



Going paperless

Ink Innovation's Ink Touch app enables passengers to check in anywhere and print compliant bag tags and boarding passes.

From bank cards to train tickets and even car keys, the digital wallet is transforming how we carry essential items. Grace Hardy investigates how this technology is set to revolutionise the airport experience by reducing the need for physical documents.

The concept of digital wallets is steadily gaining traction around the world, often linked with biometrics. While these processes can vary between airports and tech developers, there is a common goal: to create a seamless, document-free and efficient travel experience.

Muehlbauer, a developer of ePassport software and tech solutions, is currently working on proof of concepts for its Seamless Travel Corridor.

This system uses a three-camera set-up linked to a back-end system containing passenger information that performs facial checks on passengers, notifying

immigration officers about non-registered passengers or passengers who require a manual verification.

Lutz Richter, Head of Information Systems at Muehlbauer, says: "The advantage of the corridor is the contactless verification of travellers in motion with a shared verification credential in a reduced space compared to traditional ABC solutions. It also allows for the processing of people with disabilities accompanied by a carer and families with children, who have often been excluded from automated screening."

A FULL SUITE OF SOLUTIONS

Meanwhile, aviation technology leader SITA has developed the SITA Smart Path, a biometric solution that uses facial recognition to allow passengers to navigate seamlessly through the airport without the need for physical documents.

From check-in to bag drop, security, lounge access, shopping, and boarding, passengers can rely entirely on facial recognition.

There is no need for a complete airport overhaul with this technology – SITA retrofits the airports' existing infrastructure with standard biometric-enabled kiosks, bag drop units and e-gates.

The solution speeds up passenger flow, reduces wait times, and enhances security, while reducing operational costs by automating processes, which allows staff to focus on higher-priority tasks.

Airports including Beijing Capital

International and Hamad International have already implemented SITA's solutions, reporting marked improvements in passenger satisfaction and operational efficiency.

Additionally, SITA has its Digital Travel Credential (DTC), a digital passport that is stored on a passenger's personal device and verified at various touchpoints. Government agencies also benefit from DTCs due to enhanced identity verification efficiency, reduced fraud, and optimised overall safety.

Automated Border Control (ABC) gates are another SITA solution, using biometrics to match a passenger's face with their digital identity and enabling faster passenger processing by up to 60 per cent.

INTEROPERABILITY IS KEY

When combined under SITA's Digital Travel Ecosystem, these solutions allow interoperability, enabling digital identities to be verified across all steps of the travel journey.

Jeremy Springall, Senior Vice President, Border Management at SITA, says: "As airports get ready for a surge in

passenger traffic, adopting technologies like DTCs, ABC gates and the Digital Travel Ecosystem not only help airports run more smoothly and securely but also meet the higher expectations of today's travellers. By starting small, thinking big, and delivering quick wins, the aviation industry can take steps toward a fully digital approach to travel."

Ink Innovation is another key player creating a range of hardware and software solutions including biometrics, mobile and cloud systems, and self-service devices for airports and airlines.

The amount of hardware needed varies between customers. However, Ink is working on a new concept called ZERO that would involve deploying less hardware at airports, thereby streamlining operations even further.

NAVIGATING THE CHALLENGES

However plentiful the benefits, implementing these high-tech solutions and initiating a new way of operating will inevitably cause challenges for airports, particularly around privacy concerns.

Shawn Richards, CEO and co-founder of Ink Innovation, sees hurdles arising

due to the passenger perception of data and privacy, which he believes is fed by the media's portrayal of data misuse, and which he says are not inherent to biometric systems.

Emphasising the importance of adhering to GDPR guidelines, Richards adds: "Basically, get consent before creating biometric profiles, don't misuse them for anything other than performing the service the person expects you to perform, don't carry out actions (such as marketing) with biometric profiles, and allow the person to annul them."

Stephen Challis, Smart Path Product Lead at SITA, says: "Implementing biometric systems can be challenging when it comes to ensuring compatibility with existing systems, navigating data protection regulations and managing initial costs."

SITA, he notes, is addressing these hurdles with its scalable options and use of existing infrastructure, as well as providing 24/7 support for the implementation of its solutions and ongoing guidance for operators.

BEYOND THE TECH

The International Air Transport Association (IATA) has been trialling its own digital processing solution called One ID, where passengers can be issued digital credentials to standardise and simplify the framework for biometrics in aviation.

With the roll-out of the EU Digital Identity Wallet, a large-scale project to create digital wallets for all European residents and businesses to store documents, as well as ICAO Digital Travel Credentials, IATA cautiously hopes One ID could emerge within the next five years.

A core benefit of One ID is that it doesn't use biometric kiosks to enrol passengers.

