Supersonic's back

Air travellers can look forward to flying, possibly as early as 2029, in a supersonic jet. Colorado-based start-up Boom Supersonic promises that its supersonic jet – the Overture – will be quieter, lighter and more fuel-efficient than its predecessor, the Concorde. Boom's current order book stands at 130 airplanes, including options, valued at about US$26 billion (S$36 billion). Here is a look at the jet that might be "aviation's giant leap".

ROAD MAP TO SUPERSONIC TRAVEL

2016
Virgin Atlantic partners with Boom to build and test a new generation of supersonic jets

2017
Japan Airlines makes a US$10 million investment in Boom to collaborate in refining the aircraft design and help define the passenger experience

2021
United Airlines agrees to buy 15 aircraft provided specific safety, operating and sustainability requirements are met

2022
Boom enters into a three-year strategic partnership, valued at up to US$60m, with the US Air Force

Overture jet's final production design unveiled

American Airlines places deposit on 20 Overtures, with an option for a further 40 jets

2024
Scheduled production begins

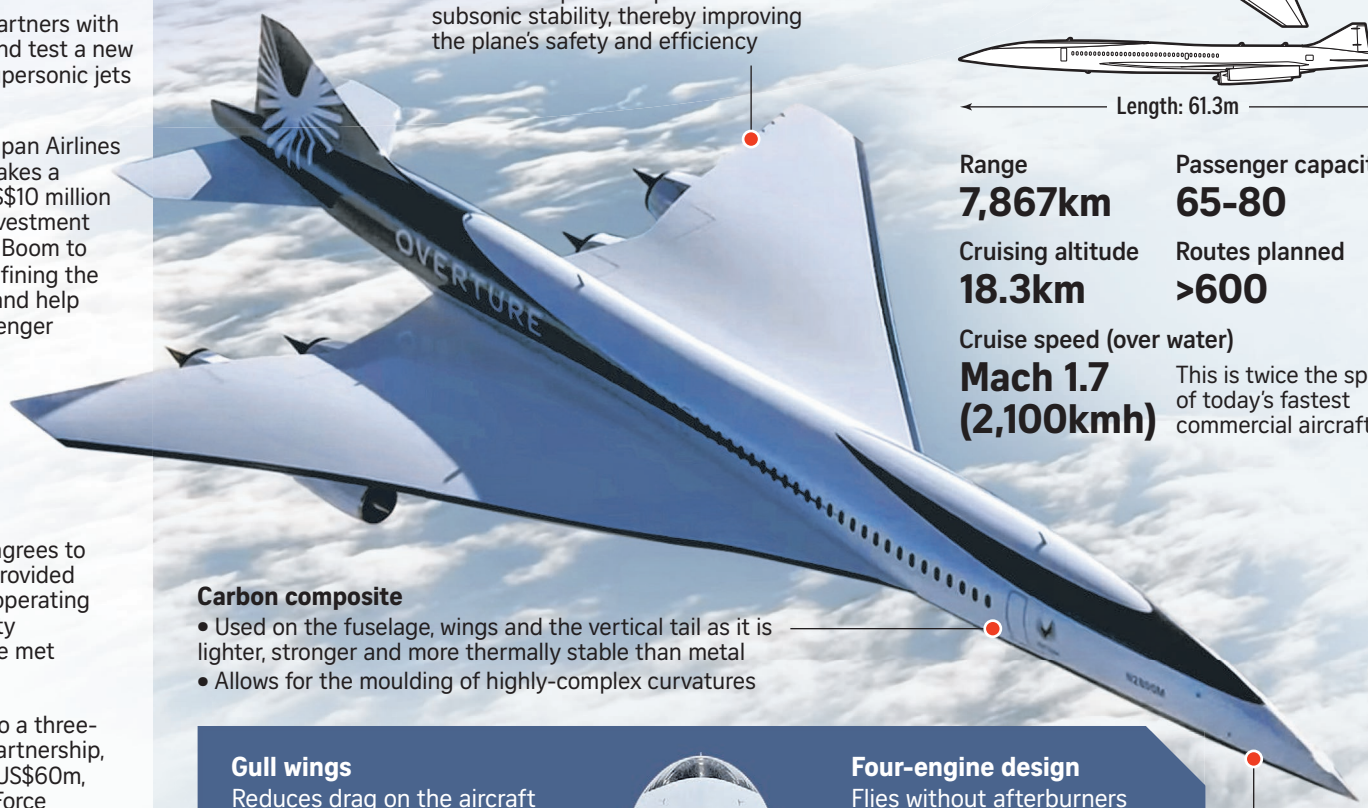
2025
Slated roll-out from Boom's North Carolina factory

