

## Advancing Private Aviation

*Innovations are making private aviation easier to access, more efficient, faster and more comfortable. What's not to love?*

*By Dale Buss  
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Whether it's as simple as a new kind of winglet or as complex as a safer parachute system, today's private aircraft offer exciting features that are coming along at the same time that there are more passengers to appreciate them than ever before.

Charter-booking apps have already proliferated to the point where they're practically commodities. Other upgrades, such as Starlink (Elon Musk's satellite-based, high-speed internet service), are still years away from routine service on business jets, while new types of aircraft such as eVTOLs (electric vertical takeoff-and-landing) are just now starting to appear on tarmacs. Plus, there are plenty of new technologies and even entire planes that are lighting the afterburners of people in the industry right now.

Here's what players in business aviation are highlighting these days:

- **Size matters:** One trend produced by the evolution of business aviation during the pandemic was greater demand for longer private trips and bigger and better aircraft for making those journeys, across America or overseas. Gulfstream, for example, has introduced the \$100 million G800, its longest-range aircraft yet, with the capability to travel 8,000 nautical miles without

refueling. It seats up to 19 passengers in four living areas, or three living areas with crew compartments, and deliveries are set to commence next year.

But some industry veterans wonder if customers for such aircraft may be frustrated by the lack of an improvement in cabin dimensions of the same magnitude as the range boost. “It’s not going to be that comfortable, but there is the primary convenience of not having to stop anywhere and just be able to go where you want to go,” says Ken Qualls, a veteran Gulfstream pilot and president of industry search firm Flight Management Solutions. “At that price, we might see people just paying another \$100 million and buying an airliner.”

- **Unprecedented connectivity:** The enthusiasm about 5G cellular networks on the ground is being matched by anticipation that the high-speed new technology will revolutionize airborne communications as well, with aircraft-interference technical issues expected to be cleared up soon. Already, the industry can boast connectivity levels that in some cases rival those in commercial airliners.

“Now you can view movies and short TV shows and get texts and emails and use your phone on private planes,” says Chuck Suma, COO of Million Air, a fixed-base operator with more than 30 locations. “The tech is at the point now where you can’t tell whether or not someone is on an airplane, making the airplane more of a business tool. And if it’s personal travel, families can integrate whatever apps they have for use on the plane, like Hulu or Apple TV.”

- **Need for speed:** While the pandemic produced a step-change increase in demand for, and participation in, private aviation, a greater urgency for fast travel came along with the new customers. That is producing more demand for seats on the quickest aircraft, even if they’re older and not as fuel-efficient as some fresh models, meaning a new lease on life for small Beechcraft and mid-size Citation X jets, now both made by Textron Aviation. It’s unclear whether higher jet-fuel prices in the wake of the war in Ukraine will affect this trend.

“Post-pandemic, we’re seeing a lot more businesses fly their executives private than previously,” says Chris Bull, CEO of SpeedBird, an air-charter service based in Orlando. “There’s an element of urgency to minimize their time out of the office and to reduce non-useful work time, and they can pick up 45 minutes or an hour per trip. You can hold a series of meetings in Illinois and be back in Florida for lunch.”

- **Smooth sailing:** Private jets are less susceptible to the turbulence that commercial jet fliers experience, but it still happens. That’s why many in the industry love the Praetor 600, the only aircraft in its category with anti-turbulence reduction built into its fly-by-wire technology. The Embraer-made jet dynamically smooths out the ride, making turbulence much less noticeable.

“This system is extremely reliable compared to traditional flight controls,” says Joseph Salata, senior vice president of operations for Flexjet, a provider of fractional jet shares and other flying arrangements. “The redundancy in the system includes multiple backup components to power the flight controls, which is seamlessly adopted by pilots.”

Tamarack CEO Jacob Klinginsmith

Giving planes not only smoother flights but also other advantages are a new generation of winglets—those perpendicular surfaces on the tips of wings that have been around for a century. Tamarack Aerospace introduced what it calls Active Winglets, which extend an airplane wing and feature a small surface that can move aerodynamically, providing what the company says are double-digit-percentage improvements in fuel efficiency as well as more stability. Active Winglets also cut noise pollution by up to 15 percent, the company says.

