

Aircraft

aviationbusinessnews.com

VOLUME 14 • ISSUE 05 • OCT/NOV 2025

CABIN

Management



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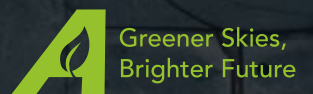


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DEVIL IN THE DETAIL

Retail is detail as the old saying goes, and this is as true in the world of selling tickets and add-ons as it is on the High Street.

You'll notice that we have covered the world of payments in detail in this issue, from the back-end systems and virtual cards to the importance of getting the customer-facing interface right. Anything missed will likely lead to customer frustration and the client looking elsewhere to place their bookings.

AirFi's solution, covered in an interview with the CEO on P10, is something that I found particularly interesting as, unlike most onboard connectivity products, it doesn't base its business model on outright speed, preferring to focus on supplying just enough bandwidth to allow messaging and secure payments to be processed. It has also concentrated on providing a pleasant user interface, a detail often criticised on traditional IFE systems.

We also cover in-seat power and how its provision means the difference in choosing one airline over another. Going back to the details, from personal experience I can testify how frustrating it is to board an aircraft with a completely flat device only to find the USB socket on the seat doesn't work...

Encouraging passengers to bring battery-powered devices onboard increases the risk of a few of said devices going up in smoke. Some airlines have banned larger equipment, such as power banks, but



▲ The details onboard make the difference

It is frustrating boarding with a flat device, only to find the USB doesn't work...

the reality is that any device overheating presents a serious risk and I've heard that onboard battery fires on US airlines alone now happen at the rate of one per week. Making the devices safe has become a major issue, and we look at the technology and training needed in depth.

I hope you enjoy the issue.

Greg Whitaker

Greg Whitaker

Editor

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Printed in the United Kingdom by Micropress.

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PUBLISHED BY

Real.
RESPONSE MEDIA

Unit 4, Cally Yard, 445 Caledonian
Road, London N7 9BG



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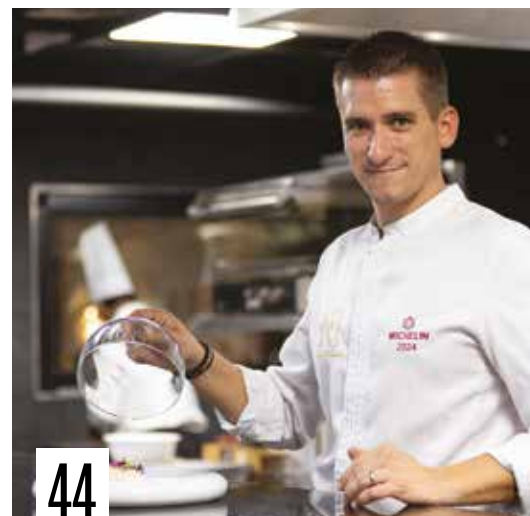
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Business Briefing.

NEWS FROM ACROSS THE INDUSTRY



Interiors

GEVEN ANNOUNCES LINE FIT DELIVERY ON BOEING PLATFORM

Italian seating manufacturer Geven has announced that a 737 MAX ordered for Carribean-based Arajet has been delivered with its seats installed as a line fit option.

The airline opted for Geven's Essenza SE D9 economy class seats, with reclining versions fitted in 'Economy Plus' class. Across the entire cabin, every Essenza SE D9 seat comes equipped with individual USB charging ports and advanced comfort cushions, enhancing passenger relaxation on longer routes.

"This first Boeing Linefit delivery marks a turning point for Geven," said Gianluigi Mormile, sales manager at Geven. "Entering the Boeing

programmes has been a long-awaited achievement, and we are proud to start this journey together with Arajet on the B737 MAX platform. Our Essenza SE D9 brings lightness, efficiency and comfort to the next level, perfectly in line with Arajet's innovative spirit."

The seating manufacturer says further line fit programmes with Boeing are planned. It has existing arrangements in place with Airbus and ATR.

“Entering the Boeing programmes has been a long-awaited achievement



IFE

Bluebox turns on cloud-based services

> IFE provider Bluebox has announced the launch of Blueview Cloud, which hosts the firm's software suite on the ground – removing the need for onboard hardware.

With Blueview Cloud, passengers access an airline-branded digital portal directly via the aircraft's connectivity. From there, they can order food and duty free from their seats, with live payment authorisation, as well as streaming content.

For crew, orders are delivered straight to POS devices with seat-specific details, simplifying service and reducing friction.

"High-bandwidth connectivity changes the game for airlines," said Kevin Clark, CEO at Bluebox Aviation Systems. "Blueview Cloud makes it possible to harness that connectivity to improve passenger satisfaction and airline profitability, creating better ROI on connectivity investment – without the complexity of additional on-wing hardware."



Interiors

‘VERY POSITIVE RESPONSE’ REPORTED FOR SAS BUSINESS CLASS RELAUNCH

Scandinavian airline SAS has reported a ‘very positive response’ to the re-introduction of Business Class at the start of October this year.

The launch is closely linked to SAS’ broader premium initiative, which also includes the expansion of lounge access across Europe and Scandinavia. Around 35 additional lounges have been added to the network, ensuring that customers who have paid the premium will have a more comfortable, less stressful journey.

The airline cut Business Class on its intra-European flights back in 2013,

replacing it with a hybrid product called SAS Plus.

SAS had been a pioneer in offering an option for corporate travellers, initially offering a premium seat offering as far back as 1959.

A decision to reintroduce the class ties in with the airline swapping the Star Alliance with SkyTeam in 2024 as the new alliance seeks to offer consistent service levels among members.

“The strong early interest shows that our premium strategy resonates with customers,” said Paul Verhagen, chief commercial officer at SAS.

Interiors

AIR CÔTE D’IVOIRE INTRODUCES VANTAGEXL BUSINESS CLASS

Air Côte d’Ivoire has taken delivery of a new A330-900neo fitted with Thompson Aero Seating VantageXL business class seats.

The airline has customised the finish with a mix of greys and areas of wood-effect as is popular with African and Middle Eastern airlines. Seats at the front of the cabin are enclosed and all

seats in the class have direct aisle access.

Rachel McMurray, programme manager for Thompson Aero Seating said: “It is always exciting to be able to produce something really game-changing for a customer and we were delighted when Air Côte d’Ivoire entrusted us with their premium seating for their flagship fleet.”



BRIEFS

- Complimentary Wi-Fi will be offered to Cathay Gold loyalty card members travelling in all cabins from 15 November 2025.

- After a seven-year tenure, Shai Weiss will stand down as CEO of Virgin Atlantic at the end of 2025. He will be replaced by current COO Corneel Koster (pictured above).

- Air Sierra Leone, the country’s new flag carrier, is to introduce a Wireless In-Flight Entertainment (W-IFE) solution across its fleet.

- Satellite communications firm Astronics Corporation has acquired seat actuator manufacturer Bühler Motor Aviation (“BMA”) from Bühler Motor Group in an all-cash transaction.

- Boeing has been reported to have notified suppliers that it is to increase output on its 737 MAX lines, following years of production cutbacks.

- Riyadh Air and Uber Technologies have announced a partnership to deliver end-to-end travel for travellers in Saudi Arabia.

- Using any kind of power bank is now prohibited onboard Emirates’ flights. The carrier suggests customers fully charge devices before flying.

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57

Abra Aviation has ordered 50 A320neo and seven A330neo aircraft

20

Lessor TrueNoord has placed a large order for E192-E2 aircraft

**Airlines**

VIRGIN GROUP WINS \$30M TRADEMARK DISPUTE WITH ALASKA AIRLINES

London's High Court has ruled that Alaska Airlines must pay over \$30 million in missed royalties to Virgin Group under a trademark licensing agreement. The dispute centres on Alaska's use of the Virgin America brand, which it inherited after acquiring Virgin America.

Alaska Airlines argued it shouldn't have to pay the royalties due to an alleged breach of contract by Virgin, involving a loyalty programme with Delta Air Lines that allowed Virgin Atlantic customers to redeem points for domestic Delta flights – some overlapping with Alaska's routes.

However, the High Court rejected Alaska's argument, stating that the minimum royalties were a flat fee for the right to use the Virgin branding,

regardless of actual usage or exclusivity. The judge emphasised that the licensing agreement clearly required payment for the full bundle of rights.

This ruling aligns with previous decisions in related cases, including a 2023 High Court judgment and a 2024 Court of Appeal decision, which upheld that Alaska owed \$160m despite not using the Virgin brand since 2019.

Alaska Airlines still intends to pursue its infringement claim against Virgin, hoping to recover some or all of the royalties as damages in a future trial.

“The minimum royalties were a flat fee for the right to use the Virgin branding

**Airlines**

Spirit negotiates \$475m facility

Embattled Spirit Airlines has negotiated a multi-tranche debtor-in-possession financing facility of up to \$475 million from existing bondholders, subject to Court approval.

The credit line will provide Spirit with additional financial flexibility to support normal business operations during its restructuring.

Additionally, Spirit has negotiated an agreement with Ireland-based AerCap, its largest aircraft lessor. Under the agreement, AerCap will pay Spirit \$150 million. Spirit will reject leases on 27 aircraft, allowing it to reduce operating costs. The proposal also resolves all claims and disputes between AerCap and Spirit and provides for the future delivery of 30 aircraft.

“These are significant steps forward in a short period of time to build a stronger Spirit,” said Dave Davis, president and CEO (pictured).

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RETAIL IN THE AIR

AirFi's CEO **Laura Rösches** is on a mission to put fun back into onboard retail

AirFi provides onboard systems that bring connectivity, entertainment and onboard retail together. However, it needs to stand out in a crowded marketplace. In April, the organisation appointed Laura Rösches, previously CCO at Retail inMotion, to lead the organisation through a new period of innovation. We caught up with her to ask some questions about the business.

► **How would you say that you innovate in a space that you described as already being stable and efficient?**

There's a very simple rule. At AirFi we regularly invite a lot of our customers to tell us how they are using our products. Very often, when you design a product, you have a certain vision in mind of how that product will be used, but new customers might use it in a different way.

In the past, that was almost seen as an inconvenience, but now we have learned to use that for our advantage, and we learn from the customers how they want



“
Our system democratises connectivity for airlines that don't want to drill a hole in their fuselage
”

LAURA RÖSCHES

CEO, AirFi

to use it, and what things annoy them. We then look at the things in the system that are not quite there and make it part of our code development roadmap. We also 'gamify' our internal development, as the average age in our development team is very young.

