

THE LITTLE AIRCRAFT COMPANY THAT COULD

When Mauricio Botelho took the controls at **Embraer** ten years ago, the Brazilian company was nearly bankrupt. Now it's flying high. BY RUSS MITCHELL





BOTELHO stands in front of an Embraer 190 at the company's plant in São José dos Campos.

Robert Milton had barely heard of Mauricio Botelho when a small box arrived on his desk in April 2001. The return address read São José dos Campos, Brazil. Milton, then CEO at Air Canada, slit open the box and pulled out a hand-sized DVD player. He flipped it open, turned it on, and felt the disk start to spin. Up on the screen popped the face of a man wearing gold-framed glasses and an impish smile. “Hello, Robert,” the man said. It was Botelho, the chief executive of Brazilian airplane manufacturer Embraer, saying he’d like Air Canada to buy a few of his new planes. At that very moment, the virtual Botelho said, a truck was making the rounds in North America

carrying a mockup of the interior for a family of planes that could seat 70 to 118 passengers, with no middle seats. “Mr. Milton,” Botelho said, “we’d love it if you’d just take a look.”

Milton thought this was a little nuts. Air Canada’s headquarters in Montreal is next door to the headquarters of Bombardier, Embraer’s archfoe in the regional-jet market. How could Air Canada, a onetime ward of the Canadian government, even consider turning to Brazil for planes? But his curiosity led him to the truck—and he returned transformed.

“The design and the level of comfort was really appealing to an airline person,” Milton says. “Wide seats, big windows, a 6-foot-6 ceiling height, bins that fit roller bags, efficient fuel consumption. It’s a 100-seater dream come true. And the economics make sense. You can’t wait to get these things.”

Milton, now CEO at Air Canada parent Ace Aviation Holdings, knew he couldn’t just order up Brazilian planes and ignore Bombardier. So he hosted an airplane demonstration, inviting Embraer, Bombardier, Boeing, and Airbus to display their wares. Invited, too, were analysts, the media, plenty of politicians and government officials, as well as Air Canada’s most frequent fliers. “We asked them, ‘Is it important that Air Canada buy a Canadian airplane?’” Milton recalls. “They all said we should buy the best airplane.”

Air Canada takes delivery of the first of 15 Embraer 175s this month, and in November 45 Embraer 190s, with options on 60 more planes, an order worth up to \$3.5 billion. As for Botelho’s DVD come-on and road show, says Milton, “it was the smartest sales approach of any product I’ve been pitched in my life.”

Botelho, 63, is a business legend in Latin America. When he took the controls of Empresa Brasileira de Aeronáutica—Embraer for short—in 1995, the company was near death. Effectively bankrupt

and in disarray, it had been sold to private investors by the government the previous year. Now Embraer is widely considered one of the most successful privatizations anywhere in the world and one of the aerospace industry’s strongest performers. Sales last year rose 61%, to \$3.4 billion, while profits nearly doubled, to \$380 million. “A lot of people have tried and failed,” says Richard Aboulafia, an analyst at the Teal Group in Fairfax, Va. “But since 1960 only one new company and one new country have successfully

entered the commercial aircraft market.”

A friendly bulldog of a CEO, Botelho is smart, determined, and enthusiastic. He listens well, makes the tough decisions, and possesses all the traits that any CEO’s top lieutenants will say their fearless leader possesses, even when he does not. But David Neeleman, founder and CEO of Jet-Blue, which has ordered 100 Embraer planes, with an option on 100 more, attaches another encomium to Botelho that is both refreshing and rare among the ranks of those who lead major corporations: “I think he’s a normal guy.”

Normal in that he can have a beer with an assembly line worker and the worker won’t think it’s weird. Normal in the way he got rid of the separate cafeterias for assembly workers, engineers, office workers, and senior staff when he arrived at Embraer and had everyone dine together. Normal in that he can show up at an airline executive’s office to pitch his products and the executive is actually glad to see him.

