hernstadt – highlighted the important roll of aerospace to the economy.

We continue to urge all aerospace workers to ask additional congressmen to join the House Aerospace Caucus. In a move to bring aerospace support on both sides of Capitol Hill, we also are pursuing a similar aerospace networking forum in the U.S. Senate.

The Aviation and Space Stakeholders Coalition is composed of about 50 organizations representing manufacturers, airlines and other air carriers, airports, aviation maintenance providers, labor unions, and professional associations.

The coalition has had several meetings on joint issues, and more than 30 stakeholders signed a letter to President Bush after September 11 supporting the airline relief package.

These three efforts – the commission, the caucus, and the coalition – form a fabric for uniting aerospace from supplier to user to regulator. Our industry can better prosper in the years ahead by uniting our individual strengths in a solid foundation for all.

Infrastructure and International Matters

In January I was among industry representatives who met with John Marburger, director of the White House Office of Science and Technology Policy (OSTP), on his proposal for upgrading the civil aviation Communications, Navigation and Surveillance/Air Traffic Management system.

Industry representatives called for the White House to establish a council to coordinate civil aviation research and development across the federal government as well as with aerospace manufacturers and airlines.

U.S. civil aviation infrastructure, it was pointed out, is outdated and incapable of supporting advanced technologies already available in many commercial aircraft. Until infrastructure is upgraded, additional

investments in technology by airlines for safety, security, and improved traffic control isn't likely.

Also, AIA arranged a meeting for members with India's Ambassador Lalit Mansingh and Minister of Defense George Fernandes.

The meeting was a valuable forum for us to hear India's future defense needs and request their support in our effort to reform the U.S. export control system, a crucial step needed to increase international defense business ties.

Continued on page 6.

“... a trilogy of significant initiatives formed and nurtured with energy and enthusiastic support from the association will be among our major activities in the months ahead.”

Top Ten Issues 2002

- Ensure the success of the Commission on the Future of the U.S. Aerospace Industry.
- Ensure an effective industry response to the war on global terrorism.
- Reduce United States/European aerospace trade tensions.
- Establish goals through the International Civil Aviation Organization for future aircraft environmental performance.
- Promote the safety, security, and economic vitality of the global air transportation system.
- Promote a competitive technology and infrastructure base for future aerospace systems.
- Support increased DoD funding for modernization.
- Reform U.S. export control laws, regulations, and their administration.
- Increase cooperation among the aerospace stakeholders in order to achieve common goals.
- Support the development and implementation of DoD's acquisition excellence initiatives.

Civil Aircraft Sales Will Drop in 2002

The economic impact of terrorist events last September 11 will cause a sharp contraction in industry sales as commercial transport production declines.

Estimates released at the association's 37th annual Year-End Review and Forecast Luncheon in December project industry sales will decline \$6.6 billion from 2001's near record of \$151 billion.

The industry posted near-record profits for 2001 — an estimated \$8.7 billion, up from \$7.3 billion in 2000 and the sixth straight year of profits in excess of \$7 billion.

Sales of military equipment this year will increase and partially offset the reduction in commercial transport production. Though all product sectors experienced growth last year, military aircraft sales increased the least due to a decline in exports.

The trade balance for the aerospace industry improved in 2001 and remained the largest for all industry categories despite an increase in imports. Exports grew more than imports in 2001, increasing 13 percent to \$62 billion. The trade surplus generated by aerospace in 2001 totaled \$30 billion, up 11 percent above 2000's balance.

Aerospace Industry Sales



NASA Executive Is Newest AIA Fellow

The newest participant in the AIA Fellows Program is Kathryn A. Havens, director of the Policy and Program Integration Division in the Office of Biological and Physical Research at NASA.



Kathryn A. Havens

AIA Fellows are selected from government positions to spend some quality time with the association to gain understanding of the aerospace industry, its issues, and the role of the organization in regulatory and legislative affairs.

At NASA, Ms. Haven's responsibilities include support of Shuttle and International Space Station science program activities in the areas of policy, resources, and human resources management and international coordination and planning.

Export Control Reform

In that regard, AIA has reinvigorated its drive to reform the export control system.

After making considerable progress with the Clinton Administration, the effort has been distracted by the change of administration and the events of 9-11.

Today more than ever we need an export control system that recognizes the relationship between economic and national security interests, including interoperability with our allies. National security, competitiveness, and interoperability are not exclusive of each other, but rather are complementary.

AIA delivered a letter to President Bush in February recommending changes in the export control system. It was signed by the presidents of AIA, the Electronic Industries Alliance, and the National Defense Industrial Association as well as 39 company CEOs and presidents.

This was followed by a press briefing featuring AIA's International Council Chair Bob Bauerlein of Boeing and Raytheon executive Tom Culligan, the council's immediate past chair. In addition, industry testified on the need for export reform at a February hearing of the Commission on Aerospace.

Next, we will seek meetings with high level administration officials for company CEOs to discuss specific export policy changes, including White House Chief of Staff Andrew Card, Deputy Secretary of Defense Paul Wolfowitz, Deputy Secretary of State Richard Armitage, and others who can help.

Association Membership Initiatives

Keeping AIA's base of members and associate members strong is crucial to the long-term health of the aerospace industry and each company.

New Member SPOTLIGHT

AIA Welcomes Three New Members

The fabric of AIA's roster continues to expand with the arrival of new member companies providing unique aerospace technologies, products, and services.

The three newest members offer the marketplace an array of aerospace concepts and capabilities from parts machining to applied research to electronic commerce business solutions.

MatrixOne, Inc., provides online collaborative products and services that offer manufacturers the kind of efficiencies and creative benefits that the Internet has long promised.

A product collaboration pioneer founded in 1983, the firm brings business-to-business (B2B) solutions to customers so they can speed information exchange through the Internet and quickly introduce products to market.

