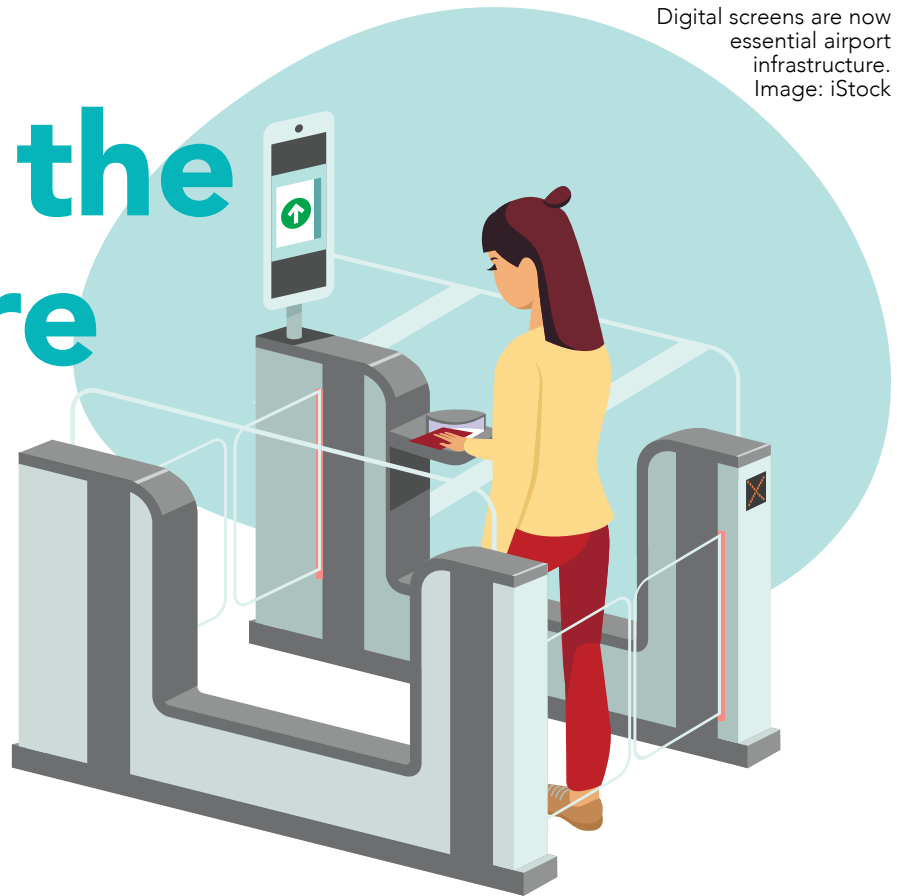




Part of the furniture

Digital screens are transforming airports into seamless, intuitive spaces – guiding passengers every step of the way with real-time, relevant information. Paul Sillers reports.



Digital screens are now essential airport infrastructure. Image: iStock

From kerbside to gate, digital screens are now essential airport infrastructure. They guide vehicles, manage passenger flow, and influence behaviour – functioning as tools for navigation, reassurance, and crowd control. Their impact depends on thoughtful placement and use. And when deployed effectively, digital signage reduces friction, delivers timely information, and improves the passenger experience. In a time-sensitive environment, smart screens help keep everything moving smoothly.

BESPOKE DISPLAYS

Samsung is one of the key players in this space and provides a range of screen technologies designed for different parts of the airport, each chosen to suit specific environmental and operational needs.

For outdoor locations like car parks and terminal entrances, Samsung's XHB (extreme high-brightness) Series LED

displays are used. These are high-brightness screens (up to 8,000 nits) that remain readable in direct sunlight.

With an IP66-rated design (Ingress Protection rating 66, a standard indicating that a product is protected against dust and weather) they're suitable for exposed areas where visibility and durability are important, helping to display guidance information, alerts, and advertising before travellers even enter the terminal.

