

# Comeback kid Embraer has hot new jet, and fiery CEO to match

## Airlines snap up comfortably roomy 70-to-100 seaters

By David J. Lynch  
USA TODAY

SAO PAULO, Brazil — Even after more than 10 years, Mauricio Botelho likes to tell the story of his first press conference as chief executive of aircraft maker Embraer.

The formerly state-owned company had just been privatized in a desperate bid to revive its fortunes. Amid flagging sales and an ocean of red ink, the workforce had been halved. Embraer's prospects were so dim that only three journalists roused themselves to attend Botelho's debut. And after eyeing his resume, one scribe launched a barbed query.

"Don't you think, sir, it would be better for the company," she asked, "if you knew anything about aviation?"

Botelho, an engineer who'd distinguished himself working on Brazil's first nuclear power plant, delivers the sassy punch line with a red-faced laugh that appears to start somewhere near his toes. It's the kind of self-deprecation in which the successful can indulge. And the Brazilian has been nothing if not that.

Once an imperiled also-ran, solidly profitable Embraer now boasts one of the hottest new aircraft on the market and one that Americans increasingly fly. The company's new family of mid-size aircraft, the Embraer 170 and 190, is bringing big-jet comfort to a segment of air travel infamous for cramped seats and non-existent carry-on space. Rather than the tradi-

tional cigar-shaped fuselage, the jets — generally with 70 to 110 seats — use an innovative "double-bubble" design that provides stand-up-straight headroom. Four-across seating means no one suffers in a middle seat.

But Botelho's work is far from finished. JetBlue earlier this month

booked orders for 210 of the E-170/175 models and 220 of the larger E-190/195s. Discount carrier JetBlue has made the biggest bet on Embraer, placing firm orders for 101 E-190s.

"That whole family is doing really well. They are in a virtual monopoly position," says Adam Pilarski, senior vice president of Avitas, a Chantilly, Va.-based consultant.

Still, the program faces long-term questions of costs and customers. Bombardier says its planes are 10% less expensive to fly than the new Embraer models. Mauro Kern, vice president of airline programs for Embraer, counters that sales are doing better than expected.

Embraer's best hope of winning orders from a major U.S. airline, however, may hinge on whether, and how, Northwest Airlines emerges from bankruptcy protection. The Minneapolis-based airline has a number of aging DC-9s that the Embraer planes could replace. And while discount carriers such as JetBlue and Britain's Flybe have snapped up the new aircraft, Botelho discourages talk that Southwest Airlines will follow suit any time soon.

### More agile and aggressive

In a 75-minute interview at Embraer's headquarters here, Botelho displays his trademark mix of charisma and steel. An ebullient, immensely likable figure, whose employee name tag emblazoned "Mauricio" hangs



reported a rash of problems with its first E-190s, including tardy deliveries. Embraer's goal of diversifying into the U.S. defense market was imperiled by the Pentagon's cancellation last month of a surveillance system that would have flown aboard one of the company's older planes.

Embraer is enjoying early success with its new family of jets, having

## Embraer becomes mainstay for JetBlue

U.S. airline JetBlue is one of the carriers flying the highly touted Embraer 190, a Brazilian-made jet designed to fill the niche between small regional jets and narrow-body jetliners such as the Boeing 737. How the 190 compares with the 737 and Embraer's regional jet, the ERJ-145:

### Embraer 190

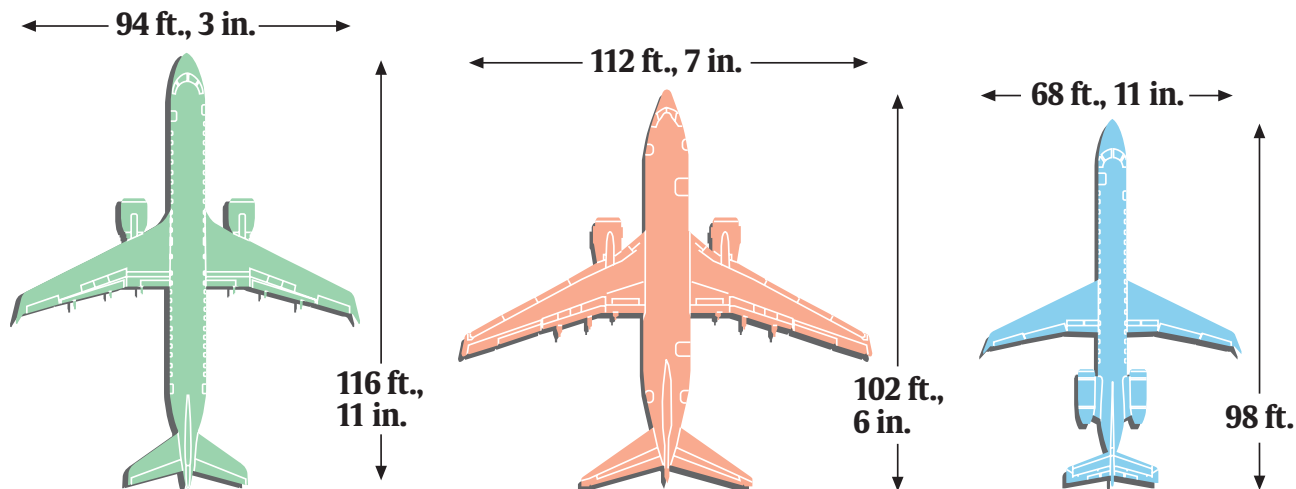
Passengers: **94 to 106**  
 Tail height: **34 ft., 8 in.**  
 Cabin width: **9 ft.**  
 Cruise speed: **598 mph**  
 Maximum range<sup>1</sup>: **2,647 miles**

### Boeing 737-600

Passengers: **100 to 132**  
 Tail height: **41 ft., 3 in.**  
 Cabin width: **11 ft., 7 in.**  
 Cruise speed: **530 mph**  
 Maximum range<sup>1</sup>: **3,510 miles**

### Embraer ERJ-145

Passengers: **50**  
 Tail height: **34 ft., 8 in.**  
 Cabin width: **6 ft., 11 in.**  
 Cruise speed: **583 mph**  
 Maximum range<sup>1</sup>: **2,301 miles**



1 - statute miles

Sources: Embraer, Boeing

By Robert W. Ahrens, USA TODAY

from his jacket, Botelho seems proudest of the cultural change he has inculcated at Embraer.

Embraer's engineers once were given such free rein that they produced the CBA-123, an ill-fated aircraft introduced in 1990 that Botelho says was "designed by engineers for pilots" while forgetting the customer. Botelho insists on keeping a picture of the doomed jet, which never sold, hanging in Embraer's offices.

"Since the privatization, we have evolved a lot ... to make us more agile, more aggressive ... closer to the customer and more effective in satisfying their needs," he says. "We changed the culture in a way to understand that customer satisfaction is the generator of results."

For now, "customer satisfaction" means resolving the performance

shortfalls on the JetBlue deliveries. Botelho, noting that most new aircraft suffer teething problems, blames the E-190 hiccups on the quick production ramp-up. "This caused some problems on quality from our side," he says.

Last week, JetBlue's E-190s were ready to fly 96.5% of the time, says Tom Anderson, the airline's senior vice president of technical operations. That's an improvement from the 93% figure the first E-190s posted in November, but still below the 99.1% mark of JetBlue's Airbus 320s. In the airline industry, where profit margins are wafer-thin, every lost percentage point is felt on the bottom line.

Some E-190 parts, such as a "smart probe" that feeds data to the aircraft's onboard computers, are failing much sooner than expected. The plane's

software also has an annoying tendency to misread as failures common pilot practices. Example: If a pilot accidentally leans on the control column while parked at the gate, the software displays an error message that could delay departure.

"It's not as good as we'd desire. But for an airplane that's 4 months old, it's not too bad," Anderson said.

Embraer is making adjustments on its production line and with its suppliers. But Botelho says it will be midyear before everything is squared away.

In Building F60 at Embraer's production site in San Jose dos Campos, about 50 miles outside Sao Paulo, reverberations from rivet guns collide with the chirps of cellphones. Aircraft in various stages of completion fill the plant. Most of the company's 17,000 workers toil here and in other sites in

Brazil. About 2,500 work abroad.

### Global customer list

Outside, pewter-colored skies promise rain. Inside, workers in open-necked polo shirts and grey slacks build away. Already, they've cut the time needed to assemble a complete aircraft from eight months to four, says Botelho.