MatrixOne has customers around the globe in aerospace, high technology, automotives, communications, consumer, mechanical, machinery, life sciences, and process industries.

Headquartered in Westford, Mass., the firm also has offices elsewhere in North America, Europe, and Asia along with training facilities in Massachusetts, Michigan, California, and Europe.

MatrixOne was chosen last year by *Forbes* magazine as one of the most promising B2B companies, selecting them as "Best of the Web" in the category of collaboration. Companies were chosen based on strict criteria related to strategy, execution and financial staying power.

MatrixOne has more than 550 employees

Areté Associates is an applied research corporation with a distinctive approach to solving difficult technical problems.



Capabilities of new AIA member Arété Associates range from creation of sophisticated laser imaging systems to generation of computer software used to produce "oceans" for major motion pictures, including *Titanic*.

Founded in 1976, the firm's original focus was applied oceanographic research and remote sensing of the ocean. Its name means achievement of maximum performance.

Headquartered in Sherman Oaks, Calif., the company's capabilities include development and implementation of real-time processors and lidar systems, fundamental and applied research in atmospheric physics, design and evaluation of active and passive optical sensors, and formulation and evaluation of likelihood-based detection processing algorithms.

Areté products have ranged from the creation of sophisticated laser imaging

systems to the generation of computer software used to produce the "oceans" for major motion pictures, including the Oscar-winning movie *Titanic*.

The firm's Washington staff has played major roles in projects with U.S. Navy and national and university laboratories and has participated in international remote sensing environmental measurement projects with British and Russian scientists.

The Purdy Corporation, formerly an AIA Supplier Management Council member, recently upgraded its AIA representation level.

A woman-owned, small, non-union business founded in 1946, the company's 105 workers are based in a 180,000 square foot plant in Manchester, Conn.

Purdy's product line includes high-quality, aerospace-machined parts — primarily engine and drive train components. The firm supplies the helicopter market with complete and fully tested transmissions and rotor components for a wide range of rotorcraft, including the Comanche, Black Hawk, and Apache variants.

In the engine market, the company manufactures components such as diffuser cases, turbine cases, and auxiliary gearboxes for small, medium, and large commercial and military aircraft power plants.

Purdy's quality manufacturing system has been approved by Pratt & Whitney, Allison, General Electric, Boeing, Sikorsky Aircraft, Bell Helicopter, and others.

For that reason, the Board of Governors is crafting a strategy to build our representative base under the direction of Vice Chairman Vance Coffman, chairman and chief executive officer of Lockheed Martin. We're pleased and excited that Vance has accepted the job of leading a CEO-to-CEO level campaign to grow our ranks.

Meanwhile, a trio of our newest members and their interesting capabilities are profiled above.

In addition, I'm happy to report that AIA is continuing an initiative begun last year to have regional meetings in various parts of the United States outside of Washington. It's a way to highlight regional aerospace business issues and bring together a diverse body of members and associate members.

The first regional meeting was last fall in Connecticut. The second took place in mid-February, hosted by Harris Corporation in Melbourne, Fla. We intend to have other meetings in Seattle, California and Texas later this year.

As we forge ahead into 2002, the year promises to be extremely busy — and productive — as the Commission on the Future of the Aerospace Industry moves into a fruitful work program and other AIA initiatives take hold.

John W. Douglass



Renewed Vought Aircraft Celebrates 85th Anniversary

Vought Aircraft Industries, celebrating its 85th year in 2002, is the second oldest continuous producer of U.S. military aircraft and successor to the company founded by aviation pioneer Chance Vought.

In much of the 1990s Vought was part of Northrop Grumman Corporation and out of the public eye. In 2000, Vought once again became an independent company and is making substantial investments in its future. Vought is back and is rebuilding its core technologies and capabilities as a unique support partner to prime aerospace contractors.

In 1917 Chance Vought organized the Lewis & Vought Corporation with Birdseye B. Lewis. Their first design, the VE-7, was built that year and became one of the most popular and widely used two-seater advanced training aircraft of the era.

A later version, the VE-7SF, made the first takeoff from a U.S. Navy carrier in 1922. Until retirement of A-7Es in 1991, Vought aircraft were continuously part of the Navy's carrier-based power.

The last Vought-built aircraft was the A-7 Corsair II attack aircraft. From 1965 to 1983 more than 1,500 were produced and many flew in combat roles in campaigns from Vietnam to Desert Storm.

During the mid-80s Vought's business strategy shifted from prime contractor to major subcontractor. The company has produced major structures for the DC-10, S-3A, and B-1B and B-2 bombers and builds structures for virtually all Boeing commercial aircraft in production.

Today, Vought is a major subcontracting partner on many aircraft programs – from the C-17 Globemaster III airlifters and Global Hawk unmanned air vehicles to most Boeing commercial aircraft and Gulfstream business jets. Vought designs and manufactures large aircraft parts, such as empennages, fuselage sections, wings, doors, and control surfaces.

Photo above: A Vought technician uses unique fixtureless assembly process in producing a B-747 fuselage component.

