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It's Adam's Eve

Maker ready to dominate the small-jet market

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ENGLEWOOD, Colo. - In pioneering a new generation of business jets, Rick Adam wondered what his toughest obstacle would be.

Coming up with a futuristic design?

Fabricating cutting-edge carbon fiber materials?

Or perhaps raising \$100 million for a risky endeavor?

But the biggest headache that has confronted the founder of Adam Aircraft, absorbing the majority of his time since he began the company in 1998, has been getting Federal Aviation Administration approval.

"We prefer to call it a 'challenge,'" says Adam, as always carefully choosing his words in describing the rigorous safety testing a new aircraft design must undergo. "Getting FAA certification has been more challenging than we understood at the front end."

But after seven years, the Adam A500 twin prop received certification May 11. The pivotal A700 Adamjet is still being tested, although Adam hopes its approval will take less time because it shares the A500's airframe.

Adam tells a story that says a lot about the certification process and his company's determination to win the microjet development race.

The FAA requires a commercial passenger aircraft to have emergency exits on both sides of the cabin. But in the 40 foot-long Adam A500, the best place to put the left side emergency exit was next to the plane's entry door.

"When dealing with regulators, the most straightforward way is to simply do what the regulators ask," Adam says. "They wanted two emergency exits, we gave them two."

Thus, the freshly certified A500 has an oval-shaped emergency door a few inches from the entrance.

Even before winning FAA approval of the A500, Adam Aircraft took steps to increase its manufacturing capacity. In March, the company announced it would open an assembly plant in Ogden, its third large facility. An airframe fabrication plant already operates in Pueblo, Colo., supplying parts for the initial assembly plant in Englewood, a Denver suburb where Adam Aircraft has its headquarters.

Parts from Pueblo also will flow to the Ogden plant, which Adam says will employ about 300 highly trained aviation technicians. That number will fluctuate in concert with demand for the aircraft.

The buzz surrounding the new plant goes beyond the much-needed boost to Ogden's economy. The Adam jet could foster the first major innovation in air travel in decades - the microjet or VLJ (very light jet).

Adam Aircraft's six-passenger A500 and A700 aircraft, designed by famed aeronautic engineer Bert Rutan and built of light-weight carbon composites, are not only low cost and fuel efficient, they are cool.

With twin engines, twin booms and an eye-catching, over-arching horizontal stabilizer, the design shares more with a "Star Wars" X-wing fighter than it does with most small airplanes.

"It's like driving a well-balanced Cadillac. It's very forgiving," says Scot Allen, Adam Aircraft manufacturing chief and a pilot who has flown the planes. "Because the carbon composite material is 30 percent stronger than aluminum, it's really overbuilt."

The in-line twin engines also enhance the plane's safety. The A500, in fact, has a console warning light to remind the pilot if the rear engine has stopped working.

Adam's enthusiasm is contagious at the Englewood plant, where employee perks include free flying lessons.

"We are reinventing aviation," Adam says. "We loving coming to work."

Also propelling this excitement is the perception that the company is crossing into a new frontier.

The light, comparatively inexpensive business jets could usher in the first major evolution in commercial air travel in decades,

what a NASA study calls the "air taxi" system.

Six- to eight-passenger air taxis, the majority VLJs or microjets, would connect 5,000 small airfields that already exist around the country. Although the cost of a seat likely will be higher than on a major airline - about double, Adam estimates - the air taxi will land a business traveler closer to his destination, at an air strip with none of the congestion and hassles of a major metropolitan airport.

But pioneering very light jets puts Adam Aircraft, and Ogden by extension, in a sizzling aircraft development race. At least eight companies are in the chase.

Adam Aircraft's primary competitors are Eclipse Aircraft and business jet giant Cessna. Another five manufacturers are right behind, including Brazilian regional jet builder Embraer, Diamond Aircraft in Austria and Connecticut-based Avocet Aircraft, which has a partnership with Israel Aircraft Industries.

With its A500 FAA certification in hand, Adam Aircraft is clearly in the lead. Only two competing companies, Eclipse and Cessna, are even flying prototypes at this point.

"Over the next 10 years, we are forecasting 3,500 VLJs will be sold," says Raymond Jaworowski, senior aerospace analyst for Forecast International, an aerospace and defense research company in Newtown, Conn. "We expect there will be room for at least four or five producers in this market. And we do expect Adam Aircraft will be one of them."

For his part, Adam is conservative. He has structured his company to survive by feeding off what he estimates is a \$1.5 billion market for very light jets.

"We are a very step-by-step company. We don't take big risks here," Adam says. "There is already a fabulous market for this aircraft. I just need to get through FAA certification [of the A700] and start building airplanes."

Adam's prognosis of a vibrant future for microjets is shared by Eclipse Aviation founder Vern Raburn who, despite not yet having obtained FAA certification for his company's jet, nonetheless says he has 2,000 light planes on back order.

But he will have to catch up with Adam Aircraft, whose pragmatism and creativity have impressed aerospace industry analysts.

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The competition

Englewood, Colo.

A700 Adamjet

Passengers: 6

Price: \$2 million

Flying prototype: Yes

FAA certified: No

Available: 3rd quarter 2005

Eclipse Aviation

Albuquerque, N.M.

Eclipse 500

Passengers: 6

Price: \$1.2 million

Flying prototype: Yes

Certified: No

Available: 2006

Cessna

Wichita, Kan.

Citation Mustang

Passengers: 6

Price: \$2.4 million

Flying prototype: Yes

Certified: No

Available: 2006

Embraer

Sao Paulo, Brazil

Jet yet unnamed

Passengers: 8

Price: \$2.75 million

Flying prototype: No

Certified: No

Available: Mid-2008