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Massachusetts Office of International Trade & Investment

BRAZIL AEROSPACE INDUSTRY

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Market Brief: Brazil Aerospace Industry

Overview

Brazil considers aviation and aerospace industrial development to be a vital industry for national development and defense. Due to the vast size of the country, air transportation is a critical link in Brazil's infrastructure. The country is vitally dependent upon its civil aviation system to link the sparsely inhabited areas with major economic centers. Brazil also sees it as important for economic growth and military defense. Combining this dependence on air transport with the national policy to establish a modern market economy, U.S. commercial aircraft and parts' manufacturers have excellent market prospects in Brazil.

Brazil's geographic and economic characteristics are such that there is a great potential to employ space technology to meet national needs. Those include the country's continental size, its underpopulated land borders, its huge coastline, its tropical rainforest regions and the enormous areas characterized by difficult access and sparse population distribution. In addition, there are extensive natural resources still to be surveyed within its boundaries. At present, space applications are directed towards the solution of national concerns, particularly in the fields of Earth observation (ie. agriculture, environment, natural resources), meteorology, oceanography, communications and navigation.

The Industry

The Brazilian aerospace industry is dominated by Embraer and its suppliers, located in São José dos Campos, near São Paulo. Embraer is one of the world's 4 leading civil and military aeroplane manufacturers. Nieva (owned by Embraer) manufactures light aircraft; Aeromot, makes small assembles the Eurocopter for South America.

Helibras assembles the Eurocopter for the South American market. The internal aerospace market in Brazil is worth about US\$300m per year, including a demand for up to 20 new jets and propeller aeroplanes, as well as helicopters and second-hand aircraft. Brazil has the second largest fleet of business aircraft in the world, 351 air taxi companies and 839 agricultural aircraft in operation (2003). In 2004, Brazil had a fleet of 958 helicopters, the 7th largest in the world. São Paulo has over 200 heliports.

The US\$700m project for the FAB (Brazilian Air Force) has been postponed by the Lula administration. Brazil has a complete space programme, building rockets, satellites and its own launch site. In aerospace, the leading research institute is the ITA, part of the CTA (Centro Técnico Aeroespacial). ITA entry standards are exceedingly high and it is regarded as the best technical university in the country.

The aeronautic maintenance market continues growing, and expansion is expected through the coming years. In 2007 the global maintenance market is estimated to reach US\$100 billion. In Brazil, the MRO market (maintenance repair and operations) for commercial aviation alone should total approximately US\$1.5 billion annually. Brazilian companies working in the military and civil maintenance markets in Brazil, reported grosses of US\$ 600 million in 2006.

Brazilian Space Agency

The Brazilian Space Agency (abbreviated in Brazilian Portuguese as AEB) was established in 1994 as a civilian authority within the direct purview of the Executive Office of the President of Brazil. It is responsible for pushing forward Brazil's space activities and for coordinating the national and international co-operation necessary to help further the country's strategic goals in space. AEB also has a central role in co-ordinating the major activities carried out by the institutions of the National System for the Development of Space Activities (SINDAE). These include the Department of Research and Development of the Ministry of Aeronautics and the National Institute for Space Research (INPE). INPE falls under the aegis of the Ministry of Science and Technology and is very active, being responsible for satellite development and related technologies, and pursuing R&D in the field of space applications, Earth observation and space and atmospheric sciences.

The Institute of Aeronautics and Space, under the Ministry of Aeronautics, is responsible for the development of Brazil's satellite launchers and extensive sounding rocket program. This Ministry of Aeronautics is also responsible for the development of a fully operational launch range at the Alcantara Launch Centre (CLA), and for running the Barreira do Inferno Launch Centre and overseeing the Colonel Abner Propellants Utility. The private sector and Brazilian universities and research institutes are also involved in space related R&D projects and are contracted to develop and supply systems, equipment and services.

