

Issue

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FLIGHT

AIX DAILY NEWS

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HAMBURG, GERMANY

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Now that's entertainment!

Panasonic and United ink 'biggest' IFE deal

Kerry Reals

United Airlines has made what Panasonic Avionics says is "the largest IFE investment in history" after agreeing to become the North Ameri-

can launch customer for its Astrova in-flight entertainment solution.

The deal follows an earlier commitment by United in 2021 to install Panasonic's X Series and NEXT IFE systems on both widebody and narrowbody aircraft. The combined agreements represent "the largest IFE investment in history", according to Panasonic Avionics chief executive Ken Sain.

United will install a total of about 300,000 Panasonic screens through the two agreements, as part of its plan to put seatback monitors in every seat. United's aim is for its aircraft to become "one really big airborne movie theatre", says the carrier's managing director of identity, product and loyalty, Mark Muren.

The US carrier will begin installing Astrova monitors

on its international fleet of Airbus A321XLRs and Boeing 787s in 2025.

Panasonic also announced at the show that it has expanded its Astrova portfolio - which the company launched at last year's AIX - to include five new, different-sized 4K OLED monitors for first- and business-class cabins, in addition to the 13in and 16in screens it

Continued on page 3



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 **Collins Aerospace**

ATR goes upmarket

Murdo Morrison

ATR is launching a series of upmarket cabin concepts, dubbed HighLine, it hopes will open new markets for its regional turboprop types.

The Toulouse-based airframer unveiled the interior designs – which include all-business class and “multi-section” configurations, the latter aimed at government customers – at AIX yesterday.

ATR has dabbled in the VIP, head of state and Part 135 segments in the past, but this is the first time it has seriously addressed this market, says business development manager Louis Barral. “Before we responded to specific requests case by case, but now customers, including the [charter] community, are approaching us directly – the fuel price is a huge issue,” he says.

Although ATR has not yet secured any customers, Barral says the company is close to signing a deal for an all-business class variant, and has “a lot



Barral: Seeing a lot of interest in the concepts

missions do not require the range or speed of purpose-built business jets.

“Around 50% of flights by large business jets are under an hour,” he adds.

The five concepts from ATR for the ATR 72-600 are:

- Multi-Class, a 50-seat interior with a dedicated first class cabin;
- Premium-Flex, which allows standard double seats to convert to single window seating with each passenger having an “X-Space” table on the aisle side;
- All-Business Class, with 30 seats for charter operators;
- Multi-Section, with a separate forward cabin and lavatory for dignitaries, separated from the rest of the aircraft by a bulkhead; and
- Bespoke VIP, a concept ATR says can be “tailored to an operator’s needs”.

ATR says it will work with specialist conversion houses, delivering green aircraft. However, for some of the concepts it will offer to add a forward “plug” door allowing access at both ends of the aircraft.

of interest” in the other versions.

While Barral admits high-end versions of the ATR 72-600 and 42-600 do

not have the performance capabilities of business jets, he says the cabin dimensions are similar, and many private aviation

Continued from page 1

launched with. The new screens range in size from 19in to 42in. The company says that every screen size introduced at this year’s show has already been selected by an airline.

Saudi Arabian Airlines announced at the show that it will retrofit up to 30 of its Airbus A330s and Boeing 777s with the Astrova solution.

The airline’s vice-president of marketing

and product management, Essam Akhonbay, tells *Flight Daily News* that it will install 22in and 27in monitors in its premium cabins and 13in screens in economy. He says the solution “brings the on-the-ground experience passengers are looking for on board”.

Since launching Astrova a year ago, Sain says the IFE system has been “tracking at twice the adoption rate” of the

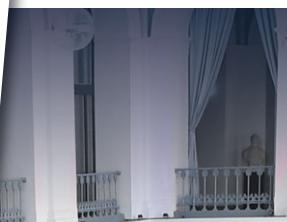
company’s eX1 and eX3 solutions.

Astrova’s modular architecture helps airlines keep their cabin technology up-to-date, says Panasonic vice-president product management Andy Masson, because it can be easily upgraded throughout its lifecycle “with minimal re-certification efforts and costs”.

The system provides

a “fully immersive experience” for passengers, with spatial audio delivering “surround sound” through the headphones.

Passengers on board Astrova-equipped aircraft can have up to 100W of DC power, via USB-C, at their seat, which Panasonic says provides “the ability to fast charge nearly every current phone and tablet, and around 90% of the world’s laptops”.



Crystal class



Seven Crystal Cabin Awards winners received their trophies at a gala dinner inside Hamburg's prestigious Chambers of Commerce last night, after a panel of 28 judges whittled down entries from 21 shortlisted finalists.

This year's CCAs were awarded across seven different categories: Cabin Concepts; Cabin Systems, Materials and Components; Health and Safety; Passenger Comfort; IFEC and Digital Services; Sustainable Cabin; and University.

Air New Zealand took home the prize in the Cabin Concepts category with its Skynest bunk bed for economy-class passengers. Skynest contains six lie-flat bunks, which can be booked for a period of up to four hours during long-haul flights.

The Cabin Systems, Materials and Components trophy went to Thales Avionics for its Onboard Data Centre, which uses a system of blades to share storage and computing capabilities.

Teladyne Controls won in the Health and Safety category with its ACES (Aircraft Cabin Environment System), which monitors cabin air for potentially harmful contaminants, while Collins Aerospace took home the trophy in the Passenger Comfort category for the second year running, this time with its Intelisence integrated intelligence system. Data collected by the system ensures that passengers' drinks are refilled sooner and faulty equipment is remedied more rapidly.

The winner for IFEC and Digital Services was AirFi in co-operation with Iridium for its LEO Connectivity Solution, which uses window-mounted antennas to connect with Iridium's Certus low-Earth-orbit satellite network.

Lantal Textiles won in the Sustainable Cabin category with its Deep Dyed Carpet technology, which makes ultra-lightweight carpets within days while reducing water and waste during the production process.

Finally, a team from the Technical University of Delft won the prize for the best University entry for Lightweight Aircraft Seating - a 3D printed seat cushion that reduces the amount of material needed while supporting each passenger's body in an optimal way.

Collins' premium pitches

Jon Hemmerdinger

Collins Aerospace opened AIX by revealing two new premium airline seating products – its Signature Dream first-class suite and a lie-flat seat for narrowbodies called Aurora.

The US giant is also showcasing a mock-up of a lavatory outfitted with touchless technologies and “virtual” windows.

“We are opening the kimono this year,” Collins vice-president of interiors business development Cynthia Muklevicz said yesterday. “We want you to see our expertise.”

The Signature Dream first-class suites for widebodies are enclosed spaces that include both a seat and a separate bed, the latter measuring a respectable 2.1m (82in) long. By comparison, says Muklevicz, some competing products do not have dedicated seats and beds, but rather seats that convert into beds. Signature Dream suites also have 42in video displays.



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Cynthia Muklevicz with the Signature Dream

With the product, Collins created the “bones and architecture” of suites that can be customised to buyers’ requirements, says Muklevicz. Collins set out to make the product luxurious but not so complex as to be “unapproachable” to travellers.

Collins already supplies earlier-generation first-class suites to carriers like Emirates Airline, Etihad

Airways and Qantas.

But Signature Dream suites are new, introduced by Collins at the show. It has not disclosed customers.

Collins also unveiled its Aurora lie-flat business-class seats for Airbus A321LRs, A321XLRs and Boeing 737 Max 10s.

Notably, the seats can be configured with as little as 32in of pitch, significantly less than competing products and accomplished by angling the seats more perpendicular to the length of the cabin, says Muklevicz.

When seated, passengers face the centre of the aircraft, but Muklevicz insists fold-out video monitors and optional cabin doors provide ample privacy. She also says the layout allows cabin attendants to serve food and drinks without reaching over customers. The seats convert to 2m lie-flat beds, and the design provides space for

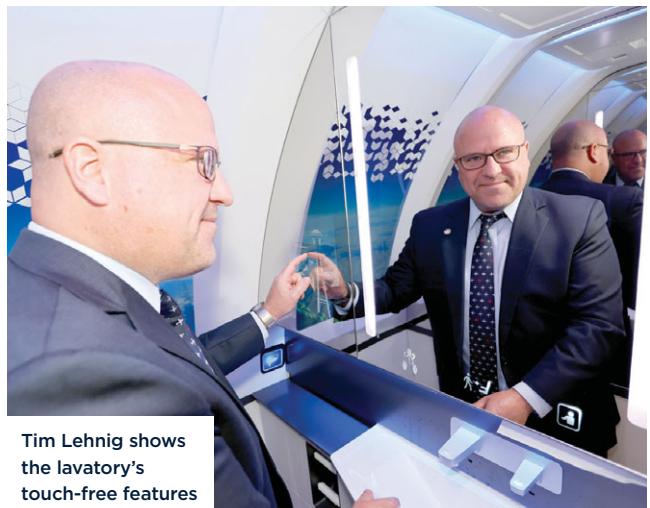
airlines to carry an extra two galley carts – giving ample room for storing food and drink.

Collins has sold Auroras to two unnamed customers, both for installation on A321neos. It expects to begin deliveries in 2024.

The company is also showcasing its lavatory technology at AIX, arriving with a loo mock-up equipped with touchless features and a virtual window.

Passengers can, for instance, flush or turn on the sink by bringing their fingers close to motion sensors. “There is no other touchless systems that works this well,” says Collins director of lavatory sales Tim Lehnig.

The “industry first” virtual window is a video screen incorporated into the lavatory’s cabin wall. Airlines can display videos, including advertisements, or images of the external world (a feature made possible by external-facing cameras).



Tim Lehnig shows the lavatory's touch-free features

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Stelia's new act for Opera

Bernie Baldwin

A new member of Stelia Aerospace's Opera seat family has made its debut at the show. Designed for the widebody market, Opera WB has been created by Stelia in co-operation with Air France in a 24-month development programme.

"The Opera WB delivers on our 3F Concept," says Thierry Kanengieser, vice-president cabin interior at Stelia. "The first F is the fully-flat seat, which converts into a bed. Second comes full privacy, with closing doors which create a mini-suite, while third is full access to the aisle."

The initial Air France aircraft to feature Opera WB seats will be the Airbus A350, which will have 48 of the seats in two zones. The first of 21 A350s to have the seat will enter service in July 2023.

Operation of the Opera



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Product delivers on our 3F concept, says Kanengieser

WB is controlled by a Stelia proprietary technology tablet, known as a TPCU (touch-pad control unit). Seat movements, all in-flight entertainment

(including the 20-inch 4k resolution screen), and personal lighting are managed from the tablet.

While co-created and launched by Air France,

Opera WB is available to other airlines and for other aircraft types. In fact, the first customer planning to fit the seat to Boeing 787s is already in place.



Brady: Unum now has seats to suit all tastes

BillyPix

Unum goes forward

UK seating start-up Unum is displaying its latest Unum Two forward-facing, lie-flat business class seat just days after creating the first example in its factory.

"This is the first time I've sat in it," confesses chief executive Chris Brady, "but the reception we've had so far has been excellent."

The 21.5in-wide product differs from Unum's launch seat, the herringbone configuration Unum One, meaning airlines, says Brady, have a choice of seats to "suit all tastes".

Like its counterpart, it

also offers direct aisle access and Unum's patented Scimitar seat mechanism.

Surrey-based Unum is also showing a high-density variant of its Unum One to test reaction. Seat pitch is reduced from 39in to 35in.

"It's a niche market," says Brady. "But some airlines, particularly leisure carriers with mid-haul flights, will prefer the slightly smaller seat because it gives them more space to play with elsewhere."



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High-flying fashion

Pilar Wolfsteller

Lufthansa Technik has found an unusual place to showcase its products – on a fashion show runway at AIX. The company has partnered with a local Hamburg design studio to create “Flight Couture”, which transforms Lufthansa Technik’s aviation innovations into high fashion products, with a performance at its stand every day.

“In the interior design

of a cabin there are many parallels to fashion,” says Lufthansa Technik’s Theja Treppke. “So we thought it would be fun to transfer some of our products to clothing.”

“For the designer it was also a new experience” working with materials usually found in and on commercial aircraft, rather than in the fashion houses in Paris, New York or Tokyo, she adds.

One model wears a skirt made out of Lufthansa Technik’s colourful “Guide

U” photo-luminescent floor path lighting systems. Another models a coat made of “AeroShark” sharkskin technology, designed to cut emissions and shrink an aircraft’s carbon footprint in flight.

A third look, “Graphics”, represents the company’s range of products and services around aircraft foiling, exterior technical markings, interior placards and stencils. “Cabin modification” – tailoring the aircraft interior to customers’ desires – and

“Connectivity” – providing passengers with a positive in-flight entertainment experience – are also stylishly represented at the unusual fashion show with their own bespoke pieces.

For visitors to the booth, the playful representation of Lufthansa Technik’s products made an impression.

“Innovation meets craftsmanship in this idea,” Treppke says. “And of course, it’s an eyecatcher.”

