

# SECOND-GENERATION SUPERSONIC CABIN

Jennifer Coutts Clay, founder of jetlinercabins.com, looks at the remarkable story that leads to the design of second-generation supersonic aircraft cabins

**1** In 2023, the aviation community celebrated the 120th anniversary of the first powered, sustained and controlled flight, carried out by the Wright Brothers, and photographed by witnesses on the ground, at Kitty Hawk, North Carolina, USA.

On 17th December 1903, Orville Wright lay on the lower wing, face-down, head-first and fully stretched out, using his hands and feet to physically control the wires and pulleys that steered the Wright Flyer. His older brother, Wilbur, ran alongside during the flight, which lasted 12 seconds at an altitude of about 10ft (3m) and at a speed of 6.8mph (10.9kph). The length of the flight was 120ft (37m), a distance that could easily fit inside the cabin of a Boeing 747 or an Airbus A380 today.

However, while the flight was short, it was an amazing achievement and gave birth to the Age of Flight.

The Wright Brothers immediately started to upgrade their standards of aerial comfort. Photographs taken in 1905 showed the Wright Flyer 111, which set a new endurance record by staying aloft for nearly 39 minutes, with the intrepid aviator sitting upright in a single seat. Just imagine the sense of luxury, plus the ability to use new hand controls to pilot the aircraft.

And additional photographs show that by 1908 there were two seats on the Wright Flyer 111, which made history by successfully completing the world's first aircraft flight with two people on board.

When Orville declared: "I firmly believe in the future of the aeroplane for commerce, to carry mail, to carry passengers, perhaps express," could he have dreamed that one



The Jetliner Cabins: Evolution & Innovation e-book is available via an app

century later, in 2003, Concorde, the world's first and, so far, only successful supersonic civil aircraft, would be retired after 27 glorious years of service? Or that work would then start on second-generation supersonic transport (SST)?

Once again, North Carolina is the centre of attention for aviation enthusiasts. At the Piedmont Triad Airport in Greensboro, the world's first second-generation supersonic civil aircraft is currently being developed at the Boom Overture Superfactory.

Designed to carry up to 80 passengers over water at Mach 1.7 (approximately twice the speed of today's fastest commercial jetliners), Boom Overture is described as the world's first eco-SST aircraft running

- 1. THE SUPERSONIC BOOM OVERTURE AIRCRAFT
- 2. OVERTURE PASSENGERS WILL BE ABLE TO ENJOY MAGNIFICENT VIEWS THROUGH THE LARGE, ROUNDED WINDOWS
- 3. A RENDERING OF THE PROPOSED BOOM PRODUCTION FACILITY. ALL IMAGES: BOOM SUPERSONIC

on sustainable aviation fuel (SAF), with a range of 4,250 nautical miles (7,871.4km).

The proposed flying time from New York to London is three and a half hours (instead of seven hours on subsonic aircraft) and, as of June 2023, with commitments from American Airlines, Japan Airlines and United Airlines, Boom Overture's order book stood at 130 orders and pre-orders.

Announcing the expected date of 2030 for Boom Overture's entry into commercial service, Blake Scholl, the founder and CEO of Boom Supersonic, noted that with 600 viable business-class routes there could be an eventual market for 1,000 second-generation SST aircraft.

Publicity pictures from Boom Overture show seating arrangements that will be more comfortable and spacious than those on Concorde. The cabin configuration flown by Concorde accommodated two passengers on each side of the narrow 16in aisle, with a seat pitch of just 37/38in (93.98/96.52cm), similar to the premium-economy-class seat pitch measurements flown by many airlines nowadays.



In recent years, in the business-class cabins of leading airlines that operate long-haul flights, passengers have become accustomed to a non-stop stream of trickle-down product upgrades that had been associated with first-class cabins in previous decades. With Boom flights lasting only three or four hours, second-generation SST passengers are not likely to demand cocktail lounges or privacy pods equipped with fully-flat beds, but they might want to see some of the other product features and customer benefits they consider to be important.

Such features could include easy-access stowage space for carry-on luggage, coats, shoes, water bottles, and other personal items; individually controlled lighting settings for reading, sleeping, dining and creating a 'mood' ambience; comfortable, generously proportioned seats with temperature control and massage options; drop-down armrests; elegant, designer-inspired furniture, fittings and finishes; versatile tray-tables that can be used for dining or as a work desk with additional pull-out cocktail tables; handy literature pockets and trinket trays to safeguard small items such as reading glasses, pens, jewellery and cell phones; contoured, adjustable head-

## ABOUT THE BOOK'S AUTHOR

Jennifer Cou tts Clay is the author of the *Jetliner Cabins: Evolution & Innovation* E-Book app. During her airline career, Jennifer held senior job positions across three continents. At British Airways, as Controller Corporate Identity, she was responsible for the implementation of the US\$75 million 'privatisation programme' associated with the airline's transition from government- to investor-ownership. The new brand image covered all visual aspects of the airline, including the upgrade and refurbishment of the interiors and exteriors of both the Concorde and the subsonic fleets. Jennifer also served as General Manager of Product Design & Development at Pan American World Airways, and as a consultant to South African Airways. More information on [www.jetlinercabins.com](http://www.jetlinercabins.com)



and lumbar-support cushioning; large IFE screens that can be angled according to personal preference; touchpad controls and noise-cancelling headsets for IFEC; live and on-demand television programmes; complimentary wi-fi services such as email, web-browsing, and texting on passengers'

PEDs, including telephones, laptops, and tablets; fashion-name-brand amenity kits and 'wellness' toiletries; gourmet, health-conscious meals that can be pre-ordered via the airline's website or mobile app in advance of passengers' travel dates; and cameras on the exterior of the aircraft to provide real-time viewing during the flight.

A tall order? No way! It all sounds pretty modest compared to the challenges faced by our historic aviation heroes, Wilbur and Orville Wright. ✖

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