

The check-in experience

The curb-to-gate journey

Arriving at the airport is undoubtedly one of the most important moments of a trip away. It's when the traveler knows (hopefully), they're on time for their flight and at the right terminal. The need for such confidence cannot be underestimated; our research revealed that more than a quarter (27%) of travelers feel anxious about traffic preventing them from getting to the airport, and 23% worry about arriving at the wrong terminal.

Top concerns for travelers

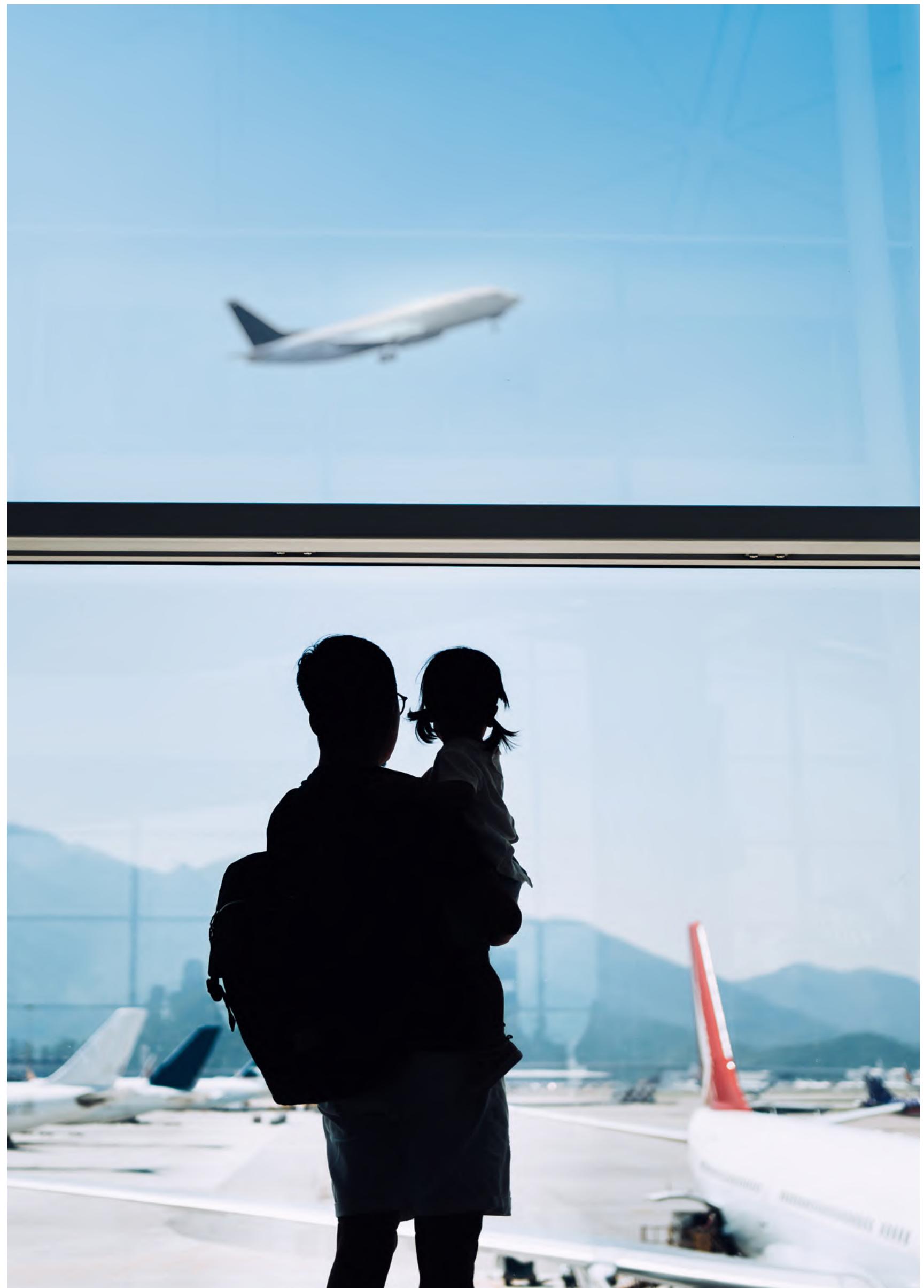
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This latter statistic demonstrates the need to prepare the traveler before they leave their house – the trip to the airport starts before the front door closes. There can't be a mismatch between what companies think travelers already know and what they *actually* know. This can easily be rectified by a more proactive sharing of information or developing knowledgeable, travel friendly chatbots on the passenger's device or on the booking website.

Once at the airport, smooth, fast check-in is critical in ensuring a seamless next step in the curb-to-gate journey.

