Right place, *right time*

The gleaming towers of the Singapore skyline convey the economic strength of this small Asian nation. Boeing has worked to bolster its presence in Singapore.

CORBIS PHOTO

Why Singapore is a fitting place for Boeing to boost its presence

By Junu Kim

Among the highlights of Singapore's National Day Parade, which commemorates this Asian nation's independence, is the flying of an enormous Singapore flag over the tens of thousands of people below. And what's the aircraft that's trusted to display the flag? Republic of Singapore Air Force Chinook helicopters, built by Boeing.

As the gateway to Southeast Asia, Singapore is an important market to Boeing. Despite having an area and a population that are more akin to a city than what people envision for a country, this city-state has a vibrant, highly developed economy that grew at about 8 percent last year. Its work force has developed expertise in high-tech areas that align with Boeing's needs. And it's located amid a region where the aerospace industry is growing rapidly. Indeed, the Singapore aerospace industry has consistently recorded a double-digit annual growth rate over the last 20 years, according to Singapore's Agency for Science, Technology and Research (A*STAR), a government organization that promotes and supports research and development activity in that nation.

That's why Boeing is increasing its presence in Singapore, which this month will host the Singapore Airshow 2008, Asia's largest air show. That presence goes beyond Boeing sponsoring the last two National Day Parades and having Singapore customers operating Boeing commercial jetliners and defense aircraft. Indeed, that increase is reflected in a growing presence that Boeing has on the ground in Singapore, through growth in facilities there and the creation and expansion of partnerships with firms in that nation.

"Because of Singapore's skilled work force, technology leadership and standing in the world, Boeing sees a bright future for its relationship with Singapore," said Joe Song, Integrated Defense Systems vice president of International Business Development for Asia-Pacific. "We believe there is potential to expand our partnership with Singapore not just through additional sales in-country, but also through the joint pursuit of opportunities in other markets in the region and around the world.""

ON THE GROUND

Among the recent developments in Boeing's relationship with Singapore is the company's opening of a new Integrated Materials Management Asia Regional Center (ARC) to help maintain and manage the spare parts inventories of IMM customers.

The IMM team manages supplier-owned inventory at airline maintenance locations, which reduces the airline's inventory holding and other supply-chain management costs. The IMM team doesn't house spare parts; instead, it more efficiently manages spare parts for its customers.

In the IMM business model, the team sends a message to a supplier to send specific parts to an IMM customer as those parts are needed. The supplier picks and packs the part, and then ships it to the customer—which stores it until it's needed. The customer isn't invoiced for the part until a mechanic pulls it for use. IMM currently has 13 customers, including Singapore Airlines.

The Singapore IMM office, which opened last March, is IMM's first regional center. Jeff Waterfall, IMM global operations manager, said the ARC—developed using Lean principles to standardize processes and reduce the variation in inventory planning—helps the IMM team better serve its customers by improving the support of IMM personnel who are on site at customer locations worldwide. It also facilitates communication and increases the visibility of inventory within the IMM network, he added.

"The regional center focuses on the supply base. And that helps our teams at

airlines focus on customer needs," Waterfall said.

Even though IMM customers are located worldwide, IMM representatives said the organization elected to open this facility in Singapore to be close to where its primary core business is. In addition, the organization chose Singapore because of the potential to grow and the skilled work force, among other factors. "Everything pointed at Singapore," Waterfall said.

The Asia Regional Center is at Schenker Singapore's Megahub facility in the Airport Logistics Park of Singapore, where Boeing maintains a Spares Regional Distribution Center. This distribution center is one of eight worldwide locations where the Material Management organization—part of Boeing Commercial Airplanes' Commercial Aviation Services business—stores spare airplane parts, ready to be shipped as needed.

Mark Owen, vice president of Material Management, said Singapore is an ideal location for this center because of the number of flights and frequencies offered to cities within the region—which extends from India to Japan to Australia. "It offers good transportation options, which helps us move products quickly to our customers," Owen said. "The sooner we can get parts to our customers, the sooner they can get their airplanes back in revenue service."

That proximity of the Singapore site to customers' airplanes is critical to Material Management: Its vision calls for the right part to be in the right place (the dock) within four hours of the customer's request.

As a sign of this location being in the right place at this time, the Singapore center in recent years has seen a healthy jump in activity. Material Management executives said it shipped more than 136,000 orders in 2007—a 58 percent increase over the 86,000 shipped orders in 2004.

To support the growing demand for parts in Asia, the Singapore site was moved in 2006 to a larger facility. The new location—which has an area of about 53,400 square feet, making it more than 50 percent larger than its previous facility—offers about 30,000 part numbers.

Boeing is also establishing facilities in Singapore to support airline crews.

Alteon Training, a wholly owned subsidiary of Boeing, opened its Singapore Training Center in January 2007. The facility offers six full-flight simulators, including a Boeing 777-200/300, a Boeing 737-300/400/500, an Airbus A320, a Fokker 100, a Boeing 737-800 and an Embraer 170/190. A Boeing 787 simulator is scheduled to arrive in 2008. In addition to flight simulators, the training center hosts a cabin emergency evacuation trainer and other advanced-technology training devices such as flat-panel trainers. The Singapore Training Center has the capability to train more than 6,000 pilot crews per year as well as maintenance and cabin crew personnel.