“Flight couture” takes place between 11:00h and 14:00h.

Anuvu poised for micro satellite launches

In-flight entertainment and connectivity provider Anuvu is preparing to launch two initial MicroGEO satellites later this year, as part of its “affordable, flexible and targeted” Anuvu Constellation.

The smaller geostationary satellites from Astranis Space Technologies will complement external satellite capacity leased by Anuvu for its in-flight connectivity

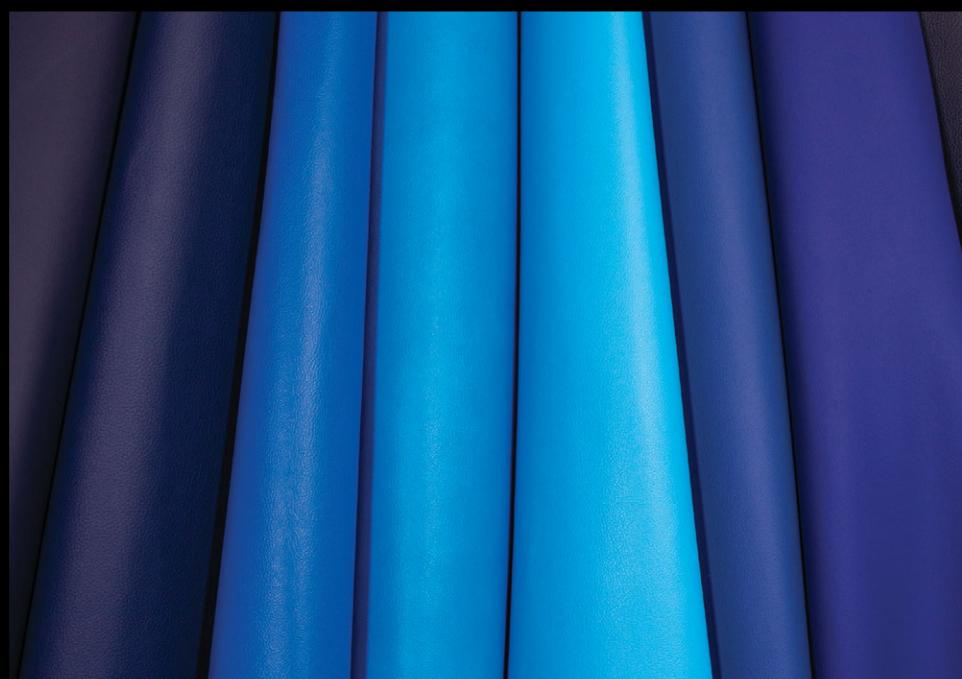
service. The initial two satellites will provide capacity for aviation and maritime customers in North America and the Caribbean.

“Our future-proof technologies ensure airlines can offer effortless connectivity and personalised entertainment options, as well as receive valuable insights into passenger preferences,” says Anuvu vice-president connectivity

Mike Pigott.

The company is pursuing a “bridge to LEO” strategy aimed at “helping airlines navigate the pathway” from GEO to low-Earth orbit satellites. Pigott says Anuvu’s strategy and open architecture network “can easily transition customers to make simple equipment changes as new technology becomes available”.

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Mirus goes long range with Falcon

Bernie Baldwin

Mirus Aircraft Seating is offering potential customers a viewing of its new long-range economy seat, the Falcon. The concept is aimed at widebodies as well as long-range narrowbodies such as the Airbus A321XLR.

"The Falcon follows our design philosophy of simplicity and elegance, as can be found on our Kestrel seat, which is class leading, weighs 7kg, and has huge living space seats at 28 inch pitch," says Mirus chief executive, Ben McGuire (*pictured*).

The Falcon is the third product from the UK start-up, following the introduction of its Hawk and Kestrel economy seats.

"It's not a full launch. We're out to get customer feedback to help define the final design," he confirms. "For long range, we're talking 12-16 hour flights. Following the concept of Kestrel, the Falcon will be 11kg, with an articulated seat pan to maximise space."

The Kestrel, meanwhile, has a "couple of customers" lined up which McGuire is hoping to announce at the show. "The seat is in a certification phase at our own test facility," he says.



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Panasonic Avionics Corporation

Achilles (seated) with Eniz Sahbegovic, ZIM's head of sales and marketing



authorisation-to-offer by year-end. "We're collecting information from customers, then we'll integrate those findings into the seat. We're aiming for aircraft integration by the end of 2025," he adds. "Feedback has included a couple of things that we can enhance. Generally, we expected a wow-effect regarding the geometry, the space and especially the weight. And that's pretty much the feedback we got, so we're right there."

ZIM is also exhibiting a premium economy seat concept. "We're demonstrating that with our technology, we can offer designs that are exclusive and a bit out of the ordinary. It's a seat with an integrated shell, so it doesn't recline into the passenger behind you. You have your privacy and your own real estate," Achilles says.

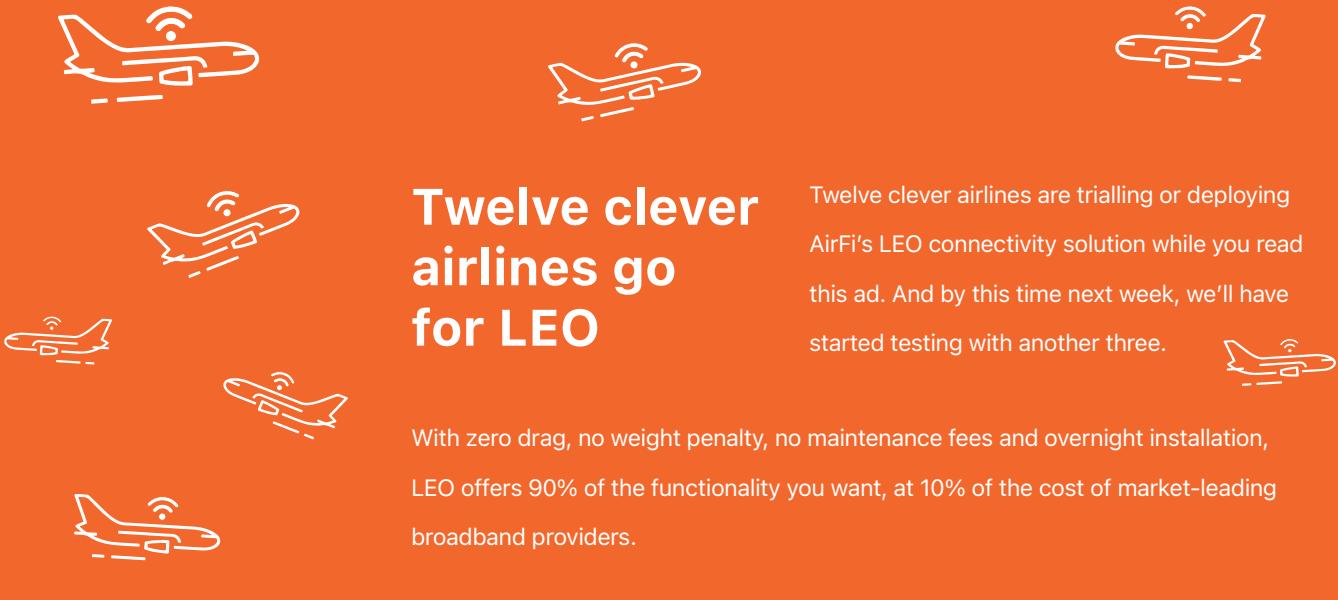
Bernie Baldwin

ZIM Aircraft Seating is showing a new economy class seat family incorporating a completely new frame and design, as well as new surfaces, foams, and ergonomics. Each ZIMLITE series

S/M/L member offers "a lot of space", says Sven Achilles, chief executive of the German company. "They're also lightweight, so the short-haul one weighs 8.5 kg per passenger, the medium-range 9.5 kg and the long-range 10.5 kg," he says. "They're all low frills. For

the 'Short' there's simply the seat. The 'Medium' has a high literature pocket and can be integrated with a PED holder and electrical features. Then there's the 'Long' with IFE integrated parts. I'd say it's a very competitive offering that we're launching."

Achilles expects



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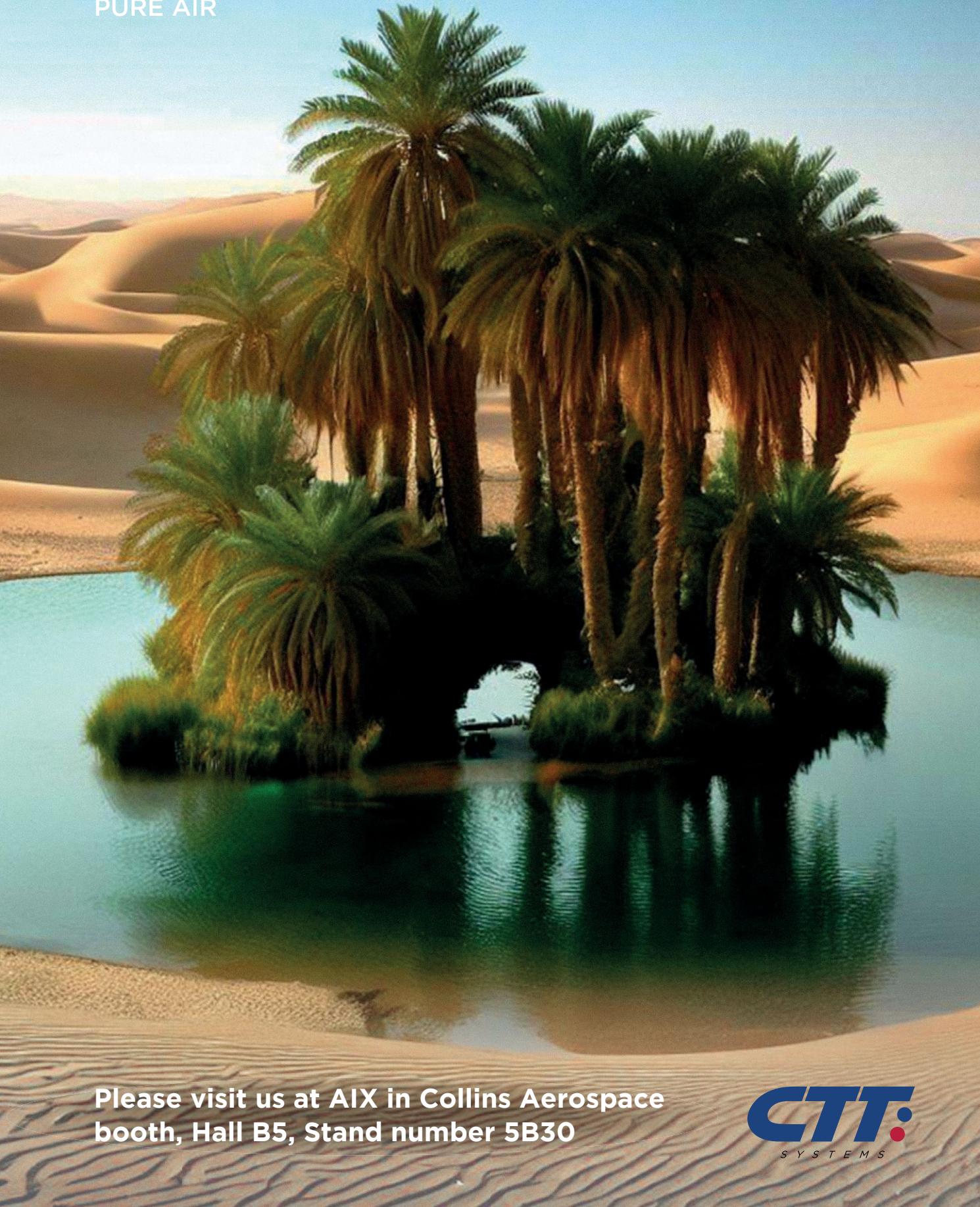
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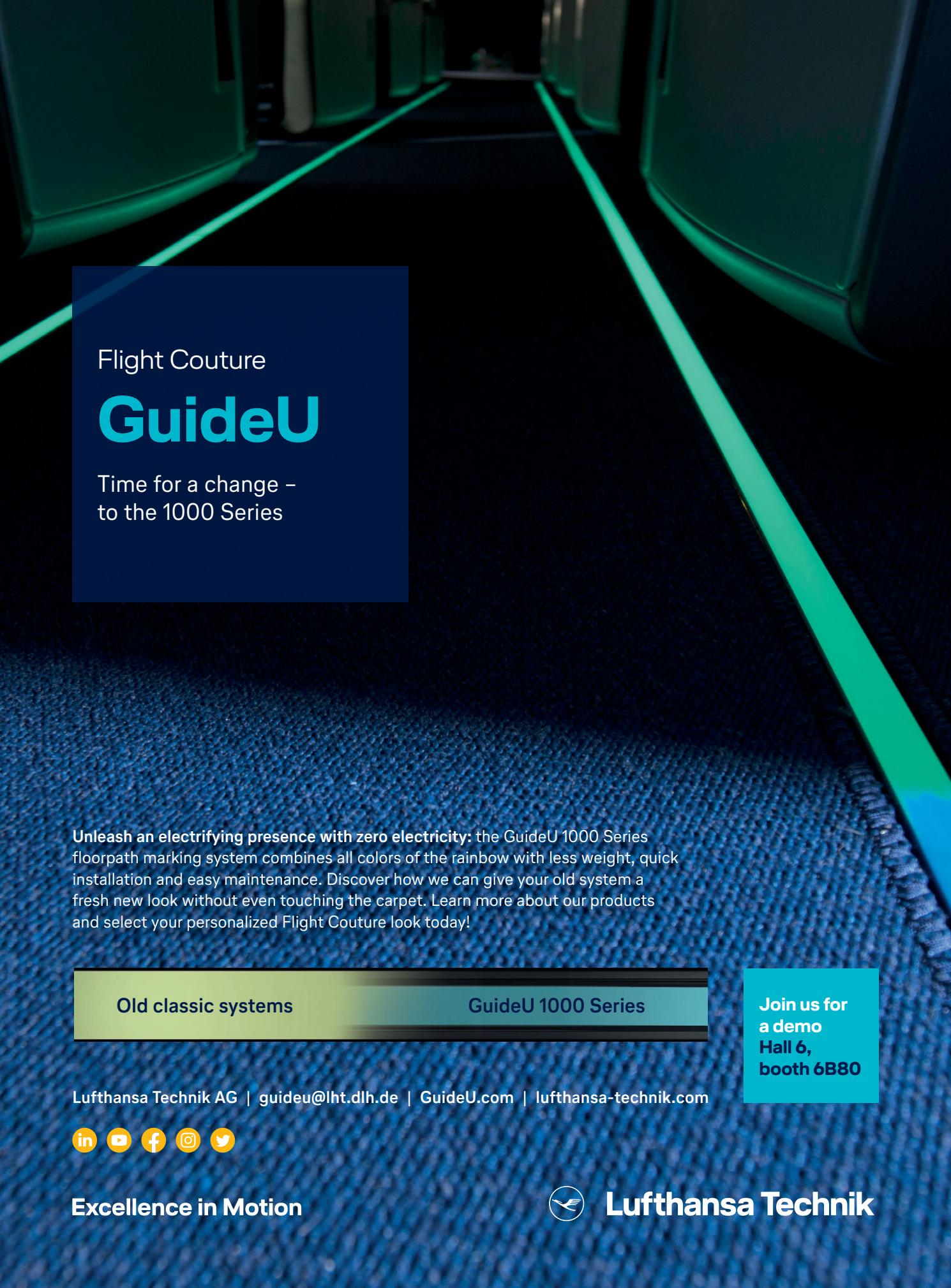
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Simply the vest