► **AirFi were pioneers of IFE. What trends and passenger behaviours do you see that might shape the vision to keep the product relevant?**

Back in the 90s, you had a completely different expectation of entertainment when you were travelling. Since then, and noticeably in the last five years, we've seen the quality of devices that you can bring with you increase as well as the ability to engage with everything that's around you.

Passengers now don't just expect to be entertained in the classical sense, for example with music, movies and TV shows, but they expect something a bit more engaging that they can interact with. That's the tricky part, because you are kind of constrained by the aircraft cabin environment and not every aircraft is super-modern and connected, so you need to build technologies like ours to bridge that gap.

We also need to understand what exactly a passenger wants, depending on their age, social demographics, the regions that they fly in and the type of airline that they are flying on.

That is quite challenging in a way, so we are constantly looking to gamify content to reach younger travellers. For example, shopping for entertainment was a practice that was popularised in the 1970s, but retailers seemed to forget about it. Entertainment as a shopping channel is coming back.

Regarding news feeds, there have never been so many requests for live information, such as BBC News on an aircraft. Suddenly, people want live news and expect to be kept up to date until the time they land.

We also see a lot more demand for short-form content that is very small, less than five minutes, often two or three minutes long. This comes with its own challenges, as we need to refresh content almost daily.

► **Is the concept of shopping as a form of entertainment something that airlines 'get', or is it something that they need more awareness of?**

Surprisingly, some airlines demand it. As airlines face increased cost pressure, they need to find new ways of upping



1



2

“Shopping for entertainment was a practice that was popularised in the 1970s, but retailers seemed to forget about it”

their revenue. Other airlines just want to keep their customers happy and increase their NPS (net promoter score) and they are trying to reverse-engineer what the cabin looks like.

That's where we can help, because if you want relevance and convenience then ask for 'order to seat' technology. This gives the convenience of getting it delivered to your seat when you want and being able to shut your eyes on a red-eye flight and not be bothered by the in-flight service.

► How do you see AirFi differentiating where so many providers are operating in this area?

Our pitch for this has always been to not complicate it. The hardware doesn't need to be on the fuselage, as we can make it work without breaking the fuselage.

We don't need the Wi-Fi to be full-on streaming quality – that's not the use case that we pursue. We also want the caterer or the airline to earn money without being exposed to fraud, so we do verify payments as well.

It's basically democratising connectivity for airlines that don't want to drill a hole in their fuselage. We make sure that we have a proof of concept that can be more relevant to airlines, focusing on connectivity as the 'connector' of two different product categories on an aircraft.

► You mentioned the 'gamification' of services. What do you mean by that?

If you are in an aircraft, you already feel like everybody is selling to you, right? Because you're kind of a captive audience to the airline. So, we thought we needed to make it fun, to make it

feel like you are being rewarded as a passenger. You might be solving something, given a riddle or going on a scavenger hunt. We might also make it look cute by creating a virtual character or a different persona that is doing the selling, not just the airline.

[On other systems] you don't have interactive content, apart from kids. We're trying to come up with something passengers can play with or react to.

► If you could clear up any industry misconception about onboard tech, what would it be?

Sometimes clients come to us as if what we provide is rocket science. It is not really that complicated. It's proven technology, it doesn't have to take that long, and it doesn't have to be super expensive. ●

1. Product shots of AirFi's user interface
2. Onboard retail is becoming increasingly important for airlines



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MAKING THE DEAL

Steven Greenway, CEO of Saudia-backed LCC flyadeal, speaks about his widebody strategy

Few LCCs have ever implemented a successful widebody strategy, yet Saudi Arabia's flyadeal confirmed in April 2025 that it had placed an order for 10 A330neo aircraft. Speaking at the T2RL conference, Steven Greenway, CEO of the Saudia-backed airline mentioned that a difference in the carrier's passenger profile makes a key difference. We caught up with him on the sidelines of the event to find out what this difference is.

► **Very few low-cost carriers have ever successfully implemented a long-haul widebody strategy, although a few have tried. What makes you think flyadeal can succeed?**

There's not a lot of success out there, and there's a lot of history dating back to Laker and the Skytrain. As you said, there's a list as long as your arm about the failures over the years.

▼ Greenway (third from right) launches a new route as the airline's network expands



“We have labour and pilgrim traffic, which is high volume, low yield”

STEVEN GREENWAY

CEO of Saudia-backed LCC flyadeal

As I said on stage [in the presentation at T2RL] it is my personal belief, having done this already, that it only works in certain markets – it isn't a universal thing. You can run a normal LCC pretty well anywhere and it will sort of work, but the long haul must have certain elements to it.

One of the key elements for us is we have some very distinct market segments, namely labour and pilgrim traffic, which is high volume, low yield. That traffic is coming in en-masse to the Kingdom [of Saudi Arabia] and we want to have a bit of that.

Where we've been quite conservative about the strategy is that we've tried it with widebody wet lease aircraft. By

doing this, we knew that if it didn't work we could just hand the aircraft back, but we kept having to add aircraft because the demand is there. By the time the widebodies come into service, we'll probably have six or seven wet leased widebody aircraft in our network.

We're operating the markets already. We understand the economics and we know that we'll be able to deliver a much cheaper unit cost with our own aircraft at 420 seats. Most of the aircraft we currently have are 330CEOs with about 350 seats. So, with the aircraft order, we are getting another 70 seats on top, with brand new aircraft and fuel burn that's reduced by about 20%. Even if we didn't fill the extra 70 seats, we know how economical the planes are. I think we've de-risked it as best as we can and we're very excited about it.

► **In your presentation you were cynical about the real-world use case of AI. Can you expand on this?**

AI doesn't work for anyone, I don't think! Consider blockchain ten years ago or dotcom before that. For example, I get university kids saying “I've built an AI model that's going to revolutionise how you own an airline”. I'll ask them what they know about running an airline, and they'll say, “Nothing. But we've built an AI model that will tell you how to do it”. There's a lot of that.

While there are some promising developments, I think it won't be long before you can separate the wheat from the chaff. There are very few examples, and I challenge you to find one, of airlines that can say “We've implemented AI in this purpose, and we've achieved X, Y or Z”. I'd say there's a lot of talk about investment in AI projects, but there isn't much about what the return on investment is. ●



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DON'T OVERLOOK CREW WELLBEING

Andrew Laughlan, head of enterprise at Uber for Business, says strikes and delays take their toll

This year's peak season was marked by strikes from ground crews across Europe's airports. Inconvenienced passengers tend to become the focal point during such disruptions, particularly in media coverage, but these situations also take a toll on crew.

They are the people responsible for keeping highly frustrated passengers calm and up to date. In addition, given that delays may push flight crew beyond their working hours, it's important to remember their well-being – especially as they will need to come back refreshed for work the next day.

If crew members are required to get around an unfamiliar city, where they don't know the local transport system or where to grab a decent meal, it can add extra stress to an already difficult situation, so the aim for airlines must be to remove hassle where possible, and ensure flight crews get where they need to be safely.



“
Ensure crew are fully rested and recharged to make sure they can deliver the best customer experience
”

ANDREW LAUGHLAN

Head of enterprise,
Uber for Business

There are some well-known solutions to these problems – such as ride hailing services, for example. But, when airlines provide these options to their employees, they need to consider several factors.

If staff are moving around an unfamiliar city, employers will have a duty of care. They will need to make sure, therefore, that they are able to monitor employees' trips using tracking tools, such as SAP Concur Locate or ISOS Travel Tracker.

◀ Layovers in new destinations are fun, but can also be stressful

Access to meals

Once employees have reached their accommodation, be that a hotel or apartment, they may also need food. If they arrive late at night and local cafes are closed or the hotel restaurant is no longer serving, they may have no other option but to have food delivered.

While there are well established consumer apps that can cater for these needs, airlines again need to be aware of their employees' expectations. People travelling regularly for work can find it difficult to always eat nutritious food. Employers should bear this in mind.

Hassle-free expensing

Airlines should aim to take care of all this for their employees and remove hassle wherever possible. It helps if the crew members also understand what is reimbursable and what is not.

Airlines can remove these doubts by providing clear guidelines. If they utilise an app-based service, they can go further. They can ensure every travel option offered is preapproved and employees can see spending limits.

App-based services also help automate expense claims, eliminating paper receipts and making it easy for airlines to monitor expenses – crucial when they need to control the cost of disruptions.

Ensuring crew members are fully rested and recharged will make sure they are in good shape to deliver the best possible customer experience.

So anything airlines can do to reduce their stress levels during these difficult times will be of great value. ●

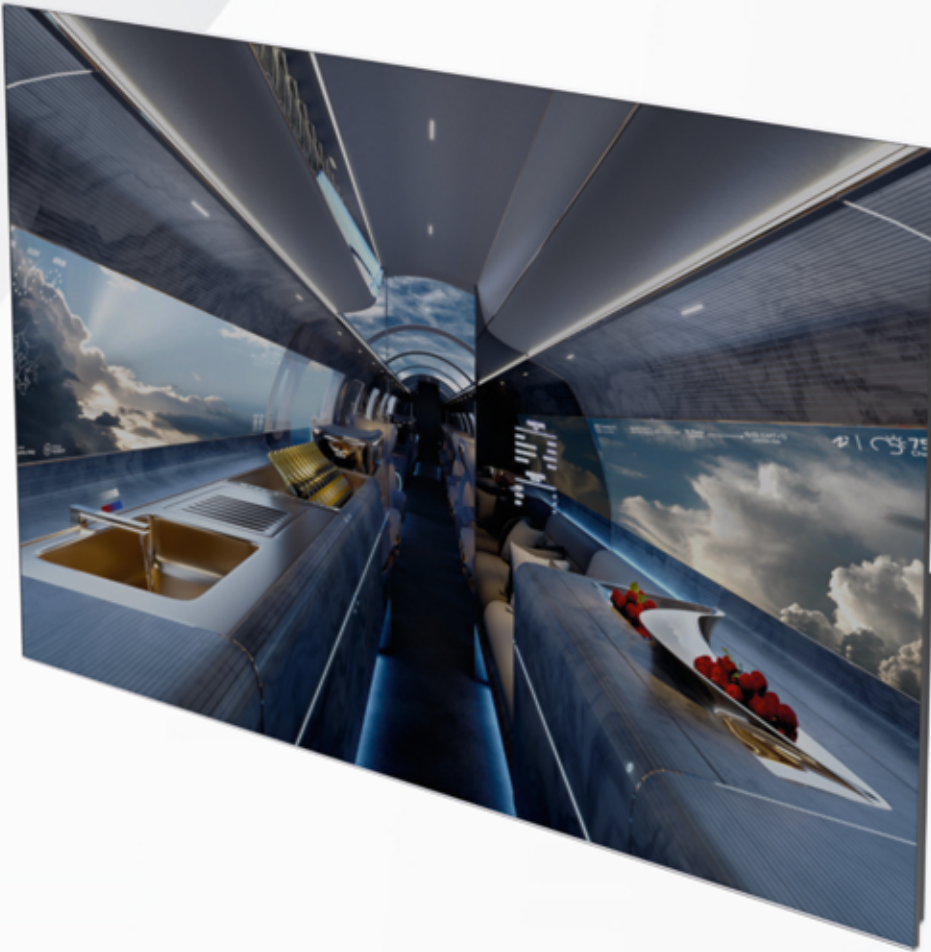


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FINDING THE RIGHT SOLUTION

PT21 Solutions' CEO **Oladi Olukolu** explains the firm's approach to cabin modifications

With a focus on repair design in cabin interiors, structures and related mechanical systems, MRO provider PT21 Solutions has completed over 1000 minor modifications and repairs since its formation as well as around 80 LOPA changes. We caught up with Oladi Olukolu to learn more.

