# The in-flight experience

## Maintaining the personal touch

It's been over twenty years since Lufthansa began offering in-flight WiFi, first offering device connectivity, and subsequently ushering in a new era in entertainment in the process with the increased bandwidth and functionalities this technology brought. Today, video and catch-up services are an expected and intrinsic part of any trip.

The in-flight experience actually starts with trip inspiration and booking. The whole process from pre-trip to in-trip continues to evolve with a focus on technology that enables highly personalized journeys. Based on IATA's Offers and Orders shift from legacy architectures and processes to a more modern retailing environment, pioneering Finnair became the first global airline in 2025 to create a native order. The airline says this new approach will ultimately benefit customers at every touchpoint and enable it to deliver frictionless experiences.

This transformative shift in airline retailing is opening up a breadth of opportunities through highly targeted promotional and upgrade offers. And through the use of a unified record in an order, it's also extending the reach of customer support through both Agentic AI systems and dedicated agents.

## End-to-end orchestration

Personalization is only possible through a unified approach throughout the order chain – one which now extends into the air. Retailers are able to receive and process a service request from the traveler and, in turn, agree this transaction with the supplier in order to confirm inventory.

This could include a hotel upgrade or transfer on arrival at the airport alongside strategic commercial partners in leisure, entertainment and corporate services. This gives ultimate flexibility (and control) to the passenger – decisions don't all have to be made ahead of the flight and can be adapted to suit circumstances. As an example, in the event of flight delays, travelers can update their ground transport accordingly without having to placate a very fed-up taxi driver who's been waiting an hour.

Journey orchestration means travelers no longer need to update all suppliers when their order changes, this will happen automatically, with the retailer keeping an up-to-date view of which services have been delivered to the traveler.

## Enhancing the in-flight experience

These services rely on modern airline retailing solutions such as Amadeus Nevio – a modular, AI-powered platform that enables airlines to craft personalized, context-aware offers during the journey. It enables one-click payments tied to the traveler's profile, allowing upsells like seat upgrades, lounge access or baggage offers in real-time, and even post-disruption.

Payment flexibility is changing traditional in-flight operations. Whereas midair meals would likely be agreed in advance as part of the booking, the opportunities now exist to be able to offer more of an 'a la carte' solution. Air France-KLM is one airline looking at enhanced options for premium flyers with the option of Michelin-starred chefs being trialed on some routes.

## Next-generation entertainment

Many in-flight catch-up TV and film offerings currently rely heavily on pre-installed content stored onboard, which are downloaded and stored on the aircraft's media server before take-off. This approach offers full stability in playback and access, although has obvious limitations in terms of content.

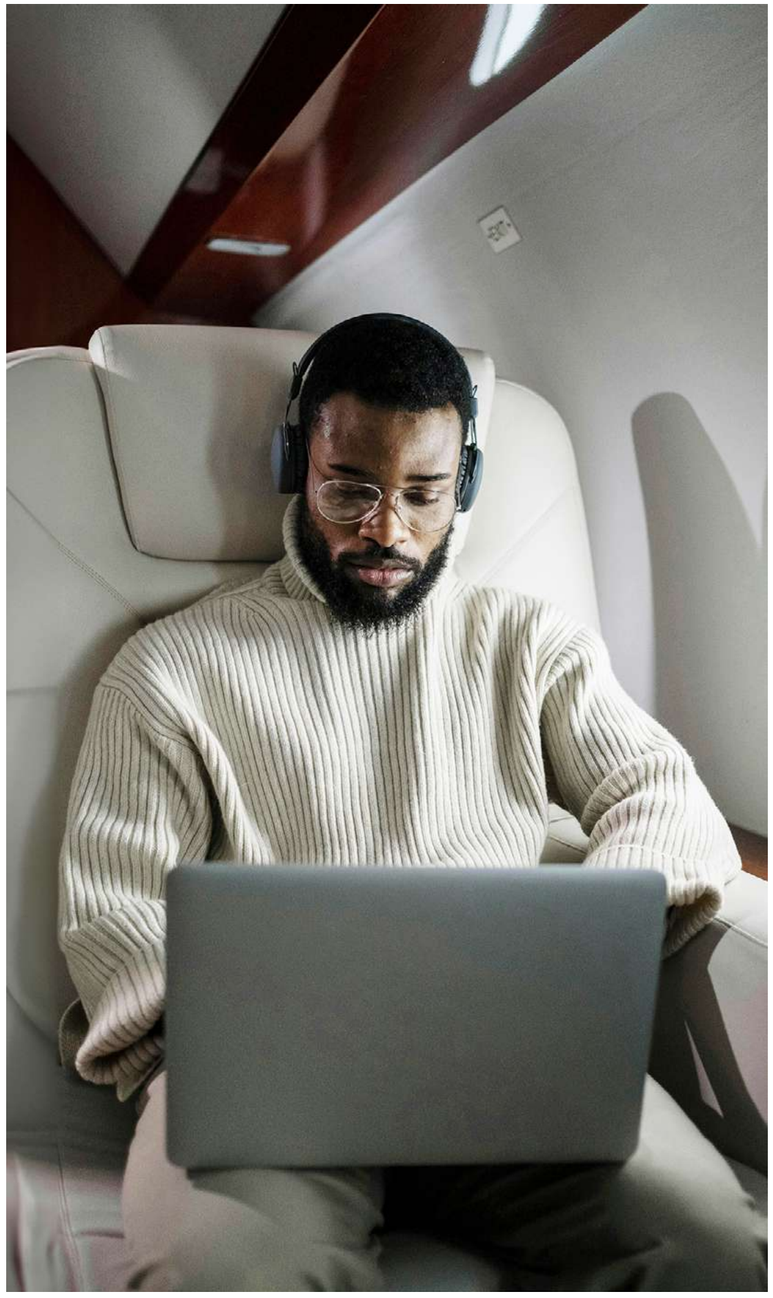
However, advances in connectivity are changing the status quo significantly – not least through the Starlink satellite network and emerging 5G-to-plane technology. By taking advantage of these solutions, airlines are able to stream live sports and TV as well as access to personal subscription platforms such as Netflix, Disney and Spotify.

