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A Conversation With...

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Buying Spree

Global liberalization has fueled an increase in the demand for travel, causing airlines around the world to order new aircraft in record numbers.

By Jennifer C. Cheung and Peter Berdy | *Ascend* Contributors

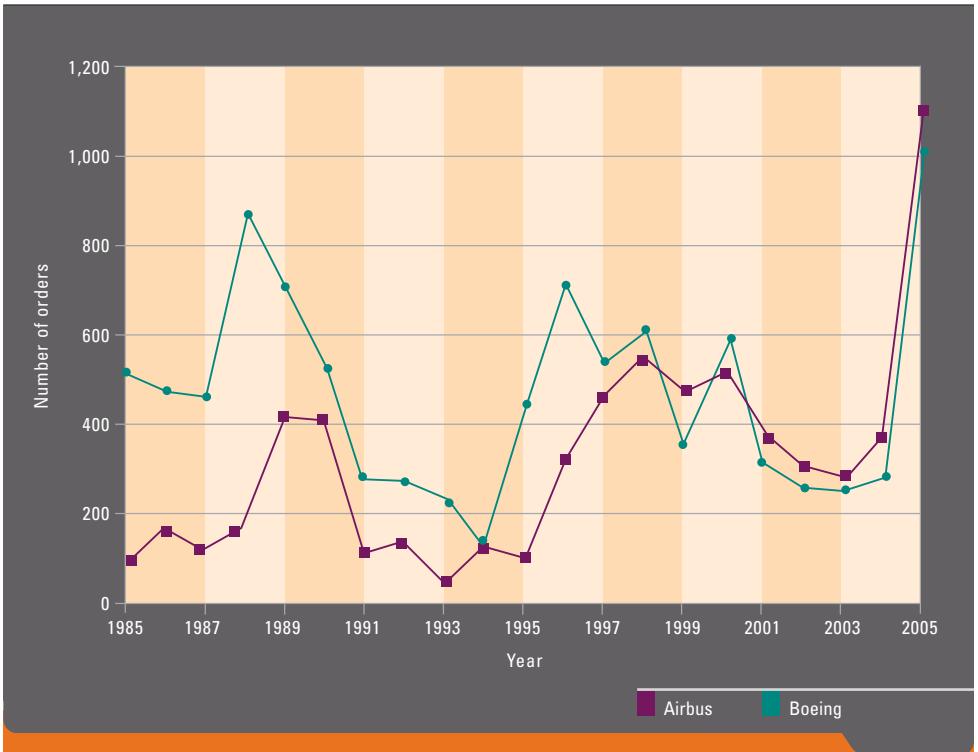
After several years of declining airplane sales, jet aircraft orders have surged dramatically in response to the rebounding global economic environment. Last year featured unprecedented growth, with aircraft sales for Boeing and Airbus exceeding previous records. And this year appears to be another good year for these manufacturers. In addition, there are strong order backlogs for regional jet makers Bombardier and Embraer.

Several fundamentals provide the impetus behind these increased orders, including surging traffic and the need to replace aging equipment with new, more efficient airplanes. Demand for air travel has increased due to globalization and liberalization in emerging markets. Strong economic growth has put money in the hands of consumers who are lured by low fares to spend a portion of it on travel. Carriers are aggressively ordering aircraft to satisfy projected passenger traffic needs and retire old airplanes that are getting costly to operate in an environment of rising fuel and higher maintenance costs. While start-up airlines are creating their fleet, established airlines are focusing on fleet expansion and renewal. The economic pressure of high unit costs

Photo courtesy of Boeing

Last year, Boeing launched the 747-8 program, including the 747-8 Intercontinental passenger airplane and the 747-8 freighter. Two carriers, Cargolux and Nippon Cargo Airways, have already announced orders for the cargo version of the aircraft. The 747-8 is one of the new aircraft currently under development from the main aircraft manufacturers, Boeing and Airbus.

Boeing and Airbus Aircraft Orders



Last year saw a record number of aircraft purchases as Airbus and Boeing combined to log more than 2,000 orders, stemming a downward trend that began with the industry downturn in 2001.

has driven the need for the operational efficiencies that new aircraft and technology offer.

Both Airbus and Boeing have been developing new airplanes as well as creating variants of existing models, ranging from the new Boeing 787 and Airbus A350 to the ultra-long range 737-900ER. To take advantage of continued strong growth in cargo, plus address aging cargo fleets, new cargo aircraft have also been under development. In 2005, Boeing launched the 777 freighter as well as a freighter version of the 747-8 to accompany the passenger model. Airbus has not announced any intentions of introducing a mid-size freighter of its own, but is confident with its A380F. The entry of the new, large-capacity freighters is significant on two fronts — the economic life of the oldest freighters is closing, creating the need to replace these aircraft, including the Boeing 707, McDonnell Douglas DC-8 and Boeing 747-100; and high-capacity freighters will be able to consolidate existing service on routes to countries, such as China, where slots are limited.

