



Mr. Dan Elwell
Vice President, Civil Aviation
Aerospace Industries Association of America

Testimony Before the Subcommittee on Aviation Operations, Safety and Security
Senate Committee on Commerce, Science and Transportation

“The Global Competitiveness of the U.S. Aviation Industry: Addressing Competition
Issues to Maintain U.S. Leadership in the Aerospace Market”

July 18, 2012

Introduction

Chairwoman Cantwell, Ranking Member Thune, and other distinguished members of the subcommittee: The Aerospace Industries Association (AIA) appreciates the opportunity today to present our views on the competitiveness of the U. S. aviation industry. There is no sector of the U. S. economy more global than aviation, and as a result, the competition for this business is increasingly global as well.

My name is Dan Elwell, and I am the Vice President of Civil Aviation at AIA, the nation’s largest trade association representing aerospace and defense manufacturers. Our 350 members represent an industry that directly employs one million workers, and supports another 2.5 million jobs either indirectly or as suppliers. Of this total, over 325,000 are involved in the manufacture of commercial and general aviation aircraft.

The aerospace industry is highly skilled, and as a result provides well-paying, stable middle class jobs all around the nation. The average wage in our industry is approximately \$80,000, almost twice the national average. The U. S. continues to be a world leader in aerospace manufacturing, due to the dedication and hard work of American workers and the executives who lead these companies. As we like to say, this is an industry that consistently “punches above its weight”.

On balance, our aviation manufacturers today are highly competitive in the global marketplace. In fact, the aerospace industry is our nation’s largest net exporter, contributing

over \$40 billion a year to our trade balance. And by far the largest component of that figure involves commercial aircraft manufacturing.

Aircraft

Our aircraft manufacturers continue to hold strong positions in the world market because of technological advances and an extended record of performance. Jet aircraft fuel efficiency has improved by 70% the past four decades and by 20% in the past ten years. Aircraft safety margins have doubled since 1990. Advanced avionics allow these aircraft to fly more fuel-efficient routes at lower cost. Because of this, the global competitiveness of U. S. aircraft manufacturers remains strong.

Boeing has just released their 2012 Current Market Outlook, and I would like to highlight a couple of their findings. They predict strong growth over the next two decades, outpacing the growth in global GDP. This continues a trend we have seen for the past two or three decades. There were nearly 20,000 commercial aircraft in worldwide service in 2011. Boeing estimates that number will double by 2031 and 34,000 of those aircraft will be new. Some of these airplanes will replace older, less fuel-efficient aircraft, but almost 60% of the new airliners will be needed to accommodate global market growth. A disproportionate share of this growth involves smaller, single-aisle aircraft and emerging markets led by the Asia-Pacific region and China in particular.

Bombardier's 2012 Market Forecast focuses on the 20- to 149-seat market, and comes to similar conclusions. Global deliveries of smaller (20- to 59-seat) aircraft are expected to decline substantially over the next two decades, as airlines shift to larger, more economical regional aircraft in the 60- to 99-seat category. Once again, because aviation growth tends to follow national GDP growth and urbanization, the largest market growth is expected in China and the Asia-Pacific region, with Latin America not far behind. Bombardier estimates that, over the next twenty years, the worldwide share of middle-class consumer spending held by the United States and Europe will drop from 64% in 2009 to approximately 30%.

Honeywell's 2011 Business Aviation Outlook indicates the business jet market is recovering from the recent downturn, with orders expected to strengthen throughout 2013. Over the long-term this outlook is increasingly dependent on high economic growth rates in the developing world. However, for the next five years at least, the majority of orders are still expected to come from North America and dependent on the state of the U. S. economy.

The growth in emerging markets will naturally stimulate other nations to improve or establish their own aircraft manufacturing capabilities. Manufacturers in Latin America, Russia, China, and elsewhere will increasingly compete with U. S. industry, particularly in

the high-growth markets for single-aisle aircraft and regional jets. Therefore, it is imperative that we address risks or barriers to our global competitiveness over the long-term.