AIA Member Companies

- AAI Corporation
- The Aerostructures Corporation
- Alliant Techsystems Inc.
- American Pacific Corporation
- Areté Associates
- Analytical Graphics, Inc.
- Argo-Tech Corporation
- Atlantic Research Corporation
- Aviall, Inc.
- BAE SYSTEMS North America Inc.
- Ball Aerospace & Technologies Corp.
- Barnes Aerospace
- B.H. Aircraft Company, Inc.
- The Boeing Company
- Computer Sciences Corporation
- Cordiem, LLC
- Crane Aerospace
- Cubic Corporation
- Curtiss-Wright Corporation
- Curtiss-Wright Flight Systems, Inc.
- Metal Improvement Company
- Dassault Falcon Jet Corporation
- Davis Tool, Inc.
- DRS Technologies, Inc.
- Ducommun Incorporated
- DuPont Company
- Embraer Aircraft Corporation
- Esterline Technologies
- Exostar LLC
- Fairchild Dornier Corporation
- Fairchild Fasteners
- GenCorp
- General Atomics Aeronautical Systems, Inc.
- General Dynamics Corporation
- General Electric Company
- GKN Aerospace Services
- Goodrich Corporation
- Aerostructures & Aviation
- Technical Services
- Engine and Safety Systems
- Electronic Systems
- Landing Systems
- W.L. Gore & Associates
- Groen Brothers Aviation, Inc.
- Harris Corporation
- HEICO Corporation
- Hexcel Corporation
- Honeywell
- i2 Technologies
- ITT Industries
- Defense
- Kaman Aerospace Corporation
- Kistler Aerospace Corporation
- Lockheed Martin Corporation
- Martin-Baker America Incorporated
- MatrixOne, Inc.
- MD Helicopters, Inc.
- MOOG Inc.
- Northrop Grumman Corporation
- Omega Air, Inc.
- Orbital Sciences Corporation
- Advanced Systems Division
- Parker Aerospace
- The Purdy Corporation
- Raytheon Company
- Rockwell Collins
- Rolls-Royce North America Inc.
- Smiths Aerospace Actuation Systems
- Los Angeles
- Space Access, LLC
- Spectrum Astro, Inc.
- Swales Aerospace
- Teleflex, Inc./TFX Sermatech
- Mal Tool & Engineering
- Textron Inc.
- Triumph Group, Inc.
- TRW Inc.
- United Defense
- United Technologies Corporation
- Hamilton Sundstrand
- Pratt & Whitney
- Sikorsky
- Vought Aircraft Industries, Inc.
- Woodward Governor Company

AIA Associate Member Companies

- AAR CORP.
- The Advanced Products Company
- Advanced Technical Products, Inc.
- Aeroquip Corporation
- Aerospace Sales Industries, Inc.
- Air Industries Machining Corporation
- Air Methods Corporation
- Allen Aircraft Products, Inc.
- Ambel Precision Manufacturing Corporation
- AMI Metals, Inc.
- Arkwin Industries, Inc.
- Arrow Gear Company
- Auto-Valve Inc.
- Avionics Specialties, Inc.
- Avnet Electronics Marketing
- Babcock, Inc.
- Banneker Industries Inc.
- Berkshire Industries, Inc.
- Arrow Gear Company
- Auto-Valve Inc.
- Avionics Specialties, Inc.
- Avnet Electronics Marketing
- Babcock, Inc.
- Banneker Industries Inc.
- Berkshire Industries, Inc.
- Bill-Jay Machine Tool Corporation
- Brek Manufacturing Company
- BTC Electronic Components, Inc.
- California Amforge Corporation
- California Screw Products
- CEF Industries, Inc.
- Centric Machine & Instrument Corp.
- Chandler/May, Inc.
- Cherokee Nation Distributors
- CII Technologies, Inc.
- Hartman
- Kilovac
- Circle Seal Controls, Inc.
- Cohesia Corporation
- Compass Aerospace Corporation
- Corry Manufacturing Company
- CPI Aerostructures, Inc.
- Crane Co., Lear Romec
- The Deutsch Company
- Dixie Aerospace
- DynaBil Industries, Inc.
- EDO Marine & Aircraft Systems
- EFW, Inc.
- EMS Technologies, Inc.
- Ensign-Bickford Aerospace & Defense Company
- EPCO Plastics Corporation
- F.A.G. Bearings Limited
- Faber Enterprises, Inc.
- The Fercro Group
- Fercro Tech Corporation
- L&E Engineering Company
- Firth Rixson Viking
- Flexfab
- G.S. Precision, Inc.
- GenMech Aerospace
- GENVAC AeroSpace Corp.
- Greene, Tweed & Company
- Group Technologies Corporation
- Hangsterfer's Laboratories Inc.
- Hartwell Corporation
- Hitchcock Industries, Inc.
- Hobart Machined Products Inc.
- Hughes Bros. Aircrafters, Inc.
- Hughes-Treitler Manufacturing Corp.
- Industrial Precision, Inc.
- Innovative Solutions and Support
- Integrated Aerospace
- International Business Machines, Inc.
- ISPA, Inc.
- Kennebec Tool & Die Co., Inc.
- KomTeK
- Kulite Semiconductor Products, Inc.
- Lefell Manufacturing Company
- Lilly Software Associates, Inc.
- LMI Aerospace, Inc.
- Leonard's Metal, Inc.
- LMI Finishing, Inc.
- Precise Machine Company
- M/A-COM, Inc.
- Magnetic, Inc.
- Manzi Metals, Inc.
- Marotta Scientific Controls, Inc.
- The Mexmil Company
- Meyer Tool Inc.
- MIL-I Precision, LLC
- Minco Technology Labs, Inc.
- Morris Machine Company, Inc.
- MPC Products Corporation
- National Machine Group
- New Hampshire Ball Bearings, Inc.
- HiTech Division
- Astro Division
- Precision Bearing Division
- OnBoard Software, Inc.
- Pacific Scientific, Electro Kinetics
- Park Engineering & Mfg. Co., Inc.
- PerkinElmer Fluid Sciences
- Plymouth Extruded Shapes
- Precision Gear Inc.
- Precision Machine & Manufacturing Co.
- Precision Components Company
- Precision Tube Bending
- The Prince & Izant Company
- Pro Fab, Inc.
- Quick-Wright Associates, Inc.
- Radant Technologies, Inc.
- RAM Manufacturing Company, Inc.
- Rayon Yarn Corporation
- Remmele Engineering Inc.
- RTI International Metals, Inc.
- Safe Flight Instrument Corporation
- Sechan Electronics, Inc.
- Servotronics, Inc.
- Sierra Nevada Corporation
- Sparton Corporation
- Spectra Lux Corporation
- Spirit Electronics, Inc.
- SpringBoard Technology Corporation
- STADCO
- Stein Seal Company
- Bessinger and Stein
- Stellax Aerostructures, Inc.
- Stewart Manufacturing, Inc.
- SUMMA Technology, Inc.
- Sunshine Metals
- SV Microwave, Inc.
- Texas Composite, Inc.
- Therm, Inc.
- Thermal Solutions, Inc.
- American Avionic Tech. Corp.
- Brazonics, Inc.
- Performance Metal Fabricators, Inc.
- TMX Aerospace
- Trans World Alloys Company
- Transtar Metals, Inc.
- Tru-Circle Aerospace Corporation
- Trylon Machining Company
- UFC Aerospace Corp.
- United Tool & Die Company
- Uni-Tek, LLC
- Valco Manufacturing Company, Inc.
- Valley Manufacturing Corporation
- Welding Metallurgy, Inc.
- Western Data Systems



