

# Aerospace Exports

Market Research Identifies Solid Prospects

by the U.S. Commercial Service and ITA Trade Development

## Numerous opportunities exist for firms that operate in the aerospace industry.

Recent market research shows opportunities for firms supplying aircraft parts, airport construction and support equipment, and helicopters and parts. In the following pages, we present just four recent examples of some of the research available to aerospace companies: aircraft and parts in Japan; airport and ground support equipment in Thailand; airport and ground support equipment in Vietnam; and helicopters and parts in Brazil.

### JAPAN: AIRCRAFT AND AIRCRAFT PARTS

Over the past 50 years, Japan's aircraft industry has grown in partnership with foreign manufacturers for joint production of aircraft and aircraft engines. In the military sector, the development of next-generation maritime patrol and transport aircraft by Japan's Defense Agency will offer potential business opportunities for advanced aircraft engines, avionics, and aircraft parts. On the commercial

side, consolidation of domestic airlines and creation of regional air routes will create new opportunities for small regional jets. Development of Japan's indigenous civil transport plane, YSX, will also provide U.S. suppliers of advanced technology and equipment with potential opportunities to work with domestic manufacturers.

Japan's aircraft industry is consolidated under the Society of Japanese Aerospace Companies. Long-term partnerships among U.S. aircraft and aircraft parts makers, domestic manufacturers, and trading firms have anchored the overwhelming U.S. presence in the Japanese market. However, with Airbus newly established in Japan, competition between Boeing and Airbus is expected to heat up in the commercial aircraft market. For new-to-entry suppliers of aircraft parts and equipment, it is advisable to seek partnerships with trading firms knowledgeable of aircraft industry networks.

### Best Sales Prospects

Boeing has dominated the market, but Airbus is stepping up marketing of its

A380 super jumbo jet by teaming up with several Japanese firms in joint production of aircraft parts and components. Boeing, on the other hand, is proposing joint production of its Sonic Cruiser, a medium-sized, ultrafast jet. Japan's major aerospace manufacturers have long engaged in joint production of aircraft and aircraft components with overseas manufacturers, including Boeing, and they are usually enthusiastic to consider opportunities to work with U.S. makers of advanced aerospace technologies and equipment.

Another potential market is that of small corporate jets. The opening of the second runway at Narita Airport has reduced the access problems of business jets. Japan is building new airports in Nagoya, Kobe, and Kita Kyushu. This expansion of landing slots, along with further utilization of local airports, should create potential opportunities for Japan's fledgling corporate jet market. Industry analysts expect Japan's current fleet of 42 corporate jets will increase to more than 100 by 2005.

### Market Access, Distribution, and Business Practices

Japan levies no import duties on aerospace products under the HS 88 category. Long-term relationships with domestic manufacturers and trading houses have nurtured closely knit networks of foreign suppliers and domestic players. Major domestic players also have U.S. subsidiaries to

### ADVANCED NAVIGATION AND POSITIONING CORPORATION (ANPC)

ANPC is a privately held company located in Hood River, Oregon, about 60 miles east of Portland. ANPC's products address a wide range of aerospace needs, ranging from landlocked airports to transportable landing systems. The company participated in the recent Commerce Department trade mission to Vietnam.

coordinate their international business with U.S. companies.

### THAILAND: AIRPORT AND GROUND SUPPORT EQUIPMENT

Thailand has 28 local and international airports located throughout the country. In 2000, the size of the airport and ground support equipment (GSE) market was estimated at \$30 million. A small contraction occurred in 2001 as a result of the completion of expansion and improvement projects at some provincial airports. However, market growth is expected in the local market in 2002 as manufacturers and suppliers of GSE explore opportunities resulting from the construction of the new Bangkok International Airport (Suvarnabhumi Airport) and its passenger terminal complex (PTC). This project will continue for four years. The budget for the PTC alone is about \$1 billion, while the total budget for the entire project is estimated at \$2.6 billion.

The second most important airport improvement project is the Bangkok International Airport site and facility improvement project. The improved airport will help absorb the increasing number of passengers prior to the completion of Suvarnabhumi Airport.

#### Market Demand

Thailand's demand encompasses almost all GSE product lines: air side equipment; landside equipment, and passenger and hangar service equipment. The best sales prospects include airport lighting equipment, crash and rescue equipment, navigational aids, electrical systems, baggage handling and checking equipment, metal detectors, and X-ray and access-control systems. Thailand sources most GSE products from abroad, and there consequently is a high volume of foreign products in the market. U.S. suppliers hold the largest market share at about 55 percent, followed by Belgium, Italy, and Norway.

