NEXT-GEN SUPERSONIC JET TRAVEL ON CARDS – AT BUSINESS-CLASS FARES

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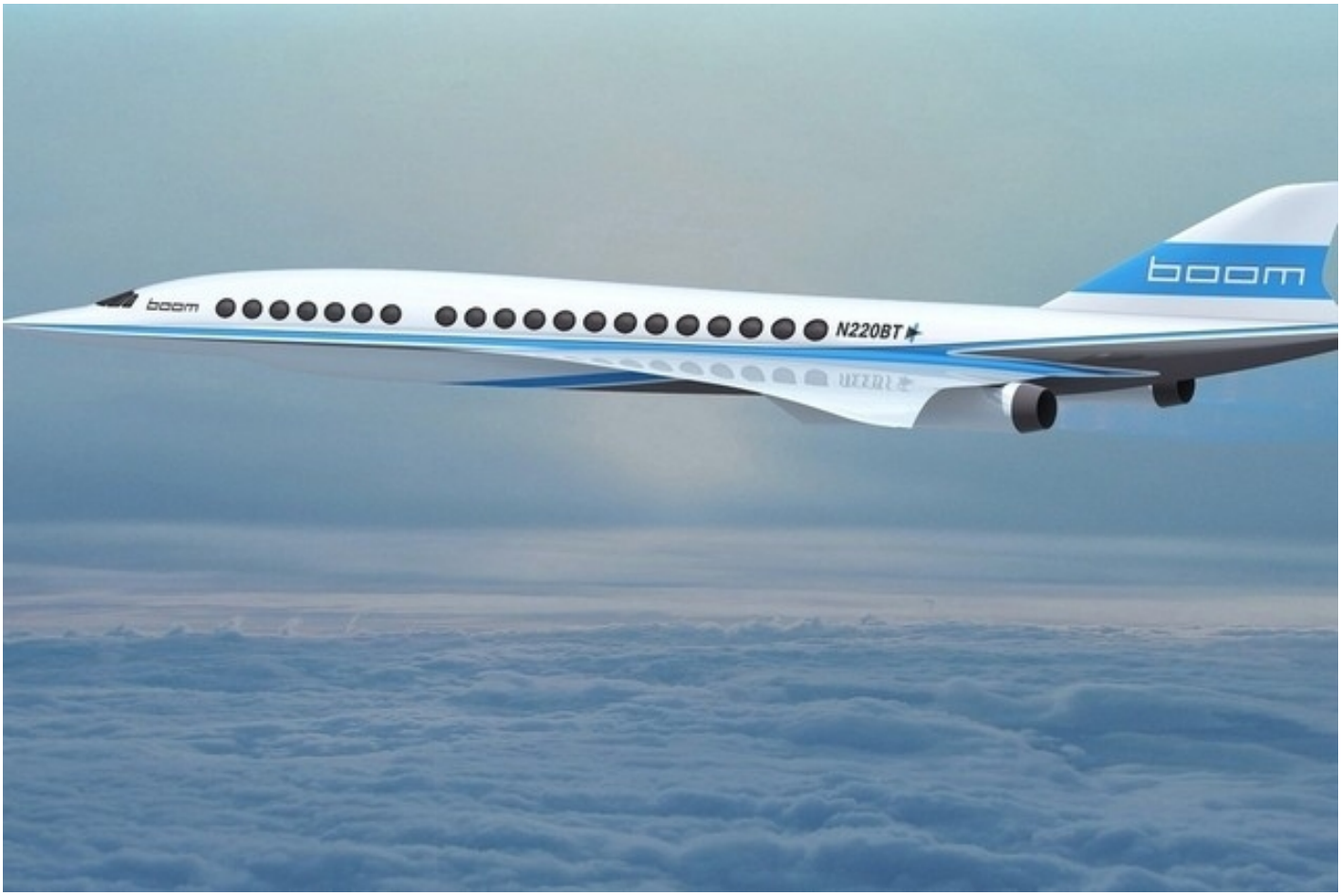

It is something of a truism to say commercial aircraft fly only as fast as they did in the 1950s.

But given the range of aerospace advances in the past half-century, plus the technological leaps in almost every other area of human endeavor, it seems reasonable to ask: why do they not fly faster?

That is the question driving a start-up called Boom Technology, which says it is time to bring supersonic jet travel into the mainstream – in a modern way. The company is pursuing speed with an audacious idea: a 45-seat aircraft that cruises at Mach 2.2 (2,335kph), faster than the defunct Concorde and certainly faster than the standard 885kph, with fares no more expensive than a current business-class round trip from the United States to the Unite Kingdom, which ranges between US$5,000 and $10,000.