▶ **Pt21 Solutions has built a reputation in modification and certification.**

What drives the approach?

Our team is made up of seasoned engineers with aerospace and aviation experience across commercial, VIP and military aircraft. We don't just design and certify – we problem-solve.

Having engineers spread across different countries gives us a unique

▼ Projects often have surprises, like discovering seats have a different IFE system to what was expected



“
Culture plays a big role in how projects flow
”

OLADI OLUKOLU

PT21 Solutions CEO

but we stepped up and solved it. The key was collaboration, not blame. Everyone worked toward the same goal, and the aircraft was delivered on schedule without delay.

▶ **You've also worked on VIP projects like the BBJ. How does that differ from commercial programmes?**

The BBJ was a very special project along with the completion centre and, while we can't share details, it required a different level of precision and luxury. VIP projects emphasise elegance and exclusivity – which translates to longer timelines, tighter tolerances and higher regulatory scrutiny. Every bespoke design decision has implications for weight, noise and certification. Again, working with the right partners makes a huge difference.

▶ **How do you see the role of modular design solutions shaping the future of aircraft interiors and MRO services?**

Modular design is the future. Airlines and lessors want flexibility – they need interiors that can evolve with branding changes, or aircraft redeployment. Modular design reduces downtime, simplifies certification updates, and allows for plug-and-play reconfiguration.

For MROs, it means faster embodiment and less disruption during heavy checks. For operators, it means maximising revenue without long ground times. Our role is to make those modular systems compliant, lightweight and practical to maintain. ●



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advantage. We can adapt quickly to geographical and regulatory differences and align our workdays with the customer's time zone. One extra hour of rest can mean sharper thinking – and that matters when you're managing a project across continents.

▶ **How do you handle cross-cultural and multi-party challenges in projects?**

Culture plays a big role in how projects flow. We're conscious of this and try to match team members to regions where they can relate and communicate best.

The A330 project is a perfect example. We worked with the airline, its CAMO (which was itself an EASA-approved design organisation), an MRO in the Middle East, and suppliers from both Europe and the US. There were surprises – like discovering the seats had a different IFE system than expected –



Hidden champions

Innovating in a conservative market, F/LIST is challenging the limitations of traditional cabin design. **Alex Preston** reports

Located in the beautiful countryside of Lower Austria is F/LIST, a family-run company with a drive “to handcraft the future of interiors”.

It is here, 80km south of Vienna, that the main factories creating interiors for private jets are located, as well as a showroom in the production facility.

Founded some 75 years ago as a furniture joinery, the business still works on some high-end home interior projects, but the core of the firm has evolved to include interiors for yachts and, since 2004, aviation.

Since that time, the company has added to its development and production of new cabin materials with a ramp up of its aftermarket activities to support aircraft manufacturers including Embraer and Bombardier with cabin overhaul and refurbishment services.

The result, says Katharina List-Nagl, CEO of the company, during our tour of the Austrian facility, is that aviation is now F/LIST's biggest business segment, accounting for approximately 75% of turnover. “We are constantly growing, evolving and also diversifying,” she says, stressing that “we won't stop growing, although everything we do is not just

about growth. It's about quality. It's about how, even when we grow, we never want to lose our DNA as a family business, because we keep very close relationships, not only with our team members, but also with our business partners, and we never want to lose or make any restrictions in terms of quality.”

The Imaginarium

In 2017, List-Nagl, a third-generation List and the founder's granddaughter, took over the company from her father Franz List Junior. One of her first actions was to put in place a new business strategy that would see the company through from 2020 to 2035.

One outcome of this process has been the establishment of F/LAB (with the ‘F’

in this case standing for ‘Future’). More than just an R&D department, it also contains a sort of ‘mood room’ where designers can come up with new ideas.

“It's a creative space where we can think totally differently, where we can question the status quo, where we can have a look into various other industries and try to find out what is adaptable or feasible for aviation,” explains List-Nagl.

The Lab is home to 24 team members in R&D and another 12 in materials and processes – a combination of experts in chemistry, engineering, textiles, composites and flammability who collaborate with others from across the company as well as with academia and a range of partners, to draft new innovations.





1: Opened in 2024, the F/LAB is an internal incubator where the genesis of innovation is developed.

2: Katharina List-Nagl, CEO and third-generation leader of F/LIST

2020 vision

Having formed a business plan to take the firm through the next decade, many of the ideas were knocked aside when the pandemic hit in 2020. List-Nagl reveals that the Covid-induced near shutdown of the aviation industry forced the company to bundle all its resources, skills and capabilities.

Rather than furloughing employees or requesting state funds, the company instead challenged itself to reinvent cabin interiors, asking questions such as “Who will be the customers of the future? What would they need?” and “How can we create the next generation of cabin interiors?”

The outcome was the F/LIST Shapeshifter, a toolbox in which flexible biobased materials are applied to dynamic pneumatic mechanisms to enable surface textures such as wood, stone and metal to morph and move.

Aesthetic alchemy

According to List-Nagl, the idea was inspired by charter operators, who typically have huge fleets of aircraft, and whose users have different needs every time they step into the aircraft.

F/LIST Shapeshifter concepts include items such as the F/LAB Morphing Sideledge Table, which is made from wood veneer and plant-based leather. From its discreet starting position within the storage area of the sideledge, the table expands (it can be integrated into existing cabin management systems) for uses such as a work surface or dining table.

Another member of the portfolio is the F/LAB Morphing Armrest, which changes with a single touch and adapts to the passenger's needs, such as housing an integrated wireless charging system.

While F/LIST is established in the business and private jet community, it has recently decided to come out of the commercial aviation shadows, despite being a ‘hidden champion’ for many years behind the premier cabins of several leading airlines. This includes debuting



2

“IT’S NOT JUST ABOUT GROWTH. IT’S ABOUT QUALITY”



75%

Aviation is now the firm's largest sector, accounting for three-quarters of turnover

1

“F/LAB WOOD VENEER IS AS LIGHT AS DECORATIVE FOILS”

at this year's Aircraft Interiors Expo (AIX) in Hamburg, where it displayed (amongst other products) its F/LAB Stone Inlay, which at only 2.5mm thin, can be used on both flat and curved surfaces and integrated into a wide variety of cabin elements – including table inserts, seat shells, work surfaces, partitions, integrated charging systems and more.

In addition, the company presented the first fully heat-release-compliant real wood veneer (using a wide variety of wood types from regional birch wood to Asian bamboo) for use in premium

commercial aircraft cabins. F/LAB Wood Veneer meets all regulatory requirements regarding heat release without adding weight on board as it is as light as conventional decorative foils.

Complementing the wood veneer portfolio is 'Lightshifter', the latest innovation to come out of the F/LAB hub and the most recent to use Shapeshifter technology. According to Patrick Domnanich, director R&D, with Lightshifter, the company is “once again unleashing the imagination and showcasing a concept that has never been seen before”.

While it premiered at Red Cabin Business Jet and VIP Interior Innovation Summit, which the company co-hosted in Vienna, a small band of journalists, including the author, were given an unprecedented sneak peek.

The company is unsurprisingly tight-lipped about Lightshifter, which allows naturally oiled wood veneer to become a light source at the touch of a button. What is known is that when activated, the wooden surface is transformed into a stage for light displays that lend depth and dimension to a flat surface, such as a discreet light source for passengers or as a dramatic backdrop for creative structures and imagery.

When the light is no longer required, the veneer returns to its original state – without leaving any visible traces. It is controlled via the cabin management system and can be operated by the cabin crew in passenger aircraft as well as by crew or guests in business jets.

Speaking to *Aircraft Cabin Management*, Domnanich explains: “To make the Lightshifter functional, the F/LAB team had to create a brand new material compound with a real wood veneer and a natural oil surface that can stretch to reveal the light and regain its natural wood texture when it returns to its normal position. It needed to be extremely thin, yet resilient, to have the lighting technology and actuators that enable it to move when switched on and off, stably integrated within a minimal envelope.”

In a press release, Domnanich added: “Lightshifter covers the entire spectrum of lighting design – from functional cabin lighting without visible fixtures to impressive installations that illuminate brands, destinations or personal preferences. We are excited to see how our customers use this technology.”

In a nod to a mantra of her late father, List-Nagl says of the company's ambitions, “This is just the beginning. We have one vision. We want to be the protagonist for luxury interiors when it comes to business aviation, to yachting and to home interiors.” ●

1: F/LIST's headquarters in Thomasberg, Lower Austria

2: With Lightshifter, wood veneer surfaces can reveal integrated illumination technology to create unexpected textures and effects



2

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AIRLINES CAN BEAT TRAVEL AGENTS

Emily Weiss, senior MD at business consultancy Accenture, identifies where carriers must focus efforts as they embrace the 'retail mindset'

Imagine a traveller named Elisa, who books a flight directly on an airline's app. Based on her past travel behaviour and preferences, the system recommends her personalised offers – not just fares, but curated bundles.

She selects her seat, adds a vegan meal, extra baggage and lounge access, all within a few clicks. A week later, she decides to upgrade to premium economy and switch to an earlier flight.

Instead of calling a customer service number or having to manage multiple booking references, she simply opens the app, views her unified 'order', and makes the changes instantly. Her preferences are preloaded from past trips, and the system updates her itinerary, pricing and boarding pass in real time. No rebooking, no fragmented tickets, no manual intervention.

Everything is personalised, streamlined and synced, just like modifying an online shopping basket.