Most buyers of GSE products are state-owned airports authorities

under the Ministry of Transportation and Communications. The Airport Authority of Thailand and the Department of Aviation both operate airports in the country. Aeronautical Radio of Thailand provides air traffic control services, and Thai Airways is the national flag carrier for passengers and cargo. There are two major ground support service companies: Thai Airport Ground Service (TAGS) and Bangkok Aviation Fuel Services (BAFS). TAGS and its subsidiaries handle all ground-related services, ranging from cargo handling to aircraft washing. BAFS is a private firm authorized by the government to install aviation fuel storage facilities as well as to operate fuel services at Bangkok International Airport.

#### Best Sales Prospects

In light of the increasing number of passengers to Thailand's major destinations, there are mainly two groups of prospects for airport and ground support equipment in Thailand. The first group includes the development of the \$2.6 billion new Suvarnabhumi Airport and the development of the \$26.7 million U-Tapao Global Transpark. The second group includes the expansion and improvement of existing airports, the largest of which is the \$96 million expansion project for Bangkok International Airport. Both groups will create opportunities for products in categories such as air side equipment, runway lighting systems, power distribution, runway sweeping trucks, crash and rescue equipment, water treatment plants, and other equipment.

#### Competitive Environment

The airport and ground support industry in Thailand relies mostly on imported products, especially high technology and state-of-the-art instruments and equipment, such as airport safety and security equipment and navigational aids. Competition is fierce whenever there is a large procurement for new equipment. For example, foreign manufacturers and local suppliers

#### Government

Office of Aerospace, International Trade Administration  
U.S. Department of Commerce  
Tel: (202) 482-1228  
[www.trade.gov/td/aerospace](http://www.trade.gov/td/aerospace)

Federal Aviation Administration  
[www.faa.gov](http://www.faa.gov)

National Transportation Safety Board  
[www.ntsb.gov](http://www.ntsb.gov)

#### Associations

Aerospace Industries Association  
[www.aia-aerospace.org](http://www.aia-aerospace.org)

Aerospace States Association  
[www.aerostates.org](http://www.aerostates.org)

Air Transport Association of America  
[www.airlines.org](http://www.airlines.org)

Aviation Distributors and Manufacturers Association  
[www.adma.org](http://www.adma.org)

General Aviation Manufacturers Association  
[www.generalaviation.org](http://www.generalaviation.org)

Helicopter Association International  
[www.rotor.com](http://www.rotor.com)

International Air Transport Association  
[www.iata.org](http://www.iata.org)

National Air Traffic Controllers Association  
[www.natca.org](http://www.natca.org)

National Air Transportation Association  
[www.nata-online.org](http://www.nata-online.org)

Satellite Industry Association  
[www.sia.org](http://www.sia.org)

Space Transportation Organization  
[www.spacetransportation.org](http://www.spacetransportation.org)

#### Publications

*Air Cargo World*  
[www.aircargoworld.com](http://www.aircargoworld.com)

*Air Transport World*  
[www.atwonline.com](http://www.atwonline.com)

*Aviation Week & Space Technology*  
[www.awgnet.com/aviation](http://www.awgnet.com/aviation)

*Defense News*  
[www.defensenews.com](http://www.defensenews.com)

*Flight International*  
[www.flightinternational.com](http://www.flightinternational.com)

*Ground Support Equipment Today*  
[www.gsetoday.com](http://www.gsetoday.com)

PBI Media Aviation Group  
[www.aviationtoday.com](http://www.aviationtoday.com)

are competing to supply the passenger services and cargo handling equipment at the existing Bangkok International Airport. Opening the bidding to international competition is a common practice in this market, although purchases of some types of replacement parts can be made directly through local suppliers.

#### VIETNAM: AIRPORT AND GROUND SUPPORT EQUIPMENT

The aviation industry in Vietnam comes under the principal jurisdiction and management of the Civil Aviation Administration of Vietnam (CAAV), which, as a government agency, reports to the prime minister's office. The major air carrier of the country is Vietnam Airlines, accounting for 42 percent of Vietnam's international passenger traffic and 85 percent of its domestic passenger traffic. Vietnam Airlines is part of Vietnam Airlines Corporation, a state-owned enterprise under the direct control of the prime minister's office.

According to the CAAV, the Vietnamese aviation sector is expected to grow 10 to 15 percent annually, and total air passenger traffic may reach 17.5 mil-

lion by 2010. The last two years saw significant growth in passenger traffic, with a total of 4.8 million and 5.7 million passengers respectively (approximately 14 percent and 16 percent year-on-year increases).