And there could be a solid business argument for returning to faster-than-sound passenger jets. An independent report for Aviation Week by Boyd Group International Strategic Aviation Solutions

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suggests the market is ready to implement supersonic passenger airliners, with an estimated demand for as many as 1,300 aircraft worth $260 billion across multiple airlines (300 planes more than Boom’s in-house estimates).

Yet Boom is likely to encounter deep scepticism in a conservative industry that still relies heavily on a fundamental airplane design devised 70 years ago. The major global airlines Boom will court operate with two cardinal maxims: it is really hard to make money with small airplanes; and it is really, really hard to make money with supersonic airplanes, which are renowned for their fuel inefficiency.

"I have no problem seeing the demand for this airplane," says Marty St George, a JetBlue Airways executive and industry veteran. "The issue is can you do it and make the numbers work?"

Boom also plans for its aircraft to fly on three engines, a departure from the industry trend of using two engines as the most efficient configuration. In response to sceptics, Boom touts its design as a radical update of the troubled but much revered Concorde, which was operated by only two airlines over 27 years.

Boom’s signature city pairing is New York to London, which would take a little more than three hours to fly and give a corporate traveller the opportunity to make a day trip across the pond and back. "Leave New York at 6am, make afternoon and dinner meetings in London, and be home to tuck your kids into bed," the Denver-based company says. A flight from San Francisco to Tokyo could be completed in five and a half hours, Boom says.

"It’s about making the economics work and then delivering the aircraft we say we can deliver," says Boom’s co-founder and chief executive, Blake Scholl, a pilot and former app developer.

The firm has struck a deal with the Spaceship Co, the manufacturing division of Sir Richard Branson’s Virgin Galactic, to use that company’s engineering, design, and flight-test support services. The Spaceship Co also has options for Boom’s first 10 aircraft as part of the arrangement. "Richard has long expressed interest in developing high speed flight and building high speed flight R&D through Virgin Galactic and our manufacturing organisation," says the Virgin spokeswoman Christine Choi. "It is still early days and just the start of what you’ll hear about our shared ambitions and efforts."

Another unidentified European airline has taken options for 15 aircraft, Mr Scholl says, and Boom is talking to carriers about options for an additional 170 aircraft. Its aircraft would target such global business centres as Hong Kong, London, New York, Singapore, Sydney and Tokyo, where corporate travellers would probably pay for the time savings a supersonic jet could afford.

The company will not disclose a delivery date publicly but says it expects its first airplane to be ready in "the early 2020s".

"If [airlines] were guaranteed the numbers, someone will try it," says Mr St George.

"With the operational costs they are expecting for this airplane … current business-class fares could make this airplane profitable," says the consultant Michael Boyd. "It passed the smell test on this end. This wasn’t like a group of Star Trek geeks."

In addition to technical and financial challenges, Boom is not alone in its quest for supersonic passenger flight. Aerion plans to launch the certification programme for its Mach 1.4 AS2 supersonic trijet by the end of 2017, achieve first flight by 2021, and enter service in 2023. The

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project is receiving engineering support from Airbus.

Nasa is also working to build a new supersonic aircraft, an X-plane called the Quiet Supersonic Technology (QueSST) demonstrator that will be used to test new aerodynamic designs to quieten the noise of a sonic boom. The X-plane will also test new engines capable of supersonic propulsion that are quiet enough to adhere to US federal aviation airport noise regulations.

Boom plans to fly a one-third-size demonstrator version of its airplane called the XB-1 late next year, working with General Electric. It is aiming to initially fly GE's J85 engines, a model that dates to the 1950s, on the XB-1. Flights will begin at subsonic speeds and then get progressively faster. Boom has hired Honeywell International for avionics and environmental control systems.

The biggest technical hurdle, however, will probably be the engine, as noted in a recent analysis by Bjorn Fehrm, an aerospace consultant and a former fighter pilot in the Swedish air force. Mr Fehrm estimated that the Boom design is likely to use about three times the amount of fuel per seat-mile than current flights between London and New York.

"Would some [airlines] buy some as flagship aircraft for high-yield routes?" asks Richard Aboulafia, an aerospace consultant at Teal Group. "LA-Tokyo, New York-London? Sure, I imagine they would. But, again, it comes down to seat-mile costs, and until we see anything resembling engine specifications, you can't even begin to guess at that."

Whether or not Boom, Aerion, Nasa or any other company actually gets supersonic passenger flight into the aviation market again, it is unlikely any aircraft will capture the public's hearts and minds in the same way Concorde did.

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