

Aircraft *interiors* INTERNATIONAL

MARCH 2018

In this issue

CABIN ACCESSIBILITY

Pressure is mounting to make the inflight experience more accessible and enjoyable for passengers with reduced mobility

AFTERMARKET ANALYSIS

As A380s and B787s reach leasing and maintenance milestones, new opportunities are arising for the interiors sector

CYBERATTACKS

Are passengers who connect to cabin wi-fi on their own devices at risk from malicious attacks over the networks?

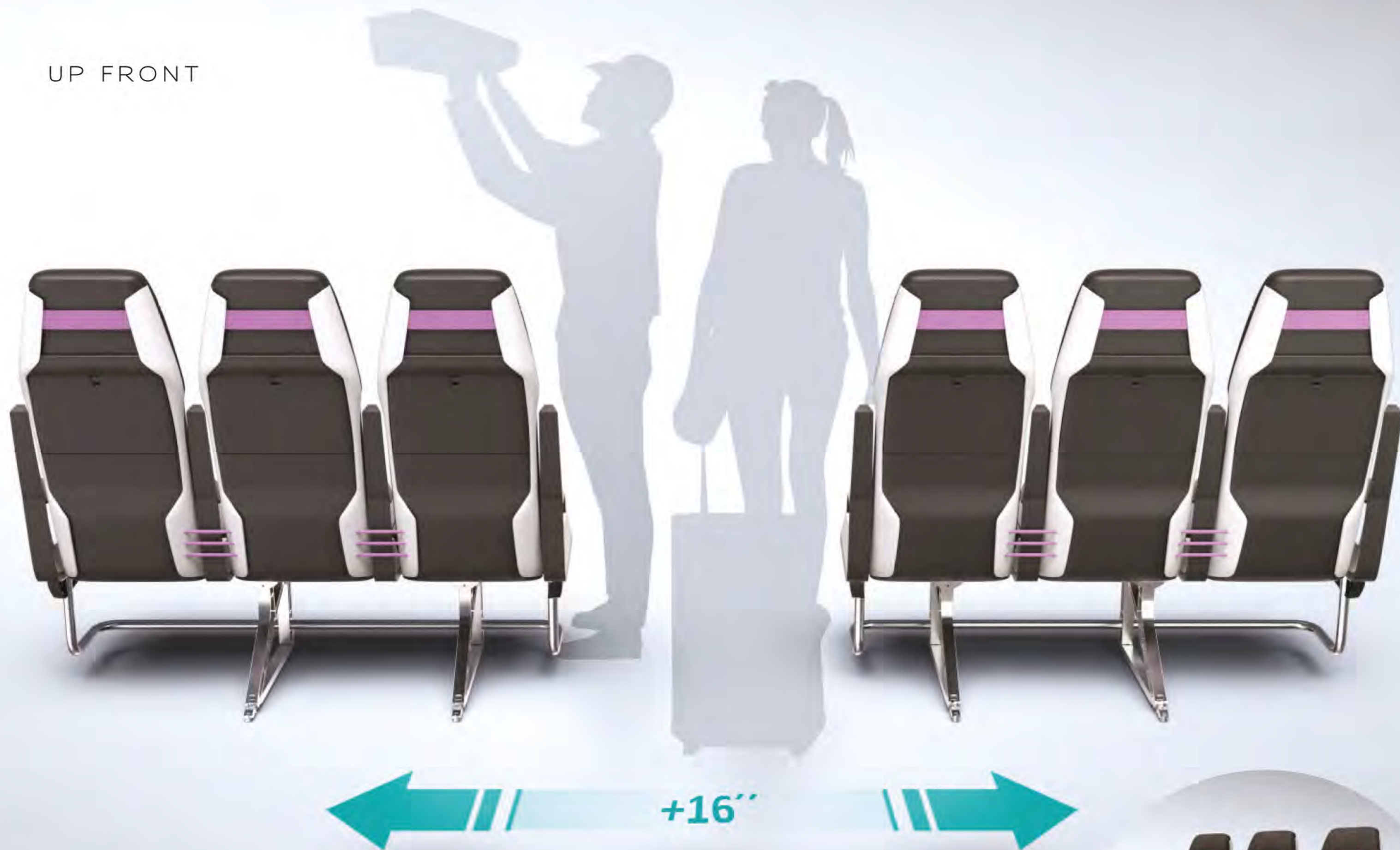
AIRCRAFT
INTERIORS EXPO
2018

SHOW ISSUE

From launch previews to interviews, everything you need to know about the world's largest aircraft interiors event

ADIENT AEROSPACE:
BOEING'S JOINT
VENTURE WITH AN
AUTOMOTIVE GIANT
IS SET TO DISRUPT
THE AIRCRAFT
SEATING MARKET

World exclusive!



