

North stars



By Eric Fetters-Walp

On the edge of the Canadian Prairie in Manitoba, a site that quietly has grown into one of the company's largest international manufacturing operations, Boeing employees design and produce key airplane parts.

Starting with just 50 employees in 1971, Boeing's operation in Winnipeg now is the largest manufacturer of aerospace composite parts in Canada, employing more than 1,300 people. Laverne Swanson, a Manufacturing Engineering planner who has worked for Boeing Canada the past 30 years, said the site's contributions to Boeing aircraft are clear. "It makes me proud as a Canadian that Boeing chose to invest in Canada. When I go down to Seattle and see the planes on the production line there, it's nice knowing we contributed to those," she said.

Winnipeg's aircraft fabrication site is the most visible example of Boeing's presence in Canada, but it's just part of a relationship between the company and Canada that spans 90 years. Even as other parts of the globe present new opportunities, Canada remains important to Boeing in myriad ways.

The border between Canada and the United States is the longest common border in the world—a fact made more remarkable by its unmilitarized status. Historically strong ties between these two large trading partners create an ideal foundation for Boeing's increasingly valuable relationship with Canada. Boeing employees deliver products and services to Canadian airlines and defense forces, while Canadian companies—ranging from suppliers and research institutes to the operation in Winnipeg—help Boeing

Canada at a glance

Location: Northern North America, bordering the North Atlantic Ocean to the east, the Arctic Ocean to the north, Alaska and the North Pacific Ocean to the west, and the continental United States

Area: 3,855,103 square miles (9,984,670 square kilometers); the second-largest nation in the world and slightly larger than the United States

Estimated population, 2008: 33.2 million

Capital: Ottawa

Other major cities: Toronto, Montreal, Vancouver

Estimated gross domestic product, 2008: \$1.33 trillion (U.S.); ranked 15th worldwide

Estimated GDP growth rate, 2008: 0.7 percent

Main export partners: United States, United Kingdom, China

Sources: Government of Canada, CIA World Fact Book, World Bank

PHOTO: The Peace Arch at the U.S.-Canada border in Washington state attracts more than 500,000 visitors each year.

SHUTTERSTOCK.COM

“In every facet of our partnership, Canada plays an important role to the success of Boeing.”

– Shep Hill, president, Boeing International

create high-quality products and services used by customers worldwide. Overall, Boeing’s activities generate about \$1 billion in annual economic activity across Canada.

“Canada has been a long-term customer, supplier and partner to Boeing. Today, Canadian carriers operate more than a dozen different Boeing products, and Air Canada and WestJet have new airplanes on order,” said Shep Hill, president of Boeing International. “In every facet of our partnership, Canada plays an important role to the success of Boeing.”

Canada is home to one of Boeing’s largest international supplier bases, with more than 200 suppliers across the country. Canada’s airlines have 224 Boeing airplanes in service and another 77 on order, including Air Canada’s 37 firm orders for the 787 Dreamliner. The nation’s other leading airline, WestJet, flies an all-Next-Generation-737 fleet. “Air Canada and WestJet are great examples of market leading innovators, not just in Canada but in the global airline industry,” said Kevin Schemm, Commercial Airplanes’ vice president of sales for North America.

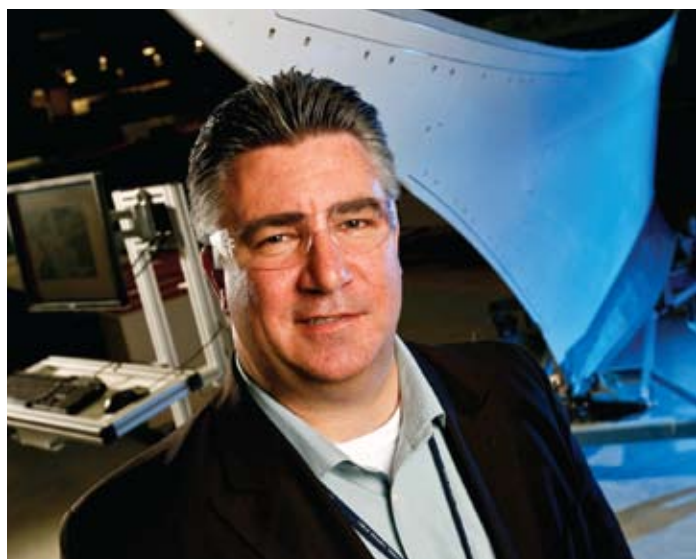
And the outlook is good for continued demand for commercial airplanes in Canada. Air Canada and smaller airlines, just like others across North America, need to keep updating their fleets. Thanks to expanding ties under the North American Free Trade Agreement and liberalization of the Canada-U.S. Air Transport Agreement, air traffic between the two nations also has blossomed. In the 10 years ended 2008, more than 1,400 weekly flights have been added between the United States and Canada.