As a result, it's an area that has seen a significant amount of investment and innovation to drive the transformative change necessary. Again, research proves this need, with

26%

of travelers citing long queues for check-in as a point of anxiety during a journey. Dissipating these nerves brings a significant amount of relief.

Thanks to new, transformational technologies, we are likely to see the traditional check-in disappear altogether in many places.



Biometrics reign supreme

Arguably the most critical part of the infrastructure transforming the airport experience is the evolution of biometric solutions. These focus on identity verification through physical traits such as fingerprints, facial recognition or iris scans – traits which are very difficult to hack, and mostly connected to government issued electronic travel documents.

The use of biometrics accelerates check-in and acts as a foundation for movement and access throughout the airport, including security, border control and boarding. It enhances safety, reduces manual document checks, and streamlines passenger flows,

creating a faster, more secure and convenient journey for the traveler.

In mid-2024, Curaçao Airport launched the world's first pre-flight biometric digital ID verification - the Curaçao Express Pass - for contactless border crossing. It's powered by Airside, an Entrust company, that specialize in privacy-based digital identity sharing in combination with Amadeus' Identity and Border Management Platform and eGates at the border. The initiative allows travelers prior to their journey, to share government trusted and verified ID with immigration authorities at the destination.

This means that on disembarking the plane on their way to immigration, the passenger's passport and biometric data were already shared with the immigration system, using the traveler's smartphone. They can then access a separate enhanced immigration lane where facial-matching technology allows travelers to simply walk through immigration with back-end clearance from the authorities.



Passenger-first experience

Self-service solutions and the application of biometrics are expected to revolutionize the airport experience. In fact, at JFK International Airport Terminal 4, the check-in process has already been reduced to just over a minute, and bag drop even less. This significant cut to wait times has been achieved following the installation of kiosks and self-service bag drops as part of a major transformation project with Amadeus.

This drastic reduction is bringing a new dimension to the airport experience.

With more travelers using self-service options, this frees up agents to focus on supporting passengers who require special assistance or have specific requests, offering a differentiated experience.

In this regard, the solutions act as a filter to help those who need it, rather than everyone struggling to align with the identical processes involved with manual check-in. By offering passengers the choice to use automation or traditional agent-led servicing, terminal infrastructure can be fully optimized. This results in more pleasant terminals designed around leisure activities, where agents can roam and serve passengers from a tablet device.

“We’ve created an open floor concept where passengers are free to come in, do their transaction and leave at their own pace.”

Joshua Diamond

Manager, Capacity and Automation (Operations), JFKIAT

“They check-in, drop their bags and off they go on the rest of their journey without really having to stop.”

Susana Desa

VP, Operations, JFKIAT

“We’re more efficient operationally, and this brings a lot of smiles to our customers.”