Some airlines have also been testing LiFi connectivity – a light-based approach to network connectivity which offers 100× faster speeds and improved data security. Importantly, from an operational perspective, this also includes reduced electromagnetic interference. This kind of experimentation is evidence of transformational thinking and an open mindset.

Where big opportunities lie ahead are in a hybrid approach to manage bandwidth while ensuring no-one has to compromise on what they want from their entertainment offering. Pre-installed material gives the stable experience for those happy to watch from fixed catalogues, while those looking to live or personal content can equally watch without interruption.

Additionally, the innovations brought to the table through AI can enhance the traveler experience. Airlines are using AI to offer personalized entertainment options that align with passengers' viewing histories and interests. Thales FlytEdge ↗ is one such initiative, which is making "intelligent" recommendations to elevate the in flight experience and enhance the passenger experience.

Investment in AI and data analytics will be the catalyst to hyper-personalized solutions. These will boost loyalty and drive brand differentiation, which together can be the decisive factor in the traveler's choice of operator.



## An immersive future?

Outside of connectivity, advances in hardware are bringing game-changing developments to the in-flight experience. OLED manufacturers are already creating transparent overlays for airplane windows, bringing the promise of augmented reality (AR) immersion.

In this instance, a passenger can look out of the window and get an insight into landmarks or an update on exactly where they might be on their trip – with increasing accuracy as the tech develops. (An exciting development for those who stare out of the window near arrival trying to see their house).

In time, this can go beyond signposting – imagine the potential for parents to educate their children on their destination and point out geographical points of interest throughout a flight or be able to demonstrate how clouds form as they fly over them.

## Shortening time perception

In addition to augmented reality, immersion through *virtual reality* (VR) has significant potential, not just in enhancing solutions but at a bigger level in reducing how flight time is perceived. While a two-hour film will pass the time, it's still a small screen with distracting peripheral vision. The opportunity VR brings through full immersion – be it gaming or video – can isolate the passenger from the whole cabin, making time pass quicker and the flight perceptively shorten. Boredom can be a thing of the past.

Adoption won't be straightforward, however. Beyond the connectivity demands when used at scale by dozens of passengers, the cost of implementation and maintenance has to be justified to drive mass adoption.

## Knock-on benefits

Interestingly, these also bring potential environmental and operational efficiencies, with the slim glass used for OLEDs a viable, equally robust alternative to traditional (thick) aircraft windows. While there's no question of compromising structural integrity for the sake of AR, as shown by the likes of Boeing and Airbus considering how to integrate next generation solutions, fresh approaches to hardware will arise.

Beyond AR, both Boeing and Airbus are looking at how technology solutions can improve operations, especially when it comes to maintenance and inefficiencies. These have a significant knock-on effect to the traveler in reducing downtime, improving service quality, and identifying issues ahead of time.

Both operators are looking at digital twin ecosystems which can predict and diagnose technical issues in advance – increasing the speed of resolution. Optimization of fuel usage can be understood through real-time analysis of weather conditions, and other influences on consumption.

In the longer-term, automated taxiing, take-off, and landing solutions through VR and AI analysis can minimize pilot workload and allow focus to be centered on where human control is most required.