

By Cynthia Scanlon

Aerospace Flies High

After years of slow recovery, the industry has taken off, with strong DOMESTIC and INTERNATIONAL GROWTH.

The aerospace industry is soaring into record profits in all three of the industry's main sectors: civil/commercial, military/defense, and space. This recovery has been fueled, in large part, by overseas sales, a boost in the military/defense markets, the air freight industry, and a renewed commitment to space travel. Worldwide travel has also rebounded, and many countries around the globe are responding with the purchase of new airplanes.

"Most of the growth in 2006 is related to the rapid expansion and recovery of the civil aviation sector of our aerospace economy," says John Douglass, president and CEO of the Aerospace Industries Association (AIA). "This is good news for our national security, it's good news for U.S. workers, and it's good news for the American economy."

The industry outlook for the next few years is anticipated strong domestic and international growth, with passenger traffic expected to grow 4.8 percent per year, worldwide economic growth expected to average 2.9 percent per year, and cargo traffic growth averaging 6.2 percent per year, according to Boeing. David Napier, research director for the AIA, says the outlook overall for 2006 is calling for 8.2 percent growth to \$184 billion.

"While we are enjoying the good times, we are not losing site of the longer term," says Lori Gunter, 787 program communications spokesperson for Boeing. Some of this growth, according to Gunter, is attributed to startup airlines, both nationally and abroad, as well as the replacement of aging aircraft.

CIVIL/COMMERCIAL AVIATION

According to the AIA, civil aviation sales — including commercial jets, general aviation air-

craft, helicopters, engines, and parts — led all sectors, increasing 20 percent to \$39 billion. Orders increased 15 percent to \$187 billion, and for the second year, the number of commercial jetliners delivered grew. The backlog of commercial jetliners jumped 39 percent to \$98 billion.

In 2005, the U.S. aerospace industry generated a record \$170 billion in sales, and profits rose to an estimated \$11 billion, a record level. The AIA projects that aerospace industry sales will continue to grow another \$14 billion to \$184 billion in 2006, as the Defense Department's purchases enter their eighth year of growth and commercial transport sales take off. Finally, civil helicopter sales surged from \$515 million to a record \$750 million, and civil helicopter exports reached record levels, increasing 57 percent to \$490 million.

Driving some of the civilian aerospace growth is Boeing's new 787 Dreamliner, the most successful program launch in history, according to Boeing. "Out of the box, before we even have an airplane built, we have more orders than for any of our other programs," says Boeing's Gunter. Boeing currently has 345 firm orders and commitments worldwide, with the airplane first scheduled to enter commercial service in 2008. "We're sold out until 2010 and 2011 is going fast. We are actually looking to see if it would be prudent to increase capacity," she says.

According to Gunter, Boeing's 787 Dreamliner will use 20 percent less fuel than today's airplanes of comparable size and will provide operators with up to 45 percent more cargo revenue capacity. Passengers will enjoy an innovative new interior environment with wider seats and aisles and larger windows, greatly improving the overall flying experience.

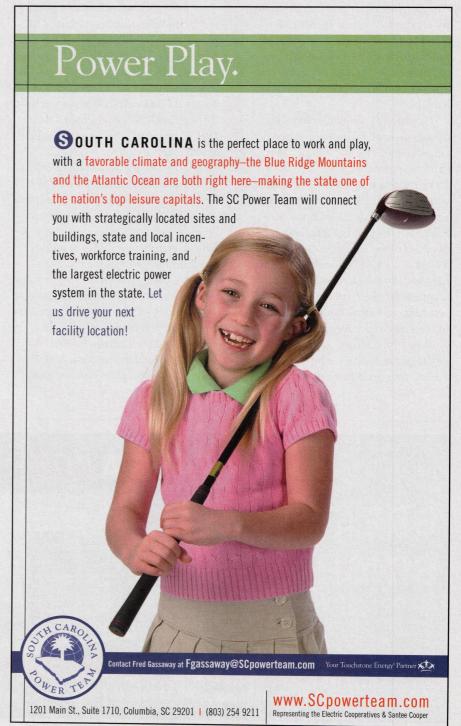
"The 787 has increased cargo space, and cargo on a flight can sometimes mean the difference between that flight being profitable or not," says Gunter. "The cargo market is growing faster than the passenger market, so we [now experience] stand-by cargo. The first airplane with open space gets the cargo."

AIA's Douglass is sold on the Dreamliner. "The 787 is going to be a terrific airplane; it's going to be something that the airlines are going to buy in large quantities for a number of years to come," he says. "And we're going to begin to see a burgeoning number of orders for 787s coming from our own domestic industry."

MILITARY/DEFENSE/SPACE

Robust defense spending in the past year has translated into record sales of military aircraft, engines, parts, and services, according to the AIA. Military aircraft sales increased seven percent to \$50 billion, missile sales rose four percent to \$15.3 billion, and space sales grew 3.8 percent to \$37 billion. The sales for general aviation, helicopters, military aircraft, space, and related products and services are all new records.

"This is good news for our economy," says Douglass. "Our industry is vitally important to national security, and the strong defense sales are a reflec-



This is a long-term business, and the decisions we made in the mid-'60s are still serving us well today. However, in this business, one wrong decision is the end of the game.

tion of that fact."

He adds, "Somewhere around 40 percent of everything produced in the American aerospace and defense industry is exported outside the United States. That means good, reliable jobs for Americans, and it means that we have the ability to maintain our technological manufacturing base over the long haul."