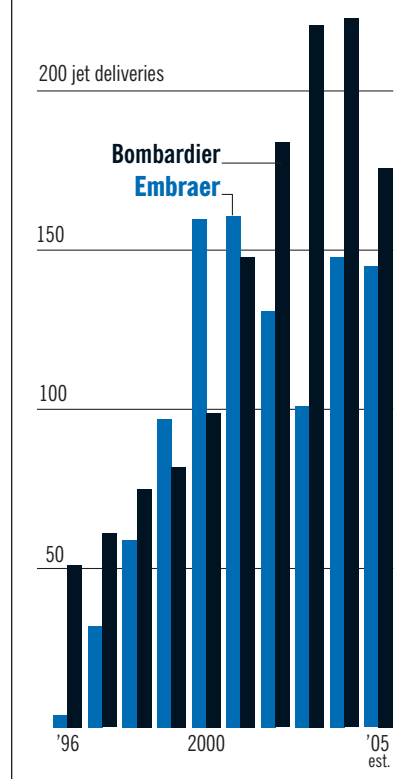
Botelho needs to push his airplanes, but what he doesn’t need to sell are the economic factors reshaping air travel. The airline executives know them all too well. “Airlines are using bigger aircraft than the market requires,” Botelho says, sitting in a high-rise office overlooking the sprawl of São Paulo, the Western Hemisphere’s largest metropolis, sipping a thimble-sized cup of *cafezinho*. “This represents losses.”

The idea that airplanes are too big may seem strange in an era when Airbus is building a cruise ship of an aircraft, the A380, with room to carry 500 to 800 passengers. But it’s more moderate-sized planes like the Boeing 787 Dreamliner that have Boeing and Airbus headed to world trade court. And it is the short- and medium-haul routes—where the growth is, especially in the U.S. and Europe—that have created demand for even smaller jets.

Curiously, the niche for jets that carry 70 to 110 passengers has gone largely unexploited until now. Before 1992 no one suc-

UP, UP, AND AWAY

Annual deliveries of regional jets have soared since Botelho became chief executive of Embraer in 1995.



cessfully manufactured commercial jets with fewer than 120 seats. So when Embraer and Bombardier introduced the first 50-seat regional jets in the 1990s, new markets opened up connecting small cities with other small cities and with larger ones. Since 1995 the number of regional-jet routes has grown 1,000% in Europe and 1,400% in the U.S. Much of that increase comes from commuter airlines that the majors own or contract with to connect smaller markets to their hubs—airlines such as Continental Express, American Eagle, Mesa, and Horizon. Now up-and-coming low-cost airlines like JetBlue will use the larger versions of those planes to skip over the hubs altogether, rattling the majors' already shaky finances.

Embraer and Bombardier share the market for regional jets, just as Boeing and Airbus have split the big-plane business. Bombardier, which pioneered the regional jet in 1992, is the bigger of the two, with about 65% of the market for regional aircraft in service, compared with Embraer's 35%. But Embraer has the momentum,

with about two-thirds of undelivered regional-jet orders. And it is crushing Bombardier in the market for planes that have between 80 and 118 seats, with more than 170 firm orders, including recent purchases of 20 Embraer 190s by GE Commercial Aviation Services and as many as 26 195s by Flybe, the low-cost British airline. Bombardier's entry in this category is still on the drawing boards and may never be built.

If Brazil seems an unlikely country to have nurtured a high-tech global success like Embraer, Botelho himself didn't seem, at first, the likeliest choice to run the company. His background was more Bechtel than Boeing. He had no aerospace experience and, in an industry loaded with hobby pilots, no interest in flying a plane. A mechanical engineer, he did arrive with a solid record of success in managing construction projects in Brazil—nuclear power generators, steel mills, petrochemical plants—and in running one of the country's largest engineering firms.

Raised in Rio de Janeiro, Botelho often

visited his family's cattle ranch deep in the country's interior. He once joined his dad on a roundup, the source of his most vivid childhood memory: "We stayed three days and two nights getting the cattle into the corral to have them vaccinated and marked. Imagine you were 12, driving a horse for three days and sleeping in the woods in a hammock, with your father and other cowboys, crossing rivers. It's something you never forget." And what life lesson was branded into him by the experience? "I was not made for that sort of business."