This is the power of 'offer and order management', which transforms



“This is the power of ‘offer and order management’, which transforms air travel into a flexible, retail-like experience”



EMILY WEISS

senior managing director
Accenture

air travel into a flexible, retail-like experience where changes are easy and customer-centric.

More than seven in ten travellers prefer to book air travel through Online Travel Agencies (OTAs), according to a research report by Accenture, drawn by their convenience, bundling options and seamless experience.

This trend underscores a key challenge for airlines: legacy systems limit their ability to match the level of personalisation and flexibility that travellers now expect. However, the opportunity is just as clear.

Airlines that fully implement modern Offer, Order, Settle and Deliver (OOSD) systems can close this gap, potentially unlocking 3–6% in additional annual revenue while regaining ownership of the customer relationship.

Taking a retail-led approach

Airlines' legacy systems create frameworks that can not only frustrate travellers, but can also limit their ability to innovate, personalise, and compete in a market that shows no signs of slowing down.

Many airlines are exploring new ways to modernise their distribution, including adopting New Distribution Capability (NDC), that aims to revolutionise how airlines distribute and sell flight content, ultimately, enabling them to offer richer, more personalised offerings to customers and travel agents.

While nearly seven in ten airlines are looking to reduce their reliance on legacy systems such as Global Distribution System (GDS), few are ready to walk away from them completely.





Instead, most are pursuing a hybrid distribution approach, leveraging modern tools like NDC alongside existing GDS and legacy Electronic Data Interchange For Administration, Commerce and Transport (EDIFACT) frameworks to balance innovation with operational continuity and partner reach.

Power of technology

The OOSD model is more than a technological upgrade. It is a fundamental shift in how airlines manage their products, processes, and customer relationships.

These systems enable airlines to gain deeper insights into customer behaviours and preferences and then tailor their brand to resonate with these insights, creating a value proposition to engage in a crowded marketplace.

In this context, personalisation becomes more than just a marketing tactic; it becomes a core differentiator and Offer Management has, quite rightly, taken centre stage.

More than six in ten (63%) executives report that they are focusing on offer creation, and a similar number

(60%) cited pricing, promotions and personalisation as key to shaping traveller experience.

Outperforming OTAs

Airlines have access to customer data, but not in a way that's integrated, actionable, or retail-ready.

Without the right infrastructure and mindset, they struggle to connect the dots and unlock its full potential.

Unlocking it requires a coordinated shift in technology, operations and commercial strategy.

With the adoption of modern retail frameworks, Offer, Order, Settle and Deliver and ONE Order, airlines can begin to deliver the experiences that travellers expect.

Retail mindset

Some 80% of travellers are already using gen AI tools, according to Accenture's Consumer Pulse Survey, and airlines that don't utilise them risk falling behind.

However, for those ready to embrace the challenge and build long term resilience, the payoff has the potential to be enormous. ●

FOUR AREAS TO EXPLORE

There are several points that airlines which are aiming to modernise their retail strategies should consider.

- First, they must transition from legacy systems like EDIFACT and PNR-based systems to more order-based platforms.
- Second, airlines should prioritise order maturity by shifting focus from pricing to full-service order orchestration, including fulfilment, re-accommodation and refunds.
- Third, they need to reframe partner relationships by adopting a hybrid distribution strategy that includes aggregators and GDS but keeps the airline in control of the offer and order lifecycle.
- Finally, it's just as much about people and processes as it is about platforms. That means investing in a workforce that understands both the operational side of the business and digital commerce and that often starts with building cross-functional expertise in-house.

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1: Etihad picked up a coveted Five-Star Award for airline service 2: Scott Kirby talked about his career highlights 3: A World Class award for the ANA team 4: Five Star Award for Air Astana

APEX/IFSA AWARD WINNERS

Held at a glittering ceremony in California, the APEX/IFSA Awards celebrated cabin excellence

Airlines and suppliers were celebrated for their work in passenger experience at the APEX/IFSA Awards Ceremony in Long Beach during September. Hosted by the APEX (Airline Passenger Experience Association) and the IFSA (International Flight Services Association) during the APEX/IFSA Global EXPO, the ceremony is regarded as one of the industry's premier awards events.

"What sets the APEX/IFSA Awards apart comes from how our awards programme moves beyond recognition; it actively drives excellence across our entire industry," APEX/IFSA Group

CEO Dr Joe Leader stated. "Unlike other award platforms, these honours reflect both the voices of millions of global passengers and the rigorous assessments of independent experts."

The APEX/IFSA Awards Ceremony were won by airlines across the following categories:

APEX CEO Lifetime Achievement Award: Dr Leader presented United Airlines CEO Scott Kirby with the APEX CEO Lifetime Achievement Award.

2026 APEX WORLD CLASS by YATES+: This year's winning airlines are ANA, Emirates, Fiji Airways, Japan Airlines, Oman Air, Qatar Airways, SAUDIA, Singapore Airlines, Turkish Airlines and Xiamen Airlines.

2026 APEX Best Airline Awards: Voted for by passengers. Winners are Korean Air for Best Cabin Service, Emirates for Best Entertainment, Qatar Airways for Best Food & Beverage (presented in conjunction with IFSA), EVA Air for Best Seat Comfort, and Delta Air Lines for Best Wi-Fi. ●

2026 APEX/IFSA AWARDS:

Honoured by their industry peers, the APEX/IFSA Awards spotlight the most innovative and impactful achievements introduced over the past year. Each winner is recognised for pioneering advancements that set new benchmarks for the passenger experience across the following categories:

2026 APEX AWARD

WINNERS:

- Air Canada – Innovation Award for Best Inflight Connectivity
- FlightPath3D – Innovation Award for Best Inflight Entertainment

2026 APEX/IFSA AWARD

WINNER:

- ANA – Innovation Award for Best Cabin

2026 IFSA AWARD

WINNERS:

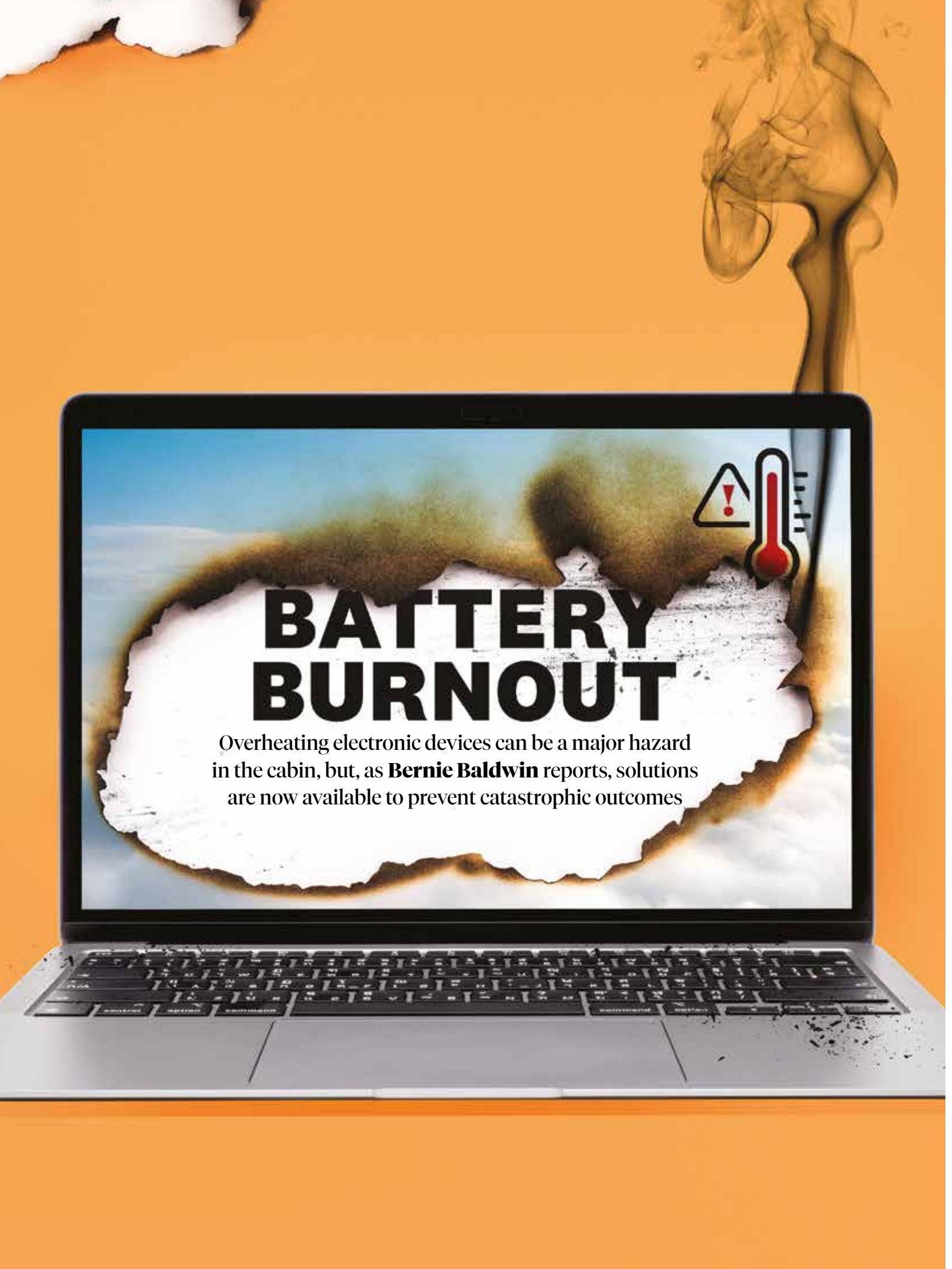
- Fiji Airways – Best Inflight Food or Beverage
- Delta Air Lines – Best Onboard Amenity



2



4



BATTERY BURNOUT

Overheating electronic devices can be a major hazard in the cabin, but, as **Bernie Baldwin** reports, solutions are now available to prevent catastrophic outcomes



▲ An AvSax lithium battery fire containment bag

Having 'connected aircraft' is a concept that is now firmly entrenched in most airline business plans. Being able to offer each passenger the ability to use the internet at altitude took some time to arrive, but is now well established, and many passengers embark with more than one device to be used on board.

Within those devices, of course, are batteries, many of which have been known on occasion to overheat and catch fire. Equipment to deal swiftly with an overheating device and prevent a situation getting out of hand is now available. This comes in the form of a bag into which the suspect device is placed.

This equipment is so new that according to Jessica Bailey, co-director and special projects manager, Environmental Defence Systems, which produces AvSax bags, there is no current certification requirement for lithium-ion battery mitigation bags. "Some of the aircraft manufacturers have issued guidance documentation and suggestions about product construction, but nothing formal at this stage," she confirms. "AvSax is a carry-on product and, as such, has no formal certification as there isn't any global certification to certify to."