1250 Eye Street NW, #1200 • Washington, DC 20005-3924
 Phone: (202)371-8400 • FAX: (202)371-8470 • Web: www.aia-aerospace.org

EXECUTIVE
REPORT

SPRING 2002



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John W. Douglass
AIA President & CEO

Dear Association Member:

At my first AIA Board of Governors meeting in Williamsburg three years ago, discussions focused on the most pressing issues before us – we needed to increase capital investment in aerospace research and development, develop a new export control regime, and maintain the economic health of the aerospace industry.

Though there have been moments since then when we felt as if we were pushing great boulders up a steep hill, progress has been made on these issues, even in the aftermath of last September's terrorist attacks.

Congress and the Bush Administration made it clear that they recognize the critical importance of the aerospace industry to the nation's economy and security by approving creation of the Commission on the Future of the U.S. Aerospace Industry.

The commission was asked to study and make recommendations on ways to reinvigorate the industry. As a member of the panel, I am pleased to represent you during its meetings and on a daily basis as its work product is being developed.

Interim Reports from Commission

Two important interim reports have been issued addressing the business environment for aerospace companies, export controls, and air traffic control modernization. A third interim report, in development at the time of this writing, will address the findings from the commission's May meeting on space, human capital, and industrial base issues.

The commission is making good progress working on a set of recommendations to be

released in November in a final report that will inspire a strong aerospace vision for the future.

Of particular note now are the commission's recommendations on improving the U.S. air traffic control (ATC) system discussed in the second interim report.

In addition to fully funding ATC modernization efforts in FY 2003 and beyond, it's clear that we must prioritize the building blocks of future improvements through a robust research and development program as well as paying attention to speedy construction of new runways at many airports.

The commission is looking at new approaches to solving these difficult issues, which will be outlined in further recommendations.

AIA is also making significant progress on another 2002 priority issue of both the association and the commission – reform of the export control system. Several member CEOs and myself have met with leadership in the White House and the Defense and State departments. The meetings have been fruitful with promises that meaningful reform will take place this year.

Aerospace Provides U.S. Strength

The association is also involved in the evolution of the new national security environment – a result of our war against terrorism in Afghanistan and elsewhere. Aerospace is the very heart and soul of what Defense Secretary Rumsfeld is trying to do in his transformation of the Defense Department as this country fights and defends itself in the future.

Our products allow the U.S. military to project American power any place, any time, any weather. Aerospace creates for U.S. forces the

The 2002 AIA Executive Committee:

Seated from left are Robert D. Johnson, president and chief executive officer, Honeywell Aerospace; Chairman Marshall O. Larsen, president and chief operating officer, Goodrich Corporation; Vice Chairman Vance D. Coffman, chairman and chief executive officer, Lockheed Martin Corporation; and Mark H. Ronald, president and chief operating officer, BAE SYSTEMS North America Inc.

Standing from left are Ronald F. McKenna, president, Hamilton Sundstrand; Alan R. Mulally, senior vice president, The Boeing Company, and president and chief executive officer, Commercial Airplanes; Stephen L. Hayes, president, Parker Aerospace, and vice president, Parker Hannifin Corporation; John W. Douglass, president and chief executive officer, AIA; Daniel P. Burnham, chairman and chief executive officer, Raytheon Company; and Paul David Miller, chairman and chief executive officer, Alliant Techsystems Inc.



intelligence, the communications, the delivery systems, the precision bombing – every step of technology that's needed for air-dominance defense.

The challenge for us in Washington right now is to work with our military customers to lay the road that will lead to America's continued superiority in the future. That's the strongest response that terrorists and their supporters will understand.

R&D Growth Needed

To provide the technologies and capabilities to U.S. and allied forces, America needs to further increase its investment in research and development (R&D). The greatest source of American strength and competitiveness is innovation, but in recent years we have not been investing enough in basic aerospace research.

In the House, Rep. John Larson of Connecticut, with a bipartisan group of 20 co-sponsors, has introduced legislation to increase investment in aeronautics research and development. The bill tracks a number of longstanding AIA recommendations with respect to federal investment in aeronautics R&D.

We thank Larson and the other co-sponsors of the bill for their bipartisan approach to counter the dramatic decline in U.S. research and development spending in aeronautics.

Sponsors recognize a trend of significant decline in federal investment in aerospace technology, particularly as compared to the European Union, which has launched an ambitious program to surpass U.S. aerospace development by 2020.

As Larson noted, losing dominance of the global aerospace market would cost American jobs and adversely affect our national security.

The initiatives proposed in the bill will improve quality of life for Americans by developing technologies to create aircraft with greater fuel efficiency, lower emissions, and lower noise impact on communities surrounding airports.

I am also pleased to note that the Bush Administration is supporting significantly increased spending on defense research and development and procurement – increases critical to the modernization of DoD's aging weapons systems and essential to the war on terrorism. We especially applaud the proposed \$5.3 billion increase in Research, Development, Test and Evaluation in the president's budget for defense.