Parts of the Boeing airplanes that Canada’s airlines fly originate in Winnipeg, the company’s second-largest fabrication facility outside the United States and a supplier for each of Boeing’s 7-series jetliners. Over the years, the site has earned a reputation for innovation, said Willy Geary, general manager of Boeing Winnipeg. He noted that Boeing Winnipeg is a founding member of the Composites Innovation Centre, which aims for economic growth in Canada through innovative research and development of composite materials.

Dean Hnatiw, 737 senior manufacturing manager in Winnipeg, said he’s proud the operation is known within Boeing for problem-solving when fabrication challenges arise. “Being the size we are makes us very nimble and very reactive,” Hnatiw said. “We’ve been known as a place that can supply solutions.”

Those skills will be put to good use in the future, as Boeing Winnipeg is a top-tier partner on the 787 Dreamliner program, responsible not only for the wing-to-body fairing but also for the airplane’s main landing gear doors, vertical fin fairing, and the engine strut forward and aft pylons.

In addition to the design and fabrication site in Winnipeg, Commercial Airplanes oversees an airline maintenance software



PHOTOS: (TOP) With more than 1,300 employees, Boeing Winnipeg is the largest manufacturer of aerospace composite parts in Canada. **(ABOVE)** Willy Geary, general manager of Boeing Winnipeg, stands in front of a 787 engine pylon aft fairing, one of the many components the site makes for Boeing’s 7-series airplanes.

JOHN WOODS/ASSOCIATED PRESS

division, AerolInfo, just outside Vancouver; an airline operations services facility in Montreal; and six aircraft parts service centers across Canada.

While its presence in Canada is smaller than Commercial Airplanes’, Integrated Defense Systems also counts the nation as an important customer. Boeing was selected several years ago to modernize 80 of Canada’s CF-18 jet fighters. That contract’s first phase was done on time and on budget, leading to other opportunities in recent years, said Eddy Morin, IDS representative for Business Development in Canada.

Since then, Boeing has delivered four C-17 Globemaster III airlifters to the Canadian armed forces. Following Canada’s purchase of six CH-47D Chinook helicopters from the U.S. Army last year, Boeing is in the final stages of negotiating to provide its forces with up to 16 new CH-47F Chinooks. “The Boeing reputation is clearly well-established and strong in Canada,” said Morin, a



“Being the size we are makes us very nimble and very reactive. We’ve been known as a place that can supply solutions.”

– Dean Hnatiw, 737 senior manufacturing manager

PHOTOS: (LEFT) Canada has purchased four C-17 Globemaster III airlifters in recent years. The Canadian Forces took delivery of the first one in 2007. **BOEING (ABOVE)** Dean Hnatiw, 737 senior manufacturing manager in Winnipeg, checks an engine strut aft fairing. The site makes parts for all of Boeing’s commercial airplane products. JOHN WOODS/ASSOCIATED PRESS

retired brigadier general in the Canadian Forces (Air Force).

Pete Peterson, Canada country director for IDS, said he’s looking forward to more potential contracts, as Canada looks to update its jet fighter fleet. The country also is interested in a multi-mission aircraft similar to Boeing’s P-8A Poseidon. The Canadian army recently purchased the Boeing ScanEagle unmanned aerial system’s services in Afghanistan, and the nation may have homeland security equipment needs Boeing could fulfill, Peterson added.

Again, the relationship between Boeing and Canada flows both ways. To maintain and win military contracts, Boeing has to satisfy Canada’s industrial participation rules. Roger Schallom, IDS’ Industrial Participation manager for the Americas, said those programs contribute greatly to Boeing’s economic impact in Canada. Through industrial participation programs, scores of Canadian companies make components for Boeing commercial and military airplanes, satellites, and simulators for pilots training. The company also has established relationships with Canadian universities to fund research in fields such as visual analytics tools and technology used in unmanned aerial systems.

