One identity – the digital passenger in the 21st Century

An interview with Neil Norman, CEO & Founder of Human Recognition Systems
Introduction

The 21st Century requires technology that automates and digitises the identity of people in some of the most demanding and highly regulated public spaces. With billions of people transiting through airports worldwide – aviation is a major sector. What is the potential future of facial recognition and biometric technology to create an efficient and seamless passenger experience? We get the answers from Neil Norman, Founder and CEO of Human Recognition Systems.

Our growing thirst for travel

According to the International Air Transport Association (IATA), commercial aircraft carried 4.1 billion passengers in 2017 - almost twice the number recorded in 2005. IATA also forecast that by 2036 the number of passengers will be 7.8 billion. The soaring numbers are backed up by the International Civil Aviation Organisation (ICAO), which says that the global air transport network doubles in size at least once every 15 years, and that it’s expected to do so again by 2030.

To cope with the stratospheric rise in commercial aviation the world needs cutting-edge airports able to manage such high volumes of passengers, with efficiency being paramount. This is where biometric technology comes in. Biometrics is defined as the measurement and statistical analysis of people’s unique physical and behavioural characteristics and it is mainly used for identification and access control.

Key Points

- IATA forecast that by 2036, the number of air passengers will reach 7.8 billion.
- If airports are going to cope with increased passenger demand, efficiency is going to be vital.
- By creating a unified passenger identity, we can provide a seamless experience for the passenger across checkpoints and improve the operational efficiencies of airports and airlines alike.
- Recent improvements to end-to-end identity technology could reduce the cost of system ownership by up to 60 percent by 2019.
Digitising passenger identities

Human Recognition Systems (HRS) is a global player in the biometrics industry and was the UK’s first multi-biometric technology company. HRS was also the first in the world to use facial recognition and iris-at-distance technology at an airport.

Late last year, HRS collaborated Dubai International Airport – one of the world’s busiest airports, which handled 88.2 million passengers in the same year. The trial focussed on the route from London Gatwick to Dubai and passengers registered into a biometric system that was separate to the main infrastructure.

Neil Norman, Founder & CEO of Human Recognition Systems says, “The Dubai / Gatwick trial was the world’s first biometric token-based Airport-to-Airport transit of a passenger. In essence, using our digital PAX ID platform MFlow and we were able to transmit a trusted biometric token of the passenger in order to aid seamless processing through transit security in Dubai.”

The MFlow product is the world’s first Passenger Operational Database and it’s a solution engineered around the passenger. It is the aviation industry’s only agnostic, end to end checkpoint management software system that integrates with multiple checkpoint vendors. It works for airport and airlines by creating and managing a shared digital token that uniquely represents a passenger at each checkpoint. Having information of passenger whereabouts helps in preventing and addressing bottlenecks and increases on-time departures.

For the passenger, it’s a stress-free experience in which there is no need to keep showing tickets and passports – once the passenger is validated, that’s it. They can then make the most of the airport experience, browse duty free or enjoy the shopping and dining options.

Expanding on the success of the Dubai project, Norman says, “There were three key learnings: One – Passengers loved it without exception due to the obvious benefits to them. Two – we navigated the complex legal matters including GDPR, and three – it highlighted the importance of an agnostic digital platform which could enable cooperative sharing of digital tokens between separate vendor biometric hardware platforms. In short, it’s a trailblazer of a trial and takes us from the talking shops of IATA to the practical world of doing it.”

MFlow is a well-proven passenger management platform, being in use at London Gatwick for years and contributing to the airport winning the Most Innovative Airport in Europe award in 2017. “Gatwick and HRS implemented the world’s first biometric PAX ID system back in 2010 and it still seamlessly processes 46 million passengers every year,” Norman says.
While our company has multiple products, Norman adds that, “My favourite innovation is our MFlow facial recognition platform. It’s a phenomenal system that passively measures passenger flows, queue times and categorises passengers by age, gender and expression. And it remains the most accurate measure of passengers passively walking through a terminal in the world.”

Commenting on the partnership, a spokesperson for Gatwick says,

“We’ve been impressed by how smoothly MFlow has enabled us to use the information gathered to understand our customers’ movements and to personalise journeys accordingly. By working alongside our existing infrastructure, we now have the advantage of leveraging existing investments to increase the use of biometrics.”

There is a passenger automation revolution on the horizon and MFlow is positioned as a leading enabler. It serves airports, airlines and passengers, creating a smooth and seamless traveller experience through all the checkpoints and keeping passengers informed through each step of their journey.

The future of the biometric airport

Furthermore, Human Recognition Systems has recently improved the system. Norman explains, “We’ve re-architected the system for launch in 2019. MFlow v6 is a transformational upgrade to our facial recognition people flow measurement platform. The new solution introduces three massive leaps forward and will open up new market opportunities. Firstly, we are introducing our new MFlow camera which is wireless and requires minimal infrastructure. Secondly, MFlow is a Cloud-based solution, requiring no on-premise server hardware. And finally, we’ve developed a new MFlow mobile App to serve real-time data to operational staff. With the enhanced data analysis introducing age, gender and expression estimation, we’ll start promoting our product into new sectors outside of airports. Oh, and it will be 60 per cent cheaper cost of ownership.”

Norman has taken his company to great heights though early adoption of biometrics and being flexible and poised as the technology has evolved. Reflecting on the development in the sector he says, “The core technology actually plateaued approximately five years ago in terms of its core purpose of identifying and matching people. The two major “tidal waves” of technological development came from the various Governmental Immigration system investments from 10 years ago, which drove core technological advancement. And then the Indian Civil ID programme that drove down core prices. More recently, across the types of biometric, only facial recognition has made any real performance and accuracy gains and this is purely down to the introduction of machine learning or AI to the algorithm development.”

Responding to whether facial recognition technology and biometrics will soon be completely commonplace, not only in airports but in other public spheres, Norman says emphatically, “It already is! The difference is that this will increase, costs will be driven down further to increase applications and it will be absorbed more and more into everyday scenarios. The
critical point is seamless integration, which is why agnostic digital platforms are important in the story of the evolution of biometrics. I predict in the not too distant future that Apple and Google will disrupt current approaches to biometric processing by leveraging the on-phone biometric capability, passing a digital token to the self-service equipment, for example E-Gates.”

As digital identities become ever more vital to 21st century societies, the easy navigation of public systems and citizen security rests in the hands of companies like Human Recognition Systems. As the company’s mission statement puts it: “We digitise people. Be it employees, subcontractors or customers, every organisation has a need to validate and manage the identity of the people it works with. We work with businesses to help passengers catch planes and workers stay safe. All through our innovative technology.”

For Further Information

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