Bernie Baldwin

ABC International has a new life vest box for under-seat storage, which protects the vest from any damage and interference, while still being easy to access.

"These rigid boxes are transparent for ease of inspection and have seat attachments which can be used for different seat models," says Olindo Spatola, the company's vice-president engineering. "We developed the TSA [Transportation Security Administration] compliant boxes together with two major OEMs. They have a



Spatola: Airlines seek performance over weight

for performance rather than weight as the key attribute with this type of article.

ABC also has new seat track covers for Embraer E-Jets. Again, these have full flammability compliance, and are easy to store, damage resistant and retrofittable. "We have already delivered these to Helvetic Airways," Spatola says. "We also take care of the modification and the service bulletin, as we are the design organisation. Our aim is always to supply a full package to the customer."

The quality of ABC's covers led Helvetic to replace the originals. "The airline had trouble with the existing ones, because they were not really fitting properly in a durable way into the seat track," Spatola says.

tamper seal to avoid abuse and are designed so that a foreign object cannot be introduced which could damage the vest. They are easy to open with a Velcro tab."

The box is made from injection-moulded polycarbonate for flammability compliance and typically weighs less than 300g. Spatola notes though that airlines look

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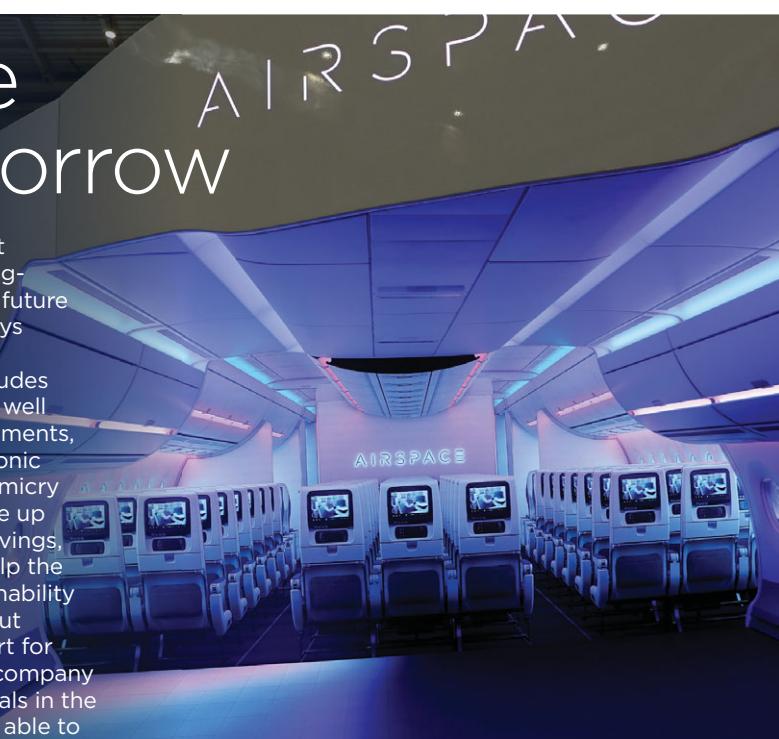
Airbus is presenting a virtual life-size A350 fuselage model of its Cabin Vision 2035+ on its stand.

It comes a week after the European manufacturer revealed a series of concepts that illustrate its philosophy about aircraft interior design and passenger experience in the middle of next decade (see yesterday's issue).

Several airlines were involved in the project,

which is the latest iteration of its long-running Airspace future cabin concept, says Airbus.

The design includes smart systems as well as lightweight elements, capitalising on bionic design and biomimicry that could provide up to 40% weight savings, which will also help the airframer's sustainability efforts, but without sacrificing comfort for passengers. The company says some materials in the new cabin will be able to be "recycled endlessly".



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The life-size concept on the stand

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Plastics fantastic

Jon Hemmerdinger

US aerospace company Tool Gauge is developing a new plastics manufacturing process it says allows for significantly faster production of stronger lightweight aerospace components.

Based in Washington state, the company has formed a joint venture with UK plastic supplier Victrex to produce components using a process called "co-molding".

Tool Gauge already produces a variety of plastic and machined-metal aerospace components, including those for landing gears, environmental control systems and overhead bins. It uses the thermoplastic polyether ether (PEEK), supplied by Victrex.

Tool Gauge general manager Jim Lee says a gap has long existed between the characteristics of metallic and plastic components, noting plastic is lighter but not always as strong as metals.

Tool Gauge thinks it can bridge that gap with its co-molding process, which it says results in much stronger composite parts.

The process involves producing single parts made by combining carbonfibre components –



Lee: Aiming for stronger composite parts

Airdo on stream

Tokyo-based in-flight entertainment hardware and software specialist TEAC has completed deliveries of its PortaStream/PS-V50 server to Japanese carrier Airdo.

The regional carrier, previously known as Hokkaido International Airlines, launched its newly-programmed 'Do Sky On-Demand' IFE service last month. PortaStream provides entertainment including movies and music as well as digital content on regional information and travel destinations.

IFE content and destination information are uploaded to the cloud server after being converted into the appropriate PSV format, says TEAC.

"Passengers can simply place it in the overhead bin on board the aircraft and enjoy digital content such as videos, music, e-books, and flight maps on their tablets and smartphones," says TEAC. "As no aircraft modifications are required, it is an easily deployable IFE equipment system for airlines that does not require a supplemental type certificate."

which are typically in sheet form – with thermoplastic infused with carbon. The carbon-plastic can be molded over a piece of carbon-fibre, resulting in a component much stronger than one made simply from plastic.

Tool Gauge is now working to validate such components, which it says can replace a variety of

parts currently produced from either thermoplastic or metal. Lee says co-molding manufacturing is significantly faster than metallic machining, meaning Tool Gauge would be able to "out-produce the OEMs' build rates". The company aims to supply co-molded parts to new-build Airbus and Boeing jets.

Astronics gets EmPower-ed

More than a dozen airlines have committed to Astronics' EmPower UltraLite G2 Power System since the unit's launch at AIX 2022, the company reports. Installations will take place over the next three years on more than 1,100

narrowbody aircraft. Astronics also has options to outfit several hundred more aircraft.

The UltraLite G2 system can provide up to 60W of power at every seat using a combination of USB Type A and Type C outlets.

According to Astronics, this allows maximum flexibility and airline customisation and reduces overall system and per seat weight by 30% to 40% when compared with similar power solutions currently flying.

Clear winner

Bernie Baldwin

Kydex FST CLR is a new, advanced polymer designed for use in decorative panels, which is described by its manufacturer, Sekisui Kydex, as "perfectly clear". It is the only "fully compliant transparent thermoplastic material" on the market, says the company.

According to Sekisui Kydex, design-centric material solutions such as this are "not only aesthetically pleasing, but can be a powerful business differentiator in a highly competitive market".

Airline passengers crave onboard experiences that

reflect the digital advances they interact with daily in their cars, on their phones, and in their homes.

Sekisui Kydex asserts that its thermoplastics offer new opportunities to "shape the passenger experience".

These materials can be employed in architectural panels, lighting features, electronics, or they can provide a feeling of increased space.

Demand for such transparent applications inside the cabin has never been greater, the company says.



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Take a look: Bernie Allen, vice-president marketing

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Lufthansa Group: World premier for Caynova's HCS

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Cesar Uparela,
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Soisa has it covered

Soisa Aircraft Interiors is to supply seat covers to lessor Avolon in an order which will see the products placed on legacy B/E Spectrum seats on Boeing 787-900 Dreamliners. Soisa sees potential for further orders from the leasing company. Beyond this order, Soisa and Avolon are working closely on an initiative to support the former's local community in Mexico. Taking seat covers and curtains from old Avolon aircraft, the materials are transformed into saleable goods such as handmade wallets and bags, which are then sold in the local markets.

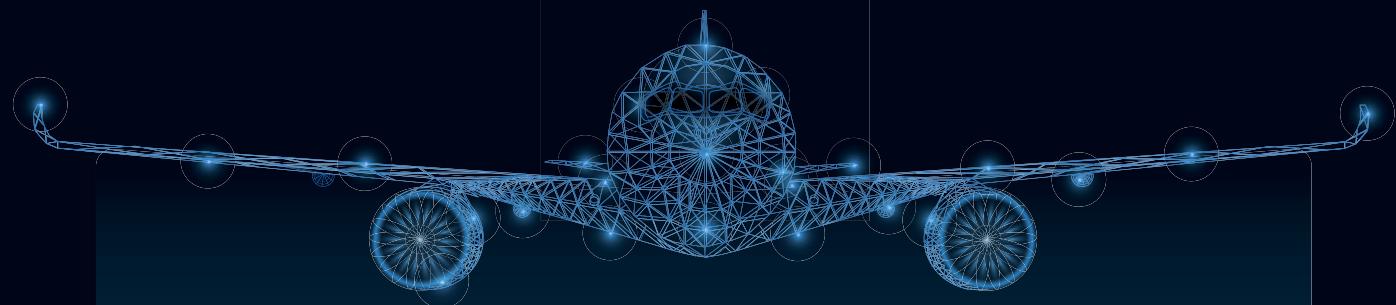
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ThinKom and Kontron collaborate on Ka-band

Kerry Reals

Broadband antenna provider ThinKom Solutions is to collaborate with in-flight entertainment and connectivity specialist Kontron to develop a "highly flexible" Ka-band satellite com-

munications solution for the avionics market. The multi-modem architecture integrates Kontron's ACE Flight 4783 dual modem Modman server with ThinKom's ThinAir Ka2517 phased-array antenna to provide a network-agnostic solution to airlines, the two companies say. A third

modem unit can be added to the Kontron server, enabling multi-orbit interoperability with geostationary, low-Earth orbit and medium-Earth orbit satellites.

"This complete system enables airlines and integrators to quickly deploy a network-agnostic solution that offers an array of modem combinations, not only for today but also for tomorrow," says ThinKom chief technical officer Bill Milroy.

Jazeera Airways powers up with Burrana

Burrana is to provide Jazeera Airways with USB-A and -C power outlets for the carrier's retrofit of its Airbus A320 and A321 fleets. Passengers will be able to charge personal electronic devices using a system that

provides equitable power at every seat. Burrana's proprietary architecture offers "intelligent power sharing distribution and load shed management" which means passengers need not worry about running out of charge. The outlets do

not intrude on passenger space by using an iPhone-sized seat box tucked away within the seat itself. Nine A320s and two A321s will receive Burrana USB power, with the first aircraft retrofit planned for December 2023.