Alteon established this Singapore facility—among the newest of its 20 locations—to capitalize on the growing need in that part of the world for the training company's services, company executives said. Indeed, the Singapore site is Alteon's largest facility in Asia. "The Singapore center greatly expands our capability to meet the increasing demands for aviation training in the region," said Alteon President Sherry Carbary.

PARTNERSHIP GROWTH

Yet Boeing's increased activity in Singapore is manifesting itself not just through expanding structures but by strengthening its partnerships with entities in that nation.

Last March, Boeing tapped ST Aviation Services Company Pte Ltd. (SASCO), a wholly owned subsidiary of Singapore Technologies Aerospace Ltd., to perform certain passenger-to-freighter conversions under the 767-300 Boeing Converted Freighter (BCF) program. Under this contract, SASCO will perform aircraft maintenance and the passenger-to-freighter conversions with data provided by Boeing.

In October, ST Aerospace inducted the first aircraft from All Nippon Airways, Boeing's launch customer for the 767-300BCF program, at its SASCO facility in Singapore for conversion. The prototype redelivery is expected in June, upon U.S. Federal Aviation Administration certification.

ST Aerospace has handled successful conversions for 757-200SFs, DC-10s and MD-11s. In fact, SASCO was named one of Boeing's 2004 Suppliers of the Year. Also, ST Aerospace is working to be certified to overhaul and repair CH-47 transmissions.

These Singapore partnerships appear not only in the conversion business, but also on the R&D front.

Singapore may not be renowned for natural resources. Yet what it offers the global

Singapore *at a glance*

Official name: Republic of Singapore

Location: Southeast Asia; islands between Malaysia and Indonesia

Area: 692.7 square kilometers (267.5 square miles). About one-fourth the size of Rhode Island, the smallest of the 50 United States.

Population: 4.6 million (July 2007 estimate)

Main languages: English, Mandarin, Malay, Tamil

Main religions: Buddhism, Islam, Christianity

Estimated gross domestic product, 2006: $122.1 billion

Estimated gross domestic product growth rate, 2006: 7.9 percent

Key industries: Electronics, chemicals, financial services, oil drilling equipment, petroleum refining, rubber processing and rubber products

Estimated military spending as part of GDP, 2005: 4.9 percent

Source: CIA World Factbook

Proudly in service

Here's a quick look at Boeing products that are in the fleets of customers in Singapore.

BOEING GRAPHIC

Singapore Airlines is the largest customer for the 777 Family, including the 777-300ER (above).

Ministry of Defence, Singapore

Type of customer: Defense

Boeing aircraft in its fleet: 20 AH-64D Apache Longbow attack helicopters; 4 KC-135 Tankers; 16 CH-47 Chinook helicopters

Major orders placed in recent years
October 2007: 12 F-15SG jet fighters
December 2005: 12 F-15SG jet fighters

Singapore Airlines

Type of customer: Airline

Boeing models in its fleet: 777-200, -300, -200ER, -300ER, 747-400, 747-400 Freighter

Major orders placed in recent years:
October 2006: 20 787-9s
December 2004: 18 777-300ERs

Deliveries in recent years:
2007: 5
2006: 7
2005: 4
2004: 6
2003: 11

BOC Aviation

Type of customer: Leasing company

Boeing models in its owned fleet: 737 Classic, 737 Next-Generation, 747-400 Freighter, 777-200ER and -300

Major orders placed in recent years:
December 2006: 20 737-800s
April 2006: 10 737-800s
May 2005: 17 737-800s and 3 737-700s

Deliveries in recent years:
2007: 7
2006: 3

BOB FERGUSON PHOTO

The Apache Longbow helicopter is among the Boeing aircraft in the fleet of the Ministry of Defence, Singapore.

economy is its collective intellect and "an environment that's conducive to the development of technologies," said Peter Hoffman, director, Global R&D Strategy for Boeing. Tapping that knowledge and environment supports Boeing's strategy of identifying and working with the brightest minds globally to develop solutions, he added.

Case in point: In early 2007, Boeing was one of four global aerospace leaders that signed a memorandum of understanding with the research institutes of A*STAR to drive innovation in aerospace research in that country.

The intent of this agreement is to boost the capabilities of local aerospace companies, which helps them move up the value chain, and to help the four aerospace companies involved in the MOU tackle technological challenges by tapping the expertise of Singapore firms.

The MOU calls for research in five areas:

- Inspection and nondestructive testing
- Manufacturing processes and automation
- Advanced materials
- Information and communication
- Computational modeling and dynamics

"Because there's multiple parties involved in contributing funding, you get a good critical mass in research funds for a common benefit," said Hoffman, adding that Boeing, like the other consortium members (EADS, Pratt & Whitney and Rolls-Royce), has an influence on the areas where research funds are allocated. "The more members you can bring in, the more money you have to perform research, and the more you can accomplish."

That MOU follows a 2005 agreement between Boeing and A*STAR that calls for collaboration on investigating and developing aerospace-related technology research projects of mutual interest. The areas covered range from advanced materials to computational science and wireless communications.

"Technology is moving so quickly these days that financing all of our technology development independently would be too costly," Hoffman said. "We're looking to share the burden of keeping up with rapidly moving technologies by finding partners that are very bright and are willing to coinvest with us. That's what draws us to places in the world like Singapore." ■

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