Achieve a smoother passenger process with biometrics

While it has served to increase the speed by which travellers are processed at airports worldwide, automatic passenger identification systems are still not living up to their full potential. *Future Airport* talks to Daniel Dunn, vice-president for operations in North America at **Materna**, about how the company's biometric solution helps to make the process smoother for passengers and operators.

What is Materna's overall approach to achieving a seamless passenger experience?

Daniel Dunn: Materna provides software applications for all passenger touchpoints from the curb to boarding. Our concept is to allow biometric enrolment at the first point of interaction with the passenger at touchpoints like check-in or self-bag drop, where existing applications and hardware will include biometrics.

At other touchpoints through the airport, passengers already enrolled via the biometric capture will automatically be identified, providing an additional layer of security and ease of processing for the passenger and the airline staff.

Alternative touchpoints – if biometric capture occurred at a kiosk – could include self-bag drop, security checkpoints, airline lounge access and at flight boarding. Applications at each of these will be started automatically without active passenger interaction using our biometric technology. From the passenger's perspective, biometrics are providing just the right information at the right time and place.

How does your walk-through biometric solution work?

Most of the existing biometric solutions require stationary interaction with the biometric devices, regardless of whether it is a fingerprint sensor or a face camera. With our walk-through biometric solution, that we provide together with our partner MODI, there is no need to stop in front of the kiosk/gate camera and look directly into the lens while you wait for it to take a picture. Instead, the camera systems are mounted in such a way that passengers are identified while they walk through the terminal, as if there is no biometric capture system at all.

With Materna and MODI's walk-through biometric solution, images are taken in a few milliseconds, meaning passengers needn't stop before the camera.

The matching application just needs a few milliseconds for capture and identification. To achieve this, we use high-end micro cameras with automatic adjustment and state-of-the-art biometric identification algorithms. These units work in the background, without any active passenger interaction, and thereby decrease the processing time at all touchpoints and increase throughput within the existing infrastructure.

What kind of security challenges did you need to overcome during development?

The main challenge is related to ensuring that the Materna solution solves the intended purpose of the government-mandated policy in the US; namely, that there is a need for border control to authenticate each passenger's identity based on a database matching requirements for entry and exit programmes.

For US domestic travel, the TSA requires that the passenger's government-issued ID is checked when bags are checked in. With Materna's biometrics, this check is handled quickly and seamlessly at the self-bagdrop, and can be completed and used as the method to activate the passenger's airline record and begin the self-bagdrop process.

How does Materna work with airports and airlines to help them fully integrate biometrics into their existing infrastructure?

To integrate biometrics into the passenger's journey, the infrastructure consists of two major components: hardware and software that work as one. The hardware part consists of all the kiosks, bag drops and gates where additional equipment and adaption to the common use self-service (CUSS) platform is required. Hardware only works effortlessly, however, when the software applications have been adapted to handle the biometric capture or follow-on use at passenger touchpoints.

While Materna is well known as a leader in self-service kiosks and a CUSS platform provider, we also provide CUSS check-in or bagdrop applications, and solutions for airside and self-service boarding gates.

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Additionally, our company has been the broker of roundtable meetings at airports and in the industry. As such, we understand the requirements of airlines and airport operators alike. This knowledge and experience has enabled Materna to get all parties at the table to agree on methodologies for the successful integration of hardware and software projects related to biometrics.

After appearing at the Biometric Rally in Washington, DC, in November, what are your thoughts on the future of the passenger experience in US airports?

Materna and MODI were honoured to be selected to participate in the Department of Homeland Security's (DHS) Biometric Rally in Washington, DC, earlier this year. It is encouraging to see DHS take a proactive step to understand the different biometric solutions being offered, and then allow companies like Materna and MODI to test our product with DHS. We are looking forward to a full evaluation of our solution, and anticipate significant changes to aviation security processing over the next few years based on the inclusion of biometric processing.

How does Materna plan to contribute to the TSA Checkpoint of the Future initiative?

With the inclusion of biometrics into the footprint of airports and airline passenger processing, Materna would hope that the TSA checkpoints will include lanes for processing the passengers using a biometric check and, eventually, biometrics used at all security checkpoints. We hope that biometric technology is viewed as an additional layer of security.

As we look further into the future, the next step beyond face recognition on the move will be the use of the iris as a single biometric token. However, this will require overcoming technical issues for iris detection, as well as the optimisation of matching algorithms to achieve a walk through experience based on iris identification. ■

Further information
Materna
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