The image shows a close-up of a light-colored wooden plaque with a dark wood grain. Engraved on it is the text "ANJOU AERO" in a large, stylized font, with "• FULL CABIN SUPPORT" underneath. Above the main text, there is a small circle containing the year "1948" with the word "SINCE" written above it. The plaque is resting on a dark, textured surface, likely a carpet or fabric. In the bottom right corner of the image, there is a promotional text overlay: "Discover a new world of safety, quality, services and design." Below this text, the website "www.anjouaero.com" is listed.



Reeves and Bardelmann with the new seat

flight of about 16 hours – and later on the route to Chicago.

Safran and Air New Zealand initially announced their choice last year.

"The features are second to none and they are amazing for the space that it takes up," Reeves says.

The seat will span two market segments for the carrier, business premier and business premier luxe – the first row of the business class cabin, which has additional space and privacy to allow for partner dining.

Advertised as "the best sleep in the sky", Air New Zealand said last year it was looking to "lead on the ultra-long-haul travel experience".

The seat converts to an 8in bed, one of the longest on the market, says Veronique Bardelmann, chief executive officer of Safran Seats UK. "The experience in terms of the space is incredible," she adds.

Air New Zealand's choice was "driven and validated strongly by continuous evolution as we went through our customer testing process," Reeves says.

"I am sure that other airlines will look at us with envy."

ANZ's seat for the 'best sleep in sky'

Pilar Wolfsteller

Air New Zealand and Safran Seats have presented the new Visa business class product that the Auckland-based

airline has chosen for its Boeing 787-9 fleet.

The airline will install the seat in four new airframes it expects to receive into the fleet in the coming two years, and will retrofit 14 other aircraft with the new

seat, Air New Zealand's Kerry Reeves, head of aircraft programmes, said yesterday at AIX. Air New Zealand intends to introduce the seat on its ultra-long-haul connections between Auckland and New York – a

Emirates to debut HBCplus

Emirates Airline is the launch customer for Airbus' HBCplus connectivity solution, to be installed on the carrier's Airbus A350-900 fleet.

The Dubai-based carrier will become the first airline to operate the agnostic satcom connectivity solution, Airbus said at AIX yesterday.

"We continue to strive for improvements and make good use of the evolving technology to support our product offering," says Adel Al Redha, Emirates' chief operating officer. "HBCplus, offered by Airbus, will provide our Airbus

A350 fleet with better integration and performance using the latest generation of connectivity and antenna."

The system will be installed on 50 aircraft, beginning in 2024.

Airbus launched its HBCplus, or high-bandwidth satellite connectivity, at last year's AIX. It provides continuous high bandwidth inflight connectivity and "aims to become the one agnostic, supplier-furnished equipment (SFE) cross-programme platform, capable of hosting multiple satcom providers", Airbus said at the time.

The HBCplus system's first

managed service provider will be Inmarsat, while Safran Passenger Innovations (SPI) will provide the equipment and lead the hardware integration.

Entry into service of the Ka-band satellite communications solution is planned for 2024 while the Ku-band will be introduced at a later date, Airbus says.

"We are extremely pleased to welcome Emirates as the first airline to select our HBCplus high-bandwidth connectivity solution," says Andre Schneider, Airbus vice-president cabin and cargo programme.

Vaayu to debut expandable lav

Kerry Reals

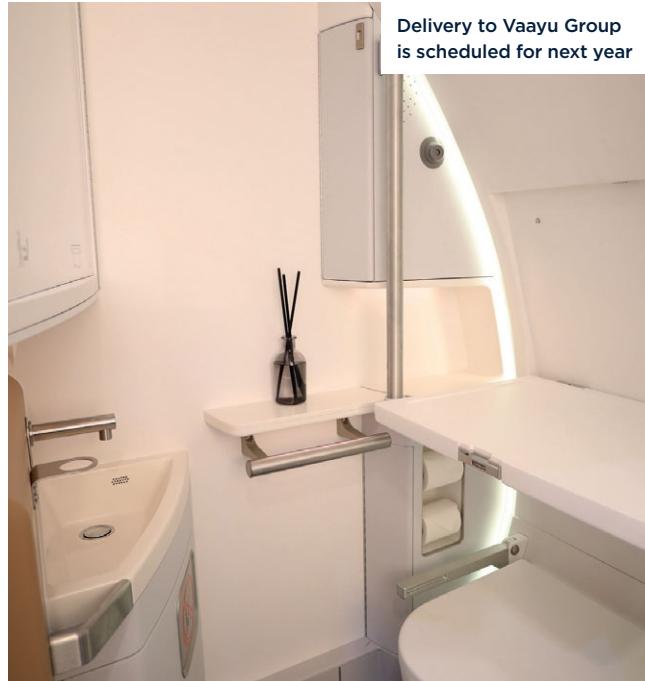
ST Engineering has received European certification for its Access expandable lavatory for passengers with reduced mobility (PRMs) on Airbus A320-family aircraft, ahead of planned deliveries to launch customer Vaayu Group in 2024.

Vaayu Group, a Ras Al Khaimah, United Arab Emirates-based aircraft leasing and aerospace services company, signed a letter of intent with ST Engineering earlier this year for 20 Access units. It intends to install the lavatories on A320 and Boeing 737 aircraft.

ST Engineering demonstrated a prototype of Access at last year's Aircraft Interiors Expo in Hamburg. The lavatory uses a patented system which enables its internal footprint to expand to cover an area 40% larger than a typical narrowbody aircraft bathroom. In its expanded state, Access is big enough for a wheelchair user and an assistant to enter.

When deployed, the pull-out expansion module faces the aft galley and opens into the area in front of the emergency evacuation exit, meaning there is no need to remove any rows of seats.

"The design is able to accommodate existing structural attachment points as well as electrical and system connections,



require airlines to ensure that "at least one lavatory on new single-aisle aircraft with 125 or more passenger seats is large enough to permit a passenger with a disability (with the help of an assistant, if necessary) to approach, enter and manoeuvre within the aircraft lavatory, as necessary, to use all lavatory facilities and leave by means of the aircraft's on-board wheelchair".

The government agency said in the NPRM that as the US population ages – with an estimated 30% being over the age of 65 by 2030 – the need to accommodate airline passengers with mobility impairments is expected to increase.

The DOT says that as it moves forward with the rulemaking, it will "firmly bear in mind its commitment to equity, including seeking information relating to whether these accessibility improvements can be implemented more quickly than currently proposed".

ST Engineering says it is "constantly exploring new opportunities and engaging with other potential customers, especially like-minded operators to create more dignified and inclusive experiences for all air travellers".

While its "current priority and focus" is narrowbody aircraft, ST Engineering says it is "always exploring new product platforms to expand our offerings".

while installation can be carried out without the need to alter the cabin layout or reduce precious galley space and seating capacity," says ST Engineering.

The Singapore-based company announced on the eve of AIX that it had obtained a European Union Aviation Safety Agency supplemental type certificate (STC) for the A320. It adds that Vaayu Group plans to have the Access lavatory installed on its aircraft "by the second half of 2024", subject to regulatory approvals and regulations. It hopes to follow the A320 STC with certification for the 737.

"We believe Access will change the dynamics of

the sector, considering the projected growth in the number of passengers with reduced mobility due to the change of demographics of air travel," says Vaayu Group president Emad AlMonayea. "As an entrepreneurial organisation, Vaayu must not only grow faster but also have to visualise the future of our business quicker than most."

ST Engineering says that Access fulfils all of the US Department of Transportation's proposed requirements for making aircraft lavatories more accessible.

The DOT last year issued a notice of proposed rulemaking (NPRM) to



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Luxair powers up with RISE

Kerry Reals

Burrana is at the show promoting its RISE in-seat power solution, following Luxair's completion of the first of four installations of the system on its Boeing 737-800 aircraft.

The Luxembourg-based carrier selected Burrana's in-seat power solution as part of its 737-800 cabin upgrade programme.

Following the installations, each passenger will be able to power and charge smartphones, tablets and other portable electronic devices via dual USB-A

jacks, supported by what Burrana says is the lightest in-seat power system in the industry.

The first installation was subject to a "very tight project schedule", says Burrana, and was carried out under the European Union Aviation Safety Agency's minor modification certification. This meant there was no impact on the existing seat certification for Luxair's Geven Essenza and Comoda seats.

"We needed a slim, integrated and reliable Dual USB-A outlet solution that allows passengers to arrive at their destination fully charged," says Luxair



Burrana

Burrana says product is lightest in-seat power system on market

flexibility and commitment we required."

The RISE platform features a common 48VDC power backbone which, Burrana says, provides airlines with the flexibility to mix and match seatback, wireless or overhead in-flight entertainment, with or without in-seat power, on narrowbody and widebody aircraft as either a linefit or retrofit solution.

"We're delighted to continue to build on our relationship with Luxair, which started many years ago with the installation of Paves overhead IFE systems on Luxair's 737 fleet," says Marc Cougoule, EMEA director at Burrana.

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Scotland inspires Muirhead

Kerry Reals

Scottish leather supplier Muirhead has taken inspiration from local landscapes to design its new "ReWILDing" conceptual aircraft interiors collection.

The company hopes the nature-based theme will emphasise its focus on sustainable manufacturing processes. Muirhead claims to produce the "lowest carbon intensity leather in the world" because it sources raw materials locally, reclaims energy from waste and reuses water at its manufacturing facility in Bridge of Weir.

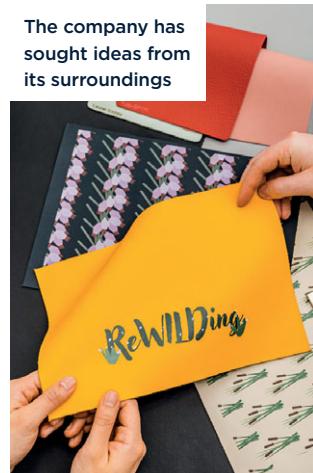
The ReWILDing

collection is inspired by three landscapes that are associated with Scotland: Mountains & Moorlands; Wetlands; and Grasslands.

The Mountains & Moorlands design has "romantic undertones conveyed through a hazy colour palette", says Muirhead, and is intended to invoke a feeling of relaxation. It was chosen to reflect a world in which health and well-being are "paramount", adds the company.

The Wetlands design uses "earthly, grounded tones" aimed at highlighting the process of "upcycling" rawhides – a by-product of the food industry – into "aesthetic and durable"

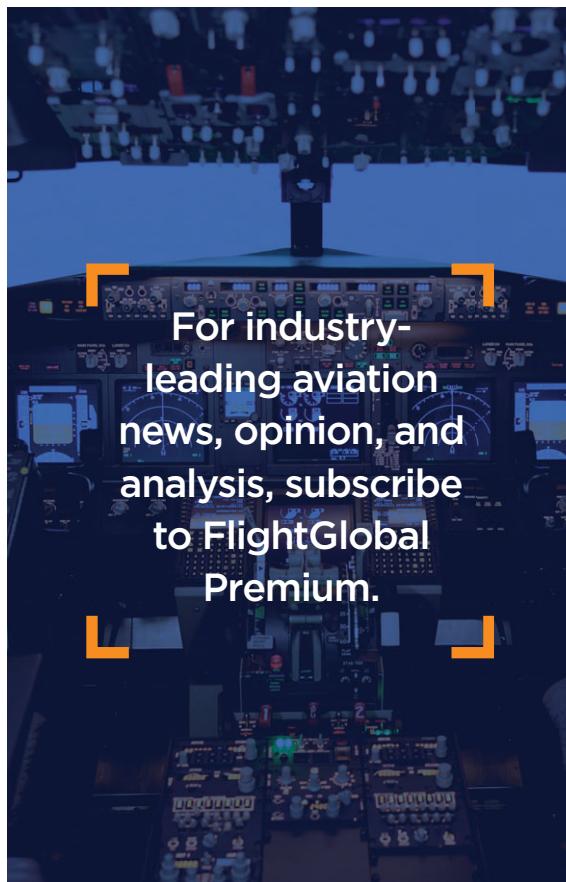
The company has sought ideas from its surroundings



"Not only have we pioneered circular leather manufacturing by recovering energy and by-products from process waste and end-of-life leather, but we're also proud to be surrounded by Scotland's epic landscapes and pristine wilderness," says Muirhead design manager Debra Choong. "With that, it's no surprise sustainability and Scottish nature were both integral to Muirhead's design directions this year."

The ReWILDing collection takes centre stage on Muirhead's stand at AIX, as part of its interactive "Design Garden" studio.

materials, while the Grasslands collection uses a "highly energised palette" to create a "lively and bold" mood.