At present, there are 15 domestic and 23 international air routes operating in Vietnam's airspace. Twenty-two airlines from 19 countries have regularly scheduled flights to Vietnam. The country currently operates a network of 17 major civil airports, including three international airports: Noi Bai (Hanoi), Da Nang, and Tan Son Nhat (Ho Chi Minh City). Tan Son Nhat, with a capacity of 5 million passengers annually, is the largest airport in country. It handles about 75 percent of the country's international passenger traffic.

The Vietnamese government is committed to opening its aviation sector to foreign carriers. This liberalization, however, will be carefully staged, given the weakness of the domestic air transport industry. The government will phase in each step in accordance with its current and future CLMV (Cambodia, Laos,

Myanmar, Vietnam), ASEAN, APEC, and WTO commitments. Presently, most international routes are operated in the country on a code-sharing basis between Vietnam Airlines and foreign carriers.

According to Vietnam's development strategy through the year 2010, and to meet the surging demand for air transportation, Vietnam will need to invest more than \$4.6 billion over the next eight years in airport modernization, expansion, and rehabilitation. All this work should increase the country's network to 28 to 30 domestic airports and three or four international airports. The primary sources of financing for this development will come from the national budget, foreign official development assistance (ODA) loans, other soft loans, and export credits.

#### Market Segments

Given the dynamic growth in the aviation sector as well as the ambitious CAAV upgrade and expansion plan, the airport and ground support equipment market in Vietnam is expected to expand significantly over the next 10 years. This market may be divided into three segments, which fall under the responsibility of specific organizations in the aviation sector:

- Terminal equipment and facilities, which are normally procured and owned by regional airport authorities
- Ground support and handling equipment, which are the responsibility of Vietnam Airlines Corporation's airport ground services subsidiaries
- Air traffic control equipment and systems, which are under the control of Vietnam Air Traffic Management. The regional airport authorities may cover some other types of equipment and systems.

Similar to other industries in Vietnam, service and equipment providers in the aviation sector must establish good relationships with the state-owned

#### SARGENT CONTROLS AND AEROSPACE

Founded in 1920, Sargent designs, develops, and manufactures hydraulic and pneumatic valves and actuators for both commercial and military applications. Sargent also provides repair and overhaul services for hydraulic and pneumatic components for clients. The 450-employee firm sells both to large suppliers as well as directly to end users. Marcel Zondag, legal and contracts director, commented that his firm has been working with the U.S. Commerce Department since 2000. "The most valuable service the department has provided is the comprehensive, global network of information," says Zondag. "We participated in an aerospace show in Asia earlier this year and got a good overview of regional activity, in addition to making contacts with buyers and distributors. The information we receive via the Commerce Department network has been invaluable in helping us make strategic decisions and facilitating business development."

monopoly enterprises. Once relationships are established, dealing with customers becomes a matter of pricing, quality, technology, operating and maintenance costs, and after-sales services.

At present, most airport and ground support equipment is imported from Europe, the United States, and Japan. European suppliers are the most dynamic and successful in the market. American companies, currently holding 10 to 30 percent of the market depending on the types of products, have long been respected for their advanced technology, quality, and reliability in the industry. It is believed that the market share of U.S. suppliers will continue to expand over the next five years.

The CAAV is the principal point of contact for discussion of aviation projects. The business entities under the CAAV and Vietnam Airlines Corporation and its subsidiaries are the only end users. In principle, procurement plans in the aviation sector have to conform to CAAV development strategies and policies. Final decisions on large airport projects are made by the CAAV and the prime minister's office.

Procurement in the aviation sector is mainly done through open or limited local or international competitive bidding. Depending on the availability of funds, sources of funds, levels of quality, and reliability requirements, project developers may choose to use suitable technologies and expertise from one or more countries, especially those with demonstrated success in Vietnam.

U.S. companies are generally most competitive in cargo and airport terminal equipment, ground support and handling equipment, and air traffic control equipment and systems. U.S. firms are also very competitive in information technology systems and services as well as software for aerospace applications. U.S. equipment and service suppliers may find significant



Photo courtesy of The Boeing Company ©.

The 717-200, two-crew flight deck incorporates the industry's most modern and proven avionics technology. It is configured around six liquid crystal display units and advanced Honeywell VIA 2000 computer systems, similar to those in other new Boeing jetliners.

export opportunities in a number of upcoming and ongoing major airport projects, such as Noi Bai Airport, Tan Son Nhat Airport, and Da Nang Airport, as well as some other smaller projects in which equipment contracts are open to both foreign and local contractors.