Today the only cows Botelho has to deal with are the hump-backed ones he passes along the 50-mile drive from São Paulo to São José dos Campos, Brazil's aerospace center and Embraer's headquarters. When he first arrived in the city, he found no lack of technical talent. São José dos Campos is also home to several technical institutes, including Brazil's version of MIT, and the city teems with skilled engineers. "They were overwhelmingly capable, exceptional technicians," he says. "But they missed the business view."



INSIDE a 190,
workers install
new seats.

At a meeting before he took over, Botelho asked the acting CEO to describe Embraer's business. "He said, 'Our business is to manufacture aircraft,'" Botelho recalls. "I said, 'You are wrong. Your business is not to manufacture aircraft. If it is, why not just put a machine to work turning out airplanes? You'll have plenty on the tarmac, and then what? Your business is to serve your customer.'"

A page from Peter Drucker's book, perhaps. But the business world is littered with state-controlled companies that couldn't

The Brazilian government initially fronted Embraer a \$98 million loan, long since paid back. But the bulk of the capital for the 145 came from the company's major investors—Bozano, a holding company with interests in several industrial and financial ventures, and two government pension funds. Botelho cut Embraer's workforce and sliced wages. When the union resisted, he opened the company's books and asked union leaders to go along in order to save the company so that workers could be hired back in the future. They agreed—provided

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thrive after losing their government protection. It's not just a Third World phenomenon—look at AT&T.

Botelho might have knocked back the engineers and imposed a fresh crowd of sharp-suited marketing types on the company, but he didn't. He chose to trust his engineers and train them to direct their skills toward customer satisfaction. He kept most of the senior managers on, bringing in only three top executives.

Embraer at that point was a mess. Saddled with questionable projects, it was sent reeling toward financial disaster by the oil shocks of the Gulf war and the recession that followed. Brazil's government was in crisis. There was no money for new projects. In 1994, Embraer had lost \$190 million, and little new cash was coming in.

The company's big international hit had been the Tucano, a training jet for the world's air forces, but that growth was behind it. Embraer had only one project in the works that offered any hope of success, a 50-seat regional jet, the Embraer 145. Botelho canned all other commercial projects and staked the future of the company on the plane. It was a risk: Bombardier was ahead by several years with its 50-seater. The planes were designed to replace cheaper-to-build propeller planes, which customers said they didn't like. But the regional-jet idea wasn't obvious to all. Saab's aircraft division bet on a new turbo-prop and ended up going out of business. "This is an example," says Botelho, "of how a strategy can make a company a success—or kill it if the strategy is wrong."

top management took the same 10% pay cuts as the workers. Botelho said yes.

The first 145s were sold to Continental Express in 1996. Then American Eagle, the feeder system for American Airlines, placed an order. Luckily for Embraer, the regional-jet market was taking off faster than anyone expected. Bombardier didn't have capacity to meet demand, opening the door for Embraer. And Brazil's lower labor costs allowed Embraer to undercut Bombardier on prices. Within three years of Botelho's arrival, the company began turning a profit. "Embraer had thought they'd sell 400 145s total," says Ricardo Fernandez, an analyst at ING Financial Markets in São Paulo. "They just sold their 900th in March. They blew away everybody's expectations."

To Botelho, the success shows the world how competitive a Brazilian company can be. "The international press often refers to Brazil with the perception that we burn our forests, we kill our children, we do not pay back our debts, we steal their patents," he says. "I don't deny some of those things happen, but they are not the fundamental Brazil. We feel we represent another side of Brazil that is not very well perceived."

Bombardier and Embraer would split the market for 50-seat jets. The next step was 70-seat planes, for which the regional-jet market was itching. Many routes, it turned out, could fill the extra seats with no problem, so most of the additional revenue was pure gravy. "It's staggering, the difference the 70-seat planes make," says JetBlue's Neeleman.