Engines and Avionics

The competitiveness of our engines and avionics manufacturing is also critical for us to maintain a global edge. There are longstanding international competitors in this arena, and we must be vigilant to ensure U.S. companies remain the preferred vendors for our foreign customers. As our military budget is pressured here in the United States, it has a direct effect on the investment dollars companies have available to sustain and grow our industrial base. These industries are significant beneficiaries of research and development activity; their own and government research on the latest cutting-edge technologies that may one day be ready for the global marketplace. One example of an R&D program critical to the aviation industry is FAA's Continuous Low Emissions, Environment and Noise (CLEEN) program. This program is cost-shared with industry on a dollar-for-dollar basis and is making great strides in the development of new engine technologies that dramatically reduce aviation noise, emissions and fuel burn.

Barriers or Risks to Maintaining U. S. Competitiveness:

While the U. S. is in a stable position today, there are risks and barriers that will undercut our position over the next few years if not addressed. These include FAA budget concerns, international leadership, tax incentives for the development of new technologies, and the inability to maintain a properly skilled workforce. Let me address each of those in turn.

Support from the Federal Aviation Administration

The Federal Aviation Administration provides important services that directly affect the competitiveness of U. S. aviation manufacturers. Our industry has a wide range of aerospace products that are poised to enter the global marketplace, including unmanned aerial systems. As a regulated industry, bringing these new products to the market requires FAA certification. However, in this fast-moving, globally competitive environment, we are finding that FAA's certification process simply moves too slowly.

We were pleased that Congress recognized this issue in section 312 of the FAA Modernization and Reform Act of 2012 (Public Law 112-95). This section, commonly referred to as "certification streamlining", requires the FAA to examine, in consultation with the aviation industry, the certification and approval process, and provide recommendations for streamlining and re-engineering the process. The Act requires FAA to issue its report to Congress by mid-August of 2012, and implement the recommendations by next February. We urge Congress to endorse the recommendations created by the joint FAA - Industry Aviation Rulemaking Committee (ARC). We also ask congress to ensure FAA seeks further consultation with industry as it develops an implementation plan.

The Act also authorizes the FAA, beginning January 1, 2013, to start to issue Certification Design and Production Organization (CPDO) certificates. Certified design organizations provide an ideal way for the FAA to leverage the experience and track record of manufacturers to handle the day-to-day certification activities, thereby allowing the FAA to focus tight resources on safety-critical trends and issues. This approach, now explicitly authorized and encouraged by Congress, is a positive and significant step toward further improving and streamlining today's certification process.

Industry understands that the FAA has regulatory responsibilities, and FAA certification is still the "gold standard" sought by aviation authorities throughout the world. However, with the worldwide market shifting to Asia and the developing world, it would be detrimental to our competitiveness if foreign manufacturers are able to move improved products into the marketplace more quickly. Simply put, the FAA needs to change its approach given today's realities. We urge the Congress to ensure that FAA follows through on the certification reforms in Public Law 112-95.

Secondly, it is imperative that FAA keep the Next Generation Air Transportation System (NextGen) on track and implement the NextGen-related provisions of the FAA Modernization Act. We understand that FAA is behind schedule in many of the initial deadlines established under the Act, and that authorized programs like the Avionics Equipage Incentive Program (Sec. 221) are running into opposition on legal and technical grounds.

Madam Chair, NextGen is clearly a partnership between government and industry. If airlines lack the incentive to equip or use NextGen, FAA's multi-billion dollar investment is largely wasted, and we lose the significant benefits that NextGen offers. Other nations are aggressively using third parties to develop performance-based approaches. Other nations are pursuing their own NextGen programs, and we cannot afford to fall behind. Again, we applaud this Committee for its leadership role in passing the NextGen-related provisions of the FAA Modernization Act. We hope the Committee will ensure that FAA works diligently and has the necessary resources to implement those provisions in a timely way.