At a cost of about \$230,000 for installation on a Cessna CitationJet M2, for instance, “we have 150 business jets with our product on already, across eight models, installed as retrofits,” says Jacob Klinginsmith, Tamarack’s president.

- **Safety enhancements:** Cirrus Aircraft introduced new versions of its SF50 Vision Jet and G2, but even the original models approved for flight several years ago offer a reassuring focus on safety. In the event of engine failure, the Cirrus Airframe Protection System can be activated with a handle located between passenger oxygen masks.

And while these are single-engine, single-pilot birds, if the pilot is incapacitated or unable to land the aircraft, a feature called Safe Return converts the Vision Jet into an autonomous air vehicle. Garmin's Autoland system kicks in and uses all available resources to find the nearest suitable airport to land safely. "Safety always has to come first in this business, and these are innovative and exciting features to address that," says Joey Smith, an aviation director with Cassel Salpeter.

Overall, the safety technology "and situational awareness being made available to pilots today is unbelievable," Suma says. Bottomless information is now accessible by business-jet pilots, including weather maps, windshear-prediction algorithms and information on alternative airports. All of this is being accomplished in new models and retrofits of older planes while also saving dozens of pounds per swap as old computer servers are replaced with lightweight new ones. "Think of taking a very large iPad and sticking it on your instrument panel to run your avionics," Suma says. "That's how planes are being flown now."

- **HGTV in the air:** The growing ranks of business-plane owners are demonstrating a zeal for decorating and redecorating the inside—and sometimes the outside—of their planes. "Everybody's got their own personalities and decision-making processes, so it makes for a very interactive experience," says Kevin Dillon, president of Constant Aviation, a maintenance, repair and operations outfit based in Cleveland.

Both corporate and individual plane owners display many of the same interior-design preferences in the air as on the ground, such as a preference for grays, beiges and neutral tones. "Then you get people who are a little more

design-centric and want a Pottery Barn tufted couch,” Dillon says. “There’s nothing really that can’t be done.”

Constructing “sustainable” traveling spaces is important to more customers, too. Aircraft makers are adapting, including Bombardier, which “now is going way down the food chain to make sure all of its products carry environmental-product declarations,” says Doug Gollan, founder and editor of the *Private Jet Card Comparisons* buying guide.

- **Hardier materials:** The interiors of the finest business jets have long sported exquisite finishing materials like those in the most expensive automobiles, such as cherrywood and walnut veneers. But the rise of charter services hasn’t been good for plane interiors, because passengers tend to treat rental jets like they do rental cars, meaning more frequent repairs to furniture and fixtures—often time-consuming to complete.

Enter outfits such as flyExclusive, a large private-jet operator in Kinston, North Carolina, that does its own refurbishments and has turned to highly durable, matte-finish materials for tables and trays that are extremely difficult to scratch. “They’re like something out of a condo in Miami,” Gollan says. “They’re more or less indestructible.” And flyExclusive can swap in a fresh set of fixtures in a matter of hours rather than days.

- **Better booking apps:** Programs that book seats on private aircraft have proliferated like an in-the-clouds hybrid of Uber and Airbnb. However, gaps in the system that continue to prevent the creation of a “perfect market” for renting private flight space like the one that now exists for car-sharing.

New York-based FlyBLACK is one of the latest generation of flight-booking apps that intends to eliminate the remaining white space. The startup on-demand charter company invested more than \$250,000 to develop a software platform that charters empty legs and seats on private aircraft trekking the most-frequented routes in the United States.

“This is an incredible opportunity, because two-thirds of private jets are empty at any given moment because they are repositioning,” says CEO Sami Belbase. “And on the most popular routes, you have the most empty legs. Some of them get sold manually, but that’s not scalable. We have created an entire business model around these empty legs by harnessing and consolidating them and putting them in a centralized platform.”