

Aviation delves deeper into facial technology

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Biometric ID may literally be the face of future passenger processing. Marisa Garcia reports

Predicted air travel demand – 7.8 billion passengers by 2036 according to IATA – is forcing the aviation industry to push the throttle on technology that will expedite passenger processing.

This creates a challenge for aviation infrastructure – any technology used must be proved effective, and it must not jeopardise safety and security. Hence there is usually a long period of observation and hesitation before a couple of early adopters take the first bold steps forward.



In some countries, biometric identification has already become a common requirement for citizens, and airports are exploring the benefits. (Getty Images)

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Large-scale deployment of biometric technology is under way at airports around the world, but considerable evaluation is needed before these ID verification solutions become ubiquitous, and lingering questions on data protection and fraud prevention will warrant careful study. The biggest challenge in future will be system-wide integration, which, because of varying government policies and issues of sovereignty when it comes to citizen databases, will probably take a decade or longer to resolve.

Tourism sector push

The travel industry is doing its part to push aviation in the right direction. With travel and tourism contributing to 10.4% of the GDP of the global economy and supporting one in ten jobs around the planet, according to the World Travel & Tourism Council (WTTC), there is plenty of financial incentive to support more efficient global mobility.

Gloria Guevara Manzo, President and CEO of the World Travel & Tourism Council, is an ardent supporter of biometric ID as a means of simplifying the passenger journey while ensuring security. She is actively engaging with aviation stakeholders and governments to encourage co-operation on adopting biometric ID standards.

Guevara Manzo believes that air travel will become an unbearable experience unless biometric ID is adopted. "With the processes we have today," she said, "I cannot imagine being in the airport for five hours instead of three hours." She foresees that biometric ID will ultimately be universally adopted in the same way that e-tickets were. While concerns exist over security, the current methodology of passport identification – which dates back as far as the 15th century – is inherently prone to fraud, inefficient, and outdated.

"They can clone my passport, they can clone my driver's licence, but how will they clone my face or my fingerprints? Even with a 3D printer, a hacker can't print my face," Guevara Manzo argued.

Biometric security

This argument is strong but no technology is foolproof: where an advantage can be gained, a cottage industry of hackers quickly rises. Technology companies are already building businesses around identifying fraudulent biometric data. For example, US-based Crossmatch was recently selected by the Intelligence Advanced Research Projects Activity (IARPA) to enter Phase 2 of the Thor programme for next-generation biometric presentation attack detection (PAD) technologies.

"Phase 2 of Thor will see a higher concentration of software work, building upon the prototype scanners developed in Phase 1," Crossmatch senior vice-president and chief technology officer Bill McClurg said on 19 September. "The work includes developing PAD algorithms based on biometric features, artificial intelligence (AI), and machine learning that work for both known and unknown presentation attacks."

DigitalPersona Composite Authentication software from Crossmatch and related hardware solutions from the company are used in the financial, retail, commercial government, law enforcement, and military sectors.

There are other issues related to accuracy. Smartphone companies venturing into the technology have run into problems, with some reports of the Android face unlock function being fooled by a photograph of the user, and even the more advanced 3D scan from Apple – which the company claims cannot be fooled by masks– can be spoofed.

[Continued in full version...]

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