Thirdly, the FAA Modernization Act provides important requirements and deadlines for the integration of Unmanned Aerial Systems (UASs) into our national airspace. The Act requires the FAA to establish up to six test sites where UAS technology and procedures can be tested and validated. It requires the agency to integrate UAS systems into the airspace no later than 2015. And it requires the development of a long-term UAS Roadmap. AIA is strongly supportive of these efforts, and believes they must remain on track. Our manufacturers believe UAS systems will constitute a significant global market over the

coming years, and integration into our own airspace is a critical step to meeting our export potential in this emerging area of technology.

We are also concerned that the FAA may not have adequate budgetary resources to help the industry remain competitive. FAA's Certification Office received several new responsibilities in the reauthorization Act, yet their budget remains flat. Future budget projections for NextGen have already been reduced by one-third from the estimates made a few years ago. These pose continuing challenges for the agency. But on top of these difficulties, sequestration could reduce the FAA's budget by \$1 billion next January. The FAA has never faced a reduction of that magnitude, particularly three months into the fiscal year.

If sequestration goes into effect, we believe FAA would seek authority to protect most of the daily operations of the air traffic control system, at least at the major hub airports. This means that NextGen would have to bear a heavier share of the reductions. If the FAA were to split the reductions equally between their capital and operation accounts, NextGen could see its budget reduced by one-half (from \$1 billion to \$500 million). We believe this would cause such chaos in the overall program that it would take years, if not decades, to recover.

Such dramatic setbacks, if allowed to occur, would embolden our overseas competitors, disillusion our industry, and tell the developing world that the U. S. may not be able to meet aviation's needs in the future. That is the wrong message to send.

International Leadership

Because aviation is fundamentally global, it is critical that the U. S. maintain its leadership role in the international bodies that set standards and harmonize technical specifications for aviation technologies. It is not unusual for technical or policy differences to arise among nations and regions of the world on aviation matters. For example, the recent episodes of volcanic ash over the European continent led to differences of opinion about our ability to detect and gauge the effects of microscopic ash particles on an aircraft engine. More recently, we have experienced the European Union's desire to impose emissions trading charges on the world's air carriers out of a misguided desire to move more forcefully on the issue of aircraft emissions.

In cases like these, the United States must maintain its presence and reputation in the international arena, particularly in the future as market dynamics shift to emerging nations. As these nations and their industries grow, they will expect a stronger voice in international technical and policy discussions, and the U. S. must maintain a leadership role in the face of those shifts. In air traffic control technology, for example, if the U. S. falls behind other nations, it will be more difficult to harmonize our systems with those being developed in

Europe, Asia, and other regions of the world. This could be a serious problem for our aircraft, engine and avionics manufacturers, who need to provide systems capable of interacting with ATC infrastructure throughout the world.

R&D Tax Credit

The Research and Experimentation Tax Credit (commonly called “R&D Tax Credit”) is an important incentive for national business investment in R&D, but it is especially important for high-tech companies in the aerospace sector. Since the credit expired at the end of last year, U. S. companies have been operating at a disadvantage against companies in other nations who have higher R&D tax credits available to them.

The OECD analyzed this subject in 2010, and found that the U. S. now trails many nations in the tax treatment of research and development expenses. For each dollar of R&D invested in France, the government provides a tax credit of 42 cents. In Spain, the figure is 35 cents. India and Brazil provide between 25 and 27 cents. And even when our credit is in place, how much help does it provide? Only 6 cents. That placed us dead last in the OECD ranking.

At a time when the United States needs to retain and increase jobs, the R&D tax credit could assist immediately in achieving that goal. In 2009, more than 50% of U. S. companies indicated they had corporate-wide initiatives to outsource innovation jobs. Four years earlier, that figure had been only 22%. R&D jobs are leaving the United States, Madam Chair, and the competitive difference in R&D tax policy is one key factor. We urge the Congress to restore the R&D tax credit as soon as possible.

