

## Mexico a new destination for aircraft manufacturing

by Diane Lindquist

Goodrich Aerostructures' factory in Mexicali, Mexico, might be a jumble of rebar and concrete now, but the structure soon will become crucial to the company's efforts to compete in a changing global aviation industry.

**AEROSPACE GROWTH** - A quality assurance inspector checks a circuit board at Nu Visions, an aerospace manufacturer in Tijuana, Mexico. CNS Photo by Eduardo Contreras. When the 350,000-square-foot plant opens late this year, Mexican workers will start fabricating Goodrich nacelles and thrust reversers for Boeing's new 787 Dreamliners. The company also has its sights on the upcoming Airbus A350 XWB.

All are new-generation aircraft that are making a technological leap into the future.

"If we get those (contracts), we would have the opportunity of putting those activities down there as well," said Patrick Palmer, spokesman for Goodrich Aerostructures, the former Rohr Corp. that Goodrich acquired in 1997.

Goodrich, which has another aircraft-components facility in the neighboring state of Sonora, Mexico, is among scores of aviation companies flocking to Mexico.

"It's becoming a world-class hub of aerospace activity," Palmer said.

According to recent government statistics, there are 124 aeronautical companies in Mexico. Many of the operations, 39 in all, are located in Baja California and employ 12,500 workers.

The state accounts for 35 of the country's 96 aviation manufacturers; one of 15 maintenance and repair facilities; and three of the 13 companies in Mexico involved in aerospace engineering and design.

U.S. aerospace companies have long used Mexico as a low-cost supply center. But in the early 2000s, the maquiladora program was losing hundreds of operations to cheaper production centers.

At the same time, the aeronautical industry was being battered by regulatory institutions, extreme competition and the aftermath of Sept. 11. Many aviation companies operating in Mexico closed, fled or

downsized.

Now the \$410 billion global airline business is reviving. After posting monumental losses from 2001 to 2005, the industry was projected by aerospace analysts to make a \$5 billion profit in 2007.

The main air frame manufacturers - Boeing, Airbus, Bombardier and Embraer - are all ramping up, creating new aircraft that are expected to carry the industry well into the 21st century.

Over the next decade, the 2006 global commercial fleet of about 17,800 aircraft is expected to grow to 27,000.

As part of the transition, the industry is returning to Mexico with increasingly sophisticated operations.

A key marker of the turnaround was the groundbreaking in May in Queretaro for a massive complex being undertaken by Montreal-based Bombardier, the maker of Learjets and other executive jets. The company plans to begin operations building wiring harnesses, fuselages and flight controls, but is talking of assembling entire aircraft in Mexico.

That would put the country at the forefront of developing nations, including China, vying to perform final assembly of sophisticated aeronautical pieces.

Aerospace also has a pulling effect on industries such as electronics and metallurgy. Countries that can build something as complex as a jetliner are viewed as having their industrial act together.

"Companies want a lower cost than in the rest of North America, but because of logistics they don't want to do the activities in Southeast Asia or China," said Steve Pudles, executive vice president of Nu Visions.

Nu Visions, soon to become OnCore Manufacturing Services, performs manufacturing in Tijuana, Mexico, for aviation, defense, and medical device companies. The company is making 20 to 25 products for two aerospace customers, which Pudles declined to identify.

When it started operating in 2004, he said, Nu Visions was able to choose from a pool of experienced and skilled workers both for the assembly line and senior staff positions. All employees, except the general

manager, are Mexican.

"The reason we're able to make high-reliability equipment is that we didn't go down to do a low-cost labor shop operation," Pudles said. "We were able to replicate our activities in Massachusetts."

Another big impetus for locating in Mexico is the recent signing of the Bilateral Aviation Safety Agreement between the United States and Mexico. The pact makes it possible for design and production activities to be performed in Mexico to U.S. Federal Aviation Administration standards, so that parts no longer need to be sent to a U.S. manufacturing or lab facility for certification but can be shipped directly to an end user.

"It gives us a 'Good Housekeeping Seal of Approval' that shows we can do it," said John Riley, chief executive of high-tech contract manufacturer BC Manufacturing and a 39-year veteran of manufacturing in Mexico.

"The workers are becoming more educated and more capable. They meet world-class manufacturing standards," he said. "You can tell by the kind of work coming into Baja California."

Some of the companies operating in the state, according to the Mexican Economy Secretariat, are Gulfstream, Rockwell Collins, Northrop Grumman, Eaton Aerospace and Volare Engineering.

Honeywell Aerospace, which has long had a presence in Baja California, stepped up its profile in 2006 by breaking ground on a \$40 million system integration lab in Mexicali where Mexican engineers will develop new technologies for future commercial aircraft.

The lab features a full-scale simulation of multiple aircraft systems and provides engineers with the ability to test their interoperability, control and technical maturity.

"Honeywell must operate in regions where quality can be assured while reducing costs," company spokesman Bill Reavis said. "Honeywell selected Mexicali for its affordability, excellent skilled labor pool and its proximity to other Honeywell sites in the Southwest."

Baja California state and municipal government and civic leaders have played an instrumental role in attracting aerospace companies to the state. They set a mandate to attract higher-value-added industrial clusters in medical devices, high-tech consumer electronics, and automotive, in addition to aviation.

These three clusters have accounted for most of the high-end job creation and industrial property investment in the state over the past two years.

"We worked real closely with the state, local, and even federal officials to make this happen. And we got tremendous cooperation across the board," said Goodrich spokesman Palmer.

The company is working with local leaders to develop special programs in the state's universities and tech schools to produce training programs geared to their manufacturing processes.

"We're building with the idea that at some point there might be other Goodrich business units interested in boosting our presence there," Palmer said.

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