WALK ON BY

An aircraft seat concept is being developed that could cut boarding and disembarking times in a B737 by five minutes

A collaboration of cabin experts has developed an idea that they believe could reduce boarding and deplaning times on a B737-800 by five minutes. The premise is simple: by doubling the aisle width from 16in to 32in, sufficient space will be created for passengers to move past as others stow baggage, and for wheelchairs to access the aisle easily, all contributing to passengers being seated in less time. The solution is also fairly simple: the extra aisle width is created by 'compressing' all three places in a seat triple by around 2.6in.

The discomfort of the narrowed seat is only temporary, as once boarding is completed, when crew are checking the backrest and table positions prior to take-off, they press a button on the aisle seat, which activates a mechanical actuation system, expanding the seats to their full width and latching them into place. Should any passengers not fit within the narrowed seats, their seats could be expanded earlier. After landing, the aisle-side passengers can push the button to release the latches, narrowing the seats for deplaning.

The seat has been devised as part of the PASSME project (Personalised Airport Systems for Seamless

Mobility and Experience), a project aiming to address the anticipated increase in demand for commercial flights in Europe by 2050.

Optimares is developing the primary seat structure, with Almadesign working on the styling of the seat, DLR providing simulation, and TU Delft also working on testing and development. The partners believe the seat design is viable and they are currently going through the patent process. Indeed the mechanical actuation system uses standard components already used in the seating industry and adds only a 5% weight penalty, which could be offset by the operational benefits.

The partners do not anticipate any major certification issues as the system is only deployed when the aircraft is stationary, and it has been designed in accordance with FAA/EASA regulations.

A prototype of the seat has been tested at TU Delft's labs within a mock-up B737-800 fuselage, and the partners report that the results matched their simulations, indicating a five-minute reduction in turnaround time for a standard single-class configuration with 180 passengers. ✕



Visit aircraftinteriorsinternational.com to see all the latest seat concepts

NEWFACE

In 2015 NewFACE (Future Aircraft Configurations for Eco-Efficiency) was revealed, with the aim of developing future interior and exterior aircraft design configurations. There have been developments with the Utility concept developed during the project.

The Boxwing cabin interior inspired the CMF solutions for the TAP Portugal A320 retrofit program, developed by Almadesign. Boxwing also addressed the objective of reducing turnaround time by using a 2+2+2 interior layout. The same objective is being pursued in the PASSME (Personalised Airport Systems for Seamless Mobility & Experience) project being developed by Almadesign, seat manufacturer Optimares and Delft Technical University. The team is developing an aircraft seat concept that is hoped to reduce boarding and deboarding times by 30% (see p26). The PASSME seat is shortlisted for the Crystal Cabin Award 2018.



StepSeat

USA-based Jacob Innovations has created several ideas for several classes, all of which maximize the use of the available vertical space in the cabin to increase comfort without sacrificing cabin density. The original is the StepSeat, an economy class concept that sees alternate seats mounted on 'steps', which are small platforms the height of a conventional step. This arrangement increases legroom for all seats and enables occupants to recline to around 45° within the fixed shell.

The inventor, Emil Jacob, says that while access to the seat looks rather narrow in the renderings, the access space is actually almost the same as with

a conventional economy seat at a tight pitch. More space, more comfort, with no density penalty: Jacob must be busy...

"We are in talks about developing the StepSeat model with a number of parties," he states. Unfortunately he cannot disclose more details at this stage due to NDAs, but this is an interesting project to monitor.



Prototype galley

Last year AIM Altitude revealed a prototype galley with enhancements that included a table that could be recessed away, a spring-loaded foot step, and flush sinks that extend the working area. Items like a semi-transparent cover for the electrical systems panel made the galley more visually appealing, along with clip-on trim that enables elements to be quickly refreshed.

Perhaps the most interesting element of the concept was the pantry, a unique way to store galley equipment. It was designed to mimic the smooth-rolling and easily accessible design of pantry cupboards in modern domestic kitchens.

Zoe Wenn, industrial designer at AIM Altitude gives an update: "Following the introduction of our prototype, we have been developing a couple of the new features with an airline customer. They were impressed with the functional enhancements, aimed at making life easier for busy crews. We have worked together to progress the features, to refine them, and incorporate them within the customer's existing style of galley. Hopefully some of the conceptual features, demonstrated as a step toward the next generation of galley, will be seen and used in service in the near future."



RECARO SMART CABIN RECONFIGURATION

In 2017, Recaro Aircraft Seating unveiled a concept that enables crew to flexibly adapt seating between flights to reflect the load factor.

Recaro says that the Smart Cabin Reconfiguration concept is "without a doubt a disruptive innovation" in that it offers an unprecedented degree of flexibility, enabling airlines to respond quickly to changing customer needs. When a flight is not fully booked, this simple sliding seat concept enables seat spacing to be increased. Crew simply lift up the seat pan,



release the floor locking mechanism and push the front seats apart along a rail system.

"The Smart Cabin Reconfiguration concept sparked enormous interest among airlines. As a result we conducted in-depth discussions and reviews with airlines and, motivated by the positive market response, we are continuing work on this concept."

