



2016'S STRANGEST AIRCRAFT DESIGNS

News / Manufacturer



Recent years have seen an eclectic range of proposed aircraft designs for the future – from the innovative to the downright bizarre. Here we highlight our favourites from 2016.

1. Bench-style aircraft seating

Earlier this year, a patent for bench style seating on planes was published for Airbus, one of the world's biggest aircraft manufacturers. The unusual seats are adjustable, to fit the space needs of the passengers – whether it's for families with small children, those with mobility issues, or who need more width than others.

The bench features adjustable seatbelt locks, to ensure each passenger can still be strapped in.

A rendering of Airbus's proposed bench style seating

“The cabin layout, such as the allocation of a row of passenger seats to business class or to economy class for example, should be as flexibly, rapidly and easily re-configurable as possible,” the patent said.

“In addition, efforts are made to design the passenger cabin of a commercial aircraft in such a way that flexible adaptation of the cabin layout to the requirements of specific user groups, such as, for

example, families with small children, senior citizens, people with restricted mobility, etc, is possible.”

2. A “booster” economy seat

This folding “booster” seat was designed by UK manufacturer Rebel Aero. It allows passengers to adjust their seating position during a flight according to their needs, from preventing physical discomfort to standing up to accommodate other passengers boarding or exiting their seats. The seat can also be used as a child booster seat, eliminating the added weight of a separate child's seat.

A rendering of Rebel Aero's "booster" seat

Image not found or type unknown

A rendering of Rebel Aero's "booster" seat

3. A self-cleaning cabin lavatory

Boeing’s proposed Clean Cabin Lavatory features a range of technologies including a faster and more effective “Far UV disinfection unit that can actively sanitize surfaces, air, and water in the lavatory”. It also has touch-less features that can reduce the transmission of disease-causing micro organisms. Its architectural and material design have been optimised to eliminate the accumulation of dirt within the toilet space.

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4. A vertical lift-off plane

This summer, Airbus also filed a patent for an aircraft that is capable of a vertical take-off which would allow it to fly from “a minimally small surface” and “not require a special large area airport”.

The manufacturer planned to achieve this by building an aircraft made with four or more rotors, each equipped with a propeller and motor that provide “an upward-directed vertical thrust to cause the aircraft to lift off vertically or to hover”.

The rotors would be stored inside pylons on the wings of the aircraft that could be fully sealed once the plane has entered its horizontal flight mode to avoid any extra air resistance created by the propellers.

Airbus isn't the first to propose the building of the world's first vertical take-off jet. Last year, a design for the six-seat TriFan 600 aircraft was unveiled by the XTI Aircraft Company, which combined a helicopter's ability to take off from and land on any helipad-sized flat surface with the speed and mileage range of private jets. The design would remove the need for runways and 'airport-to-airport' travel, potentially saving travellers hundreds of hours a year in flight journey times.

5. The “digital” pill

Earlier this year, British Airways filed a patent for a “digital pill” that could be served to passengers to help them monitor their stomach acidity levels and change their in-flight dining options accordingly.

The “ingestible sensor” would be one of several sensors, including temperature, sleep phase and heart rate, that the airline would use to check on a passenger's physiological state throughout a flight and manage their sleep times, meals and in-flight entertainment usage and ultimately

enhance “passenger wellness and wellbeing when flying”, according to the patent.

BA's "digital" sensory pill

Image not found or type unknown

BA's "digital" pill would help monitor passengers stomach acidity levels

British Airways reckons that the sensor could help tell whether a passenger was “awake, asleep, hungry, nervous, hot, cold [or] uncomfortable” – and inform the aircraft's crew.

6. Height and weight monitored by credit cards

In a similar vein of tracking passengers' physical features, a bizarre patent for [collecting data on people's approximate height and weight based on their clothing purchases](#) was published for Mastercard earlier this month.

The credit card company believed this data could be useful to airlines, and others in the transport industry, for seating arrangement purposes, such as for helping to avoid placing two overweight passengers next to each other.

While the patent acknowledges there are other ways to optimise the seating plan on a plane, such as by asking fliers to report their physical size, “people are unlikely to accurately report their actual size”, it said. But a card “account holder's physical size and height can be objectively approximated or determined by the size of clothing purchased”.

Mastercard claims passengers' weight and height could be approximated from their clothing purchases

Image not found or type unknown

Mastercard claims passengers' weight and height could be approximated from their clothing purchases CREDIT: JASON ALDEN

The clothing size can be used to approximate the passenger's weight while their shoe size, which is said to be correlated to height, can be used to determine the flier's stature.

The company also claimed this data could also help make a reasonable approximation of the weight and height of everyone in a household, and not just the card holder, as each account profile includes the known household members living with the account holder.

Therefore, "other assumptions may be made, such as the number of people in a household, or repetitive size purchases over time are for a household member, while rarely purchased sizes are not for household members", the patent said.

The clothing size can be used to approximate the passenger's weight

Image not found or type unknown

The clothing size can be used to approximate the passenger's weight CREDIT: ALAMY

As easy as this method of gathering data on people may appear to be, privacy issues would still come into play and would require the permission of cardholders before any of this data is shared with airlines.

7. A hotel room in the sky

London design firm Seymourpowell's "First Spaces" design for A380 aircraft was intended to offer the privacy of a boutique hotel room, incorporating either four single rooms and two double rooms, each with a fully lie-flat seat that could be converted into a comfortable bed, alongside ample storage, table and enhanced multimedia features. Passengers would be able to shut the doors to their individual suites and order food, drinks and whatever else might be required via tablet rather than engaging directly with cabin crew throughout the flight.

A rendering of Seymourpowell's "First Spaces" design for A380 planes

Image not found or type unknown

A rendering of Seymourpowell's "First Spaces" design for A380 planes

8. The “Lifestyle” cabin

Zodiac Aerospace’s cabin design breaks away from the conventional aircraft cabin model where the seat is the centre of activity and incorporates a “a visionary cabin architecture that revolves around a new and more natural passenger experience”. The products and services on offer would be tailored according to the “true behavioural patterns and needs of people”.

A rendering of the "Lifestyle Cabin"

Image not found or type unknown

A rendering of the "Lifestyle Cabin"

9. The HeadRest

Delft University of Technology of the Netherlands, in association with Zodiac Seats US, designed an innovative headrest device which is meant to offer you more control and privacy while sleeping or relaxing on a flight. Made with two side wings that unfold, The HeadRest cradles your head as you lean sideways to prevent sliding and nodding to one side, which your head tends to do while dozing on flights.

The HeadRest



Image not found or type unknown

The HeadRest

10. An adjustable plane galley

Delft was also proposed its Modulair concept - a modular galley made with removable modules that can be removed from the plane should there be a need to make room for more seats.

A rendering of Delft's Modulair

Image not found or type unknown

A rendering of Delft's Modulair

11. An adaptable aircraft entry

The Dutch company also came up with FiO, an adaptive aircraft entry design that could be transformed to fit different functions for the flight, while allowing 25 per cent more floor space than the current standard entry model.

A rendering of the Delft's adaptable FiO aircraft entry

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30 DECEMBER 2016

SOURCE: THE TELEGRAPH

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