Bombardier again beat Embraer to market, in 2001, with two new planes seating between 70 and 86 passengers. The company's first 50-seater was based on a stretched-out business jet; its new planes were stretched even farther.

Embraer designed its bigger planes from scratch, with comfort in mind. In place of Bombardier's cigar-shaped fuselage, the new Embraer 170s, 175s, 190s, and 195s were based on a so-called double-bubble design, providing a larger circumference for wider seats—every one of them a window or an aisle—and better ergonomics, even in the bathroom. "You can piss standing straight up," marvels Satoshi Yokota, Embraer's executive vice president for development.

The project would cost more than \$1 billion. Embraer's New York Stock Exchange public offering in 2000 helped, but it wasn't enough. So Embraer made a virtue of necessity and recruited partners for the project—from GE to Kawasaki Heavy Manufacturing—that would provide cash upfront with no equity in return. What was in it for them? They'd get back their money and a whole lot more in profits if the Embraer project succeeded. In essence, they bet on Botelho. (Boeing copied this financing approach and forged similar deals with suppliers on the 787 Dreamliner.)

Besides comfort, the Embraer planes offer another feature that Bombardier's do not: They can accommodate as many as 118 seats. Bombardier CEO Pierre Beaudoin says Embraer "has a different strategy." He says the Bombardier planes that compete head-to-head with Embraer are lighter, get better fuel mileage, and are cheaper to operate. "The game here," Beaudoin says, "is to strike the right balance between comfort and operating cost."

It's too soon to tell who will win, but it's clear that both Boeing and Airbus have chosen not to play. Neither company builds planes in that size range. The closest they get are stubby versions of their 737s and A320s that go as low as 120 seats. Like Buicks and Chryslers downsized to compete with Japanese imports in the '70s and '80s, the planes are heavy even when shrunken. And they cost almost twice as much as Embraer's \$20 million jets.

This summer JetBlue starts taking delivery of the first 100 Embraer 190s, and Neeleman says his company has every intention of exercising its options to buy 100 more, a deal worth \$6 billion. The airline will stick with the Airbus A320s for transcontinental and other long routes. The Em-

braers will be used to grow point-to-point routes that the majors can't afford to serve with their bigger planes.

One of JetBlue's advantages is the lack of a scope clause, a pilots' union contract provision that restricts major airlines from buying regional jets. The planes might provide more flexibility for the airlines to lower fares and provide more frequent flights on a larger number of routes, but union pilots are paid bigger money for flying bigger planes, and they don't want to risk giving up those salaries. Bankruptcies

in line or go out of business. But in the longer run, regional passenger traffic is expected to keep growing. If one airline goes out of business, another carrier will pick up the traffic demand.

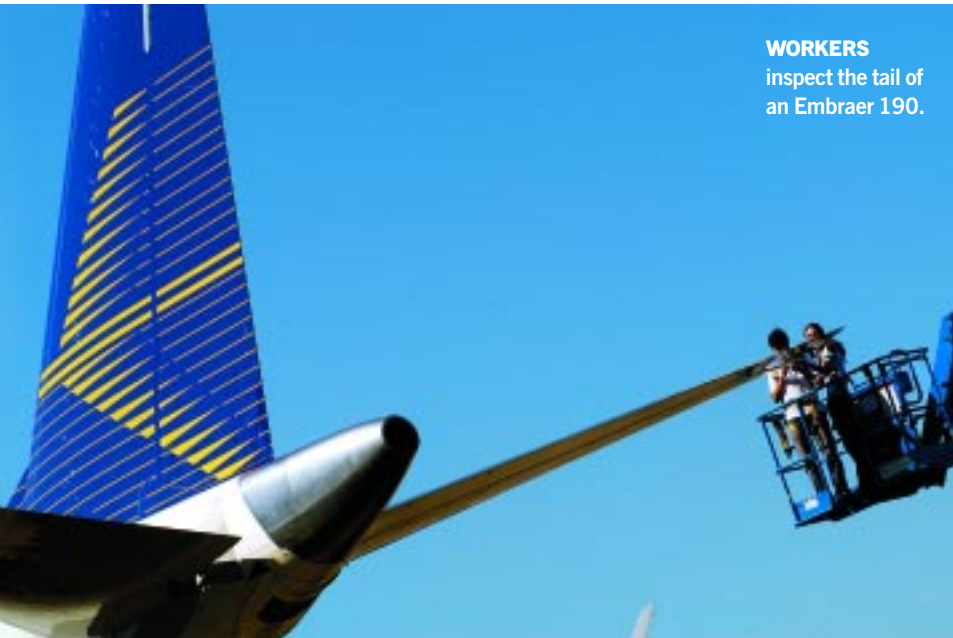
The biggest pressure on Embraer comes from Bombardier, which is considering a freshly designed aircraft, the C-series, that would range from 110 to 135 seats. Botelho says that "135 seats means jumping into the big dogs' yard," and that competing directly with Airbus and Boeing is something Embraer has no intention of doing.