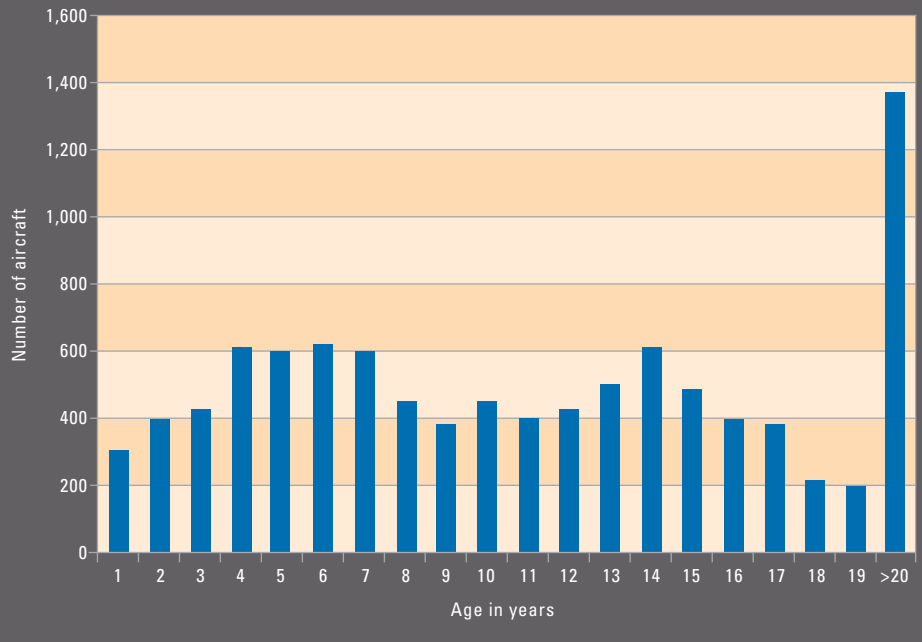
Photo courtesy of Airbus

In response to the launch of the new fuel-efficient Boeing 787, Airbus announced plans at the Farnborough Air Show in July for the A350 XWB, which is scheduled to be available in 2012 and will feature a wider fuselage for extra space and passenger comfort.

The Regional Jet Market

Embraer and Bombardier have both seen growth in their 60- to 100-seat capacity jets. Interest has grown for Embraer's 170/190 family, while Bombardier ties its growth to the CRJ700/900 family. According to Bombardier, the "trend toward larger regional jet and turboprop aircraft continues, driven by lower fares, higher fuel prices and increasingly relaxed pilot scope clauses." This is seen at Embraer as well, where at the end of the first quarter, the company had a firm order of 341 jets, only 21 of which were the smaller ERJs.

Distribution by Age of Aircraft



Even with a large number of recent aircraft orders, there remain nearly 1,400 aircraft older than 20 years in the fleets of the world's airliners — by far the largest number. These aircraft will have to be replaced in the coming years as their functional life comes to a close.

A new contender in the RJ market is Sukhoi Civil Aircraft, which launched the Russian Regional Jet program for 75- to 95-seat aircraft. The partnership among Sukhoi, Boeing, Ilyushin and Yakovlev is aimed primarily at carriers in Russia with a need for 65- to 90-seat jets. The country's flag carrier, Aeroflot Russian Airlines, has already placed an order for 30 aircraft. Sukhoi has received more than 130 orders for the RRJ. The International Air Transport Association's forecasts for passenger traffic in Central and Eastern Europe are rosy, owing in large part to the expansion of the European Union and continuous liberalization of air travel in the region. IATA's 2005 to 2009 passenger forecasts show Poland and the Czech Republic with average annual growth rates of approximately 10 percent, compared to 5.1 percent within Europe. Low-cost carriers are prevalent in the newest members of the European Union such as Croatia, Bulgaria and Romania, which can now operate unfettered by bilateral agreements between all member states. Sukhoi will undoubtedly target these emerging carriers as well as others worldwide.

Emerging Markets

Passenger traffic within Asia has realized tremendous growth owing to strong advances in the gross domestic product of many of the region's countries and pent-up demand resulting from the severe acute respiratory syndrome crisis in 2003, the tsunami in late 2004 and other world events that have hindered growth in air travel. China and India are leading the world in aircraft orders, driven by market demands to create a robust domestic network, followed by expansion into additional international markets. Insufficient investment in infrastructure in both countries is creat-

ing roadblocks to further traffic development. More new airports and runways are needed, along with the capability to manage accompanying air traffic control growth.