The size of the challenge is considerable, according to Richard Dunn, marketing director of Flair, which produces the E:BAG to suppress overheating devices. "The amount of electronics in the sky at any one time is quite a scary thing," he explains. "There are something like 7 million electronic devices flying around the sky globally as we speak. The big statistic I saw recently is that every week there's some kind of fire in the US on a flight."

Overheating

As well as phones, laptops and tablets, the power banks used to re-charge are also susceptible to overheating. "Emirates has just banned power banks from all of their flights," Dunn reports. "The other thing is vapes, which are a huge time bomb waiting to go off. We've seen a lot of those catch fire at recycling centres. There are certain airlines that transport a certain clientele who carry a lot of vapes – perhaps 20 or 30 – in their hand luggage."

Flair produces the E:BAG in a partnership with Barnbrook Systems. "We developed the technology and the products, and working with Barnbrook allows us to have CAA and FAA approvals," Dunn notes. "Barnbrook are renowned for their certification capabilities including aviation certification. There are only about a handful of companies in the world that have the certifications that Barnbrook has and that's the likes of Boeing and Airbus."

He then moves on to the technology incorporated into the product. "E:BAG uses nanotechnology. This is fire suppression material which, when it heats up to 120°C, bursts and releases a liquid that suppresses the fire."

Dunn's colleague, sales director Terry Alberty, provides further details. "Our system is probably the only one in the market that actually suppresses fire as well as containing it. This is exactly the same material as UK firefighters

“VAPES ARE A HUGE TIME BOMB WAITING TO GO OFF. WE’VE SEEN A LOT OF THOSE CATCH FIRE AT RECYCLING CENTRES”



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use,” he remarks. “We work in conjunction with the company, Heathcoat Fabrics, that makes the weave – they actually call it the fluff. The material is rated up to 1,800°C and we’ve got that on both sides.

“We also have a carbon filtration system in the bag. When a phone’s lithium-ion battery goes into thermal runaway, all the different components such as casings, plastics, sensors and PCBs go into the fire. From all these come toxic gases, that can also enter the cabin environment in these situations. That’s why we’ve really focused on the quality of the bag and the systems that we’ve put into it.”

Thermal runaway

Alberti continues: “If a phone does go into a thermal runaway, you just put it in the E:BAG, zip it up on the top and there’s a Velcro clip on the back to ensure it’s completely sealed. The bag suppresses everything, but because we’ve got this filtration system and have carbon fibre all over the whole bag, it will allow the gases – now non-toxic – to escape. Otherwise, if you keep the gases within that environment, the bag will start to blow up.”

At Environmental Defence Systems, Jessica Bailey has also been observing developments in fire suppression and safety systems. “The airline industry does understand the need to continually cool an overheating lithium-ion battery which is why AvSax lithium battery fire mitigation bags are the most widely used, as they both mitigate and cool the overheating electronic device,” she declares. “More than 100 airline companies worldwide now carry around 17,000 of the mitigation bags on board to deal with these emergencies quickly, stifling the fire and toxic smoke.

“The AvSax won the Queen’s Award for Enterprise in the UK for its innovation – the highest accolade any business can achieve – and when AvSax are deployed, the aircraft can continue to its final destination, saving the need for costly and highly disruptive diversions and emergency landings,” Bailey adds.

The special projects manager cites the UK Civil Aviation Authority’s views on these fire mitigation bags. “The CAA has commented: ‘Since the development of the International Civil Aviation Organisation (ICAO) guidance on dealing with an in-flight battery fire, new products designed for use in response to lithium thermal runaway events have become available.



‘Products which provide both a cooling and containment capability are typically more aligned to the existing ICAO guidance as when used they are filled with water or other non-flammable liquid to act as a cooling agent. After knocking down flames it could conceivably take just a couple of seconds for a personal electronic device to be placed inside a containment bag, allowing it to be moved to a place of safety.

‘Passengers could then return to their seats, mitigating potential unrelated safety hazards such as injury in the case of severe turbulence. Equally, the effect on flight crew in carrying out their duties following an event on the flight deck would be minimised’,” adds Bailey, finishing the CAA quote.

The AvSax deployment numbers reported by Bailey are impressive, but Flair’s Dunn is confident that the E:BAG, a newer product, will build on its early numbers. “Some of the big boys are now sitting up and seeing what’s happening. The airlines have made it easier to charge your batteries on a flight as almost every seat now has an in-flight USB charger,” he states. “So now passengers can sit there and fall asleep on the plane, the phone goes down

17k

Approximate number of AvSax mitigation bags in current use

▲ An E-Bag within easy reach onboard an aircraft

“THE AIRLINE INDUSTRY DOES UNDERSTAND THE NEED TO CONTINUALLY COOL AN OVERHEATING BATTERY”

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the side of the seat and overheats and possibly catches fire. We've seen a lot of airlines where this has happened. Korean Airlines had such a fire at the beginning of this year. Then there was one recently with Virgin Australia – a power pack caught fire and they had to make an emergency landing.

"It's now about trying to get the awareness out there to the airline that there are solutions," Dunn continues. He acknowledges other bags that are on the markets, but argues that the E:BAG differentiates itself by virtue of the nanotechnology that suppresses fire.

Dunn confirms that Flair is targeting some of the top companies. "We're going after the likes of Etihad, Emirates, Qantas, British Airways, those types of airlines," he remarks, before explaining the number of E:BAGs the company is suggesting per aircraft. "For long-haul it's typically three bags – so front, middle and back or business, first and economy. But we are also targeting the likes of easyJet, Ryanair and Jet2."

Dunn believes the attitudes are changing at such carriers. "We've seen that they've changed the safety announcements on board. They now say if your phone overheats, let us know immediately. But it's what do they do with that person's phone after that," he emphasises. "At the minute, from airline to airline, there's no standard procedure. With easyJet, it's basically a bucket of water!"

"We're trying to get to the point where there are enough E:BAGs on board, so if a passenger pings that their phone is overheating, it would go into a bag as a safety precaution. On landing, if nothing's happened you can take the phone out and go on your merry way. At least you know if something does happen then it's proactively suppressing the fire," Dunn asserts.

Alberti highlights the passenger's mindset as another reason for E:BAGs on board. "If people believe that their phone might get dunked into a bucket of water, whether it's going into runaway or not, the chances of them handing the phone over is going to be low. They're likely to think, 'Well, actually, my phone's OK. It always gets a little bit hot. It'll be fine. So I'll just switch it off.'"

"The fact that it's switched off doesn't matter. If it's hit that thermal runaway point it is likely to go regardless. We give people the option – as a precaution – that if your phone is getting warm, just chuck it into an E:BAG and if there's nothing wrong with it at the end, come and see us after we've had it checked by firefighters. That's because what you do not want is to get off the aeroplane and go on holiday, then in the middle of the night your phone decides it's going to go into thermal runaway," Alberti stresses.

Carriage of electronic devices is only going to increase. Let's not forget that they are used by crew as well as they discharge their duties. The price of an E:BAG is around £750. Even for a large carrier with around 600 aircraft, three bags per aircraft adds up to £1.35 million, and that's not an annual figure.

When such a carrier is regularly reporting quarterly net income of around £500 million, the outlay to be fully kitted out with E:BAGs is small, especially considering that providing increased safety – and showing that you are doing so – is priceless. ●

750

*Cost (in Pounds Sterling)
of an E-Bag*

▲ Carriage of
devices will
only increase

“AT THE MINUTE, FROM AIRLINE TO AIRLINE, THERE’S NO STANDARD PROCEDURE FOR DEALING WITH OVERHEATING DEVICES”



ENABLING PASSENGERS' POWER TRIPS

In-seat power systems have seen rapid market growth.
Bernie Baldwin reports on the products meeting that demand

Hygiene factors are often thought of as something in one's immediate environment that, if operating correctly, one does not notice, but if not optimal cause concern. Being in a room where the temperature is comfortable is the oft-quoted example. Feeling too hot or too cold disrupts the equilibrium, distracting one from engaging in a task or experience – perhaps trying to do some work, listen to a lecture or to enjoy a piece of entertainment.

When it comes to the passenger experience on an aircraft, the temperature example certainly applies,

but so do other inflight elements. One which was barely considered as a hygiene factor not long ago is the provision of in-seat power for passenger's devices.

Tim Seckerdieck, marketing and communications manager at KID-Systeme, spells out the reason succinctly: "The rise of the multi-device traveller has underlined that inflight power is a non-negotiable feature for airlines. It is a fundamental part of the modern passenger experience, directly impacting customer satisfaction, loyalty and an airline's ability to compete in a highly digital and connected world."

David Pook, VP global marketing and sales for Burrana, agrees. "Passenger demand for in-seat power has evolved

from a 'nice-to-have' amenity to a core operational requirement for airlines. All travel segments show evidence of widespread use of personal electronic devices (PEDs). Across short-haul, long-haul, business and leisure it's common for passengers to carry smartphones, tablets, laptops, e-readers and Bluetooth accessories such as headphones, and even keyboards. This growing dependency on electronic devices throughout the travel journey has made consistent and reliable access to power a fundamental expectation," he confirms.

Airline reliance

"Airlines themselves have also increased reliance on powered PEDs in the cabin

IT IS A FUNDAMENTAL PART OF THE MODERN PASSENGER EXPERIENCE, DIRECTLY IMPACTING CUSTOMER SATISFACTION, LOYALTY AND AN AIRLINE'S ABILITY TO COMPETE

and pre- and post-flight, with digital boarding passes, in-app communications, onboard purchases and mobile-based customer service becoming the norm as airlines digitise the passenger experience," Pook continues. "Cabin crew and ground staff also frequently use tablets or smartphones for operational efficiency, safety and passenger service delivery. Additionally, airlines are relying on passengers to bring their own device to stream onboard content rather than serve it up on a seatback screen. As a result, accessibility to power charging has become a baseline expectation rather than a luxury."

Dennis Markert, director of business development, global sales and marketing at Astronics, identifies the failure to provide power ports as something that leads to a poor passenger experience, dissatisfaction and negative reviews as passengers expect to be able to keep their devices running throughout the flight these days.

"As a result, airlines have increasingly incorporated power outlets as a standard amenity into their cabins, enhancing the overall passenger experience by ensuring that travellers can stay connected and productive throughout their flights," Markert summarises.

IFPL chief operating officer Neil McGregor also believes in-seat power has shifted from a 'nice-to-have' to an absolute necessity. "Running out of power is no longer an inconvenience; it's a real problem. Reliable access to in-seat power directly influences passenger choice when it comes to flight choice and brand loyalty," he remarks.

