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IT'S BEEN 15 YEARS since the Concorde was grounded and commercial flight slowed to subsonic rates. But a new wave of aviation startups is gunning to break the sound barrier as soon as 2023.

Supersonic Flight Prepares for Takeoff (Again)



THE FIRST COMMERCIAL SUPERSONIC ERA, from 1969 to 2003, had some well-documented issues. There was the tragic crash of Air France Flight 4590, a Concorde jet that went down in flames just after takeoff in July 2000. There was the window-rattling sonic boom produced by successful flights, which precluded airlines from scheduling overland routes. And there was the cost of fueling four gas-guzzling turbojet engines, which required 6,770 gallons of fuel an hour to reach and maintain a cruising speed of Mach 2—just under 1,500 miles per hour. The new breed of supersonic aircraft brings a reduction in both noise and environmental pollution. Aviation startups are developing planes with two engines (compared with the Concorde's four) and lower cruising speeds of Mach 1.1 to Mach 1.6. Along with thinner noses, this will minimize sonic boom and possibly allow for overland flights. Here's a look at the three leading startups on the runway.

BOOM XB-1
 ▶ **The Nouveau Concorde**
 TOP SPEED: Mach 2.2
 MAXIMUM CAPACITY: 55
 ANTICIPATED DELIVERY: 2023
 MSRP: \$200 million
 boomsupersonic.com



Boom XB-1 interior

Think of the Boom as a direct descendant of the Concorde, designed for large commercial flights. Virgin Group founder (and longtime supersonic-flight proponent) Richard Branson will receive the first 10 Boom aircraft.

And Branson isn't the only one betting on this Denver-based startup. In December 2017, Japan Airlines Co. invested \$10 million in the company and signed nonbinding options to purchase 20 aircraft. The XB-1 will fly faster than its rivals—and the Concorde—at Mach 2.2. The carbon-composite airframe allows for a curvier shape than conventional aluminum, markedly reducing sonic boom. The aircraft is expected to be much quieter than the Concorde, but it will still be limited to transoceanic flights such as Los Angeles to Sydney—in just seven hours.

The most exciting progress we are making in our lifetimes is how we move about the planet. Boom is among the promising companies to watch because—much like Virgin HyperloopOne and our space companies—it is applying proven technology with new innovation and established partners to make faster and sustainable travel possible for increasingly more people."

—RICHARD BRANSON
 Founder of the Virgin Group



SPIKE S-512
 ▶ **The Ferrari of the Skies**
 TOP SPEED: Mach 1.8
 MAXIMUM CAPACITY: 18
 ANTICIPATED DELIVERY: 2023
 MSRP: \$125 million
 spikeaerospace.com

"Our goal is to start with a private jet, with a range of 6,200 miles nonstop" says Vik Kachoria, the CEO of Spike Aerospace. His customers, he says,

are the types who fly from Hong Kong to Paris for an afternoon of shopping. Spike's S-512 prototype has an anticipated New York-to-London flight time of three hours. The body of the plane eliminates windows entirely to minimize drag; digital screens on the interior walls can be used to screen films or watch the clouds go by via camera.



AERION AS2
 ▶ **The Supersonic Workhorse**
 TOP SPEED: Mach 1.4
 MAXIMUM CAPACITY: 12
 ANTICIPATED DELIVERY: 2025
 MSRP: \$120 million
 aerionsupersonic.com

Like Spike's S-512, the AS2 is aimed at the private-jet market, and Aerion's first customer is the fractional-ownership firm Flexjet, which placed

an order for 20 of the planes. Aerion is the first supersonic startup to secure the backing of General Electric, and the AS2 will feature an existing GE core engine, which also powers Boeing and Airbus planes. Brian Barents, Aerion's executive chairman and CEO, describes his product as pragmatic. "The only thing unique about our airplane is that it goes fast," Barents says.