Recaro adds that the advantage of the Smart Cabin Reconfiguration seating product can only be fully exploited if other operational components are also flexible, such as booking systems and fleet management. ☺

CLEVER IDEAS FOR THE CABIN...

STAND: 2U04

Transparent mirror

Attracting the attention of passengers during a flight can sometimes prove challenging – so how about a mirror-come-screen, that conceals flight information until needed? This is the thinking behind AviationGlass & Technology's (AGT) transparent glass mirror.

Signs, lighting and LCD displays are integrated behind the ultra-thin mirror so that the surface remains translucent when switched off.

A capacitive button enables lights to be switched on and off.

When it is time to show communications such as passenger announcements or even advertising, the mirror suddenly becomes a display screen, attracting the attention of passengers.

"Meaningful innovation is our mantra when it comes to the creation of technical features, says Jaap Wiersema, COO at AGT. "Possible applications are integrated screens in bulkheads or in lavatories for advertising and passenger communications including 'close the door' and 'return to seat' signs. The possibilities are endless."



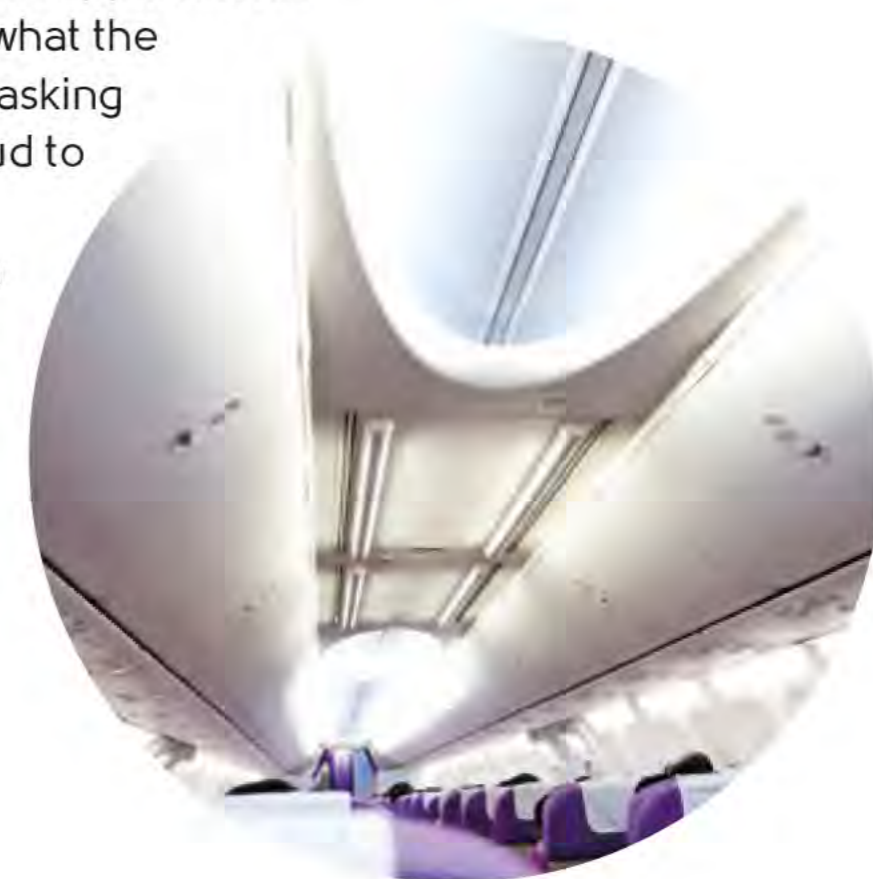
STAND: 6F60

A helping hand with baggage

In response to increasing demand from passengers for carry-on luggage, airframers and interiors manufacturers have developed larger overhead stowage bins capable of carrying more luggage. Unfortunately, in some cases this has resulted in bins that are difficult to close when full.

To address this problem, ITT Enidine has developed a fully mechanical weight-sensing lift-assist mechanism, which engages automatically when the weight of bin luggage requires extra force to be closed. The mechanism does not require passenger interaction to engage the lift-assist, relying solely on the weight of the contents of the bin to activate the mechanism. The lift-assist also automatically disengages when the weight in the bin is reduced. This enables the bin to open fully when only a light bin load exists. The mechanism can be engineered to suit specific aircraft overhead bin applications.

"This product is what the industry has been asking for, and we're proud to bring it to the market," says Ryan Evans, aerospace product manager for ITT Enidine.



STAND: 6A79

Brand panel benefits

Cabin branding specialist, ABC International has secured new airline contracts with Jazz Airlines for branding elements to be installed on its Bombardier fleet, and with Air Canada for a panel bearing its iconic maple leaf logo to be installed on its B737 Max fleet in line-fit collaboration with EnCore. Other new partnerships for ABC include satin anodized aluminum brand panels for TAP Air Portugal's narrow-body Airbus fleet, and decorative panels for Pegasus Airlines' A320 NEO aircraft. See p263 for more details.