"From a technical perspective, this demand has transformed how airlines specify their cabin system requirements. They are looking for scalable solutions that can deliver consistent, safe and efficient charging capacity for every seat. To do this requires careful management of available aircraft electrical load, without compromising other cabin systems or increasing weight unnecessarily," says McGregor.

"Intelligent load management ensures optimal power distribution across the cabin, and our lightweight, modular architecture allows operators to scale provision as demand continues to grow. The ability to update systems over the air gives airlines additional confidence that their investment is futureproofed, as device power requirements evolve," he adds.

The take-up of in-seat power across the industry is clearly increasing, some of it on new aircraft having power outlets installed, while older fleet are getting retrofits. "The retrofit market is growing rapidly," McGregor reports. "While many new aircraft are now delivered with passenger power systems installed, some airlines are choosing retrofit solutions. These can provide flexibility to keep pace with evolving technology and future upgrades, whereas line-fit solutions may be tied to OEM certification timelines and catalogue updates.

"Many older fleets were delivered without sufficient charging options. These aircraft are now prime candidates for retrofit programmes," the COO observes. "With long delivery schedules for new aircraft, many operators are



3

- 1: Multiple devices per pax are now the norm
- 2: The KID-Systeme GeniusPower offering
- 3: IFPL's Power Supply unit is particularly well suited to retrofits

keeping older airframes in service longer than ever before. Rather than being seen as a drawback, this trend has given rise to a thriving retrofit market. Airlines are investing in upgrades that completely transform the passenger experience, ensuring that a 15- or even 20-year-old aircraft can re-enter service looking and feeling brand new."

Retrofit

"IFPL's modular, lightweight and intelligent power architecture is particularly well suited to retrofits. Our systems can be installed efficiently without major cabin modifications, and without needing a central Master Control Unit (MCU) which reduces both weight and space requirements on board," McGregor adds. "The scalable design allows airlines to tailor power provision to current needs while retaining flexibility for future upgrades."

Burrana's Pook also sees the adoption of in-seat power systems accelerating rapidly across both line-fit and retrofit programmes. "Airlines are not only retrofitting older aircraft that have no passenger power capability, but are also upgrading outdated systems to meet modern passenger expectations," he notes. "Legacy AC and USB-A power solutions are increasingly being replaced with USB-C systems, which offer faster charging, lower weight and greater efficiency."





1

From his view of the market, Astronics' Markert sees almost all new widebody aircraft being equipped with IFE systems, with passenger in-seat power being provided as part of these systems. "We also see most new narrowbody aircraft being delivered with our in-seat power system throughout all classes of service. Be it our Empower 110V AC, USB Type A or High Power 60W USB Type C systems or any combination of these, airlines recognise the importance of this feature for passenger satisfaction and increasingly specify in-seat power in new aircraft orders," he reports.

"Owing to aircraft manufacturers being unable to keep up with the high demand for new, more efficient aircraft, airlines are increasingly retrofitting their older aircraft with modern amenities, such as in-seat power outlets, to meet current passenger expectations and maintain a competitive edge until their new aircraft orders are fulfilled," Markert adds. "Industry reports indicate that major international carriers are investing significantly in updating their existing fleets with in-seat power options. Many airlines are also adopting advanced technologies such as our line-fit offerable wireless charging units and high-power USB-C ports. Overall, the widespread adoption of in-seat power is driven by passenger demand and the competitive need for airlines to offer modern and convenient flight experiences."

According to KID-Systeme's Seckerdieck, the world becoming increasingly digital means that passengers expect air travel to be no exception to the regular daily digital experience. "This shift has elevated

"DEMAND FOR IN-SEAT POWER HAS EVOLVED FROM A 'NICE-TO-HAVE' AMENITY TO A CORE OPERATIONAL REQUIREMENT"

in-seat power from a premium feature to a competitive imperative, directly influencing customer satisfaction and airline choice," he argues. "As the industry moves toward a 'bring your own device' (BYOD) model for entertainment, reliable power has become essential for a seamless passenger experience. This trend has fuelled the market for advanced in-seat power systems which will continue to grow in the future."

With such a burgeoning market, providers of these systems need to have products that differentiate themselves from their competition. For KID-Systeme that means its GeniusPower offering. "This is a lightweight, high-performance power system that goes beyond simple charging," Seckerdieck declares. "Our modular and intelligent in-seat power solution is the answer to next-generation demands. It delivers greater passenger comfort while enabling airlines to boost operational efficiency. With features for data-driven operations and predictive maintenance, this is more than just a power source – it's a strategic tool for the aviation industry."

Neil McGregor believes that IFPL power systems differentiate themselves "by combining a lightweight, modular architecture with advanced intelligent features that reduce complexity and deliver long-term operational efficiency. Our system, Transform, has been designed with the retrofit market in

mind. It's a fully certified 'kit-in-a-box' solution which allows airlines to upgrade their cabins quickly and cost effectively," he explains.

"It is our rapid-fit cartridge units that are the game changer. They make installation and maintenance fast and simple, dramatically reducing downtime and labour costs – units can literally be swapped in under 20 seconds. This is combined with an intelligent architecture, which allows airlines to choose the mix of outlets they want – from 7.5W USB-A up to dual 60W USB-C – and then they can reconfigure them later as needs evolve.

"A key distinction is that our design eliminates the need for a central MCU," McGregor elaborates. "By removing this single point of failure and weight contributor, we significantly reduce system complexity, cabling and installation footprint, while enhancing reliability. This distributed approach also enables a more efficient use of space within the cabin and minimises weight.

"The system is fully modular and scalable, allowing airlines to deploy power solutions across different aircraft types and cabin classes without re-engineering the architecture. Operators can therefore implement the right level of power provision today while retaining the ability to expand capacity as passenger demand evolves.

"Our latest enhancements include support for secure over-the-air updates.



2

1: Astronics EmPower offers a wireless charging module
2: The KID-Systeme GeniusPort is designed with illumination to boost passenger navigation

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◀ Burrana's Riser power outlet is easy to integrate with multiple socket options

WHY POWER IS A NECESSITY

Dennis Markert, director of business development, global sales and marketing at Astronics, identifies the following reasons as to why on-board power is a must for most passengers:

- **Prolonged usage needs:**

Passengers need to keep their devices charged for entertainment, work, communication and access to airline flight data such as electronic tickets and notifications during travel.

- **Inflight connectivity:**

With the rise of inflight Wi-Fi, passengers are more inclined to use their devices throughout the journey, increasing the need for constant power availability.

- **Business and leisure travellers:**

The former use laptops and other devices to work during flights, while the latter tend to use mobile devices for entertainment.

- **Competitive differentiation:**

Airlines that offer convenient access to power ports

differentiate themselves in a highly competitive market. Providing this feature enhances passenger satisfaction and loyalty.

- **Customer expectations:**

Passengers expect the availability of power outlets as a standard amenity. Failure to provide power ports leads to a poor passenger experience and negative reviews.

- **Ancillary revenue generation:**

By enabling PED usage, airlines can boost sales of inflight connectivity, entertainment, food and beverages, retail, and more, ultimately driving additional revenue streams and fostering greater customer loyalty.

"As a result of these factors, airlines have increasingly incorporated power outlets as a standard amenity into their cabins, enhancing the overall passenger experience by ensuring that travellers can stay connected and productive throughout their flights," Markert summarises.

This future-proof capability allows system functionality and configuration to be updated during routine maintenance checks without requiring hardware changes or downtime," McGregor emphasises.

David Pook highlights the combination of size, weight, performance, intelligence and flexibility as the differentiating factors of Burrana's Rise Power system. "It's the lightest and most compact solution available, with a seat power box as small as an iPhone, allowing seamless installation without compromising passenger comfort," he states.

Astronics' Markert claims that his company's suite of scalable in-seat power solutions sets the standard in the aviation industry. "Our offerings include high power USB Type A and Type C, 110 V AC, all designed for easy integration into new line-fit installations as well as retrofits of existing aircraft," he says.

"Our product's differentiators are multi-faceted. The UltraLite G2 stands out for its high power, efficiency, scalability and lightweight design, featuring a reduced LRU (line replaceable unit) count. This architecture directly lowers Total Cost of Ownership (TCO) by minimising fuel consumption and maintenance costs. With numerous line-fit and retrofit installations, our weight claims are based on real-world data, not theoretical estimates," Markert stresses.

"A standout feature of our systems is smart power management. This allows for dynamic power allocation based on demand, optimising energy usage and ensuring efficient operation. UltraLite G2 exemplifies this high efficiency (>93%) which minimises losses and reduces overall energy consumption as there is less demand on the aircraft environmental systems.

Closing with the ultimate hygiene factor, Markert declares, "Safety is paramount; hence, the systems include multiple protection features such as overcurrent protection, short circuit protection and thermal management for safe operation."

It's fair to say that the carriage of PEDs is only going to increase, and power demands will follow. As demonstrated, airlines have a choice of high quality systems from which to choose a system that ensures in-seat power remains a hygiene factor that does not disturb the inflight experience. ●

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Mike Roemer, Senior Manager, United Airlines

“PAM Dublin was an exceptional event, and I was honoured to present about aircraft health monitoring at SAS. Sharing insights on predictive maintenance alongside industry pioneers was inspiring. The focus on innovation and collaboration reinforced my belief in shaping the future of aviation safety and efficiency.”

Matias Bjerregaard, PAM Specialist, Scandinavian Airlines



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DATES AND VENUE COMING SOON



PAYMENT STRAIN

Tech can ease the tension between old systems and modern retailing.
SeerBit's **Omoniyi Kolade** offers an African perspective

The relationship between airlines and online travel agencies (OTAs) is showing signs of strain. What began as a mutually beneficial partnership – Airlines gaining reach and OTAs offering customers flexibility – has evolved into a battle over control, margins and customer data. Airlines argue that OTAs add unnecessary costs and complexity. OTAs, in turn, say airlines are cutting them out through direct-booking incentives and restrictive data policies.

At the centre of this tug of war lies one of the industry's least glamorous but most consequential issues: payments. Settlement delays, refunds and foreign exchange frictions have become sticking

points in how airlines and OTAs work together. As both sides digitise operations and rethink distribution, the question is whether smarter, more transparent payment systems could ease years of built-up friction.

To understand the roots of the problem and potential solutions we spoke to Omoniyi Kolade, CEO at travel industry paytech SeerBit.