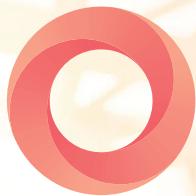


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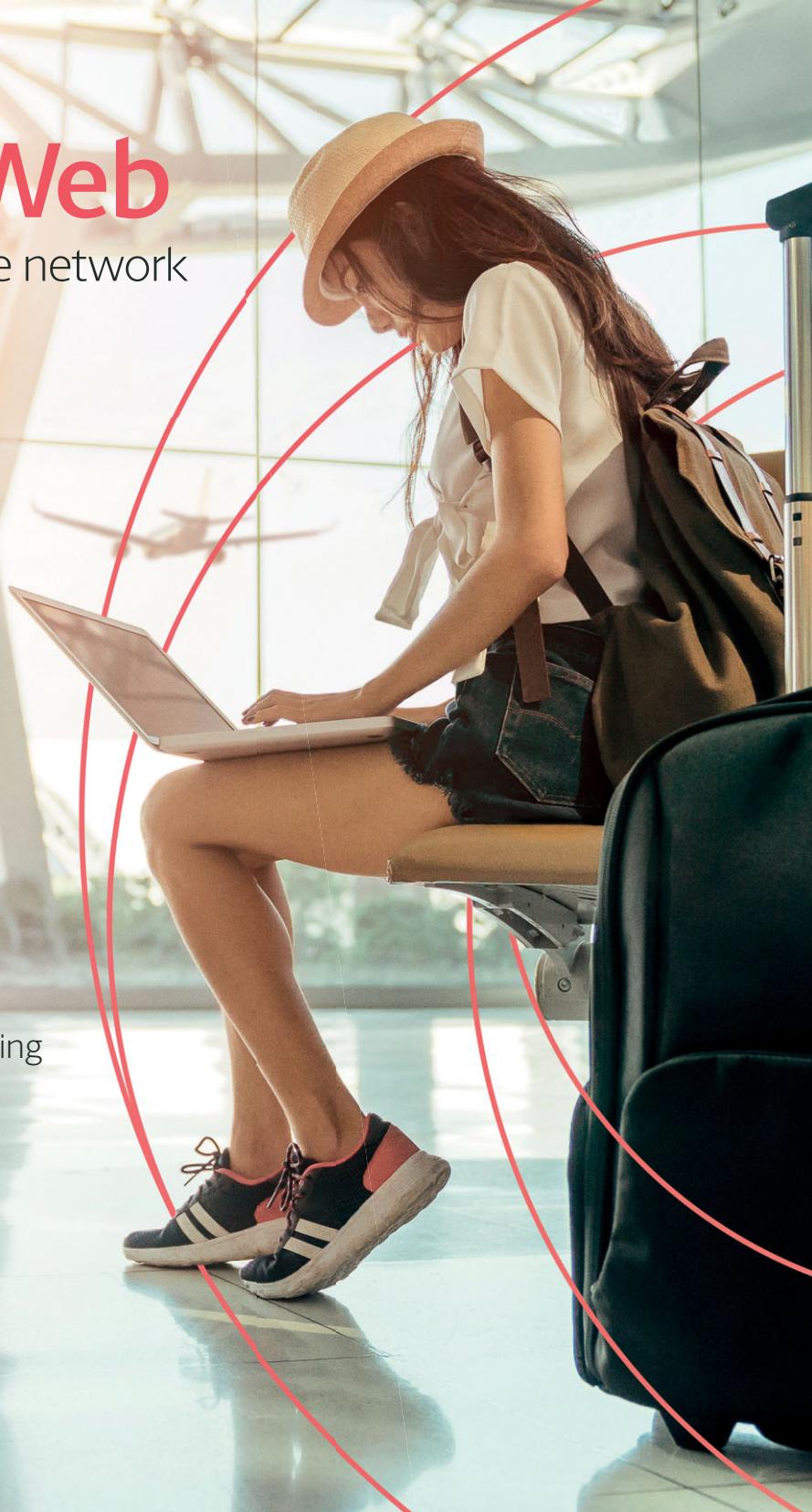
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What is the short-term outlook for the aviation industry and what are the key trends we are seeing post-Covid recovery? Henk Ombelet, head of advisory services for Ascend by Cirium looks at the data



t's been a long road to recovery, and there have been many false starts, but 2024 looks like the year where we can finally say goodbye to those comparisons with 2019. It is only seven months till the end of this year, and during that time most regions will have recovered to 2019 levels or beyond, save perhaps a few.

International traffic to and from China is one of the laggards as it was the final country to lift Covid restrictions. Intra-Asia international, Transpacific and Europe-Asia routes were dependent on traffic to China, and hence are probably not going to recover until 2024. But on a global basis, based on results so far and our forward-looking scenarios, we expect to reach that milestone in September or October of this year.

While the number of stored aircraft is still around 7% higher than pre-pandemic, some 14,400 single-aisle aircraft are now tracked daily, which is just over what we saw at the start of 2020.

Twin-aisles are still 17% down on 2020. But daily utilisation of aircraft, which dropped during the pandemic as many airlines kept most of their aircraft flying, is almost back to normal levels at around nine hours for single aisles and 12.5 hours for twin aisles. The return

to almost normal utilisation means of course that the demand for MRO is returning as well.

The Cirium Fleet Forecast, published at the end of last year, is predicting deliveries of almost 21,000 commercial passenger aircraft between 2023 and 2032. Traffic growth as a result of economic growth and replacement of older, less efficient and less environmentally friendly aircraft are the key drivers.

However, supply chain problems are reducing the production rates of the manufacturers in the near term, affected by delays in engines, interiors and fuselages. Production issues don't help with achieving delivery rates either. So in the near term Cirium is expecting reduced deliveries, with the cumulative deficit reaching around 150 Boeing 737 Max aircraft by the end of 2024 and around 100 Airbus A320 family aircraft.

It is a phasing issue, and the total delivery projections for the next five years haven't changed, but it isn't until 2025/2026 that we expect to see an acceleration in deliveries. The A320 family should be back on track by 2026, the 737 Max at least a year later. Widebodies also have some near-term delivery delays, but measured more in tens than hundreds. ▶

As satellite access improves and connectivity choices widen, the latest trends and advances in technology are being discussed at this year's show



Air Baltic is among the airlines that have signed up for SpaceX's Starlink Aviation product

Kerry Reals

Multi-orbit satellite technology and the march towards free onboard wi-fi are key talking points at this year's show.

The imminent launch of low-Earth orbit (LEO) in-flight connectivity services from the likes of OneWeb and SpaceX, and the reverberations of Delta Air Lines' announcement that it will offer complimentary fleet-wide wi-fi to all passengers by the end of 2024 are expected to be hot topics.

SpaceX has signed up a handful of airline customers for its upcoming Starlink Aviation LEO satellite-based IFC service. These include Hawaiian Airlines and Air Baltic, both of which have said they plan to begin installing the system on their aircraft this year, pending certification. SpaceX's rival OneWeb, meanwhile, is targeting an early

2024 start date for its LEO IFC service, and has been busy preparing the market for its debut.

"A lot of what we've done since last AIX is galvanise relationships with airlines, ensure we do the education piece so that when our distribution partners come to them they already have a base level of understanding of what OneWeb is, how to buy it and whether they might want LEO-only or whether they think LEO/GEO might be a good solution," says OneWeb vice-president mobility services Ben Griffin.

One of OneWeb's distribution partners, geostationary (GEO) satellite company Intelsat, signed an agreement with Alaska Airlines earlier this year to install Intelsat's multi-orbit electronically steered array (ESA) antenna on the Embraer 175s operated by its Horizon Air and SkyWest regional units. The antenna will communicate with both Intelsat's GEO and OneWeb's LEO satellites.

Alaska Airlines says that the "unique combination



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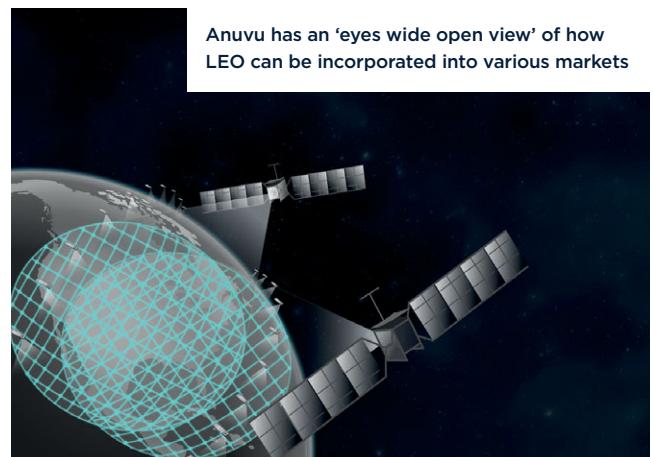
“Our future is a hybrid network operation where we’re using both GEO satellites and LEO satellites, and we are 1,000% believers in that future”

Mike Pigott Anuvu executive vice-president connectivity

of using both LEO and GEO satellites enables higher speeds and more coverage, particularly across remote areas in the state of Alaska”.

The deal with Alaska Airlines is “just the beginning of the ESA era for IFC”, according to Intelsat senior vice-president commercial aviation Dave Bijur. Intelsat’s ESA antenna weighs 41kg (90lb) and is 10.1cm (4in) tall, which Bijur expects will be a strong selling point for airlines seeking to reduce weight, drag and fuel burn.

“I think there are two groups of airlines: one that’s interested in this because it’s GEO and LEO and it offers polar coverage which, up until now, has not been a thing;



Anuvu has an ‘eyes wide open view’ of how LEO can be incorporated into various markets

Anuvu

and then there’s a whole other angle, which is airlines are trying to reduce carbon emissions and spend less on fuel,” he says. “By creating a very small, lightweight antenna, we’re helping airlines achieve their carbon emissions goals while also giving them a nice package for connectivity.”

IFE provider Anuvu, formerly known as Global Eagle Entertainment, is also preparing for a multi-orbit future. The company has traditionally provided Ku-band IFC to

Long-range narrowbodies reignite seatback versus BYOD debate

Next-generation long-range narrowbodies are not only opening up new route opportunities for single-aisle aircraft, they are also reopening the debate over whether to install seatback in-flight entertainment systems or adopt a bring-your-own device (BYOD) strategy.

Deploying aircraft such as the Airbus A321LR and upcoming A321XLR on routes traditionally operated by twin-aisle aircraft has obvious efficiency benefits for airlines. Further efficiency gains could be achieved by not installing heavy seatback IFE systems and relying instead on passengers using the in-flight wi-fi to stream entertainment content to their own tablets and smartphones.

While early adopters of long-range narrowbodies such as JetBlue Airways and Aer Lingus – both of which operate transatlantic flights using A321LRs – have opted to install seatback screens for all passengers, there are signs that some carriers are considering a different approach.

Alan McInnes, vice-president of business development at Unum Aircraft Seating, which is developing a lie-flat business-class seat for the long-haul narrowbody market, says he has been surprised to learn that some potential airline customers are thinking about requiring even their premium passengers to use their own devices on board.

“One of the interesting things is that when we approached this project we said we would always have to integrate a third-party IFE solution. That’s expected in business class,” says McInnes. “What we have found

in single-aisle is that some of our potential customers are considering not having a traditional embedded IFE solution, which has been quite interesting and a little bit of a surprise.”

Advances in in-flight connectivity technology over the last five years have made airlines think again about whether they need “the weight and complexity” of embedded IFE systems, he adds.

“We approached the project thinking every deployment would have IFE, [but] with the single-aisle it may not be as cut and dried,” says McInnes. “Airlines can find resilient wireless solutions from any one of the vendors out there, so we are open-minded.”

Steve Hadden, vice-president of services and connectivity at Honeywell Aerospace, also sees a trend away from seatback IFE systems on long-haul narrowbodies.

“We’re seeing a lot more long-range single-aisle aircraft, [and] the bring-your-own device rather than the seatback in-flight entertainment seems to be the trend,” says Hadden. However, he does not think that seatback systems will disappear.

Looking at a phone or tablet on a 2-3h flight on a single-aisle aircraft is one thing, but would this be palatable to passengers on much longer flights? Hadden says it depends on who the airline is targeting.