China

Narrow-bodied aircraft dominate the Chinese market due to the prevalence of short-haul and regional routes. Seizing upon the growth in traffic in this emerging market, Airbus and Boeing are engaged in fierce competition to meet China's needs for single-aisle, twin-engine aircraft. The China orders reflect the manufacturers' overall order book — narrow-body aircraft represent a majority of 2005 sales for Airbus and Boeing, comprising 83 percent and 58 percent of their respective total orders.

Chinese aviation officials signed a deal worth US$10 billion with Airbus for 150 narrow-body aircraft in December during a meeting between Chinese Prime Minister Wen Jiabao and his French counterpart Dominique de Villepin. China Aviation Supplies Import and Export Group, an organization that purchases aircraft on behalf of airlines in China, will distribute the A319s, A320s and A321s, to Air China, China Eastern Airlines, China Southern Airlines, Sichuan Airlines, Shenzhen Airlines and Hainan Airlines. In June, Air China announced that it would purchase 24 A320s as part of the original 2005 deal, which will enable it to increase service and develop its Beijing hub. The 2005 deal surpassed the estimated US$4 billion deal Boeing made with China for 70 737NGs the previous month during a visit by President George Bush to Beijing. Airbus' total sales from China in 2005 were 219 aircraft.

The current Chinese fleet is dominated by Boeing, which has a market share of approximately 60 percent. Airbus is targeting to capture at least half of China's future aircraft orders, which it forecasts to be 1,800 by 2020.

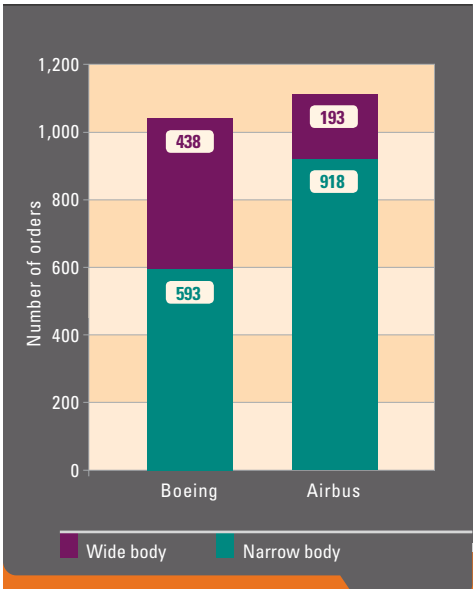
In June, the Chinese coastal city of Tianjin was chosen as the first non-European site for an Airbus A320 assembly plant. Airbus has other assembly lines in Toulouse, France, and Hamburg, Germany. The A320 will be the first single-aisle commercial airliner to be produced entirely in China. Airbus said the Chinese plant will produce four aircraft per month by 2011.

For many years, Boeing has also invested in industrial cooperation in China, both as a way to reduce costs and attract sales in the region. China has a significant role in the building of many parts and assemblies on Boeing's aircraft. Boeing has training centers in many Chinese cities, including Kunming and Tianjin, and has participated in joint ventures for maintenance, repairs and composite structures.

HIGHlight

As traditional airlines continue to be challenged by the cost effectiveness of low-cost carriers, they will be compelled to seek economically efficient solutions and consider the value they can provide their customers.

2005 Aircraft Orders for Narrow- and Wide-Body Aircraft



Although Airbus has overtaken Boeing in terms of overall orders, Boeing retains the lead in the number of lucrative wide-body aircraft, such as the 777 and 787.

India

Economic liberalization in India has created a competitive environment with the emergence of low-cost carriers and burgeoning traffic growth. In a country where air travel was only recently viewed as exclusive and the domain of the wealthy, affordable fares have now persuaded many to take their first flights. The growth of the middle class has propelled traffic expansion in the country. In the past decade, the government has begun to lift restrictions to allow private airlines to compete against the established and state-owned Air India and Indian Airlines.

Bilateral agreements have opened up more routes in India in the past 18 months. For example, after bilateral air service talks between the United Kingdom and India governments in April 2005, the skies were opened to allow a dramatic increase of service between the two countries for airlines from both sides. Air India and Indian Airlines had been the only airlines allowed to operate international routes, but Jet Airways lobbied successfully and gained rights to fly to London and Singapore in 2005. Lifting regulatory burdens has allowed airlines, such as Jet Airways, to refine their business models and explore different strategies, which ultimately offer more opportunities to passengers. Similarly, in March, Australia and India entered into a bilateral agreement of their own to open air services that allow Australian and Indian airlines to develop commercial partnerships and increase service.