2026
Test flights to be conducted

2029
Expected to carry its first passengers

Sources: BOOM SUPERSONIC, CNN, FORBES, REUTERS
PHOTOS: BOOM SUPERSONIC, GOOGLE MAPS
STRAITS TIMES GRAPHICS: LIM YONG

DESIGN FEATURES

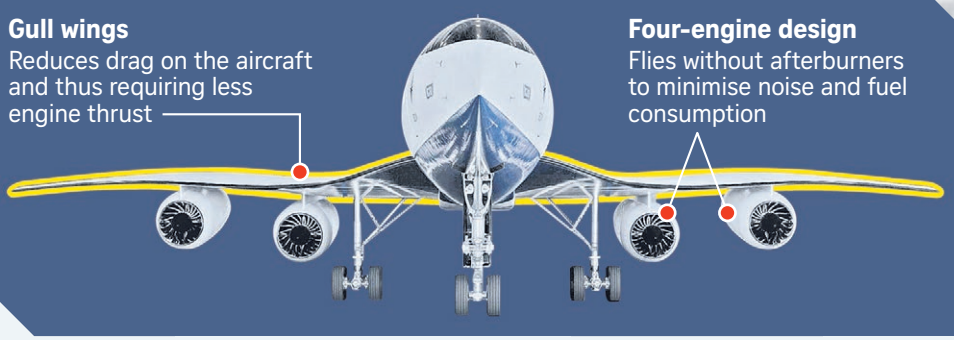


Delta wing shape
Enhances supersonic performance and subsonic stability, thereby improving the plane's safety and efficiency

Carbon composite
- Used on the fuselage, wings and the vertical tail as it is lighter, stronger and more thermally stable than metal
- Allows for the moulding of highly-complex curvatures

Gull wings
Reduces drag on the aircraft and thus requiring less engine thrust

Four-engine design
Flies without afterburners to minimise noise and fuel consumption



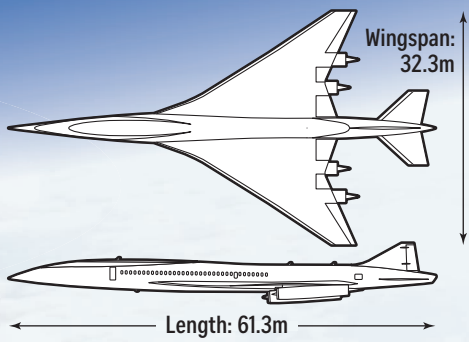
Contoured fuselage
Optimises airflow to reduce drag and increase fuel efficiency

AIRPLANE SPECIFICATIONS

It took...

26 million	51	5
hours of software simulation	design iterations	wind tunnel tests

...to arrive at the final design



Range	Passenger capacity
7,867km	**65-80**
Cruising altitude	**Routes planned**
18.3km	**>600**

Cruise speed (over water)
Mach 1.7 (2,100kmh)
This is twice the speed of today's fastest commercial aircraft

PROJECTED FLIGHT TIMES

From **New York, US** (Newark Liberty International Airport) to **London, UK** (Heathrow Airport)

FLIGHT TIME
3hrs, 30mins
Current: 6hrs, 30mins

From **San Francisco, US** (San Francisco International Airport) to **Tokyo, Japan** (Narita International Airport)

FLIGHT TIME
6hrs
Current: 10hrs, 15mins

An **Overture flight** will initially cost around 25 per cent more than a Business Class flight and around 75 per cent less than the Concorde*

NOTE: *A round trip on a Concorde cost about US$12,000 in the 90s