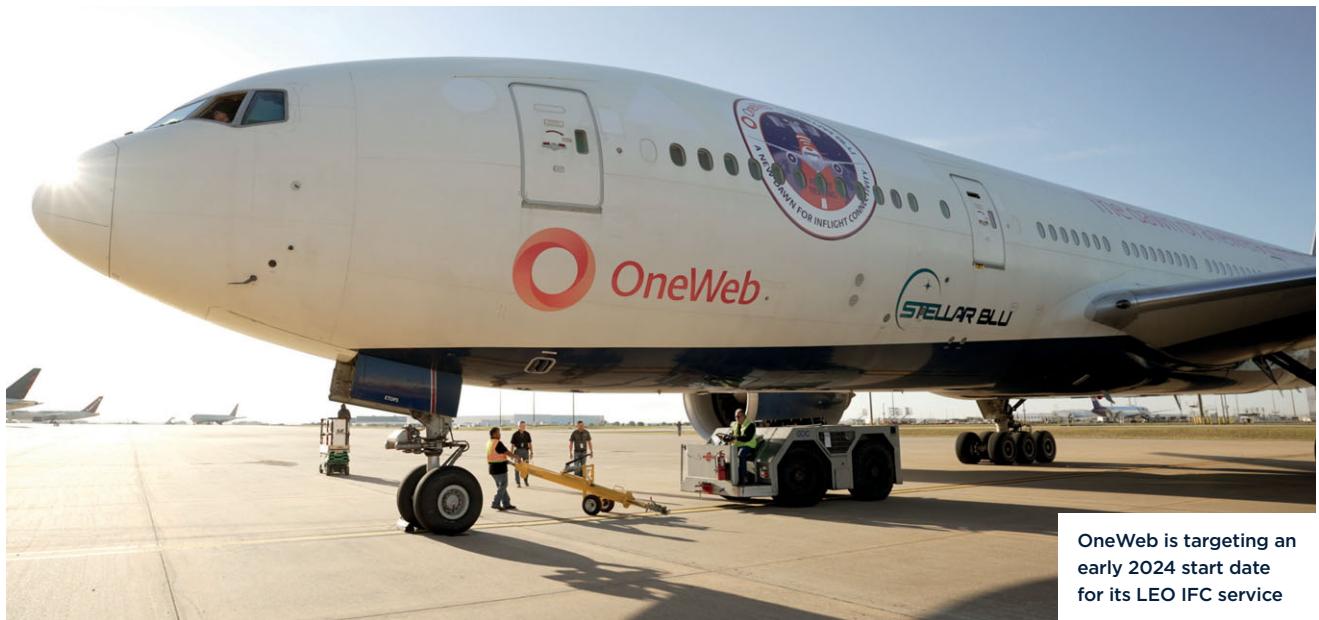
“As I get older, my eyes need a bigger screen, personally, but it depends on the subsets of the market,” he says. “I think you’re going to see all models going forward, and I don’t think seatbacks are going to disappear, by any means.”



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OneWeb

airlines by leasing capacity from various GEO satellite operators. Last year, Anuvu signed a capacity agreement with Telesat to eventually offer IFC services using the Canadian company's upcoming Lightspeed LEO network. It is also open to the idea of working with other LEO partners.

Additionally, Anuvu has invested in its own satellite constellation, in partnership with Astranis, and plans to launch its first two MicroGEO satellites later this year.

"Our future is a hybrid network operation where we're using both GEO satellites and LEO satellites, and we are 1,000% believers in that future," says Mike Pigott, executive vice-president connectivity at Anuvu. "We believe that is the future state for the next five to 10 years for in-flight connectivity, but we're not there yet. We're in a GEO-only world today and so our 'bridge to LEO' concept is how we can best serve our customers and get them to that hybrid network future."

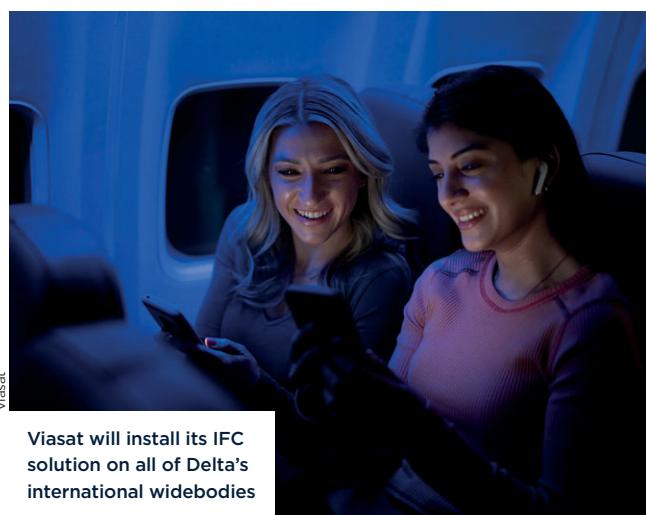
Earlier this year, Anuvu signed a reseller agreement

with SpaceX to provide its Starlink LEO connectivity service to the maritime sector. On the aviation side, Pigott says that Anuvu is "continuing our engagement with Telesat and with others in the market", noting: "We have an eyes wide open view of how LEO can be incorporated into various markets and it's not an exclusive view with any LEO operator today, just like it has not been an exclusive view with any GEO operator."

SES, which delivers Ku-band satellite services to airlines indirectly through various internet service providers such as Panasonic Avionics and Anuvu, is also building a combined medium-Earth orbit (MEO)/GEO Ka-band service.

"If you look at Ku, more than 60% of aircraft fly over our capacity so we are quite a force, but we are behind these guys so you don't hear about us," says Aditya Chatterjee, senior vice-president of aero market solutions at SES. On the Ka-band side, the company's SES-17 high throughput satellite over the Americas powers Thales's FlytLive in-flight connectivity service, which counts Spirit Airlines as a customer.

SES is also building a MEO satellite constellation



Viasat will install its IFC solution on all of Delta's international widebodies

"If we continue this mission and the market keeps doing what it is then I think we're going to generate a lot of value for our airline customers and their passengers"

Don Buchman Viasat vice-president commercial aviation

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known as O3b mPOWER, which Chatterjee expects will play "a major part" in the mobility market.

"We are focusing on creating a global Ka network along with our partners. This GEO network would be overlaid by mPOWER, which is MEO," he explains. "We will be the first to provide a global Ka multi-orbit constellation for an IFC network." SES has focused on MEO "from day one" and sees medium-Earth orbit satellites as "more efficient" than LEO, adds Chatterjee.

Alongside discussions about multi-orbit satellite IFC options and the new generation of antennas that will support them, the subject of how airlines can move towards a free onboard wi-fi model will likely be a feature at this year's AIX. It follows Delta's announcement in January that it will become the first major US network carrier to introduce complimentary wi-fi for all.

As of 1 February, most of Delta's domestic mainline Viasat-equipped aircraft offered free wi-fi to passengers who signed up to join the airline's SkyMiles loyalty programme. Delta will also bring free wi-fi to all of its international and regional aircraft by the end of 2024, through its partnership with T-Mobile.

Viasat confirmed in mid-March that it had also been selected to install its IFC solution on all of Delta's international widebody aircraft, replacing the carrier's incumbent provider, Intelsat. This will bring the total number of Delta aircraft equipped with Viasat's system to more than 1,000.

The California-based satellite company, which is in the process of attempting to acquire UK-based rival Inmarsat, has been "banking on" and preparing for the high demands that will be placed on in-flight bandwidth when airlines start to offer it free-of-charge to passengers more widely, says Viasat vice-president commercial aviation Don Buchman. Viasat also provides IFC services to JetBlue Airways, which has given free wi-fi to its passengers for about a decade.

"That's why we're investing in ViaSat-3 and that's why it's got so many clever artefacts in it – not only a terabit of capacity, but it also allows us to be very agile in how we move it to make sure we never run out in places where there's high demand," says Buchman. "If we continue this mission and the market keeps doing what it is then I think we're going to generate a lot of value for our airline customers and their passengers."

Viasat is in the process of launching three satellites to complete its ViaSat-3 constellation. The first two, covering the Americas and Europe, Middle East and Africa, are launching this year and the final satellite is due to launch over the Asia-Pacific region in 2024, at which point Viasat will offer global coverage.

Delta's transition to a free wi-fi model is expected to ignite discussion around how airlines can monetise IFC

The deal with Alaska Airlines is "just the beginning of the ESA era for IFC"

Dave Bijur Intelsat senior vice-president commercial aviation



Intelsat signed an agreement with Alaska Airlines this year to install its multi-orbit electronically steered array antenna

Intelsat

and make this strategy work. However, IFC experts do not expect a mass, overnight move to a free model. Instead, varying degrees of paid-for and free models are likely to evolve, depending on the size, budget and target market of each operator.

Nevertheless, as more airlines do start to offer free, streaming-capable IFC, it could have an impact on the traditional in-flight entertainment content model.

"One of the things that we've noted, particularly with Delta, is they're reaching out and getting their own content and bringing it to the passenger. They're doing that because they've got streaming quality so they can allow passengers to stream what they want and also what their partners provide, as opposed to the traditional content model," says Daniel Welch, co-founder and senior research consultant at Valour Consultancy.

"I'm not saying that IFE is dead, but it's certainly under threat from that transition to free because passengers are then free to do what they want."

As free in-flight wi-fi opens up, adds Welch, "the value of the content comes into question". Content vendors, therefore, are starting to shift from IFE into digital services.

"I think that's in recognition of the fact that content alone isn't going to be as appetising going forward, so they need to shift into 'how can we provide services around the connectivity pipe that are useful to the airline?'" says Welch. ▶

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As airlines deploy narrowbody aircraft on ever longer routes, seat makers are tasked with ensuring this does not result in a slimmed down premium passenger experience

Different class



Safran

Safran unveiled its Vue at last year's AIX

Kerry Reals

Flying business class on a narrowbody aircraft used to mean a slightly bigger seat with a bit more legroom and a recline function. But that was before longer-range variants of Airbus's and Boeing's single-aisle jets hit the market. The introduction of aircraft such as the Airbus A321LR and the upcoming A321XLR, with respective ranges of 4,000nm (7,400km) and 4,700nm, has turned the narrowbody business-class cabin on its head.

Airlines have realised that if they are going to charge passengers a hefty premium to take a long-haul flight on a single-aisle aircraft, the experience had better at least match that of a long-range widebody flight. This means a lie-flat bed, privacy and ample personal space – all of which comes with the added challenge of recreating the same experience in a much smaller space.

Seat manufacturers have risen to the challenge, however. A range of options is now available to help

airlines emulate, or even exceed, the premium experience that passengers have come to expect on twin-aisle aircraft, in the considerably smaller cabins of this new generation of long-range narrowbodies.

"When Airbus revealed the XLR, there was very strong and positive feedback from the airlines. It was a game-changer. But the next question was, 'okay, it's very good to have a single-aisle aircraft that's able to do an 8-9h flight, but currently on the market we don't have any business-class seats that fit in with this extra-long range,'" says Alain Bordeau, vice-president of global sales and marketing at Stelia Aerospace – the premium seating arm of newly rebranded aerostructures business Airbus Atlantic.

"Mainly on the market at the time it was the recliner seat for much shorter 4-5h flights. So Airbus came to us and said, 'Can you think about seats specifically for this extra long-range aircraft?' And this was how the Opera seat was born."

Stelia's Opera seat is marketed by the company as "the widest full-flat bed available on single-aisle". It is a reverse herringbone seat, meaning passengers face the window

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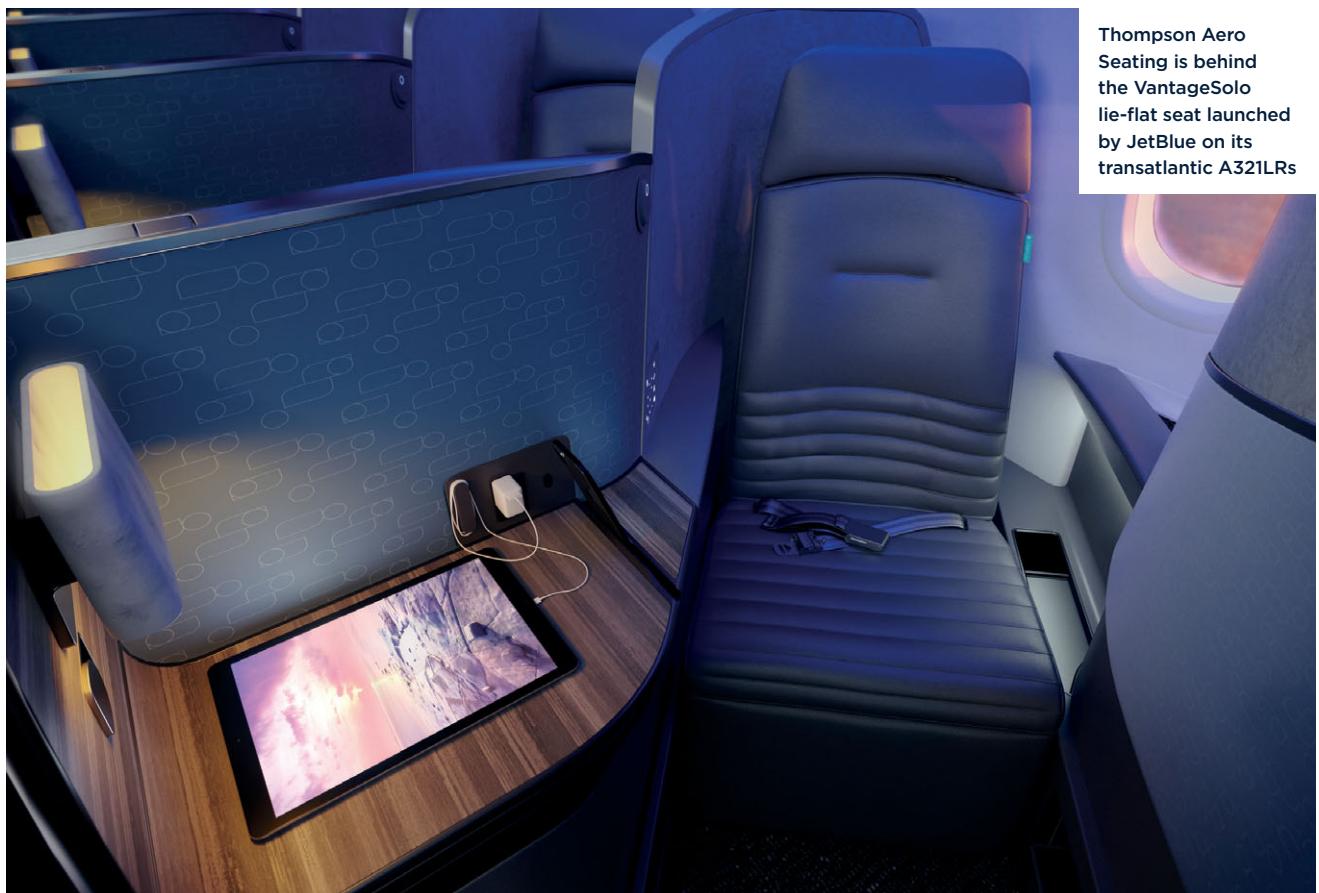
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Thompson Aircraft Seating

Thompson Aero Seating is behind the VantageSolo lie-flat seat launched by JetBlue on its transatlantic A321LRs

rather than the aisle, and it features a fully-integrated door for additional privacy.