At L-3 Electronic Systems in Toronto, workers produce color displays for upgraded F/A-18 jet fighters, the C-17 and other aircraft. Boeing is the company’s largest customer, said Arni Olafson, L-3’s F/A-18 program manager. “Our relationship with Boeing is extremely important, and L-3 is proud of having been awarded the Boeing Gold Performance Excellence Award last year,” Olafson said, adding the relationship has made L-3 a better company. “From my personal perspective, Boeing is a demanding customer, but the demands are reasonable, and successful efforts that satisfy requirements are both recognized and appreciated.”

Boeing’s first business with Canada dates back to 1919, when founder William Boeing flew one of his airplanes to make the first international mail delivery between Vancouver and Seattle. Ninety years later, Hill said business between Boeing and Canada is poised to keep growing.

“Canada will continue to grow as a commercial and defense customer and flourish as a supplier partner,” Hill said. “We have the potential to grow our business on both sides of the border and create a long-term, lasting value.” ■

eric.c.fetters-walp@boeing.com

Boeing employees in Canada



PHOTOS: (TOP) Tyrone Friesen (left) and Matthew Phill, both trim technicians, sand the core of a 787 main landing gear door at Boeing Winnipeg. **(ABOVE)** Pedro Olid (left), assembly technician, inspects a 787 engine pylon aft fairing with the help of Joe Desousa, 787 engine pylon aft fairing manager (background left), Eric Cuenco, assembly technician-lead hand, and Rich Wieser, technologist lead, at Boeing Winnipeg. JOHN WOODS/ASSOCIATED PRESS

COMMERCIAL AIRPLANES LOCATIONS

Winnipeg, Manitoba: Facilities totaling more than 700,000 square feet (65,000 square meters) make composite parts for the Next-Generation 737, 747, 767 and 777 airplanes and is a major structures partner for the 787 Dreamliner.

Richmond, British Columbia:

Boeing subsidiary AeroInfo, providing maintenance planning software for airline customers

Montreal: Airline operations services facility operated by the Carmen Systems division of Jeppesen

Ottawa: Boeing's national office for Canada Aviall Services, a wholly owned Boeing subsidiary and the world's largest diversified aircraft parts distributor, operates six customer service centers across Canada.

INTEGRATED DEFENSE SYSTEMS PROGRAMS

IDS is the prime contractor to modernize 80 of Canada's CF-18 jet fighters.

Canada purchased four Boeing C-17 Globemaster IIIs in 2007.

The Canadian Department of National Defence announced in 2006 its intention to buy at least 16 CH-47F Chinook helicopters. IDS and SkyHook International Inc. of Calgary, Alberta, are jointly developing a new heavy-lift aircraft designed to transport equipment and materials to remote regions.

Boeing's Insitu subsidiary recently was awarded a contract from Canada to provide ScanEagle unmanned aerial system services.

INDUSTRIAL PARTICIPATION AND SUPPLIERS

Canada hosts one of Boeing's largest international supplier bases, with more than 200 suppliers across the country.

Canadian partners provide commercial and defense aerospace components for all Boeing commercial aircraft models and the CH-47, the V-22 rotorcraft, aircraft trainers, F/A-18s and the C-17.

Combined with the company's facilities in Canada, Boeing's supply network generates approximately \$1 billion in business annually.

BOEING CANADA WEB SITE

www.boeing.ca

Winnipeg pursues 'zero-waste' production

Boeing Winnipeg is leading the way toward ecologically sound “zero-waste” manufacturing with a pilot project scheduled to begin later this year.

The site’s 747-8 Engine Strut Aft Fairing area recently held a kaizen—a workshop focused on continual production improvements—to examine energy use reductions and increase materials recycling. Once the plan that the workshop developed is in place, the 747-8 ESAF manufacturing area will be one of the first of its kind within Boeing.

Prashant Rajurkar, environmental specialist at Boeing Winnipeg, said the push to pursue zero-waste-to-landfill goals has come directly from production employees. “The initiatives are coming from the shop floor, which makes my job much easier,” he said.