Also, a five-year authorization bill in Congress would increase proposed funding for NASA's aeronautics R&D budget to \$1.15 billion and to \$550 million for the FAA by 2007. Other initiatives in the legislation propose to fund rotorcraft R&D, supersonic transports, and an improved air traffic control system.



Jon Etherton
AIA Vice President
Legislative Affairs

Legislative Update on Other Key Issues

In addition to R&D initiatives in Congress, there is a bevy of other key legislation on which your association staff is focused. Leading our team on Capitol Hill now, I'm pleased to report, is Jon Etherton who recently was promoted to AIA's vice president of legislative affairs. Here's his summary of the status of some of the bills affecting aerospace business:

- Although it passed the House last year, the War Risk Insurance federal backstop legislation is stalled in the Senate over the issue of tort reform. AIA is working to have aircraft manufacturers granted the same protection in the legislation as U.S. air carriers for foreign acts of terrorism.
- The Export Administration Act reauthorization has also slowed in the House, but we are working with the leadership to move a reform bill that includes the retransfer of export license jurisdiction for commercial satellites from the State Department to Commerce.
- Senate leadership has succeeded in putting together an agreement to begin moving in earnest the renewal of the Trade Promotion Authority for the president. We are hoping to see the completion of the legislative process in the next few months.
- Congress passed an economic stimulus bill containing the two top AIA priorities: a 30 percent depreciation on certain assets and extension of the net operating loss carry back period from two years to five years for losses incurred in 2000 and 2001.
- The aerospace industry has finally arrived at a consensus position on the legislative replacement for the Foreign Sales Corporation/Extra Territorial Income tax regime that has been declared noncompliant by the World Trade Organization. It likely will be some time before Congress takes action on a fix due to the complexity of corporate tax law issues.

Creative Collaboration in SMC

You'll notice a section of this *Executive Report* dedicated to a report on the association's Supplier Management Council (SMC), composed of scores of associate member companies.

The SMC is shifting some of its focus this year to a program of "Creative Collaboration" to engage suppliers and primes in relationships of greater strength and value. One of the outcomes, we believe, will be an increase in the number of companies interested in being a select member of this important organization.

I commend the SMC for its creative strategies and marketing in reaching out to the suppliers of AIA's larger companies.

In Washington and elsewhere, a unified voice speaks volumes.

A handwritten signature in black ink, appearing to read "John W. Douglass". The signature is stylized with large, sweeping loops and a long horizontal line extending to the right.

John W. Douglass



Judy Northup
SMC Chair and
Vice President Materiel
Vought Aircraft Industries

Creative Collaboration A New Direction for Supplier Management Council

Now in its fifth year, AIA's Supplier Management Council (SMC) is emphasizing a program of "Creative Collaboration" based on establishing and maintaining excellent working relationships among various constituencies.

While supplier issues in doing business with large companies will remain a focus, the shift will establish a firm foundation for all future SMC agendas.

Leading the SMC in this new direction over the next two years is Chair Judy Northup, vice president

materiel, Vought Aircraft Industries; Vice Chair Vince Hrenak, vice president materiel, General Dynamics' Gulfstream; and SMC Representative to AIA's Board of Governors Hugh Quigley, president of DynaBil Industries.

SMC "Creative Collaboration" currently pivots on four new initiatives.

- 1. Master classes for senior supplier executives.** The classes, presented by industry experts mainly from AIA member companies, cover important areas for associate members to address in their future business planning, including: Advanced Quality, "Lean" Initiatives, Electronic Business, and Negotiation of Subcontract Terms and Conditions.
- 2. Associate Member education and training, both in-house and Web-based, through the Defense Acquisition University.** SMC member response to this initiative has been overwhelmingly positive.
- 3. Information exchanges between the Society of British Aerospace Companies (SBAC) and SMC members.** In a two-hour meeting at the Farnborough Air Show in July, each organization will take one hour to discuss its structure and supplier participation, current issues, membership benefits to suppliers, and its relationship with governmental bodies.
- 4. Supplier-relevant AIA legislative issues in home districts.** Understanding supplier relationships with locally elected representatives is the subject for workshops at the Fall 2002 SMC meeting. AIA's legislative staff will lead the sessions.

Creating Win-Win Situations

Solving supplier issues in a cooperative environment with major prime and subcontractors defined the SMC's original purpose. This has been accomplished. Moreover, AIA members participating with SMC associate members have gained benefits that cut to the bottom line in four important areas: 1) Quality Management Systems, 2) Electronic Business, 3) Supplier Rating Systems, and 4) Single Process Initiative.

Quality Management Systems – The most pressing supplier issue four years ago was redundant and ambiguous oversight of quality management systems. The supplier's ability to deliver products on time was inhibited, causing instability in quality management systems.

A resolution to address the issue, developed jointly by the SMC with the Aerospace and Defense Quality Management Committee and approved by AIA's Board of Governors, has made a notable difference.

By requiring suppliers to implement an ISO-based system (ISO 9000) of quality management and restricting AIA members to a minimum of additional requirements, and by basing supplier audits on risk and performance rather than on a periodic review schedule, the number and length of time involved in audits of quality management systems has been reduced. Third party certifications and previous audit results now have meaning to the next group of auditors to come into a supplier's plant, and information can be shared.

In a recent survey of SMC members, 95 percent of the respondents said the stream of auditors has slowed and the situation is improving.

And for those AIA member companies who adopted the resolution, a 25 percent sharing opportunity has been estimated in 2002 that translates into real savings to audit organizations in staffing, travel time, and travel expenses. In 2004 the sharing opportunity could be as high as 50 percent over 1998. In addition to the cost avoidance and real savings to suppliers in staffing and production interruptions, for the customer it means more opportunities for on-time deliveries.

Electronic Business – Divisions within companies have often created their own unique electronic data interchange standards. Suppliers on the receiving end of transactions were so burdened they could not use information they received from their customers in an electronic interface with their systems.