Airport Market - US\$ 3 billion Investment

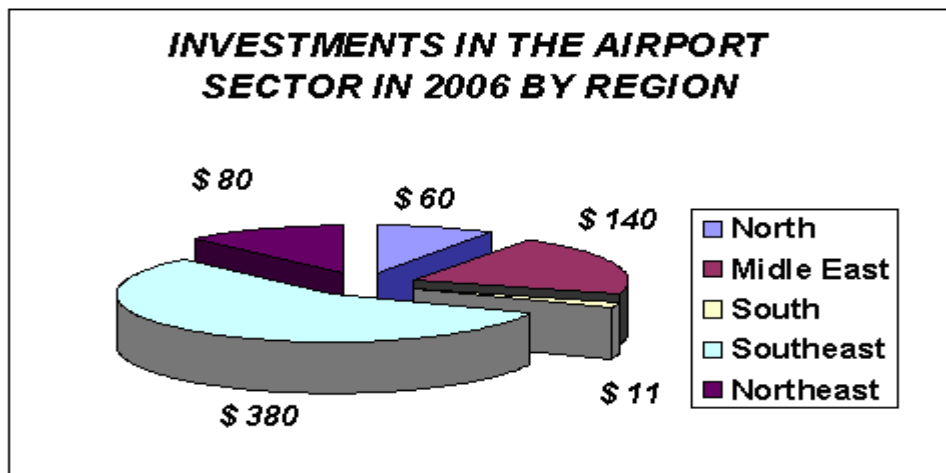
Brazil has built up a large network of regional and international airports, although many of these are diminutive in size. The 66 largest, which are responsible for generating 97 per cent of scheduled air transport movements, are administered by Infraero, the world's largest airport group. The company is wholly owned by the state as part of the Ministry of Defence, and runs passenger and freight terminals, as well as managing 81 air-navigation support units.

INFRAERO – Brazilian Airport authority, has announced that the Brazilian airports would receive approximately US\$ 3 billion of investment over the next four years. The objective is to increase Brazil's annual airport capacity from 118 million passengers per year up to 158 million passengers per year. The volume of air cargo should also increase from 100 thousand tons up to 291 thousand tons per year.

The airport market in Brazil has been expanding over the last several years responding to the growth of the Brazilian economy, the modernization of major airports, and the increase of passenger demand. The airport modernization program has provided good long-term market prospects for U.S. manufacturers. Infraero has invested around US\$ 1.65 billion from 2003 to 2006.

Brazil will be investing heavily in renovating or constructing new airports throughout the country, specifically in the regions of Piauí, Rio Grande do Sul, São Paulo, Recife, Maceió, Brasília and Rio de Janeiro.

Market Brief: Brazil Aerospace Industry



About Embraer

Embraer is Brazil's second-largest exporter and currently employs more than 19,265 people, 85.9% based in Brazil, and contributes to the creation of more than 5,000 indirect jobs. Overall, its accounts for over 80% of the revenue of 200 small and medium-sized businesses. Embraer exported 130 airplanes in 2006, and the order's book was worth at US\$14.8bn at the end of 2006. Considering the delivery of five aircraft by the end of January 2007, which were originally scheduled for 2006, the Company is increasing its delivery forecast to 165/170 aircraft for 2007.

<u>Delivery Forecast for 2007 and 2008</u>		
Year	2007	2008
Number of Aircraft	Between 165 and 170	Between 195 and 205

(November 2006)

source : www.embraer.com.br

Embraer has 45% of the regional market of aeroplanes with 30-60 seats, with over 800 units in operation. It is one of the 2 world leaders in regional jets up to 120 seats. It has 130 customers in 30 countries and supplies to the air forces of more than 20 countries. Embraer is now facing both economic and political pressure to develop its domestic supply chain.

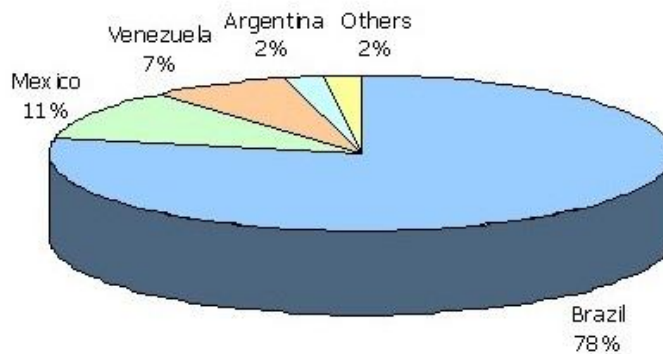
In June 2004, the Brazilian investment bank BNDES announced a US\$222m loan to Embraer for the export of 10 EMB170 jets to Alitalia, Lot and US Airways, the biggest loan to Embraer during the Lula administration. A condition of the loan is that Embraer increase its local content of parts and components to 55% within 2 years. EMBRAER dominates the Brazilian aerospace/space industry, other companies have established expertise in key areas and these include AVIBRAS (sounding rockets and missiles); Aeroeletrifica (avionics and other electronics); CENIC (composite materials); Elebra / NORCAL Group (Electronics); TECNASA (electronics for air

Market Brief: Brazil Aerospace Industry

navigation support, radar countermeasures); Mectron (defence systems); Digicon (transducers, precision mechanics); and AKROS (structural analysis and CAD).