The Winnipeg site already has taken many steps to improve its environmental performance, including the adoption of point-of-use recycling carts on the manufacturing floor and progressive cooling technology for autoclaves. Last October, the site earned ISO 14001 environmental certification. Indeed, the zero-waste workshop was organized by members of the Continual Improvement Team in charge of the site’s ISO 14001 compliance in partnership with Winnipeg’s Lean organization.

Winnipeg employees have considered many ideas to reduce packaging, leftover metals and general solid waste. Those include using a point-of-use vacuum to collect recyclable metal bits, said Kelly Thiessen, project manager for the 747-8 cell.

As a result of the workshop, the Winnipeg team created a plan that will divert 98 percent of the manufacturing area’s waste away from landfills and reduce energy consumption in the cell by 76 percent. Ultimately, the cell hopes to send no waste to landfills. Rajurkar said achieving that goal will not come without challenges, however. The biggest problem has been finding local recyclers that handle certain plastic materials. “But the company is passionate and our employees are passionate about this,” he said.

Willy Geary, general manager of Boeing Winnipeg, agreed. “Our employees are always encouraged to seek solutions to issues, and we have a very strong Lean department that



PHOTO: Prashant Rajurkar, environmental specialist at Boeing Winnipeg, displays the results of a team recycling initiative.

JOHN WOODS/ASSOCIATED PRESS

actively works with employees to streamline our processes,” Geary said. “We have great Employee Involvement teams that are working toward production improvements and ways to reduce our environmental footprint,” he said.

The robust waste reduction steps in Winnipeg come as Boeing has set a target to boost recycling rates to 75 percent and improve energy efficiency 25 percent by 2012 at its major manufacturing sites. “This has the potential of spinning off and benefiting not just Winnipeg but other sites besides us,” Thiessen said.

— Eric Fetters-Walp

Canada's major airlines

AIR CANADA

Headquarters: Montreal

Fleet: 334 long-haul and regional airplanes, including 17 Boeing 777-200LR (Longer Range) and 777-300ER (Extended Range) versions and 30 767-300ERs. Air Canada is a launch customer for the 787 Dreamliner with firm orders for 37 airplanes.

Customer base: The nation's largest full-service airline, Air Canada serves more than 32 million customers annually with direct flights to five continents.

Notable: Founded in 1937, Air Canada is a founding member of the Star Alliance.

WESTJET

Headquarters: Calgary, Alberta

Fleet: 78 Next-Generation 737s; confirmed orders for 43 more

Customer base: WestJet serves 55 destinations across North America and the Caribbean.

Notable: WestJet recently announced partnerships and codeshare agreements with Southwest Airlines and Hawaii-based Mokulele Airlines and plans to partner with Air France/KLM.

SKYSERVICE AIRLINES

Headquarters: Toronto

Fleet: More than 20 airplanes, including Boeing 757-200s

Customer base: Skyservice provides flights between North America, the Caribbean and Europe.



AIR TRANSAT

Headquarters: Montreal

Fleet: 18 Airbus jetliners

Customer base: The airline supports tour operations of Transat AT.

CANADIAN NORTH

Headquarters: Yellowknife, Northwest Territories

Fleet: Nine 737-200 airplanes, along with smaller airplanes

Customer base: Canadian North provides scheduled charter and cargo service to the Northwest Territories and Nunavut.

Notable: Canadian North is 100 percent aboriginal-owned.

SUNWING AIRLINES

Headquarters: Toronto

Fleet: Seven 737-800 airplanes year-round, expanding to 15 737s during winter

Customer base: Sunwing serves vacation routes to Florida, Latin America and the Caribbean exclusively for Sunwing Vacations.

CANJET AIRLINES

Headquarters: Halifax, Nova Scotia

Fleet: Three 737-800 airplanes year-round, expanding seasonally to seven

Customer base: Canjet is a full-service charter airline supporting tour operators.

Other Canadian airlines include Air Inuit, Air Labrador, Air North, Cargojet, Enerjet, First Air, Flair Air, Kelowna Flightcraft, Morningstar Air Express, Nolinor Aviation and Porter Airlines.

Sources: All airlines listed above and Boeing

PHOTO: In addition to flying 17 Boeing 777s, such as the one shown above, Air Canada flies 30 767 jetliners and is a launch customer for the 787 Dreamliner. TIMOTHY STAKE/BOEING