A working group of AIA and associate members stepped up to the plate and created implementation conventions (IC) for each business transaction and trading partner agreement templates that could be adopted by every company in the aerospace industry.

The EXOSTAR Business-to-Business Exchange (supporting partners are Boeing, British Aerospace, Lockheed Martin, Raytheon, Rolls-Royce, and Commerce One) adopted the ICs, thus saving them the time and resources to develop their own. Because EXOSTAR is now an AIA member, they and their supporting sponsors participate in updating the ICs once a year in May.

The working group has evaluated the extensible mark-up language (XML) technology for adoption by the aerospace industry and recommended implementation to the XML worldwide standards organization that was internationally accepted.

Supplier Rating Systems – Rating systems keep track of suppliers' performance in the areas of product quality, on-time delivery, price, and overall customer satisfaction.

Continued on page 6.

**SMC
Award Winners**

Most SMC members were referred by AIA member companies because they are the "cream of the crop" from the supply base. We expect that recognition of their accomplishments would be affirmed through awards they have received.

We asked members to send us a list of the top awards they received last year. Here is a sampling of what we received. They deserve a hearty pat on the back.

Arkwin Industries, Inc.

- Long Island Entrepreneur of the Year – Industrial Manufacturing sponsored by Ernst & Young

Banneker Industries Inc.

- Supplier of the Year sponsored by New England Minority Supplier Development Council

BTC Electronic Components

- Best Value Gold Medalist sponsored by Defense Supply Center, Richmond, Va.
- Preferred Performer Program Supplier sponsored by Vought Aircraft Industries
- Supplier Performance Award sponsored by Raytheon, Indianapolis
- Sikorsky Supplier Award sponsored by Sikorsky Aircraft
- Gold Certified Supplier sponsored by Parker Hannifin Corporation, Electronic Systems Division Aerospace Group

CPI Aerostructures, Inc.

- DSCR Gold Medal Supplier sponsored by Defense Supply Center, Richmond, Va.
- LIDC Small Business of the Year 2001 sponsored by Long Island Development Corporation

Eaton Aerospace Aeroquip Fluid Conveyance, Argyle Plant

- Cessna Baldrige Award sponsored by Cessna Aircraft

Eaton Aerospace Aeroquip Fluid Conveyance, East Ave. Plant

- Cessna Baldrige sponsored by Cessna Aircraft
- Preferred Performer sponsored by Vought Aircraft

Eaton Aerospace Aeroquip Fluid Conveyance, Toccoa Plant

- Cessna Baldrige sponsored by Cessna Aircraft

Eaton Aerospace – Vickers Fluid Power

- Preferred Supplier – Silver Award sponsored by Lockheed Martin Missiles and Fire Control

Hobart Machined Products Inc.

- Family-Friendly Better Workplace sponsored by Association of Washington Business

Hughes-Treitler Mfg. Corp.

- Administrator's Award for Excellence sponsored by U.S. Small Business Administration
- Award for Excellence sponsored by Western Design

Kennebec Tool & Die Company

- Governor's Award for Business Excellence sponsored by Maine Department of Economic and Community Development
- Supplier of the Year sponsored by Curtiss Wright Flight Systems
- Small Business Person of the Year sponsored by U.S. Small Business Administration

Lilly Software Associates, Inc.

- Top 100 Logistics IT providers-2000 and 2001 sponsored by *Inbound Logistics Magazine*



AIA's Supplier Management Council staff includes, from left, Varun Nikore, director of supplier management; Kelisa Kehne-Cliff, program assistant; Peggy Boyd, administrative assistant; and Bill Lewandowski, vice president of supplier management.

SMC New Direction, continued from page 5.

They need to be fair and accurate. The Measuring Supplier Performance Working Group surveyed associate members and other suppliers to identify AIA member companies having the fairest and most accurate supplier rating systems.

As a result, member companies have participated in more than 10 workshops conducted by TRW to share "best practices" to improve overall industry fairness and accuracy of supplier rating systems.

Single Process Initiative (SPI) – The Single Process Initiative (SPI) allows prime contractors to have existing contracts modified to replace multiple government-unique management and manufacturing systems with common, facility-wide systems. Supplier SPI is essentially the same initiative flowed down to the next level of contracting.

DoD supported implementation of supplier SPI by AIA member company prime contractors throughout the supply base as a way to reduce cost and improve efficiency.

Using survey data, the SMC Acquisition Excellence Working Group concluded that Supplier SPI is well implemented at large companies and poorly implemented at smaller ones. The surveys also show that the barriers to doing something significant with medium-to-small suppliers would require too much time and too many resources with little benefit to the supplier.

DoD respected the conclusions, saving AIA member companies the time and expense of trying to implement an unworkable program.

- Top 100 Private Companies in the Granite State sponsored by *Business NH Magazine*
- Hottest Technology Companies of 2001 sponsored by *START Magazine*
- Software Leaders 2001 sponsored by *Managing Automation Magazine*
- Top Ten Best-of-Breed (Manufacturing) Solutions sponsored by *Consumer Goods Technology Magazine*

LMI Aerospace, Inc.

- City of St. Charles Employer of the Year – Manufacturing sponsored by St. Charles, Mo.

Manzi Metals, Inc.

- Women of Enterprise sponsored by Avon
- Business Innovator of the Year sponsored by *Black Enterprise Magazine*

Marotta Scientific Controls

- 2001 MSFC Contractor Excellence Award sponsored by NASA-Marshall Space Flight Center

OnBoard Software, Inc.

- Top 50 Private Companies sponsored by Arthur Anderson and *San Antonio Business Journal*

PerkinElmer Fluid Sciences

- Supplier Excellence Award sponsored by Fisher

Plymouth Extruded Shapes

- Outstanding Performance sponsored by Boeing Commercial Airplanes, Wichita, Kan.

Precision Gear Inc.