Youn Kim, Senior Manager Customer Experience at IATA, explains that the association's role will be collaborating with stakeholders to develop standards to support airports through the transition.

Muehlbauer is working on proof of concepts for its 'Seamless Travel Corridor' solution.
Image: Muehlbauer





THE HUMAN FACTOR

Looking at how airports will fare, Federico Bonaudi, Director of Passenger Facilitation at ACI EUROPE, warns that for digital wallets to succeed the critical need to train staff appropriately cannot be underestimated.

He also emphasises that passengers should have the option to use physical documents if they prefer.

Bonaudi highlights that while challenges will present themselves as digital wallets emerge, operational and IT constraints and implementing correct technologies, such as self-service bag tag and bag drop solutions, will play a role in how well airports adapt.

He says: "ACI EUROPE and its Facilitation and Customer Services Committee (Task Force Contactless Journey) is closely monitoring the legislative process and works hand in hand with the regulators and the wider aviation sector to make sure the legislation ensures a seamless passenger experience, guarantees efficient operations, and provides a high level of data security and privacy."

Bonaudi adds that governments and



SITA Smart Path uses facial recognition to enable passengers to navigate seamlessly through the airport. Image: SITA

regulators are generally supportive of digital wallets, especially after Covid-19.

Given that national authorities are creating their own digital wallets, they will comply with all EU requirements and provide passengers with a choice to use them or not.

Ink Innovation is also engaged with authoritative bodies to shape these developments.

Richards says: "We are working with one government authority to help support their strategy. In an advisory role, we can work with bodies that don't want to follow a procurement-led pathway, which inevitably leads them into the arms of incumbents."

"Ink is working on an initiative to collaborate and prototype solutions in an environment where we replace fear of failure with challenging norms and experimentation."

REGIONAL BENEFITS

The question arises: do regional airports need these digital advancements when the benefits surround high traffic operational issues or are the benefits confined to primary hubs?

Facing the future

Digital wallets can't go far without biometric technology, and Cognitec specialises in facial recognition products for airports.

Its FaceVACS-Entry solution is used for border control processes and entry/exit programmes.

The device is installable in eGates and kiosks and is currently used at 41 German airports ahead of the pending EU Entry/Exit System, as well as being installed in four other countries.

Cognitec also has FaceVACS-VideoScan, which helps monitor crowds and redirect passengers to alleviate waiting times while analysing data to optimise airport operations.

Elke Oberg, the company's Marketing Manager, says that challenges lie in logistics, and that airports should account for space in the airport, network connection, computing power, and the possibility of a full terminal renovation when considering biometric technologies.

Another factor is data protection, with airports needing to know the laws and regulations within their respective countries before making any plans.

Oberg advises conducting thorough research on vendors, taking into account "the experience of the company, the biometric performance of its technology, the provision of excellent customer

support, and the company's reputation for timely, scalable, and organised implementations of large-scale projects".

She adds: "If possible, airports should test the technology within their actual environment and with real-world data to determine biometric accuracy rates."

As airports look to the future, Oberg concludes that the Biometrics Institute is working on a guidance resource for procurement processes, outlining the considerations and best practices when choosing a biometric vendor.





Passenger processing

Ink Innovation, SITA and Muehlbauer are unanimous in saying that regional airports will reap the same benefits from digital wallets as larger airports.

"Regional airports face unique challenges, such as limited staff and space, which biometrics can help to address," says Challis.

"Regional airports in the US are already using SITA solutions to comply with international boarding requirements. Another example is the recent deal signed with the Airports Authority of India, deploying SITA Smart Path technology as part of the wider DigiYatra initiative."

However, Kim at IATA has a different perspective. She says: "Smaller and regional airports may have a lower demand for using biometrics than larger airports. But regardless of the airport



Ink Innovation has created a range of hardware and software solutions. Image: Ink Innovation

size, biometric implementation should take place based on its cost-benefit analysis."

It's safe to assume that the need for digital wallet infrastructure must outweigh the initial costs if regional airports are to reap the benefits, and with passenger traffic only ever increasing, this is certain to be the case for even the smallest of airports as time goes on.

With the forecasted growth in passenger traffic, the argument for implementing

digital wallets is becoming increasingly compelling. Passengers can expect a smoother and faster travel experience, and airports will benefit from enhanced security and operational efficiency.

However, challenges lie in the form of data concerns and costs, something that regional airports may struggle with. Visibly, the key to a successful destination is the collaboration of all stakeholders during a journey that is set to have turbulence. ■

Secure, Efficient Passenger Processing With Reliable Identity Capture and Verification Technology

Facial
Recognition

Fingerprint
Biometrics

ID Document
Readers

Ticket
Readers



Scan the QR code to learn more