Edmund Quintana

Senior Project Manager (Terminal Redevelopment), JFKIAT



Scaling biometrics for seamless travel

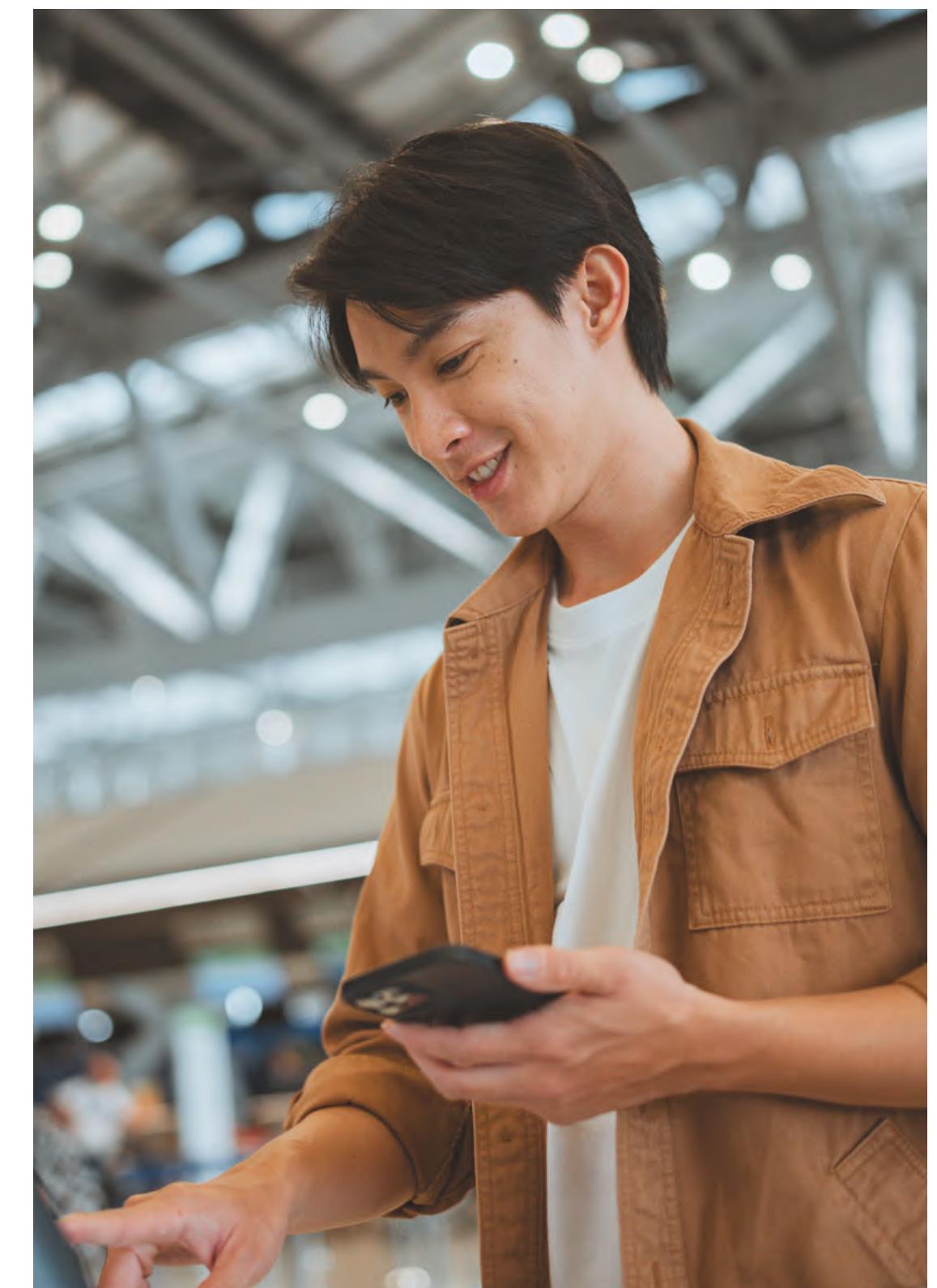
Dubai International Airport offers a compelling example of how biometric and self-service solutions can be scaled to support a seamless curb-to-gate experience. This is a result of over a decade's worth of investment in the technology as part of the city's ambition to become one of the top three tourism destinations by 2030.

This target simply can't be achieved without a cutting-edge airport through which to welcome visitors. As a mark of the progress toward this goal, the airport became the world's busiest in 2024 with over 92 million international passengers – a figure achieved while concurrently investing in innovation and building future-proof technology solutions.

The solutions that enable this growth come through a collaboration with Amadeus, and forms the center point in a collaborative ecosystem spanning the airport, Emirates and the Dubai government. Across

the stakeholders, the airport provides more than 300 biometric touchpoints, including Automated Border Control gates, and a wide range of self-service kiosks, bag drops and boarding gates. The result is a more efficient and streamlined experience for the thousands of passengers passing through the terminal every day.

The shared focus on innovation and operational efficiency has allowed Dubai to integrate biometric systems in a way that supports both scalability and passenger satisfaction. As the airport continues to expand its capabilities, it provides a useful reference point for other hubs exploring similar digital transformation strategies.



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Scaling self-service for efficiency and accessibility

Heathrow Airport, the UK's busiest aviation hub, has undergone a significant transformation in recent years by embracing self-service technologies to streamline passenger processing. With nearly 85 million passengers passing through in 2024, the airport faced mounting pressure to improve operational efficiency and enhance the traveler experience.

Managing this significant growth in passengers has been eased through self-service check-ins and bag drop – without compromising existing quality of service and uptime.

Since its initial pilot of Auto Bag Drop units in 2012, more than 260 self-service bag drop units have been deployed across Terminals 2, 3, 4, and 5, supported by over 250 check-in kiosks. This is facilitating faster movement around the terminal (in July 2025 alone, Heathrow recorded approximately 1.4 million combined kiosk transactions and bag drops).

At peak times, Heathrow's bag-drop units have processed up to 1.5 bags per second, demonstrating the scalability and reliability of the system. These touchpoints, powered by Amadeus, handled over 13 million passengers in 2024, contributing to smoother flows and reduced congestion across terminals.

The shift to automation has not only improved throughput but also allowed airport staff to focus on assisting passengers who require more personalized support. This human touch element of technology is critical when looking at the impact of solutions; here, staff can spend more time with those who need it while others breeze through. It's effectively optimizing customer engagement.

Heathrow's journey reflects a broader industry trend toward self-service and automation as enablers of transformation. By investing in scalable, inclusive technologies, the airport has positioned itself as a leader in modern passenger processing - balancing efficiency with accessibility and setting a strong example for other global hubs navigating similar challenges.