- On Time Delivery sponsored by General Electric Support Services

Precision Machine & Manufacturing

- 2001 Small Business Supplier of the Year sponsored by United Space Alliance

Remmele Engineering, Inc.

- Lockheed Martin STAR Supplier Facility Award sponsored by Lockheed Martin

- Silver Preferred Supplier Certification with Gold/Gold Quality and Delivery Performance sponsored by The Boeing Company

Ryder System, Inc.

- Best Third-Party Logistics Provider sponsored by *Inbound Logistics Magazine*
- One of America's Most Admired Companies sponsored by *Fortune Magazine*

Safe Flight Instrument Corporation

- Aircraft Integration Systems Supplier of the Month sponsored by Raytheon Company
- Aerospace Laureate for 2001 sponsored by *Aviation Week & Space Technology Magazine*

Sparton Corporation

- 2002 London Quality Award sponsored by London Section-American Society for Quality and the London Chamber of Commerce
- L.L. Hedgepeth Award sponsored by Florida Water Environment Association
- 2001 Service Excellence Award for Electronic Manufacturing Services Companies sponsored by Technology Forecasters, Inc., and *Circuits Assembly Magazine*

STADCO

- Small Business Supplier sponsored by ATK Thiokol

The NORDAM Group

- FAA Diamond Award sponsored by Federal Aviation Administration
- Business Leadership Award sponsored by Leadership Oklahoma
- Oklahoma Quality Award for Excellence – Nordam Repair Division sponsored by Oklahoma Quality Award Foundation, Inc.

Welding Metallurgy, Inc.

- World Class Team Award sponsored by Northrop Grumman Corporation

New Member **SPOTLIGHT**

Two California-based companies – one that once was linked to membership on AIA's Supplier Management Council – are among the association's newest members.

Computer Sciences Corporation (CSC) is a leading provider of information technology (IT) and consulting services to commercial and government markets worldwide.

Formed in 1959, CSC today provides a full range of IT-related services to the global aerospace industry, including such AIA member companies as BAE SYSTEMS, General Dynamics, Raytheon, and United Technologies.

With 68,000 employees in more than 70 nations, CSC's spectrum of services includes

consulting, systems integration, and outsourcing.

The company has consistently ranked as one of the top global IT service firms and has received numerous awards for achievement in business and technology, including being named one of America's most admired companies by *Fortune* magazine.

CSC is headquartered in El Segundo, Calif., and its Technology Management Group and Federal Sector offices are located in Falls Church, Va.

Additional information about the company is available at www.csc.com.

Crane Aerospace, a group of companies that includes Lear Romec – a former Supplier Management Council member – is another recent newcomer to the AIA company roster.

Based in Burbank, Calif., Crane Aerospace is engaged in application engineering, design and manufacturing, product specification, design certification, and services.

The firm was formed in 1999 and also includes Hydro-Aire, Inc., ELDEC Corporation, Interpoint, and Resistoflex – all world leaders in critical aircraft systems and components.

Crane Aerospace units combine the experience of being industry leaders to give customers one integrated source for products that operate in some of the toughest environments – from engines to landing gear, sensing, braking systems, and more.

Part of Crane Co., a diversified manufacturer of engineered industrial products, Crane Aerospace information can be found on the Web at www.craneaerospace.com.



Photo above: A computer scientist for new AIA member Computer Sciences Corporation analyzes a technology information program for an aerospace industry company.



Imagine the painstaking work of Orville and Wilbur Wright in designing and building the Wright Flyer that initiated manned, powered, and controlled flight nearly 100 years ago at Kitty Hawk – the birth of today's aerospace industry.

Now imagine the painstaking attention to detail required to do it again – 100 years later – and then actually fly the recreation.

Making It Wright

That's exactly what's coming together in a hangar outside Washington, D.C., near Warrenton, Va., where a group of aviation enthusiasts known as The Wright Experience is building a reproduction of the Wrights' 1903 Wright Flyer.

Ken Hyde, president of The Wright Experience, and his team of Wright devotees are working to rediscover the experimentation and methodology of the Wright's pursuit for flight. The task is particularly difficult because the Wrights left very little documentation of their work in an effort to hide their secrets and expertise from imitators.

"Today we see the magnificent evolution of the Wrights' original efforts," Hyde said. "Our quest is to discover how the first steps were made – steps that are lost in history. We are confident that we will retrace those steps and finish the first century of flight as it began by flying over the sands of Kitty Hawk."

Supported by the U.S. Centennial of Flight Commission, The Wright Experience has contracted with the Experimental Aircraft Association (EAA) to build the reproduction, known as the 2003 Wright Flyer, which will be flown at Kitty Hawk at 10:35 a.m. on Dec. 17, 2003.

AIA is hopeful that it can support the Wright Experience by taking one of its aircraft to the International Air Show in Paris in 2003.

Photo Above: Wright Experience President Ken Hyde works on a Wright Brothers' "Vertical Four" engine.