Indian airlines committed to more than 200 firm orders for aircraft last year. Among the start-up carriers is Delhi-based IndiGo, which announced the purchase of 100 Airbus A320 aircraft worth US$6 billion at the 2005 Paris Air Show. In January, Air India purchased 68 aircraft from Boeing, including 18 aircraft for its low-cost start up Air India Express. This order will revitalize Air India's aging fleet by replacing older 747-200s and A310s with new 777s and 787-8s. The order supports Air India's plans for growth in long-haul markets. The deal also included an agreement from Boeing to invest in a regional maintenance, repair and overhaul base and a pilot training center in India.

New Aircraft Efficiencies

The surge in aircraft orders is not only due to the air travel growth resulting from liberalization and trade. Legacy carriers are investing in fleet modernization to take advantage of newer technologies, fuel efficiencies, improved safety and lower maintenance costs than those of an older fleet. The economics of new aircraft have increased in attractiveness with the surge in fuel prices, intensified competition and reduced profit margins. Airlines are considering early aircraft renewal or retirement to phase out older-generation aircraft in

light of increases in oil prices. According to Boeing's long-term forecast, 70 percent of new deliveries are for growth and 30 percent are for replacements. Boeing also estimates that 60 percent of new deliveries during the next 20 years will go to network carriers and about 35 percent to LCCs. As traditional airlines continue to be challenged by the cost effectiveness of low-cost carriers, they will be compelled to seek economically efficient solutions and consider the value they can provide their customers.

Boeing's 787 is its answer to the compelling need for cost savings. New technologies and materials in the 787 will increase the efficiency of the aircraft by 20 percent while maintaining speeds comparable to today's fastest wide-bodied aircraft. Boeing also looked to improve the passenger experience by increasing humidity, raising cabin pressure while in flight, offering friendlier lighting, creating a spacious cabin interior and increasing window sizes.

Boeing's vision for the future of air travel involves high frequency, point-to-point flights for 200- to 300-seat aircraft, while Airbus' philosophy involves taking advantage of hub structures in the world's most populous cities by flying the 555-seat A380. 2006 and 2010 will mark significant milestones with the delivery of the first A380 and 787, respectively.

Airport Development

Investments in aviation infrastructure development go hand in hand with the increase in aircraft orders and huge potential for air travel growth. Airport development in emerging markets is contributing to the growth of the region's aviation network. One example is Baiyun Airport in Guangzhou, China, which opened in 2004. Not only does the modern airport exemplify the economic transformation of the country, it also contributes to the goal of developing a hub structure on the mainland. The Baiyun Airport was designed with a hub concept in mind, and its main function will be to operate domestic routes in the developing markets in the Pearl River Delta competing with Shenzhen and Hong Kong. The creation of three strategically located hub airports in Guangzhou, Beijing and Shanghai will enable the country's airlines to operate competitively and develop their position in both domestic and international markets.

Photo by Joseph K.K. Lee/JetPhotos.net

The new Guangzhou Baiyun Airport in China is one of three strategic hub airports in the country along with counterparts in Beijing and Shanghai. The new airports will enable the country's airlines to operate more competitively and develop both domestic and international markets, possibly increasing demand for new aircraft.

The Civil Aviation Administration of China has earmarked massive spending for airport development, centered on new airports and upgrading existing infrastructure. By 2020, the number of airports should rise to 220 from 142 airports today. Commercial aircraft will grow to approximately 4,000 by 2020, up from the current 863, according to a CAAC official.

In India, all of the more than 400 airports need modernization, updated equipment and services, new terminal technologies, and upgraded transport facilities. There has been insufficient funding to support necessary upgrades. The government is seeking private, foreign investment to improve and build airport facilities on a build-operate-transfer basis. During the next 20 years, passenger traffic is expected to grow 400 percent and cargo by 600 percent. The government is planning on building more than a dozen airports that meet international standards.

The question a rapid capacity increase poses is whether the infrastructure can support the coming demands brought on by increasing air service. Sufficient maintenance facilities, airport improvements, crew requirements and ATC all represent massive challenges. The viability of the growing airline industry abroad will depend, to a large extent, on accommodating the traffic increase with more than just capacity.

As increased liberalization and global expansion continues to fuel more demand for travel, airlines and the air transportation infrastructure must continue to grow to meet the heightened needs.

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+count it up

7
Percentage of Asia's economic growth, excluding Japan, which is double the world average of 3.5 percent.

70+
Number of airlines implementing bar-coded boarding passes as a result of the International Air Transport Association's Simplifying the Business initiative.

3 billion
The amount in U.S. dollars the International Air Transport Association's 100 percent electronic ticketing will save the industry annually.