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MALAYSIA AIRPORT DIGITAL INITIATIVE: MAKING AIRPORT SAFER AND MORE SECURE

Presented by Malaysia

INFORMATION PAPER

SUMMARY

This paper describes the extensive efforts undertaken by Malaysia to utilize facial recognition technology operated under the Malaysia Airports Holding Berhad (MAHB) Airport 4.0 Digital Initiative, which aims to transform the airport into a smart facility through Big Data Analytics (BDA) and the Internet of Things (IoT).

The goal was to build a fully integrated digital ecosystem at the airport that connects the information in real-time, aiming to reduce airport processing time as well as to provide the important security benefits that facial recognition could offer.

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1. INTRODUCTION

1.1 Aviation is one of the vast growing industries of the contemporary world as it is the only fastest worldwide transportation network available to facilitate the movement of global business. With the increasing demand for this transportation globally, technology and strategy have also been upgraded by the world aviation sector to meet its pace. We are also exposed to an enormous amount of threats. This creates the need for a stringent security system to be in place in all airports around the world, especially on knowing the possible future threats and finding better solutions on how to mitigate the risks to an acceptable level.

1.2 Since the events of 11th September 2001, the global aviation security system has been extensively reinforced in preventing and detecting terrorist attacks or any attempts to breach the airport secured area. Since then, Malaysia has adapted and established an improvement in its security systems, such as improvised baggage screening procedures, full-body scanning i.e. explosive trace and x-ray screening, restraining the number of items that each passenger can carry into the aircraft and installation of Hardened Cockpit Doors. The purpose of these improvements was to create safer travel passages for the passengers. The main focus of aviation security is to eliminate hazards and threats by mitigating the risk to air travelers and the general public posed by terrorism and criminal intrusion. New policies were developed through our new Civil Aviation Security Regulation in the year 2019. Administering and implementing these policies have offered the ability to assess and update the risk and also to determine the next course of action for Malaysian Aviation Security Management.

2. DISCUSSION

2.1 Facial recognition technology employed by the MAHB will soon be installed in the KLIA and KLIA2 terminals. The equipment can later be used in conjunction with IP-enabled CCTV to identify criminals and terrorists known to the intelligence team in order to secure personal identification at airport passenger security, check-in, border control, and boarding. The new ID system will automatically identify and verify the facial images of travelers entering and exiting the terminal. The system will help reduce the overall waiting time of each passenger in queues. Any untoward security breach would be handled immediately with the integration of the Internet of Things (IoT). This makes both passengers' experience and workers/staff at the airport more pleasant and safer.

2.2 This initiative of utilizing facial recognition technology is under the MAHB Airport 4.0 Digital Initiative, which aims to transform the airport into a smart facility through big data analytics (BDA) and the Internet of Things (IoT). One of the goals is to build a fully integrated digital ecosystem at the airport that would make it possible for people to share and connect the information in real-time, aimed at reducing airport processing time as well as providing the important security benefits that facial recognition could offer. Using face recognition technology, the effort provides passengers and authority with a single biometric identification authentication that can be used throughout the full airport experience, from check-in to the boarding gates.

2.3 Facial recognition will replace physical travel documents such as airline tickets and boarding passes for more efficient and secure passenger authentication. As a result, the process of verification for each passenger at each touchpoint is expected to be significantly reduced throughout the airport trip.

2.4 The ultimate goal of the project is to make the identification process up to six times faster, safer, and more secure during check-in, boarding, and self-service bag drops, as well as the enhanced MY Airports Mobile App that enables users to navigate intelligently through provided touchpoints at the checkpoint. With faster processing, airports would be able to increase their capacity in the same amount of time. This vast amount of real-time data will be a useful tool for authority as part of

its regulatory function to oversight activities at airports. The purpose is to enhance the quality of the information provided to regulators and enable the inspectors to collect and use data more effectively. The information from these data could be used to identify and address any problematic areas by the regulators through risk analysis. Analytics can provide root-cause insight into the effectiveness of the applied policies and procedures as well as, how efficiently unlawful interference reports and regulatory filings have been prepared. Thus, the use of face recognition software helps to streamline this process by returning investigative results in a more timely and effective manner.

2.5 **Evolution of Aviation Security Due to The Onset of Technology** - The enhanced aviation security infrastructure and facility of the project provide a new layer of visibility and situational awareness. This makes it challenging to falsify identification that is associated with the face as well as time logs of passenger entry into the Sterile Area when using point-to-point face recognition technology. This will be an enhanced security check at the facility where passenger data and facial capture are immediately known by the intelligent team. In fact, it will be possible in the future to find known risks and threats, monitor watchlists effectively, notify staff when unauthorized people are insecure areas, find and reunite lost family members, or automate alerts and notifications for more proactive and responsive security measures.

2.6 As a result of this assisted technology, regulators are able to conduct risk-based targeted surveillance and increase its effectiveness. Through targeted surveillance, priorities for high-risk groups could be set and risk factors could be predicted and mitigated, allowing regulators to allocate resources effectively and efficiently.

2.7 Hence, upon completion of the integration phase of the project, there will be increased security benefits in combating unlawful interference activities at the airport, whereby interoperable system coordination can be achieved between government authorities, airports, airlines, and aviation stakeholders.

2.8 As face recognition technology takes shape, Malaysia will be updating its National Civil Aviation Security Program (NCASP) to ensure comprehensive policies and guidance materials are developed and implemented in order to guide the stakeholders at airports and its personnel to utilize this new advancement.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to note the information contained in this Paper.

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