Embraer to expand defense from 11% to 20% of sales, as it says it wants to do.

Expansion of Embraer's budding business jet sector may hold more promise: The profit margins on business jets are huge. But while Embraer's 16-passenger Legacy, a corporate version of an older regional plane, has proved competitive, the company remains a tiny player. Bombardier is a major force in the business jet market, with its popular Challengers and Learjets, while Raytheon and other companies sell business jets as well. In May, Botelho flew to New York to unveil two new clean-sheet jet projects, both light jets that will carry eight or nine passengers. The goal, Embraer says, is to be a major player in the business jet market in ten years.

It will be interesting to watch what happens at Embraer in 2007. That's when restrictions will be lifted on sales of stock held by Bozano and the pension funds, restrictions codified in the 1994 privatization. Embraer might then become an acquisition target for Boeing or Airbus, but the Brazilian government holds a "golden share" veto right on the company's sale to a foreign company, and national pride would probably scotch any such deal. At the least, a big unloading of Embraer stock could push prices down.

Investors will start asking questions about succession too. Rumors swirled through the aerospace industry early this year that Botelho had undergone an operation for a brain aneurysm. Embraer says



WORKERS
inspect the tail of
an Embraer 190.

at United and US Airways have forced the unions to ease up on scope clauses, but only a bit. Teal Group's Aboulafia describes the current situation: "Fifty seats no problem; 70 seats, we'll talk; 90 seats, a Bolshevik revolution."

A big Southwest order would launch Embraer into another realm. No one is counting on it, not the company, not stock analysts. (Southwest executives are playing coy on the subject.) But even without Southwest, ING's Fernandez says, Embraer will sell an average of 130 planes per year for the next ten years, which he calculates leaves the stock undervalued by about 25%. (Since a big rise in 2003, Embraer's stock price has been wandering between \$25 and \$35; as of June 15, it was \$34.)

It's not all clear skies ahead for Embraer. Should fuel prices go higher, should financial turmoil in the airline business continue, all the planemakers will suffer. The airlines will be forced to get their costs

Embraer's new planes are built for comfort. They have a larger circumference for wider seats—every one of them a window or aisle.

Financially strapped Bombardier would need \$2 billion for the project, but if it can pull the funds together, it could mean trouble for Embraer.

Rather than grow the business by moving up the size chain, Embraer intends to diversify. On the military side, it won a contract last year as part of a Lockheed Martin team to provide a customized Embraer 145 platform for the Aerial Common Sensor, a new surveillance and reconnaissance plane for the U.S. Army and Navy. Embraer will use its partnership with Lockheed to sell more such planes internationally. But analysts say the project won't be enough for

he bumped his head and suffered a subdural hematoma, a far less dangerous clot between the skull and the brain, and that it was removed. "It is a fact no one of us will last forever," Botelho says. "What we have are very good guys in their 40s and 50s. I see many talented people who could take the first position."

By taking a Third World failure and engineering it into an unqualified global success story in just ten years, Botelho has ensured his legacy. His successors, with far more to build on, will determine whether this Brazilian company is equipped for the long haul. **F**