Although a Brazilian was one of aviation's first pioneers, the aircraft industry in Brazil only began in earnest 30 years ago. Today, the success of planes wholly designed and manufactured in Brazil, mainly by Embraer, and exported to countries on every continent, makes Brazil's aircraft industry one of the largest in the world. Embraer was state founded in 1969 and privatized in 1994. It was Brazil's largest exporter from 1999 to 2001, and the second largest in 2002. Although in 2004, the company was the 4th largest producer of commercial Aircraft, Embraer also produces military and corporate aircraft. The company has won significant orders since 2003 from airlines such as US Airways, Jet Blue and Air Canada. Most of Embraer's planes have been sold to customers in the United States and in Europe. Embraer's Tucano, a turboprop military trainer, is used by the Brazilian Air Force and in the air forces of twelve other countries, including France and the United Kingdom.

Aerospace and Defense: Share of Exports of Aircraft Products (Latin America), 2004



Source: Frost & Sullivan

Embraer has been studying the possible development of a military transport aircraft. The new project will perform refueling, medical evacuations, and other missions. If it is actually launched, the EMBRAER C-390, as it is called, will be the heaviest airplane ever produced by the Company and will be able to transport up to 19 tons (41,888 pounds) of cargo. The new project will incorporate a number of technological solutions developed for the successful EMBRAER 190 commercial jet.

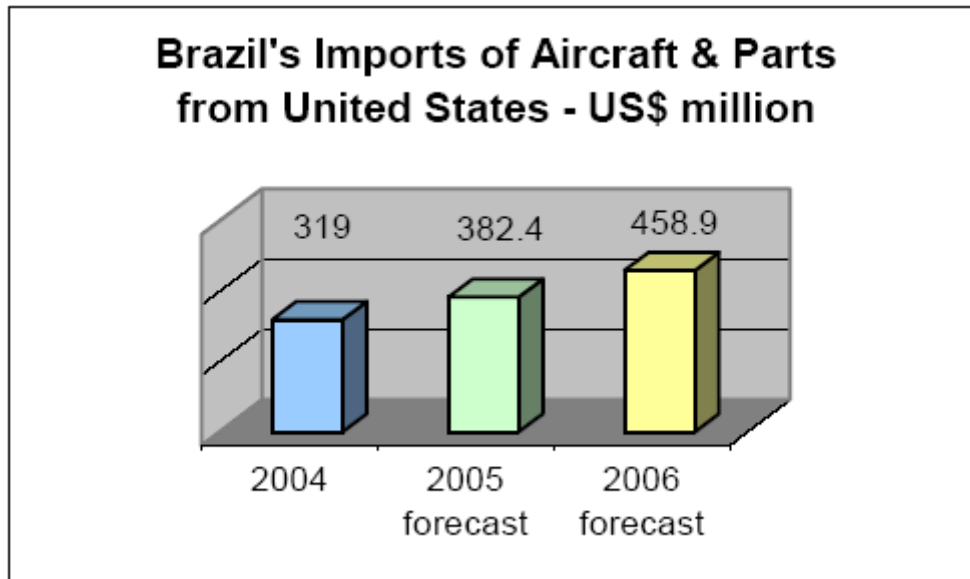
Business Opportunities for US Suppliers

As Brazil's market continues to expand, imports of aircraft, parts and components continue to increase, representing good business opportunities for U.S. suppliers. The products expected to have the most potential are:

Market Brief: Brazil Aerospace Industry

- Offshore helicopters;
- Parts and components for helicopters;
- Avionics and systems;
- Turbojet aircraft engines;
- Aircraft control systems;
- Aircraft propeller parts;
- Aircraft accessories;
- Passenger bridges;
- Equipment for drug & explosive detectors;
- Boarding bridges;
- Baggage X-rays;
- Air traffic control systems;
- Radar systems;
- Baggage handling equipment.

According to the Ministry of Development, Industry and Trade, from January to October 2005, Brazil imported US\$807 million in aircraft and parts, 20 percent more than 2004 – 40 percent originating in the U.S.



Trade Shows

LAAD – Latin America Aerospace and Defense

The event takes place every two years in April in Rio de Janeiro.

Rio Centro

Rio de Janeiro, RJ - Brazil

<http://www.laadexpo.com>

Market Brief: Brazil Aerospace Industry

What We Can Do for Massachusetts Companies

Massachusetts companies interested in entering South American markets or attending/visiting local trade shows, please contact the Massachusetts South America Office in Brazil at massbrazil@massbrazil.com.br.

Phone: +55 11 3051-9080

Resources

- Embraer: www.embraer.com.br
- Ministry of Defense: www.defesa.gov.br
- CTA - Aerospace Technical Center: www.cta.br
- AIAB - Associação das Indústrias Aeroespaciais do Brasil: www.aiab.org.br
- Ministry of Development, Industry and Trade Commerce www.mdic.gov.br
- US Commercial Service www.focusbrazil.com.br