### International Competition

Over the last two decades, European firms have been the most dynamic suppliers in the aviation sector. Over time, this has helped European companies develop a strong presence in the sector and close relationships with key agencies and authorities in Vietnam. In addition, the aid from their governments, mainly in the forms of ODA loans and grants, has opened the door for European companies to provide equipment, consulting services, technical assistance, and training to the aviation sector. This has enabled European standards to become the prevailing norms.

U.S. firms generally lag behind their European competitors in terms of market share, local relationships, presence, and technological penetration. This is mainly due to late U.S. entry into the Vietnamese market and the lack of

development assistance to match the bilateral ODA programs of foreign competitors. Nevertheless, U.S. suppliers in recent years have succeeded over their competitors in many bids in the aviation sector due to their superior technologies, quality, expertise, and reputation.

### BRAZIL: HELICOPTERS AND PARTS

Brazil offers one of the most promising markets in the world for manufacturers of helicopters and helicopter parts and accessories. The country has the seventh-largest fleet in the world and is the largest helicopter market in Latin America. Helicopters are constantly flying over the city of São Paulo, the municipality with the third-largest helicopter fleet in the world. The total fleet in Brazil increased from 669 aircraft in 1995 to 1,145 in 2001.

The Brazilian market is already served by leading helicopter manufacturers, but there are still great opportunities for suppliers of parts, accessories, and avionics.

### Market Highlights and Best Prospects

Despite the ups and downs of Brazil's

**GRAVITAS DIGITAL SOLUTIONS (GDS, INC.)**

GDS, Inc. is a service and solutions firm that provides technical expertise to the aerospace and IT industries. GDS, Inc. offers technical services to aerospace and IT environments that require systems, software development, and integration. It also provides modeling and simulation to the U.S. government, defense contractors, and intelligence agencies. The firm sells aerospace and IT products and services worldwide.

economy in the last few years, the helicopter market has been registering constant growth. According to the Brazilian Civil Aviation Department, the helicopter fleet in 2001 was composed of 897 civil aircraft and 248 military aircraft. The civil fleet increased 92 percent from 1995 to 2001, while the military fleet increased 22 percent in the same period.

The fleet is composed of piston helicopters (20 percent), single turbine helicopters (54 percent), and bi-turbine helicopters (26 percent). Unlike in the United States, where single turbine helicopters are not permitted to fly over densely populated areas, the Civil Aviation Department in Brazil does not impose any restrictions.

The Brazilian helicopter market has an estimated annual value of \$130 million. Eurocopter/Helibras, the only helicopter manufacturer in the country, and Bell Helicopter of the United States share market leadership. Together, they control almost 75 percent of the market.

The expansion rate of the helicopter fleet in Brazil is two times higher than the world's helicopter market growth. According to industry experts, serious traffic congestion in major cities and an increasing number of carjackings, kidnappings, and roadside robberies have contributed to this expansion. Today, helicopters are increasingly used by top executives and wealthier individuals to commute to work, to attend meetings, or to retreat to their country estates or beach homes on weekends.

Of civil aircraft, almost 500 operate in the state of São Paulo, and most of them in the city of São Paulo. The city has the third-largest helicopter fleet in the world, after New York and Tokyo, and probably the world's busiest helicopter traffic. Daily traffic in the city of São Paulo exceeds 350 takeoffs and landings. To service this traffic, there are approximately 200 helipads certified by the Civil Aviation Department, and another 40 in the process of obtaining certification. In addition to the helipads, where passengers are only picked up or dropped off, the city is served by five heliports that offer full-service including maintenance, repair, and hangars.

Although the devaluation of the Brazilian currency by 30 percent in the first seven months of 2002 has slowed down helicopter sales volume, the horizon looks good, especially for models that provide safe and rapid transportation to the wealthy people and busy executives. Local industry contacts believe that the current instability of the Brazilian economy is caused mainly due to uncertainties

in the Brazilian political scene. They expect that the situation will settle down after the presidential elections that will take place in October 2002.

The introduction of a fractional ownership program in 2000 is also contributing to optimism in the sector. Under this program several persons or companies get together to buy a helicopter. The company that manages the program has several identical helicopters owned by different groups and makes sure that an aircraft is available whenever the client needs to use it. The program raised awareness among people that helicopters were not a luxury that only the privileged people could afford. In less than two years, HeliSolutions, the company that introduced the fractional ownership concept, attracted 74 clients that share 10 helicopters. HeliSolutions expects to increase its client base to 200 by the end of 2002, increasing proportionally the fleet size.