► **At its core, what does this payment war reveal about inefficiencies in the global travel industry?**

At the heart of it, this payment challenge shows us how much of travel is still running on rails that were laid decades ago. The industry is grappling with a structural mismatch between how money moves and how travel is sold today.

Online travel agencies typically operate on a 'double-loop' model: traveller funds come in, then flow back out to airlines and hotels. It's functional, but once you add scale, cross-border FX, or a wave of cancellations, the system strains under its own weight.

For airlines, already operating on razor-thin margins, this model starves them of the faster, cheaper settlement they need to manage cash flow. For travellers, it means delays in refunds and higher fees. And for suppliers across the chain, liquidity isn't always there when it's needed.

Much of this still runs through frameworks like IATA's BSP, which, while important, were built for an era of batch processing and intermediaries. That architecture is too slow and too costly for a digital-first industry.

The irony is that the front end of travel has raced ahead: sleek booking apps, AI-powered pricing, one-click experiences. Yet behind the scenes, the flow of money hasn't kept pace. That gap is exactly where the industry's next wave of efficiency gains lies; faster settlements, cheaper cross-border transactions, and refund processes that work in days instead of weeks.

► **Why are legacy payment models like virtual cards breaking down in high-volume industries like travel now?**

Virtual cards were a step forward compared to the older tools we had in travel payments. They gave OTAs and suppliers a way to control spend, reduce fraud and streamline transactions. But the truth is, at scale, especially in a high-volume industry like travel, they start to buckle under the weight of complexity.

That's why we're seeing cracks in the model now. Travel volumes are back to pre-pandemic levels and growing globalisation has added layers of cross-border complexity, while consumer expectations for instant refunds and seamless experiences have never been higher. Virtual cards weren't designed to handle

that level of fluidity. They're still constrained by the same reconciliation challenges, fragmented data flows, and FX exposures that slow the industry down.

The virtual card market is growing rapidly, especially in B2B travel, but what's missing is the infrastructure to make these tools work seamlessly in the real world of multi-vendor, cross-border, high-volume travel, namely real-time reconciliation, multi-currency support, and integrated settlement models that cut out unnecessary intermediaries.

► **What broader macro trends are fuelling this tension?**

The tension in travel payments today is being driven by a mix of global and African-specific macro trends. First, digital adoption is skyrocketing – across Africa, mobile wallets and digital payment solutions are now mainstream. In Kenya and Ghana, over 80% of transactions flow through mobile money, setting consumer expectations for fast, seamless and frictionless payments.

Second, cross-border complexity is increasing. With more international travel and intra-African tourism on the rise, payments must navigate multiple currencies, FX volatility and fragmented systems. Initiatives like the Pan-African Payments and Settlements System (PAPSS) are helping, but the shift away from traditional rails is still early.

Third, efficiency and security pressures are mounting. Travel firms globally and locally are grappling with reconciliation bottlenecks, fraud risk, and operational overhead, while consumers demand instant refunds and reliable transactions.

Put together, these macro trends are creating both pressure and opportunity: travel payments are no longer just a back-office function – they're a strategic lever that can drive trust, liquidity and growth.

► **Beyond airlines and OTAs, how does this payment tension ripple across banks, fintech providers and, ultimately, travellers themselves?**

Beyond airlines and OTAs, the ripple effects of payment inefficiencies hit every corner of the ecosystem. For banks, it often means advancing funds to keep transactions moving while settlements lag through legacy systems. This creates liquidity pressures and adds costs that banks inevitably pass on to businesses and consumers. Fintech providers face a different challenge: they're the ones trying to stitch together workarounds, navigating fragmented

▼ Omoniyi Kolade is CEO of the fintech firm SeerBit



'IN A HIGH-VOLUME INDUSTRY LIKE TRAVEL, VIRTUAL CARDS START TO BUCKLE UNDER THE WEIGHT OF COMPLEXITY'



◀ The systems behind airline retail will change, but it will take time

regulations, high chargeback rates and complex FX rules to build instant, borderless and digital-first solutions to enable real-time settlement, lower fees and tighter security. The traveller ends up bearing the brunt of it all – delayed refunds, hidden FX markups, and fees that quietly inflate the cost of a trip.

► **Some say fintech innovation could replace or reimagine virtual cards altogether. What's realistic in the short versus long term?**

In the short term, virtual cards aren't going away. They solve a very specific problem around control, fraud prevention, and reconciliation in travel payments, and for many players like OTAs they're still the most practical tool available. What we're likely to see, though, is a hybrid approach: OTAs and airlines still using virtual cards, but layering on fintech tools to improve reconciliation, reporting and data visibility. That buys the industry time, but it doesn't solve the structural issues.

In the long term, I do see fintech innovation reimagining, if not outright replacing, the virtual card model. Account-to-account rails, instant payments and tokenised solutions can deliver the

same benefits of security and control, but with real-time settlement and lower costs. We're already seeing them gain traction in other sectors. For travel, it won't be an overnight shift – too much is tied into legacy processes – but the momentum is there. Over time, these rails will reimagine what settlement looks like, replacing batch-based, intermediary-heavy models with something instant, global, and built for the digital-first traveller.

► **Looking five years ahead, what's the most likely payment setup we'll see dominating B2B travel transactions?**

I think the most likely setup dominating B2B travel payments will be real-time, account-to-account flows backed by open banking and instant payment rails. Tools like Mastercard's Request to Pay already show how you can improve cash flow visibility and build more trust between buyers and suppliers and travel will follow that path.

The real transformation will come from integration. Instead of today's fragmented patchwork of virtual cards, banks, and reconciliation layers, we'll see fintech orchestration platforms emerge as the connective tissue. These platforms will embed payments directly into travel platforms; invisible, instant and borderless. Airlines, OTAs and hotels won't just process transactions; they'll operate on unified rails where settlement, FX and reconciliation all happen seamlessly in one layer.

The result will be fewer intermediaries, stronger liquidity, and settlement cycles measured in hours, not weeks. ●

“IN THE LONG TERM I SEE FINTECH INNOVATION REIMAGINING, IF NOT OUTRIGHT REPLACING, THE VIRTUAL CARD MODEL”

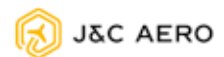
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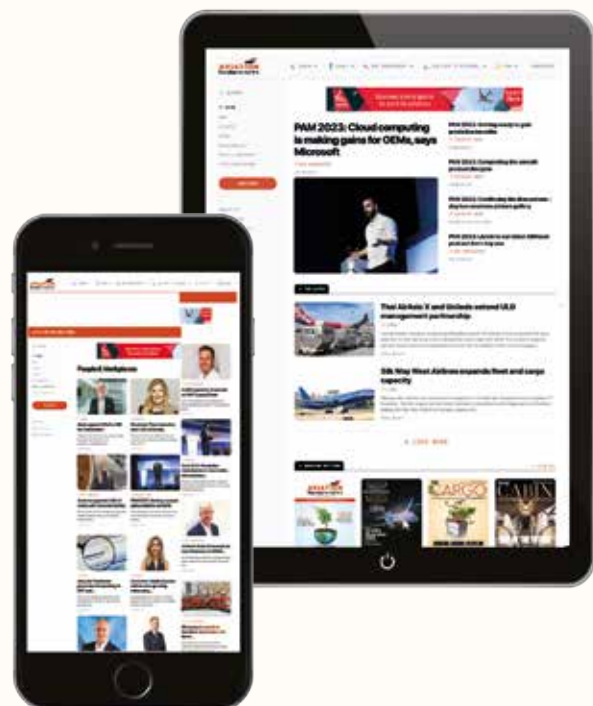


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JUST LANDED

A rundown of some recent airline celebrity chef signings

“A CELEBRATION OF REFINED FRENCH GASTRONOMY”



Who: SWISS/ Olivier Jean

What: First Class menu

Web: newsroom.swiss.com

Olivier Jean, the executive chef at Geneva's The Woodward hotel, is bringing French-speaking Switzerland and his 17 GaultMillau points on board in the First-Class cabin. SWISS First travellers will enjoy such delights as lobster bisque, braised veal cheeks with Asian-style jus, Alpstein chicken breast with morel cream sauce or miso-marinated cod with baked polenta. The First Class desserts comprise a Felchlin Maracaibo chocolate slice with Tahiti vanilla ice cream or cheesecake.



Who: Daniel Boulud/Air France

What: La Première and Business menus

Web: corporate.airfrance.com

Daniel Boulud, a Michelin-starred French chef based in New York, will be joining forces with Air France to create new dishes for the airline's La Première and Business customers. His tasty work can be found on departure from the United States alongside those of Dominique Crenn, a triple Michelin-starred French chef based in San Francisco.



Who: Qatar Airways/ Yannick Alléno

What: First/Business plus lounge menus

Web: qatarairways.com

Qatar Airways has signed acclaimed French chef Yannick Alléno, a culinary icon who has 17 Michelin stars across 19 restaurants in seven countries. Chef Alléno has revived the art of sauces using cutting-edge techniques such as extraction, fermentation and cryo-concentration to bring out the essence of each ingredient.



Who: Luxair/ Benoît Potdevin

What: Business Class menu

Web: luxair.lu

Luxair has teamed up with Michelin-starred chef Benoît Potdevin, from the acclaimed restaurant Le K at Domaine de la Klauss (France). Business Class passengers travelling between Luxembourg and Dubai will be treated to some of Chef Potdevin's creations, which have been described as "a celebration of refined French gastronomy".



Who: Qantas/Neil Perry

What: Long Service

Web: quantasnewsroom.com

While some airlines seek a new celebrity signing every season, others prefer to build on existing partnerships. Qantas has worked with Australian chef Neil Perry since 1997 and, through his Rockpool Consulting company, he has been the director of food ever since. Back in 2022, the airline celebrated 25 years of working with Perry by reintroducing some of his most popular inflight and lounge dishes.



Who: Delta Airlines/

Mashama Bailey

What: Onboard menus

Web: news.delta.com

Delta has employed the services of New York-based chef Mashama Bailey for several years. Recently, she has overhauled the menu for the carrier's centenary year. While previously offered on flights out of Atlanta, positive customer feedback has driven the expansion of Chef Bailey's dishes to additional international and domestic routes.



“CUSTOMER FEEDBACK HAS DRIVEN THE EXPANSION OF CHEF BAILEY’S DISHES TO ADDITIONAL INTERNATIONAL AND DOMESTIC ROUTES”

WHAT KEEPS PILOTS ON COURSE WHEN GPS OUTAGES STRIKE?