Bordeau says the company took “the opposite” approach to competitors when designing the seat because instead of adapting a widebody product for the narrowbody market, it specifically developed Opera for single-aisle aircraft from the outset.

“The requirements for a single-aisle are different than for a widebody – not only because of the size of the tube, but also in a narrowbody you have much lower luggage bins and you don’t have any galley to go to outside your seat, so you need extra space in your seat,” he explains. Another key challenge was making the seat as light as possible, which Stelia achieved partially through minimising the number of parts, says Bordeau, also making it easier to maintain. A widebody version of Opera is also available.

Stelia’s intention when developing Opera was that the passenger experience had to be as good, if not better, than in the business-class cabin of a twin-aisle aircraft.

“We need to bring all the comfort and amenities from the widebody – even more, probably. So the living space in our Opera seats for single-aisles is even bigger than on the widebody,” says Bordeau. He adds that the average number of seats airlines are looking to install in their long-range single-aisle premium cabins is 14, in a two-abreast configuration.

Certification of Opera is “almost complete”, says Bordeau. The company has two undisclosed launch customers for the A321XLR – one in Europe and another

based “outside Europe but not in the USA” – and is in “advanced discussions” with a potential customer on the A321LR.

Another window-facing reverse herringbone seat aimed at the long-range narrowbody market is Safran Seats’ aptly-named Vue product, which the manufacturer revealed at last year’s show. Vue will be delivered to its first customers this year and will launch on a Boeing 737-family aircraft, says Quentin Munier, executive vice-president of strategy and innovation at Safran Seats. He declines to specify the 737 variant.

Vue provides all passengers with direct aisle access and an “easy exit, even with the TV or meal table deployed”, says its manufacturer. The seat also offers “excellent” privacy, with no eye contact and the option of adding a door to the suite.

“It is no secret that matching the overall widebody passenger experience on a narrowbody presents a challenge: think about the number of available galleys, the boarding process, the single aisle, et cetera,” says Munier. “It was key for us to be able to deliver a product that would match the most premium business-class products in widebody aircraft, while making the best possible use of cabin real estate and achieving the seat counts airlines were asking for.”

Munier expects that most airlines deploying narrowbody aircraft on flights with a duration of more than 5h will want to install fully-flat beds in their business-class cabins.

“The long-haul narrowbody market is still in its early

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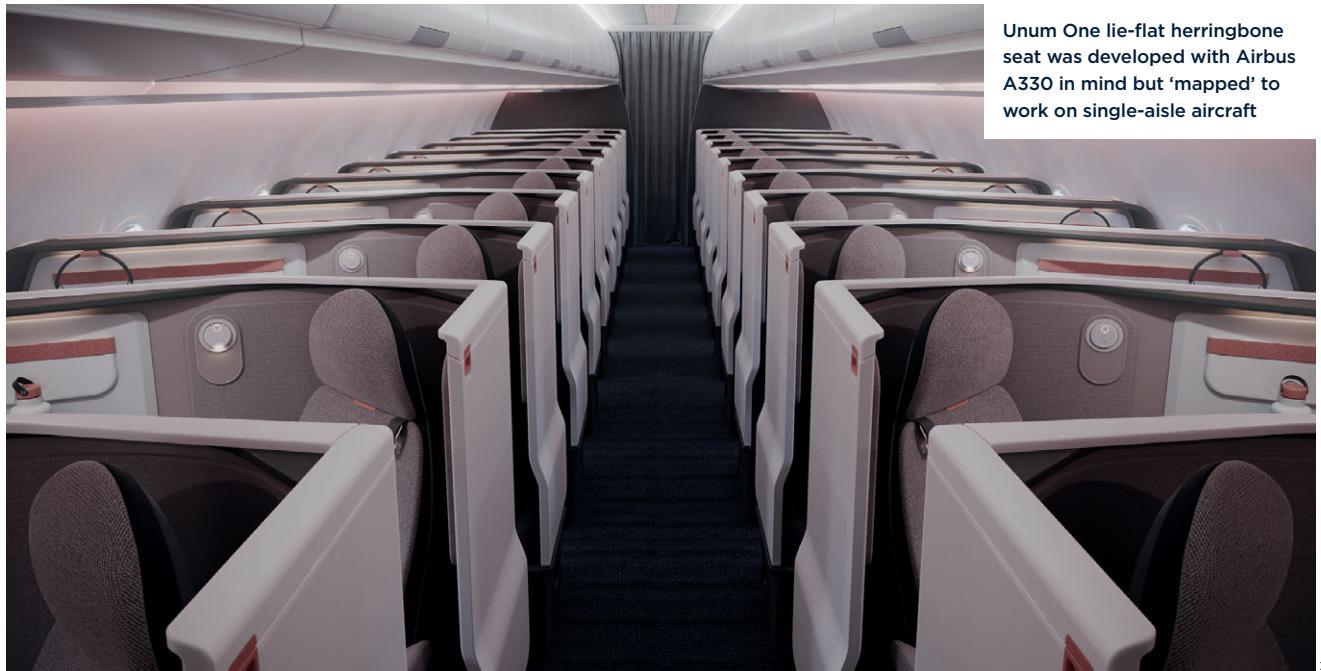
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Unum

Unum One lie-flat herringbone seat was developed with Airbus A330 in mind but 'mapped' to work on single-aisle aircraft

days and presents an interesting growth potential," he says. "With products like Vue, Safran Seats has been preparing for this new trend early on."

Collins Aerospace's Aurora business-class seat for long-range narrowbodies is also a herringbone offering but, unlike Opera and Vue, passengers face away from the window and into the aisle.

"At the front of the aircraft we have a lie-flat seat called Aurora, which is essentially a herringbone seat with shoulders towards the window and toes towards the aisle, bringing a full privacy suite to the narrowbody and optimising it for the geometry of the aircraft," says Alastair Hamilton, vice-president of sales and marketing for aircraft seating at Collins Aerospace.

Speaking specifically about the A321XLR, Hamilton agrees that "airlines are trying to bring that widebody experience to narrowbody long, thin routes", which he says has created a number of challenges.

"A lot of the challenge this market provides is to optimise seat geometry for the narrow fuselage so you give the passenger the maximum living space and comfort that you can, but also get enough passengers on to the aircraft to make it commercially viable," observes Hamilton.

Andy Morris, senior vice-president commercial at Thompson Aero Seating - manufacturer of the VantageSolo lie-flat seat launched by JetBlue Airways in the business-class cabins of its transatlantic A321LR aircraft - says the New York-based carrier "has started the trend for providing a twin-aisle experience on single-aisle aircraft".

JetBlue opted for a bespoke version of Thompson's VantageSolo seat for the Mint-branded premium cabins on its transatlantic A321LRs. The carrier deploys the aircraft on routes linking New York JFK and Boston with London, and will add Paris to its European network this summer.

"The VantageSolo builds on the success of the original

Vantage seat," says Morris. "It was the first 'ground-up' design for a single-aisle, full lie-flat business-class seat with full direct aisle access." VantageSolo is an inward-facing herringbone seat.

Thompson has been delivering two different configurations of the VantageSolo to JetBlue, says Morris, one with 24 seats and the other with 16. The larger premium cabin is installed on its transatlantic flights, while the smaller cabin features on transcontinental domestic routes.

JetBlue's transatlantic A321LRs are configured with 114 economy-class seats, including 24 'Even More Space' seats with additional legroom. The 24-seat Mint cabin includes two seats branded as Mint Studio suites, which offer even more space. In addition to its A321LR fleet, the airline has 14 A321XLRs on order. Airbus had originally planned for the A321XLR to enter service this year, but this has now slipped to the second quarter of 2024.

Alongside its Vantage and VantageSolo lie-flat products, Thompson Aero Seating has also introduced a seat called VantageDuo. Morris says this product was "designed and engineered specifically to bring maximum comfort to the long-range, single-aisle market with no compromise on density, for those customers and routes that require great comfort but not a fully-flat seat".

Gearing up to compete alongside more established players in the long-range narrowbody premium seats market is newcomer Unum Aircraft Seating, led by Chris Brady, who previously founded economy-class seat maker Acro before it was sold in 2017 to China's Zhejiang Tiancheng Controls.

The Unum One is a lie-flat herringbone seat that was initially developed with the A330 widebody in mind and then "mapped across" to also work on single-aisle aircraft, says Alan McInnes, vice-president business development at Unum.

"We've got a seat that's capable of providing the key requirements of the widebody operators that also works

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Franck Socha/Stelia

Opera had its origins in an Airbus request to design a business-class seat for long-range variants of the A321

effectively for the single-aisle operators,” notes McInnes. “From there we set about identifying these key features that form Unum One as a family, whether it’s a single-aisle or a widebody.”

Unum does not intend to reinvent the wheel with its new seat and is “not a seat manufacturer who wants to be revolutionary”, says McInnes. What it has set out to do is resolve some of the niggling complaints from airlines about herringbone seats that already exist in the market.

“It looks like a herringbone seat, and you will find herringbone seats from lots of other suppliers that do a fantastic job, but we would like to think we’ve solved some of the pinch points that cause our airline customers pain,” he explains.

One of these pinch points is too little space in the footwell, as McInnes explains: “One criticism that we’ve consistently heard about herringbone seats is they have extremely constrained footwells. It’s actually quite a difficult conundrum because you can give one passenger a bigger footwell but the passenger sitting in front of them will have their elbow up here.”

Unum’s solution was to develop a scimitar-track recline function that causes the height of the seat pan, which is normally fixed, to go down as the seat reclines.

“What this means is you present the passenger into the footwell at a lower level, so you make maximum use of the space available in the footwell,” says McInnes, adding that “airlines tell us our seat mechanism is doing something different”.

Unum is “in the midst of a certification programme” with the UK Civil Aviation Authority for the seat.

“The message you’ll start to see over the next weeks and months is we are just about ready,” says McInnes. “By

the time we get to Hamburg we should have a certified TSO [technical standards order] seat. Final certification with the first customer will take place somewhere in an 18-24 month period.”

Unum is in talks with “a number of airlines”, he adds, and hopes to announce a launch customer this year. It will likely be for a post-delivery modification or a retrofit with “one of the tier two airlines”, because the seat “will not be linefit approved in time” to accommodate the tier one carriers that have already ordered next-generation narrowbodies, says McInnes.

When it comes to how most airlines will configure the cabins of their long-haul narrowbodies, seat manufacturers have differing opinions. Stelia’s Bordeau believes the majority of carriers will opt for a two-class cabin and eschew premium-economy seating, while Collins Aerospace’s Hamilton says that airlines are “typically going for a three-class layout” featuring business, premium economy and economy cabins.

Some airlines will opt against installing any premium seating and will operate long-range narrowbody flights in an all-economy configuration, as central European budget carrier Wizz Air has indicated it will do with its A321XLRs.

“I don’t think we should ever be surprised about how we see airlines’ particular take on what the capability of the single-aisle gives them,” observes McInnes. “If they want to go down the single-aisle lie-flat route, fantastic, let’s have a proper discussion. But there will be some airlines that will fly that aircraft a very, very long way with an all-economy LOPA [layout of passenger accommodations]. Who’s to say who’s right and who’s wrong?”



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FLIGHT WTCE DAILY NEWS

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Mixing perfection

Jon Hemmerdinger

Looking for the perfect cocktail for your customers? Italy's aptly named The Perfect Cocktail believes it has the solution.

The Milan-based start-up is back at WTCE, seeking to convince airlines to treat their passengers to its trendy selection of boozy treats.

