



On the Horizon

As groundbreaking technology evolves, what's next for aviation innovation? BY KRISTY ALPERT

TAP Portugal, the first operator to sign an agreement to feature the Airbus A330neo Airspace cabin design, will launch the new planes in late 2017.

It should come as no surprise: The aviation industry changes rapidly, evolving as quickly as new technologies arrive on the market. After all, it's been only 113 years since the first powered aircraft took to the skies and just 102 years since the first passenger boarded an airplane for the inaugural commercial airline flight.

Over the past century, the aviation industry has quite literally soared to new heights, introducing innovations that at one point seemed impossible — like cabin pres-

MOOD LIGHTING: A330neo Airspace by Airbus ambience

PHOTOS: © AIRBUS

surization that allows aircraft to fly above 10,000 feet and jetways that protect passengers from the elements as they travel from the gate to their seat.

What was once groundbreaking has become commonplace, thus creating an exciting platform for increased innovation. Many moments have pivoted modern aviation and disrupted the status quo so radically the rest of the industry had no choice but to follow.

Game changers come in all different shapes and sizes in the aviation industry, and award-winning aviation designer Nigel Lawson says the first milestone he witnessed take shape and change the way people travel was the first fully flat bed for British Airways in 1996.

“British Airways really took a gamble, reducing the number of seats in the first-class cabin to offer the flat

bed,” Lawson recalls. “However, it really paid off. The cabin sold out instantly with people desperate to try the experience. The reduced seating arrangement became more profitable for the airline. The experience won every award going, was incredibly popular and redefined what first class meant on a plane. But the biggest impact is seen today, 20 years later, because every airline now has to offer a flat-bed experience, not just in first but [in] business.”

Not only did that invention change the look of first and business classes on all major airlines, but also it challenged the industry to come up with something even better, like Etihad Airways’ The Residence that took off at the end of 2014. Although not every airline followed suit to offer a three-room apartment in the air, the elements that made the experience unique resonated throughout the industry and affected the game changers of aviation for 2016 — what might be considered the year of the journey.

“The aviation industry is now reaching much further than takeoff and landing,” says Polly Magraw, exhibition manager, Aircraft Interiors Expo, who spent more than 13 years in the travel and aerospace sector. “Its services now apply to the entire passenger journey, from booking the flights all the way to landing home again. A good example is the Panasonic Companion App, which integrates with airlines’ IFE systems, allowing flyers to choose what films are available and what music playlists they want to listen to.”

Every year, the Aircraft Interiors Expo — the world’s leading event for airline innovation since 2000 — brings together the biggest innovators in the industry in Hamburg to showcase the latest in airline technologies, products for cabin interiors, in-flight entertainment and passenger comfort. This year’s event gave a clear view of what’s next for aviation innovation, with Magraw noting a huge push for a seamless experience for passengers that includes everything from in-flight entertainment and connectivity (IFEC) to seating and lighting within the cabin.

“Recent surveys from IATA have shown that 80 percent of passengers would use WiFi if it was offered on a flight, so it’s no surprise that airlines are continuously working to offer passengers the same connectivity in flight that they expect on the ground,” Magraw explains. “As a result, connectivity and IFE are now the third-biggest expenditure on an aircraft, second to only the aircraft itself.”

The future of in-flight WiFi has already arrived, as Gogo’s 2Ku satellite antenna hit the skies earlier this year, providing passengers



with speeds of up to 70Mbps. But connectivity is just the beginning, as airlines start to consider the benefits of offering passengers free WiFi while in flight. Norwegian Airlines offers free WiFi on most flights in Europe and on flights between the United States and the Caribbean, while other airlines like Icelandair, Finnair and Aer Lingus offer the service free to only business-class passengers.

As bandwidth speeds continue to increase on flights, more and more passengers carry their own electronic devices, a big milestone for the aviation industry. A recent survey by Inmarsat revealed 34 percent of passengers bring three mobile devices on board a flight, from smartphones and tablets to laptops, and are willing to pay for an in-flight connection.

“Moving forward, we’ll see airlines accommodating more ‘bring your own device’ policies,” Mcgraw predicts. “Passengers expect to stay connected and entertained as much in the air as they do on the ground, and manufacturers such as Recaro or Zodiac have already started embedding remote device holders in their seats and tray tables.”

Another game changer this year is the adaptation of personalization, with passengers able to customize their journeys before they even board the plane. Carriers like Qantas and Singapore Airlines seized the opportunity to engage with passengers at every stage of travel by even offering passengers the chance to select their meals before boarding via the airlines’ mobile apps.

In fact, Singapore Airlines’ Companion App can do so much

APARTMENT IN THE AIR: *The Residence bedroom aboard Etihad Airways*

PHOTO: © ETIHAD AIRWAYS

MAKING CONNECTIONS:

Singapore Airlines' connectivity

PHOTOS: © SINGAPORE AIRLINES

Aer Lingus

aerlingus.com

Aircraft Interiors Expo

aircraftinteriorsexpo.com

British Airways

britishairways.com

Etihad Airways

etihad.com

Finnair

finnair.com

Icelandair

icelandair.com

Qantas

qantas.com

Norwegian Airlines

norwegian.com

Singapore Airlines

singaporeair.com

TAP Portugal

flytap.com

Virgin America

virginamerica.com

Virgin Atlantic

virginatlantic.com



more than “Book the Cook.” As of March, the app also allows passengers to check out what’s playing on board with a tool that allows them to shortlist their favorites so they’re ready to play as soon as they board. Passengers can then link their devices to their seat to check the current flight path and remotely control movies, TV shows and music.

“Technology and connectivity are transforming the entire journey from home to arrival at the final destination,” Magraw says. “The same can be said for aircraft seating. Companies are working to provide cost-effective, space-saving solutions that don’t compromise on comfort. Mirus Aircraft Seating has gone on to apply Formula 1 technology to their products, resulting in the development of a new lightweight economy seat.”

Simple solutions like lighting also build on the passenger experience this year, bringing the same level of comfort experienced at home on board. Mood lighting has been a huge trend in cabins, and many airlines are beginning to use LED lighting in cabins. These lights last 10–20 times longer than traditional lighting and offer a three-second delay that eliminates the sudden disruption of turning the cabin lights on or off. Virgin Atlantic and Virgin America already adapted the technology for individual seats, where passengers can touch a color wheel on their seatback screen to set the mood for their journey and personalize their flight experience.

All of these features and more were on display during the 2016 AIX when Airbus debuted its new cabin interior concept known as Airspace. The concept, designed for the new A330neo, is set to be the new industry standard for the in-flight experience once the first plane comes out in late 2017. Along with wider seats and deeper overhead storage capacity, the new



cabin will feature unobstructed under-seat foot space, quieter in-flight conditions, customizable 3D-printed ceiling patterns illuminated by LED lights (airlines can choose from 16.7 million colors for mood lighting) and antibacterial “smart” lavatories.

With innovations this groundbreaking on the horizon, designers like Nigel Lawson are getting excited about the chance to create the next game changers. “The next challenge will be to transform the economy experience,” Lawson states. “At any one point more than 700,000 people are in the air globally. It’s a fair bet to say 500,000 or more are in economy, so transforming this experience into something more enjoyable is a big challenge for the future. I believe that the first mover will enjoy huge rewards, and like the BA Bed in the Sky, all the other airlines will be forced to follow suit.”