The leading helicopter manufacturers, such as Bell, Eurocopter, Sikorsky, Agusta, and Robinson, already serve the Brazilian market. New manufacturers will face tough competition from those companies that have been represented in the country for many years. However, there are still great opportunities for suppliers of avionics, radios, flight safety products, power generators, training and simulation equipment, and other accessories. There are also niches, such as search and rescue, law enforcement, and cargo transportation. These segments could

**LPA**

The LPA Group was founded in 1981 and provides numerous transportation consulting services, including construction management assistance; design and production of surface transportation projects; planning for and implementation of transportation projects; and design, rehabilitation, and expansion of airports. LPA has more than 20 offices, and it has completed many transportation-related projects in over 70 countries around the world.

offer good opportunities but require a long-term market development effort.

In order to be successful in Brazil, U.S. manufacturers must have a well-informed local representative. It is also important to have a distributor or dealer who can offer after-sales services, replacement parts, repair, and maintenance services. The representative must be familiar with the nationwide market and import legislation and stay abreast of changes in import requirements to guarantee continuous sales.

When signing an agent or distribution contract with a Brazilian firm, it is important to use the services of law firms that are familiar with Brazilian legislation. Commercial distribution contracts are regulated by general Brazilian commercial law and not by specific legislation. However, there is specific legislation regulating the relationship between a foreign company and its Brazilian agent or sales representative. Contract clauses are freely negotiated between the U.S. company and the local agent, but the monetary compensation payable to the agent in case the contract is broken is established by law and is usually very favorable to the Brazilian agent.

#### **Free Market Reports on the Internet**

To find additional information about these and other aerospace opportunities, visit [www.usatrade.gov](http://www.usatrade.gov). Click on the "Market Research" link and then select the "Search Market Research" link to find reports by country and industry (in the cases above, all under "Aircraft/Aircraft Parts"). ■

### **AIR SHOW CHINA 2002**

**November 4–10, 2002, Zhuhai, China**

The China International Aviation & Aerospace Exhibition (Air Show China) is the only international aerospace exhibition in China that is approved by the Chinese government. The show features full-size displays, trade discussions, technical exchanges, and flying demonstrations. The show has been successfully held in Zhuhai three times, establishing itself as an important platform for technical exchange and commercial cooperation between the Chinese and foreign aerospace communities. The Aerospace Executive Service (AES) allows small and medium-sized businesses to participate in Air Show China without taking on the enormous expense of purchasing and staffing booth space.

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### **HELITECH 2002**

**November 5–7, 2002, São Paulo, Brazil**

Brazil is the largest and most exciting market for helicopter sales in South America. Helitech South America 2002 has received worldwide support from key manufacturers and suppliers. The five biggest helicopter fleets are in Argentina, Brazil, Colombia, Mexico, and Venezuela. These countries' heavy dependence on the oil, timber, and mining industries, as well as city congestion, risks to personal safety, and solid economic development, create strong demand for helicopters.

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### **AIRPORT INFRASTRUCTURE CONFERENCE AND EXHIBITION**

**November 17–20, 2002, Istanbul, Turkey**

The U.S. Department of Commerce, Federal Aviation Administration, and American Association of Airport Executives (AAAE) will co-sponsor the U.S./Eastern Europe/Middle East Airport Infrastructure Conference and Exhibition. The conference and exhibition will be geared toward associations, political entities, and airport companies representing suppliers, consultants, and service providers. Business sessions will include topics such as security, safety, customer service, the environment, airport master planning, concession development, rescue and fire-fighting services, and runway incursions. U.S. businesses will have opportunities to exhibit their products and services during the show and meet one-on-one with Eastern European and Middle Eastern buyers.

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### **45TH INTERNATIONAL AVIATION AND AEROSPACE EXHIBITION**

**June 15–22, 2003, Paris, France**

The International Aviation and Aerospace Exhibition (Paris Air Show) is the largest and most internationally attended aerospace event in the world. The Paris Air Show is a showcase for aerospace equipment and technology. It provides the perfect venue for civil and military aerospace suppliers and their customers to discuss, finalize, and announce their transactions. The U.S. Commerce Department's Office of Aerospace will sponsor a Product Literature Center at the Paris Air Show.

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### **DUBAI AIR SHOW 2003**

**December 7–11, 2003, Dubai, United Arab Emirates**

This is the largest air show in the region. More than 450 exhibitors from 33 countries attended the last event, including businesses from the United States, Europe, the Middle East, South Africa, and the Far East. In addition to individual exhibitors, there were 10 national/industrial pavilions.

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