Inside terminals, IF and IFA Series (indoor fine pitch) displays are used in places like check-in areas, departure halls and commercial zones. These use fine-pixel LED technology to show clear visuals with high contrast and colour depth.

Their modular design allows them to form large, seamless displays – useful for flight information, promotional content, or architectural integration in crowded indoor settings. (IF series

displays are used for the 360-degree display at Aukio, Helsinki Airport's extension.)

For more functional tasks, PHF and PMF (professional high-brightness and professional medium-brightness) Series UHD and FHD displays are installed at self-service kiosks, security checks and boarding gates.

These are designed to reduce glare and resist dust, offering reliable performance in areas with continuous use and frequent interaction.

Samsung's QHB, QMB and QBB displays (part of Samsung's Q-series of commercial 4K displays) are also used across the terminal – for example, at check-in desks, wayfinding points, or back-office environments.

These provide 4K resolution and can be installed vertically or horizontally, making them a flexible option for various airport signage needs.



Self-service kiosks and bag-drop points support check-in and boarding. Image: Amadeus

Samsung notes that 90 per cent of travellers report greater satisfaction when digital tools help them move through the airport, and 82 per cent are open to sharing preferences in exchange for better service.

This suggests that travellers not only expect digital engagement, they value it as part of the core journey.

INTELLIGENT INTERACTIONS

While display technologies evolve, it's not just the tech that counts. Airports are also rethinking how passengers interact with technology, and screens are central to that transformation.

Amadeus offers both on-site and off-site tools designed to support more efficient passenger journeys. A key part of this shift is the increasing role of personal devices.

Alessandro Minucci, Director Product Management for Seamless Travel at Amadeus AirOps, says: "We consider one of the key screens to be the traveller's smartphone screen. This is set to become the primary interface for travellers, connecting their personal device to the travel journey ecosystem – kiosks, gates, etc."

The company's Amadeus Travel Ready tool reflects this move towards early-stage, mobile-led interactions within the airport environment.

At the terminal itself, Amadeus's "Seamless" product family (Seamless Kiosk, Seamless Bag Drop, Seamless Pod, and Seamless Gate) has been

developed with a focus on accessibility and adaptability. These systems are intended to cater to a wide range of traveller profiles, supporting common processes such as check-in and boarding without requiring staff involvement.

One example of this is JFK Terminal 4, where Amadeus is providing a set of self-service kiosks and bag-drop points.

"Passenger wait times have been reduced to one minute at kiosks and 43 seconds at bag drop," says Minucci.

While these figures offer a snapshot, they suggest a measurable impact on efficiency at high-volume touchpoints.

A RACE TO THE OLYMPICS

In Brisbane, preparations for the 2032 Olympic and Paralympic Games include a broader move towards self-service, with Amadeus contributing technology in areas such as biometric bag-drop, automated border checks, and boarding.

Screens play a central role in identity management systems and are linked to biometric inputs rather than just static data displays.

Looking beyond current deployments, Amadeus is also exploring how traditional screen-based interactions might be redesigned.

"We think there is an interesting opportunity for an evolution of touchscreens, that can sometimes deliver a frustrating user experience," says Minucci.

New forms of interface are being explored, such as the company's experimental passenger assistance avatar,

Curaçao's biometric pre-flight border tech

Last year, Curaçao launched the Curaçao Express Pass, a digital ID system that allows travellers to cross borders using biometric verification before they fly.

The system enables travellers to upload their e-passport and facial biometrics using a smartphone app, with immigration processing completed via facial recognition at seamless gates on arrival.

Screen technology is central to the experience. The initiative integrates Vision-Box's Seamless Journey Platform (currently being integrated under the Amadeus umbrella), which orchestrates biometric matching in real time, and Airside's Digital Identity App, which facilitates consent-driven, time-bound data sharing.

The result: minimal queuing, faster throughput, and a contactless journey underpinned by privacy-by-design architecture.

Backed by Curaçao Airport Holding and the Ministry of Justice, the Express Pass follows ICAO digital credential standards and is designed to double processing capacity while improving security.

which was presented in prototype form at this year's Passenger Terminal Expo.