Northrop Grumman, which has operations in all 50 states, reported revenues in 2005 at \$30.7 billion and is expecting revenues of \$31 billion in 2006, making it the third-largest defense contractor in the United States. The company has currently signed a \$1.94 billion contract for the refueling and overhaul of the aircraft carrier USS Carl Vinson and a \$3.2 billion multiyear contract with Boeing to continue as subcontractor to the F-18 Super Hornet, according to Gustav Gulmert, manager of corporate and international communications. Northrop Grumman will also be the prime contractor for the U.S. Air Force's next generation air refueling

tanker.

Rockwell Collins, a worldwide leader in communication and aviation electronics for commercial and government customers, has been selected to provide training modifications and support for the Air Force's B-1B Training System. The six-year contract is worth \$95 million. The U.S. Navy has also awarded Rockwell Collins the contract for its MH-60 Weapons Load Trainer (WLT) program. The program, valued at \$26 million, calls for Rockwell Collins to modify an existing H-60F trainer and build four new H-60 WLTs.

Space is also playing a significant role in economic growth for the aerospace sector, according to Douglass. "We believe that there is plenty of money in the economy to meet the needs of NASA's space exploration program and support a robust aeronautics program as well," he says. Northrop Grumman has partnered with Boeing to compete against Lockheed Martin for NASA's new Crew Exploration Vehicle (CEV) contract. The program encompasses

development of the CEV, two new launch vehicles, and other hardware that NASA will utilize to return to the moon by 2020. "This [program] will continue NASA's vision to get us back to the moon and potentially, in time, to Mars," says Gulmert.

OVERSEAS OUTLOOK

The overseas market is turning in a significant and hearty performance so far this year, with Boeing estimating that worldwide demand for passenger and cargo jets will grow to 35,300 over the next 20 years. Leading the charge is the 787 Dreamliner, which continues to capture the interest of airline customers around the world. The Dreamliner's order book has a value of about \$49 billion at current list prices.

Kenya Airways has purchased six 787 Dreamliners, which it plans to use to replace its current 767s. The planes are expected to be delivered in 2010 and 2011. Kenya Airways was the first carrier to purchase and operate the Boeing 777 in sub-Saharan Africa and becomes the third major African airline to order the 787 Dreamliner.

"The 787 Dreamliner fits perfectly into our fleet strategy and offers Kenya Airways the opportunity to reach out across the globe in welcoming people to experience the wide open spaces and friendly charm found here in Africa," says Titus Naikuni, CEO of Kenya Airways.

Icelandair has also exercised purchase



rights for two additional 787 Dreamliners that are scheduled to be delivered in 2012, two years after Icelandair takes delivery of its first two Dreamliners, which were ordered in February 2005. The two airplanes have a value of approximately \$290 million. "As part of the launch customer team, we have been impressed by the tremendous passenger appeal of the Dreamliner," says Jón Karl Ólafsson, president and CEO of the Icelandair Group. "The Boeing 787 Dreamliner can fly to Iceland from anywhere in the world, a six billion people marketplace."

The Far East is also continuing to play a key role in aerospace growth, according to Ken Lackey, chairman of the NOR-DAM Group, one of the largest independently owned aerospace companies in the United States. "Markets in the Far East are so strong," he says. "China, which is going to be one of the great growth engines of the world; the opening of the India market; and the basic trends in globalization and its impact on the freight business are all contributing to the tremendous growth in the Far East." Lackey reports that since September 11, 2001, the NORDAM Group has had a 20-percent-per-year increase in its overseas business. In 2005, the company reported more than \$500 million in revenue, and has recently completed a 40,000-square-foot expansion in Wales and is in the process of a major expansion in Singapore, tripling the size of its operations in the country.

Gulfstream Aerospace Corporation, a subsidiary of General Dynamics, designs and manufactures the world's most technologically advanced business-jet aircraft. The Gulfstream aircraft fleet has doubled in Latin America and the Caribbean in just four years, increasing from 34 Gulfstream jets in 2002 to 71 today. "Latin America and the Caribbean are emerging as strong regions in business aviation," says Bryan Moss, president of Gulfstream. "As the economies of the countries in Central America, South America, and the Caribbean continue to grow, so will the need for safe, fast, reliable, and ondemand air travel."

THE FUTURE

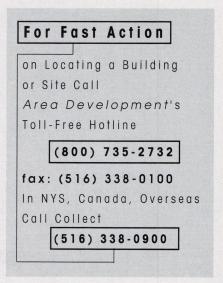
If the picture for the aerospace industry was rosy in 2005, the view for 2006

is even more positive. The AIA predicts that sales to customers other than the U.S. government will increase by \$10.5 billion to \$61 billion, while aerospace sales to NASA and other non-defense federal agencies are estimated to grow by about \$400 million to a record \$17.8 billion.

AIA also estimates that 400 airliners will be shipped in 2006, and will comprise 77 percent, or \$30 billion, of the total value of civil aircraft shipments. And, both Boeing and Airbus booked more than 1,000 orders last year, indicating the commercial side will be robust for years to come, according to Douglass. However, despite this apparent strength, Douglass cautions that the aerospace industry is cyclical, and therefore, "fragile" and in need of careful future planning.

Boeing's Gunter couldn't agree more. "We are looking good for the future and it's because we made smart decisions in the past," she says. "This is a long-term business, and the decisions that the 747 team made in the mid-'60s are still serving us well today with the

new derivative of the 747. However, in this business, one wrong decision is the end of the game, so we have to be careful." Boeing, she says, takes its future planning and decision-making very seriously, even if not always popular. "We have taken the criticism short-term to do the right thing long-term, and we couldn't be any happier with the results." AREA





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