Providing a Skilled Aerospace Workforce

American aerospace workers are among the most highly productive, highly skilled workers in the world. With a global market that is growing rapidly, and a U. S. industry that dominates the export market, we must maintain an adequate supply of workers with degrees in science, technology, engineering and math (STEM) disciplines and with specific manufacturing skills. And today, everyone in the workplace must be STEM-literate to function productively. However, there are ominous trends about our ability to maintain this workforce into the future.

Today, we are simply not producing enough workers with the right education and technical skills to remain competitive. The U. S. currently graduates approximately 300,000 students a year with bachelors or associate degrees in STEM fields. The February 2012 report of the President’s Council of Advisors on Science and Technology (PCAST) recommended that this be raised by one-third to meet our economic needs. One startling fact is that less than 40% of students who start college intending to earn a STEM degree actually complete the degree requirements.

And of course community colleges and trade schools also play a critical role in meeting our workforce needs. One-third of current STEM employees began their education in community colleges. And thousands of aviation jobs require technical skills, but do not require a four year degree. Companies in our industry are working closely with community colleges to develop and support curriculum to prepare students for specific positions they have open. Madam chair, your leadership in this area is well known and we applaud you for all you are doing.

The workforce issue is all the more pronounced because the aerospace industry has a high percentage of employees that are eligible to retire over the next decade. In 2011, over 60 percent of the U.S. aerospace workforce was 45 or older. This year 17 percent of aerospace workers are already eligible to retire and by 2016 that proportion will exceed 30 percent. We need more STEM workers today, but when this bow wave of retirements hits us, we could start to lose our edge.

The Commission on the Future of the U.S. Aerospace Industry recommended ten years ago "that the nation immediately reverse the decline in and promote the growth of a scientifically and technologically trained U.S. aerospace workforce" adding that "the breakdown of America's intellectual and industrial capacity is a threat to national security and our capability to continue as a world leader." The world's emerging economies are rapidly improving their abilities to provide skilled workforces in STEM fields and in manufacturing. If we are unable to match this growth, we will fall behind.

As a trade association, AIA has been actively engaged in this issue for a number of years. In 2010, AIA spearheaded the formation of the Business and Industry STEM Education Coalition – a coalition of coalitions – to provide a unified voice for those who employ STEM professionals. AIA and BISEC work with academia, government, the philanthropic community, school systems, STEM program providers and others at the national, state and local levels. We are engaging with and helping advance state STEM networks that are emerging across the country. For example, just last week we convened a meeting in Renton with Washington STEM that was attended by 150 leaders. Later this year we will hold similar meetings in Tennessee and California.

Export Policy

AIA strongly supports the goal of the National Export Initiative to double U. S. exports by the year 2014. One example of where this is working in aviation is the NextGen Vendors Group (NVG), a public-private partnership between the Department of Commerce and AIA. Earlier this year, the NVG provided opportunities for U.S. vendors to discuss requirements with foreign air navigation service providers in Amsterdam, Netherlands at ATC Global, and

a similar effort will be held for the Latin America-Caribbean region later in 2012. The NVG is a great example of how the National Export Initiative can be put to use to help U. S. aviation manufacturers. We encourage the Department of Commerce to increase its support for the NVG and other efforts to promote aviation exports.

Conclusion

In conclusion, we believe that U. S. aviation manufacturers are in a strong competitive position today, but there are risks to our maintaining this position over the next decade. As a nation, we need to ensure that our tax policies provide incentives to maintain R&D jobs here in the United States and are competitive with the policies of other nations. We need to provide improved infrastructure in air traffic control technology, not only for our own economic health but for its export potential. And we need to ensure that our aerospace workforce is prepared to handle the challenges and changes that are coming to the global marketplace over the next decade or two. Thank you for the opportunity to testify, and I would be happy to answer any questions you may have.