Satellite interference is a big problem, but thankfully there's a solution writes **Irish D. Torres** from Safran Navigation & Timing

Today, aircraft navigation heavily relies on GPS (Global Positioning System) to provide precise location and timing information worldwide. Modern cockpits have become so dependent on satellite navigation that GPS now controls everything, whether it's about flight management computers or communication timing systems. But what happens exactly when GPS outages strike?

The answer is unsettling. GPS outages can ripple through every aspect of flight operations. Navigation displays may no longer be reliable, timing systems lose synchronisation, and pilots are forced to switch rapidly to older tools while managing an increased workload and heightened safety risks.

In 2024, GPS interference surged in conflict-prone regions, with the Dutch Bureau of Aviation Investigation logging 983 spoofing incidents in ten months, up from 163 in 2023. The Middle East was hit hardest, with over 43,000 events between January and April, including nearly 28,000 near Beirut and 14,000 near Cairo. Other persistent hotspots include the Balkans, Eastern Mediterranean, Black Sea, and the India-Pakistan border, making these areas some of the most contested for civil aviation navigation.

The scale of the problem highlights a pressing truth: aviation cannot rely on GPS alone. The industry now needs navigation systems that are not only redundant but resilient and can adapt and operate even in contested skies. This demand is driving a new generation of innovations designed to keep aircraft safe when the satellite link is gone.

Why GPS alone isn't enough

The mathematics of GPS vulnerability is sobering. By the time a satellite signal travels from space to your aircraft, it carries roughly the same power as a 25-watt light bulb viewed from 10,000 miles away. This inherent weakness makes GPS signals susceptible to interference.

Jamming attacks flood the radio spectrum with noise, effectively drowning out legitimate satellite signals. Meanwhile, spoofing broadcasts fake GPS signals that can gradually lead aircraft off course without triggering any alarms. A truck driver with a cheap GPS jammer can inadvertently disrupt aircraft navigation across an entire airport approach corridor. Sounds alarming, doesn't it?

For pilots operating under Instrument Flight Rules, GPS outages create immediate operational challenges as modern cockpits depend entirely on

“The scale of the problem highlights a pressing truth: aviation cannot rely on GPS alone”

GPS-derived situational awareness. The psychological impact is equally concerning. Many younger pilots have never experienced extended flight operations without satellite navigation, which can lead to spatial disorientation when the familiar moving map display disappears.

GPS outage safety

The challenge today is that aviation threats have become bigger and more serious than ever. Electronic warfare capabilities can deny GPS over entire regions, and spoofing can mislead aircraft in ways that traditional backups may not detect.

This has prompted the industry to explore integrated navigation solutions that are lighter, more resilient, and capable of adapting in real-time. Recently, for example, Safran, the aviation company where I work, recognised the growing risk of GPS interference and how it can disrupt GNSS receivers. As a result, it has developed the Skylight Receiver.

This dual civil/military GNSS receiver brings modular capabilities for Galileo and GPS, which means it can communicate with different groups of satellites around the world, as well as encrypted signals, all in one package. Most importantly, Skylight comes equipped with anti-jamming and anti-

spoofing algorithms to protect against GPS outages.

Other innovations are following the same principle: combining inertial navigation, multiple GNSS constellations and secure timing sources to create smarter PNT solutions. These are not simply backups, but systems designed to continue working uninterrupted in the face of interference.

Smarter doesn't only mean more features; it means more trust and reliability for pilots and airframers alike.

Contested world resilience

GNSS threats are on the rise globally, with hotspots in regions such as Eastern Europe and the Middle East. Both civil and defence aviation require systems that can operate smoothly across contested and safe airspace, and this is where modern navigation solutions are stepping in.

Through the help of civil-certified GPS channels alongside encrypted military signals such as PRS and M-Code, modern GNSS systems create a stronger, more adaptable foundation for aviation. More importantly, the integration of these technologies provides both accurate positioning and navigation, as well as trusted timing, which is vital for next-generation aircraft and communication networks.

In short, the industry is taking clear steps to future-proof aviation against the growing risk of GNSS disruption.

Final thoughts

In the event of GPS outages, pilots turn to backups. What's changing today is that those backups are smarter, lighter and better integrated than ever before. The goal is not just to have a safety net but to guarantee continuity of navigation even when GPS is compromised.

As airspace grows more contested and threats more sophisticated, the future of aviation will depend heavily on integrated, resilient systems that pilots and airlines can trust everywhere they fly.

For pilots, it means confidence. For airframers, it means flexibility, while for the aviation industry, it means smarter skies, even when GPS fails. ●



1. Skylight features anti-jamming and anti-spoofing algorithms to guard against GPS outages 2. Irish D. Torres

OLD-SCHOOL BACKUPS MODERN PILOTS STILL USE

Before GPS, aviation relied on a variety of systems that continue to serve as safeguards today:

Inertial Navigation Systems

(INS): Using gyroscopes and accelerometers, INS calculates position independently of external signals, making it immune to jamming and spoofing. While accurate for a limited time, it can drift over longer flights, so it is often used as a bridge during GPS outages.

Ground-based aids:

Networks such as VOR (VHF Omnidirectional Range) and DME (Distance Measuring Equipment) provide bearing and distance information, while ILS (Instrument Landing System) supports safe landings in poor visibility. These operate at higher power levels than GPS, making them harder to disrupt.

Flight management systems typically integrate several of these tools, automatically switching between sources depending on availability. While this redundancy keeps flights safe, it can also add weight, complexity and maintenance costs. What aviation needs are solutions that not only provide backup capability but also enhance navigation resilience against 21st-century threats.



1



ABNCAST

Meeting the Moment

Lee Hayhurst spoke to Moment co-founder and CEO
Michael Serres at the World Aviation Festival in Lisbon

As airlines seek new revenue streams beyond the seat and onboard experience, digital connectivity is set to turn passengers' travel time into a full retail experience.

One of the providers with the technology to enable this shift is Paris-based Moment, which will see its new in-flight entertainment system take to the skies for the first time in January.

A European legacy carrier is currently fitting Moment's next-gen wireless portal Flymingo Connect into 15 Boeing 737s and Embraer E-jets in its fleet.

Flymingo Connect harmonises internet connectivity providers under a single platform, providing a consistent experience and ensuring fleets are ready for future technological developments.

Speaking to ABNcast at this year's World Aviation Festival in Lisbon, Moment co-founder and chief operating officer Michael Serres said all types of carriers are looking to optimise onboard retail opportunities.

He explained: "There is a need. This is where the airline industry wants to go. There will be different approaches, and we are able to address the needs of LCC carriers as well as legacy carriers."

A recently published study on passenger behaviour conducted by Moment highlighted how connectivity and digital services are becoming "strategic assets" for airlines.

Last year, Moment acquired in-flight e-commerce technology firm Airfree, which is already used by the likes of Singapore Airlines and provides access to over 350 duty-free shops.



▲ The Flymingo system now includes cabin announcements on passenger's own devices

Using Airfree, passengers can access products via the seat-back screens or their personal devices. The system offers secure checkout, and the customer can opt for several delivery options.

Flymingo Connect will provide the onboard connectivity for the Airfree marketplace to retail its products to passengers while they are in transit.

"It's a pure retail experience unified in a single marketplace and offering a range of services to the airline," said Serres.

"Airlines are really willing to develop new streams of revenue, and products sold onboard an aircraft are an important way of monetising that.

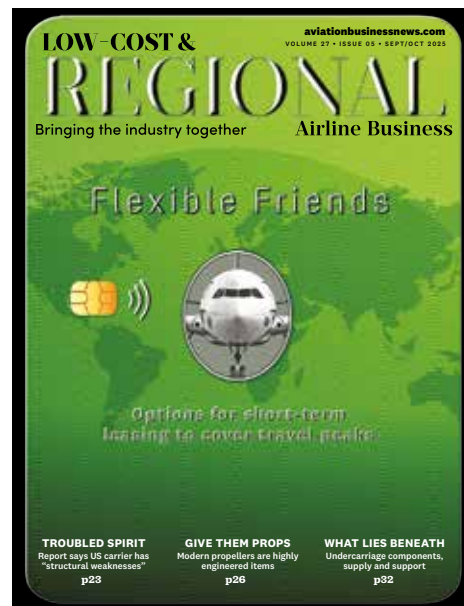
"Thanks to the experience many airlines have developed with physical onboard duty-free sales, they want to improve that with a digital platform, opening the door to lots of products to sell," he concluded. ●



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Connectivity and digital services are becoming "strategic assets" for airlines



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OVERCOMING SAF ISSUES

Geoff Maynard, member of the Aviation Policy Group at CILT (UK), recently gave evidence in UK Parliament

SAF is a cleaner alternative to traditional jet fuel that can power aircraft without engine or infrastructure changes, and the volume in which it is used is slowly rising.

The UK government is encouraging this trend in two ways. First, it is mandating the percentage of SAF that must be included in aviation jet fuel sold in the UK. Second, the SAF bill currently going through parliament establishes a government-owned company that can contract with industry to produce SAF at an agreed cost.

If the SAF is ultimately sold at a price more than the agreed cost, the excess is returned to the government. Conversely, if the SAF is sold at less than the agreed cost, the government reimburses the producer for the loss. In this way, the government eliminates the uncertainty that private industry faces in producing SAF, ensuring they cover their costs, but also ensuring sufficient SAF is available to meet the mandated percentage.

Cost barriers

These measures will help SAF overcome the adoption barrier of its high cost, which is two to five times greater than traditional jet fuel, impacting airline profitability and passenger pricing. The government expects that, as the mandated SAF percentage rises, volumes produced will rise and it will bring the price down as demand goes up.

The development of SAF is creating new industries and economic opportunities, with companies investing in production facilities, research and supply chains. This investment is generating jobs. For airlines, SAF is vital for achieving sustainability goals. The ability to hit



sustainability targets by simply adding a fuel the mix is the biggest pull factor, but for this to happen the government must encourage and support the development and introduction of SAF. This year, all jet fuel sold in the UK must by law contain 2% SAF, with the percentage rising linearly to 10% by 2030, and on to 22% by 2040.

The future of SAF looks promising, due to advancements in technology and increased production. Researchers are creating new methods that lower costs and reduce environmental effects. Major airlines aim for net-zero, which means SAF will play a vital role. Aircraft are being designed for 100% SAF, and production capacity is set to grow.

The availability of fossil jet fuel will reduce as other sectors move away from diesel and petrol. SAF will fill this gap and with the support of CILT UK we are helping bridge the conversation between our industries, airlines and government. ●

10%

*Proposed target for
SAF/Jet Fuel blend
in the UK by 2030*

◀ **Geoff Maynard**
has an optimistic
view on the future
of SAF, based
on upcoming UK
legislation



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