Perfect Cocktail's drinks, all made in Italy, come ready-mixed and packaged in 100ml patented pouches made from recycled plastic, ensuring the liquor remains fresh essentially indefinitely, says junior brand marketing manager Rebecca Merenda (pictured).

"It's the perfect quantity for a perfect cocktail," Merenda says, noting the drinks are made from liquors including rum, vodka, gin, tequila and rum. "It's unique because it has no shelf life... no expiration date."

Pick your poison:
Mai Tai. Negroni. Old

fashioned. Cosmopolitan. Long Island ice tea. Those are a few of the 13 liquor drinks sold by The Perfect Cocktail. The packages give tips as to which type of glass and garnish best match each drink.

The company recently also started selling non-alcoholic "mocktails" - it offers

five varieties - in response to demand from non drinkers.

"We recreate the experience of a real cocktail," Merenda says. "You [would] never guess there is no alcohol inside."

The Perfect Cocktail started business seven

years ago, initially performing market studies, and in 2020 began selling its products, which are available in retail stores, at events and online. The company also has tested its drinks with Italian airline ITA Airways.



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A taste of bootleg-era USA

Jon Hemmerdinger

It might be based here in Germany but O'Donnell Moonshine is serving up some true Americana. The Berlin company offers US-style homemade-style whiskey.

Founded in 2014 by partners inspired by America's moonshine and bootlegging history, O'Donnell is seeking to convince airlines to give its line up of rye whiskey a go.

O'Donnell sells its liquor in various varieties and strengths, including its most potent – an eye-watering 144 proof.

The company is attending WTCE for the

first time this year, seeking to pitch its miniature 20ml bottles.

"We want to reach mile-high proof... That we can reach with out micro-bottles," says sales manager

Can Kizilca (*pictured*). "It will make the flight shorter... Time flies when you have a little fun."

The company also

sells its liquor in retail stores, bars, online and in specialty shops like Christmas markets.



BillyPix

Living the cream



Legendary Cornwall dairy Rodda's is serving up its famous clotted cream, seeking to broaden an already impressive customer list.

Cornwall is known for its clotted cream – a treat made from baked cow's milk that is traditionally served as part of afternoon tea.

Rodda's, based in the town of Scorrier, first served up its clotted cream in 1890.

"We are promoting afternoon tea and cream tea in inflight," says Rodda's food service and international commercial manager Amie Howard (*pictured*).

Rodda's makes its clotted cream the same way it has for more than 100 years, and sources its milk from 45 farmers within 56km (35 miles) of Scorrier.

BillyPix



Eggs for peace

German company Gut Springenheide is bringing a message of peace to this year's WTCE. The food company, which specialises in products made from eggs, is treating visitors to samples of its chocolate-filled "peace eggs". Company representative Barbara Tusky (*pictured*) explains that eggs symbolise life, and that life cannot flourish without peace.

Chocolate-filled eggs are one of many egg-centric products sold by Gut Springenheide. The company's prime products include items like omelettes, crepes and egg rolls, says Tusky. The company's products are already served on "major airlines", though Tusky declines to specify names.

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Kragtwijk serves a kosher feast

Travellers ordering kosher meals in the skies stand a good chance of enjoying a meal prepared by Dutch company Kragtwijk Finest Food.

"Try pronouncing that name," jokes company owner Joost Kragtwijk (*pictured*).

The name might be a tongue-twister to outsiders, but not in the company's hometown of Amstelveen, near Amsterdam, where Kragtwijk's chefs have been cooking up meals since his father started the shop in 1967.

The area is home to one of the few Jewish hospitals in Europe, and Kragtwijk's father



France. He also supplies kosher meals to carriers including Lufthansa and Etihad Airways.

Recently, Kragtwijk also launched a line of "certified" gluten-free meals.

"Now, with the demands of customers, you need [to be] certified gluten free. You can't just say gluten free-ish," he says.

The company has revenue of about €8 million (\$8.6 million) annually but Kragtwijk anticipates strong growth based after a good first day at the show.

"[With] all the positive feedback we get from exhibiting, I think we will grow 50%," he says.

launched the business selling kosher meals to the medical centre.

Kragtwijk arrived at this year's WTCE laden with foods, including trays of kosher meals with

couscous, lamb, falafel and Israeli salmon.

Being located near KLM's Amsterdam base helped Kragtwijk land deals with that airline and its sister company Air

Taste of Travel

Theatre

What's on at the Taste of Travel Theatre – Hall A1

10:00 – 10:45

The Challenges of Growing Sustainable International Rail Catering in Europe

11:00 – 11:45

The Future of Plant-Based Onboard

12:00 – 12:45

Bringing the Fun Back to Air Travel

13:00 – 13:30

Steve Walpole, Conscious Cooking: A Culinary Look at Sustainability, Biodiversity and Natural Foods

13:45 – 14:30

How to Drive Inflight Retail for the Next Generation of Passengers

Organised by Omneo GmbH

14:45 – 15:30

Is Sustainability Increasingly Relevant in Recruiting and Retaining Talent?

15:45 – 16:30

The Ryder Cup of Wine! May the Best Win!
Hosted by Intervine, Inc.

17:00 – 19:00

WTCE Official Drinks Reception
Sponsored by Heineken



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Crunch time for Keogh's

Jon Hemmerdinger

Many fliers are probably familiar with tasty crisps made by Irish company Keogh's, which is showcasing its line up of potato and other snacks at WTCE.

A family business, Keogh's has a long history in Ireland, having been farming spuds there for about 200 years.

Only about 12 years ago

did the company diversify into producing and selling its popular crisps.

But Keogh's has already secured an enviable list of airline customers. Its crisps can be found on the jets of carriers including Emirates, Eurowings, Ryanair, Singapore Airlines and Qatar Airways, says Keogh's brand manager Shannon Reilly (*pictured*).

Keogh's is seeking to give attendees a memorable taste of a crop famous in

Ireland. Attendees can stop by its booth for a sampling of various flavours, from sweet chili to cheese and onion, turkey with secret stuffing to truffle with Irish butter.

The company makes its crisps at its headquarters near Dublin, frying them in sunflower oil. During harvest season, which starts around October, its potatoes will “be turned from crop to crisp in the same day”, says Reilly.

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Airlines are slowly adapting to alcohol-free trend

Lose the booze

Sobriety challenges such as Sober October and Dry January have grown in popularity, with an increasing number of people choosing to cut down their alcohol intake or ditch the booze entirely.

This has given rise to a thriving alcohol-free drinks market that is catching the attention of airlines looking to expand their in-flight beverage offerings.

"The travel industry understands that there are people who have never drunk alcoholic beverages for various reasons and people who are watching their alcohol intake, meaning now, more than ever, it is essential to provide passengers with a choice," says WTCE event director Polly Magraw.

"Airlines will regularly encounter people who are pregnant, controlling their alcohol intake, or simply not fans of drinking alcohol," says Magraw. "With such a broad passenger demographic, non-alcoholic beverage catering should always be a priority for airlines."

Low-alcohol and alcohol-free drinks have increased in variety, flavour and sophistication. Mocktails aim to replicate the flavour of cocktails without the addition of spirits, while those who are partial to a mixer can now enjoy alcohol-free spirits. Beer and wine can also be buzz-free and demand is growing for alcohol-free versions.

"Worldwide demand for non-alcoholic wine has surged in recent years, and is expected to continue to increase at a CAGR of 10% from 2023 to 2033 – making it a must-have item on airline menus around the world," says Magraw.

Many airlines already offer non-alcoholic alternatives to cater to customers abstaining from alcohol, as well as those whose religious beliefs or health conditions prohibit them from drinking. Examples include Cathay Pacific with its Cathay Delight signature drink, which contains

Mocktails aim to replicate the flavour of cocktails without the addition of spirits



Irina Rostokina/Shutterstock

milk, coconut milk, kiwi juice and mint leaves and can be served either as a mocktail or with alcohol, and Finnair, which has its own brand of blueberry juice available in supermarkets in Finland. Emirates and Qatar Airways offer several mocktail options, while business class passengers on Malaysia Airlines can enjoy the carrier's signature Wau Emas mocktail, comprising tart pineapple juice, pandan syrup and soda water.

WTCE exhibitors specialising in low-alcohol and alcohol-free drinks include: So Jennie Paris, which produces alcohol-free sparkling wines; &Stirred Cocktail Mix, which makes pre-mixed mocktails including mountain mojitos and mango coladas; and Lockdown Liquor Co, behind a liquor-free version of the classic Forest Picante as well as the company's own non-alcoholic take on the Seaward Pepino drink. ▶

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With veganism on the rise, the industry is slowly getting on board with diets free of any animal product

Plenty of potential

Veganism is increasing in popularity and a number of airlines offer vegan options as part of their on-board catering offerings, but there is still a long way to go before plant-based in-flight meals are more widely available to passengers.

In the last few years, there has been a growing movement towards a vegan lifestyle, which involves the avoidance of dairy and eggs in addition to meat. Largely driven by more eco- and health-conscious millennials, this shift towards plant-based consumption has gained a substantial following over the last 10 years, with meat consumption declining by 17% in the past decade.

"So significant has the popularity of veganism been that the onboard industry has had to expand its cabin menu to include plant-based alternatives to cater for its vegan passengers," says WTCE event director Polly Magraw. "A plant-based diet is inclusive of almost every dietary requirement. This does not only include vegetarians but also those who have food allergies. It is also suitable for those adhering to religious beliefs as well as those on a weight-loss plan, meaning it covers many different special meal categories."

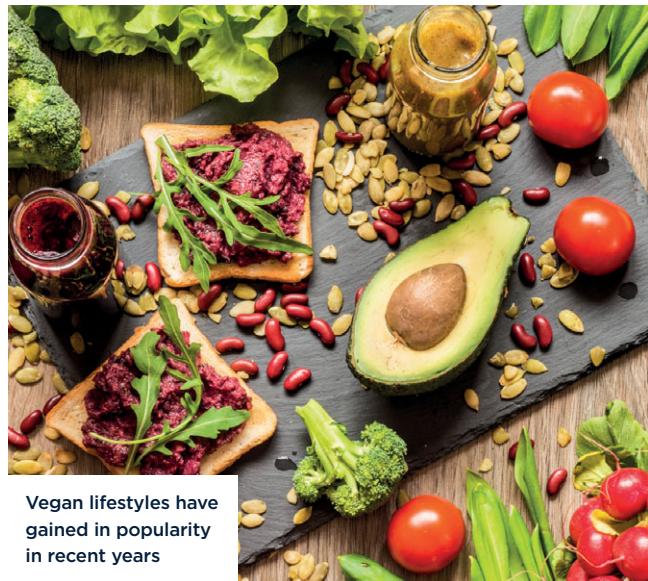
While plant-based food options on board are improving, there is still a long way to go, according to the Vegan Society, which is campaigning for airlines to add well-labelled vegan options to their standard menus. This would mean that the meals do not have to be requested in advance and are available for anyone to order.

The Vegan Society has introduced a rating system for in-flight vegan catering, known as FlyVe. Passengers are encouraged to share their experiences – good and bad – of flying as a vegan, with the aim of helping to prove that there is significant demand for plant-based options while also celebrating airlines that already provide a good range.

"Veganism presents an opportunity to minimise our individual impact on the environment and nurture a liveable future for generations to come," says Magraw. "Going vegan can help reduce our carbon footprint by up to 73%, which also assists the aviation industry in its quest to become more environmentally sustainable."

Some airlines are ahead of the curve on serving plant-based in-flight meals. For instance, Emirates began serving vegan meals in the 1990s on a select number of routes. It now offers more than 180 plant-based onboard meals.

China Airlines recently added a plant-based in-flight menu called the Clean and Green Plant-based Cuisine to its roster of food options, and has partnered with Michelin Green Star Taiwanese restaurant Yang Ming Spring to create a menu that includes dishes such as



Vegan lifestyles have gained in popularity in recent years

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vegan conchiglie Bolognese and okra with black bean and sesame sauce.

Cathay Pacific, meanwhile, became the first airline in the world to serve plant-based pork alternative, OmniPork, and Qatar Airways' vegan menu includes dishes such as Asian barbecue tofu and spiralised courgette with arrabiata sauce.

"While huge progress has been made when it comes to the food itself, there are still some challenges when it comes to obtaining vegan meal options on board," says Magraw. "One of the main issues is around pre-ordering and the fact that passengers need to request a vegan dish at least 24 hours before take-off."

WTCE exhibitors specialising in vegan food include Tops Food, which has a range of ready-made dishes that includes a variety of plant-based options, and Foodcase International, which also has a vegan range of hot meals. PLAYIn CHOC makes guilt-free chocolates that are vegan, organic and allergy-friendly – they even include collectible 3D puzzle toys for children.

"The future of in-flight vegan catering is exciting, with airlines working hard to create delicious-tasting plant-based options for their passengers," says Magraw. However, she adds that "if the aviation sector wants to provide widespread comfort for passengers, then greater attention needs to be paid to the availability and accessibility of vegan dishes on board".



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