"This is a screen-based conversational avatar which assists passengers with common tasks like answering questions about the airport, terminal facilities and flight-related information," Minucci explains, adding that the avatar appears on a vertical screen and responds to voice queries.

"The user can ask a question. Speech-to-text converts the question to an LLM (Large Language Model) request, augmented with additional information – flight info, airport info – and the



Screen tech

response is rendered in real-time by the on-screen avatar.”

This type of application reflects a broader trend. As passengers grow more comfortable using AI-driven tools and airports seek to reduce human bottlenecks, interactive screens – whether on phones, kiosks or avatars – are being rethought as two-way interfaces rather than just digital signage.

INTUITIVE DESIGN

A new biometric eGate from HID and ASSA ABLOY is showing that airport security doesn't have to look intimidating or feel clunky.

The BG100 Speedgate, now a Red Dot Award winner for Product Design 2025, blends advanced facial recognition with a clean, modular aesthetic that's built for modern terminal environments.

The system is built around the HID Facepod, a compact all-in-one facial recognition unit. At its centre is a high-resolution multi-touch screen, paired with intelligent LED guidance, that is designed to make self-service intuitive – whether for check-in, boarding, or lounge access.

The screen isn't just a user interface – it's a key part of how the gate communicates and reassures, helping passengers move through quickly without confusion.

The BG100 is designed to reduce friction for both travellers and airport operators. With integrated document reading, fast biometric matching, and support for touchless processing, it is already helping airports streamline key pinch points.

It also includes built-in deterrents for tailgating, piggybacking and reverse entry – essential features in high-traffic zones.

Visually, the Speedgate breaks away from the industrial look typical of airport hardware. It comes in various colours and sizes to suit different interiors, and its slim, modular build makes it easy to install and adapt.

Robert Sutton, Director, Solution Enablement, Aviation/Travel, Biometric Identity Technologies at HID, says: “By integrating advanced facial recognition

Biometric eGates don't have to look intimidating or feel clunky. Image: HID



with an intuitive touchscreen, the HID Facepod streamlines identity verification across key airport checkpoints – from self-check-in and bag drop to security, lounge access, and boarding – while minimising the need for physical interaction.

“Its responsive multi-touch displays allow both passengers and airport staff

to navigate identity verification processes with ease, offering real-time access status updates through clear visual cues and smart LED indicators surrounding the screen.

“This seamless interaction not only accelerates passenger throughput but also reduces confusion, contributing to a more secure, hygienic, and stress-free airport experience.” ■

Smoothing the way

Screen tech only eases the passenger's journey if the content displayed is relevant and timely.

When navigating an airport, what appears on the screens can make or break a passenger's experience.

Finavia's new 3D map of Helsinki Airport, released in June this year, recognises that need. It places accurate, accessible information directly in the hands of travellers, when and where they need it most.

Available via QR codes displayed throughout the terminal and online, the interactive map gives passengers a dynamic tool for planning their journey through the airport in real time.

Designed with usability at its core, the map offers a fully rotatable and zoomable 3D model of the terminal, helping users visualise their route clearly – whether they're heading for a specific gate, a preferred café or a must-visit shop.

Integrated flight information allows passengers to enter a flight number or

destination to locate their gate and explore services nearby, complete with opening hours.

A point-to-point navigation feature calculates distances and travel times and even offers an accessibility option to avoid stairs or escalators.

Crucially, this is about more than convenience. It's about trust and confidence.

As Hanna Hämäläinen, Director of Passenger Services at Helsinki Airport, puts it: “We hope the new map will further enhance the excellent passenger experience.”

By embedding screen-based navigation and real-time content into the physical environment of the terminal, Finavia is underscoring the value of digital tools that inform, guide and reassure.

Whether preparing ahead or reacting on the fly, travellers rely on what the screens show. Helsinki Airport's latest upgrade ensures that what they see is accurate, useful, and just a tap away.