In the nearby assembly building, almost-finished airplanes attest to Embraer's diverse customer roster. The seven planes docked here, awaiting the installation of everything from seats to toilets, include two JetBlues, a pair of Air Canadas, and one each for Indian start-up Paramount, Poland's LOT and Saudi Arabian Airlines.

When Botelho arrived in the fall of 1995, few expected Embraer to get this far. For his first two years at the company's helm, he concentrated on returning the company to solvency. Only in 1997, when Embraer reached the break-even point, were executives able to ponder the future.

Looking to make inroads against regional jet leader Bombardier of Canada, the company sought input from 60 airlines. At the time, there was plenty of competition in the 50-seat regional jet market, where Embraer's ERJ-145 faced off against Bombardier's CRJ-200. Big-jet makers Boeing and Airbus battled furiously on models with 130 seats or more. But for 70 to 110 seats, the market seemed wide open.

At the same time, regional airlines were hearing from fliers tired of being

shoehorned into cramped planes that forced them to stoop in the aisles and that lacked room for carry-ons. It was bad enough taking "puddle-jumpers" on short hops of an hour or two. But as airlines turned to them for flights of three hours and longer, customers rebelled.

Stretching the venerable ERJ-145 — the traditional way of adding seats — wouldn't have answered those demands. It just would have meant a bigger uncomfortable plane.

### A brand-new design

So, Embraer engineers drew up a brand-new design. With rows of four seats, every passenger would enjoy either a window or aisle seat. Making that practical required an innovative fuselage that Embraer calls the "double bubble." (In cross-section, it looks like the top half of a traditional big-jet fuselage married to the bottom half of a narrower body.)

"We could see a lot of opportunity to bring more comfort to passengers compared with regional jets," says Kern.

The new Embraer jets make it possible for airlines to open markets in smaller cities. On many secondary routes, a 150-seat aircraft, such as an A-320 or Boeing 737, might be too big to fly more than once or twice a day or it might leave the ground with empty seats. Neither option would make financial sense.

The 70- and 90-seat Embraer models, however, offer the prospect of serving markets such as Shreveport,

La., and Montgomery, Ala., with customer-pleasing frequency. "That's where the growth is," says Michael Boyd, an Evergreen, Colo., airline consultant who has worked with Embraer.

Embraer couldn't afford the project's nearly \$1 billion development cost, so it recruited 16 cost-sharing partners — four times as many as worked on the ERJ-145 a generation ago. Among the multinational partners were General Electric, which produces the jet's engines, and Honeywell, which makes the cockpit information system. Embraer's teammates ponied up about one-third of the development cost and helped speed the plane from launch to first delivery in less than five years.

Meanwhile, Botelho can't rest on success. He still wants a piece of the Pentagon's ever-fatter budget, and he's readying a new business jet called Phenom to challenge Bombardier in a market the Canadian maker has long dominated.

Embraer also is undergoing a corporate restructuring aimed at giving it broader access to capital markets and preparing for Botelho, 63, to step down in April 2007 as CEO. He'll remain as chairman.

That's a full agenda, offering ample chances for miscue. But Embraer has a 10-year record of leaping hurdles. "Since 1960, one country and one company succeeded in entering the jet market," says consultant Richard Aboulafia. "That country is Brazil, and that company is Embraer."

## DISCUSSION

- ▶ How do the Embraer 170 and 190 differ from other midsize aircraft?
- ▶ What challenges does the company face as it attempts to enter the business jet and U.S. defense markets?
- ▶ How has CEO Mauricio Botelho changed the culture of Embraer?
- ▶ What problems does the “double-bubble” design solve?
- ▶ How did Embraer afford the new jets’ development?

## VOCABULARY

*diversifying  
fuselage  
imperiled  
inculcated  
monopoly  
multinational  
privatized  
restructuring  
solvency*

## ACTIVITY

Botelho says the unsuccessful CBA-123 was “designed by engineers for pilots” without considering the needs of passengers. Adopt the role of an aircraft company CEO, and imagine that your team will be developing a new, large jet for international travel. Identify four different groups (e.g., pilots, passengers, etc.) that you will need to consider when designing the jet, and list the most important needs of each.

Groups	Priorities



Now, analyze the chart above, and decide what your single biggest challenge would be. In the space provided, describe the challenge and how you would address it. \_\_\_\_\_

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