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Shaping the airport of the future

Biometric services can play a key role in creating a better end-user experience for air passengers and help airports achieve digital transformation

Global air passenger traffic continues to soar to record levels, increasing by over 6% in 2018 to reach a total number of air passengers of 4.3 billion, according to the International Civil Aviation Organization (ICAO).

The ICAO also reported that 1.3 billion passengers traveled on Low Cost Carriers (LCCs), which now comprise 31% of the global total. The continued growth of air passenger traffic has put considerable strain on airport infrastructure, and some of the world's leading airports are increasingly turning to new technologies to help them manage growing passenger volumes while still delivering a high-quality customer experience.

In a recent interview, Dr. Atsushi Iwata, Vice President of Public Safety for NEC's Safer City Solutions Division, explained how biometric services can play a key role in enabling airports to better manage increasing passenger volumes, improve security and enhance the end-user experience for air passengers. He also described the key role that NEC has played in assisting airports to achieve these goals.

The interview opened with Dr. Iwata highlighting Tokyo's Narita International Airport as an industry-leading example of how an airport can leverage face recognition technology to improve its operations. "Passenger traffic at Narita has been steadily increasing for years, starting with the arrival of several LCCs and hence millions of new international passengers," he said, referring to the massive growth in international tourists to Japan. In fact, according to the Japan National Tourism Organization, over 31.2 million tourists visited the country in 2018 compared with just over 10 million visitors five years earlier. This growth has proved a challenge for all tourist infrastructure in Japan, including airports.

Dr. Iwata pointed out that 40 million overseas passengers will visit Japan in 2020 alone, and said: "Narita recently decided to implement the new 'One ID' check-in to boarding process, which uses our NeoFace biometric face recognition technology, to sustain future growth. Once deployed, the system will allow passengers who opt in to register face recognition data to proceed with baggage drop off, passenger security and screening and flight boarding without the need to repeatedly show a passport." The new service will launch in the spring of 2020 and will be one of the first in Japan.

Implementing the 'One ID' system will not only create a better user experience for air passengers, but also has the potential to offer other benefits to Narita Airport. Face recognition technology can reduce human error when checking passports and improve overall airport security. For example, the United States Customs and Border Protection (CBP) agency uses NEC's face recognition technology to verify passenger identities. Only three days after the system was deployed in Washington D.C.'s Dulles International Airport the system was able to determine that a passenger was traveling on a fraudulent passport.

Dr. Iwata noted that security is a top priority for Narita Airport, revealing that they chose NEC because it is number one in biometric technology as evidenced by its ongoing partnership with the CBP. Reducing the number of passport checks required per passenger can also reduce the amount of human labor required to process passengers, and so ease staffing needs. This is especially important in countries like Japan, which is facing a severe labor shortage.

The growth in air passenger traffic in Japan is also encouraging government agencies within airports to adopt face recognition technology. The Japan Customs has implemented electronic customs procedure systems equipped with NEC's face recognition technology to realize smooth, yet rigorous, customs clearance for all foreign visitors and travelers entering Japan. They aim to expedite and raise the efficiency of the customs clearance process by reducing the amount of questions and inspection time. Japan Customs announced that these electronic customs procedure systems have been operational at Narita Airport Terminal 3 as of April 2019, and will be operational at six major international airports in Japan from the spring of 2020.

"We are also starting to see signs of cooperation across international borders as well," Dr. Iwata added. He mentioned the recent World Economic Forum's Known Traveler Digital Identity program, which is an initiative with the goal to allow passengers to travel internationally without the need for a passport. A pilot project is underway between Toronto Pearson International Airport and Amsterdam Airport Schiphol that will allow travelers to travel between Canada and Holland using a mobile phone instead of a passport. If users consent, passenger data is shared among the airlines and immigration authorities in both locations to create an interoperable digital identity for each passenger. Dr. Iwata believes that biometric services, such as face recognition technology, are very well positioned to play a key role in such initiatives, which will "redefine the travel user experience".

The results of the 2019 IATA Global Passenger Survey show that passengers are looking to technology to improve their travel experience. Facilitating a seamless journey remained one of the top passenger priorities, with nearly half (46%) of respondents favoring biometric identification as a replacement for the passport.

The survey found that 70% of passengers are willing to share additional personal information including their biometric identifiers to speed up processes at the airport. This increases in correlation with the number of flights taken per year. The highest support for this (76%) is among fliers who travel for business, more than 10 times per year.

In addition, 46% of passengers would prefer to use biometric identification instead of a paper passport for their journey and 30% would opt to use a biometric token to board the plane.

Dr Iwata added: "In the coming years, retailers and off-airport companies, such as hotels, could also use such a platform and essentially make passport checks obsolete." Explaining why he believes NEC is very well positioned to capture this growing opportunity, he concluded: "Although NEC is a newcomer to providing end-to-end services to airports, we have strong face recognition technology and have been able to forge solid partnerships to deliver new airport solutions. We have been in the airport technology business for many years, selling our air traffic control systems and flight information display system (FIDS), and look forward to constantly increasing and improving our portfolio of airport technology solutions."

Dr. Iwata summarized the interview by stating: "We are really only at the very beginning of redefining the future of the airport using biometric services. Going forward more airports, airlines and government agencies will have the option to use one secure and interoperable platform to create a more efficient and more comfortable user experience."

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