AIA Member Companies

AAI Corporation	Exostar LLC	MatrixOne, Inc.
The Aerostructures Corporation	Fairchild Dornier Corporation	MD Helicopters, Inc.
Alliant Techsystems Inc.	Fairchild Fasteners	MOOG Inc.
American Pacific Corporation	GenCorp	Northrop Grumman Corporation
Analytical Graphics, Inc.	General Atomics Aeronautical Systems, Inc.	Omega Air, Inc.
Areté Associates	General Dynamics Corporation	Orbital Sciences Corporation
Argo-Tech Corporation	General Electric Company	Advanced Systems Division
Atlantic Research Corporation	GKN Aerospace Services	Parker Aerospace
Aviall, Inc.	Goodrich Corporation	The Purdy Corporation
BAE SYSTEMS North America Inc.	Aerostructures & Aviation	Raytheon Company
Ball Aerospace & Technologies Corp.	Technical Services	Rockwell Collins
Barnes Aerospace	Engine and Safety Systems	Rolls-Royce North America Inc.
B.H. Aircraft Company, Inc.	Electronic Systems	Smiths Aerospace Actuation Systems
The Boeing Company	Landing Systems	Los Angeles
Computer Sciences Corporation	W.L. Gore & Associates	Spectrum Astro, Inc.
Cordiem, LLC	Groen Brothers Aviation, Inc.	Swales Aerospace
Crane Aerospace	Harris Corporation	Teleflex, Inc./TFX Sermatech
Cubic Corporation	HEICO Corporation	Mal Tool & Engineering
Curtiss-Wright Corporation	Hexcel Corporation	Textron Inc.
Curtiss-Wright Flight Systems, Inc.	Honeywell	Triumph Group, Inc.
Metal Improvement Company	i2 Technologies	TRW Inc.
Dassault Falcon Jet Corporation	ITT Industries	United Defense
DRS Technologies, Inc.	Defense	United Technologies Corporation
Ducommun Incorporated	Kaman Aerospace Corporation	Hamilton Sundstrand
DuPont Company	Kistler Aerospace Corporation	Pratt & Whitney
EDO Corporation	L-3 Communications Holdings, Inc.	Sikorsky
Embraer Aircraft Corporation	Lockheed Martin Corporation	Vought Aircraft Industries, Inc.
Esterline Technologies	Martin-Baker America Incorporated	

AIA Associate Member Companies

AAR CORP.	Fortner Aerospace Manufacturing	Precision Tube Bending
The Advanced Products Company	G.S. Precision, Inc.	The Prince & Izant Company
Advanced Technical Products, Inc.	GenMech Aerospace	Pro Fab, Inc.
Air Industries Machining Corporation	GENVAC AeroSpace Corp.	Production Engineering Corp.
Air Methods Corporation	Greene, Tweed & Company	Quick-Wright Associates, Inc.
Allen Aircraft Products, Inc.	Hangsterfer's Laboratories Inc.	Radant Technologies, Inc.
Ambel Precision Manufacturing Corporation	Hartwell Corporation	Remmele Engineering Inc.
AMI Metals, Inc.	Hi-Temp Insulation Inc.	RTI International Metals, Inc.
Arkwin Industries, Inc.	Hitchcock Industries, Inc.	Ryder Systems, Inc.
Arrow Gear Company	Hobart Machined Products Inc.	Safe Flight Instrument Corporation
Avexus, Inc.	Hughes Bros. Aircrafters, Inc.	Sechan Electronics, Inc.
Auto-Valve Inc.	Hughes-Treitler Manufacturing Corp.	Servotronics, Inc.
Avionics Specialties, Inc.	Industrial Precision, Inc.	Sierra Nevada Corporation
Avnet Electronics Marketing	Innovative Solutions and Support	Spartan Corporation
Babcock, Inc.	Integrated Aerospace	Spectra Lux Corporation
Banneker Industries Inc.	International Business Machines, Inc.	Spirit Electronics, Inc.
Berkshire Industries, Inc.	ISPA, Inc.	SpringBoard Technology Corporation
Bill-Jay Machine Tool Corporation	JCM Engineering Corporation	STADCO
Brek Manufacturing Company	Kennebec Tool & Die Co., Inc.	Stein Seal Company
BTC Electronic Components, Inc.	KomTeK	Stellax Aerostructures, Inc.
California Amforge Corporation	Kulite Semiconductor Products, Inc.	SUMMA Technology, Inc.
California Screw Products	Lefiell Manufacturing Company	Sunshine Metals
Centric Machine & Instrument Corp.	Lilly Software Associates, Inc.	SV Microwave, Inc.
Chandler/May, Inc.	LMI Aerospace, Inc.	Sypris Electronics, LLC
Cherokee Nation Distributors	M/A-COM, Inc.	T.A. Carlson & Company
Cincinnati Machine	Magnetic, Inc.	Texas Composite, Inc.
Circle Seal Controls, Inc.	Manzi Metals, Inc.	Therm, Inc.
Cohesia Corporation	Marotta Scientific Controls, Inc.	Thermal Solutions, Inc.
Compass Aerospace Corporation	Meyer Tool Inc.	American Avionic Tech. Corp.
CPI Aerostructures, Inc.	Millitech, LLC	Brazonics, Inc.
Cristek Interconnects, Inc.	Mincro Technology Labs, Inc.	Performance Metal Fabricators, Inc.
The Deutsch Company	Morris Machine Company, Inc.	TMX Aerospace
DynaBil Industries, Inc.	MPC Products Corporation	Trans World Alloys Company
Eaton Aerospace	Natel Engineering Co., Inc.	Transtar Metals, Inc.
EFW, Inc.	National Aviation Group	Tru-Circle Aerospace Corporation
Electro-Methods, Inc.	National Aviation Products	Tyco Electronics
EMS Technologies, Inc.	National Machine Company	UFC Aerospace Corp.
Ensign-Bickford Aerospace & Defense Company	The NORDAM Group, Inc.	United Tool & Die Company
EPCO Plastics Corporation	OnBoard Software, Inc.	Uni-Tek, LLC
F.A.G. Bearings Limited	Pacific Scientific, Electro Kinetics	Valley Manufacturing Corporation
Faber Enterprises, Inc.	Park Engineering & Mfg. Co., Inc.	Viking Metallurgical (Firth Rixson)
The Ferco Group	PerkinElmer Fluid Sciences	Welding Metallurgy, Inc.
Ferco Tech Corporation	Plymouth Extruded Shapes	Western Data Systems
L&E Engineering Company	Precision Gear Inc.	Windings, Inc.
	Precision Machine & Manufacturing Co.	
	Precision Components Company	



1250 Eye Street NW, #1200 • Washington, DC 20005-3924
Phone: (202)371-8400 • FAX: (202)371-8470 • Web: www.aia-aerospace.org

