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## ASSEMBLY — 40TH SESSION

### ECONOMIC COMMISSION

#### Agenda Item 33: Economics of Airports and Air Navigation Services

#### IMPLEMENTATION OF SMART AIRPORTS IN INDONESIA

(Presented by Indonesia)

#### EXECUTIVE SUMMARY

This paper presents the development of smart airport implementation in Indonesia with a wide range of its policies by creating a passenger-oriented and technology-driven airport experience for passengers, airlines, and cargo based on mobile technologies development and innovative thinking to ensure ease, comfortable and sophisticated services to support airport operations.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objectives – <i>Economic Development of Air Transport</i> .
<i>Financial implications:</i>	Financial Resources will be needed.
<i>References:</i>	

## 1. INTRODUCTION

1.1 Indonesia is the largest archipelagic country and the fourth most populous country in the world, consisting of five main islands namely Sumatera, Java, Kalimantan, Sulawesi and Papua. It has a total of 17,508 islands, among which 6,000 are inhabited. It stretches 5,150 km between the Australian and Asian continental mainland, and divides The Pacific and Indian Oceans at the equator. Geographically, Indonesia is located in a very strategic position which serves as an important international trade hub, connecting North to South (Japan and Australia) and West to East (Europe, Asia, Australia, and the Pacific Rims).

1.2 The production of air transport in Indonesia has increased significantly in the recent years. Domestic passengers growth had stagnated in 2014 with growth of only 0.17 per cent but then rebounded in 2015 with a surge in growth of up to 17 per cent. In 2017 and 2018 the trend of slowing growth began to occur with growth declining in 2017 which was only 8.4 per cent followed by a decline back in 2018 which only amounted to 5.23 per cent. Production of international air transport in 2018 shows a positive trend with passenger growth of 14 per cent in which 32 million passengers transported in 2017 and 36 million passengers in 2018. At the end of 2018, the total passengers (domestic and international) in Indonesia reached 138 million people, in which based on the composition of the destination area 90 per cent is dominated by domestic passengers.

1.3 There are more than 200 airports in Indonesia; 29 main airports are operated by state owned company (namely P.T. Angkasa Pura I and P.T. Angkasa Pura II) and the rest are operated by Directorate General of Civil Aviation (DGCA), local government and private company. As the operators of main airports in Indonesia, P.T. Angkasa Pura I and P.T. Angkasa Pura II have already implemented digital technology to reduce operational cost, create better service and to ensure safety and security.

1.4 Airports Council International (ACI) estimates that increased revenues in the air transportation sector globally reach more than USD 158 billion, which encourages airport operators to invest heavily in digital technology to improve passenger services. In fact, two-third of airports in the world plan IT development as a top priority, especially technology for self-services.

1.5 The success of air transportation sector (in terms of macro economic) is measured by the contribution of its sector in the formation of Gross Domestic Product (GDP), the multiplier effect that it causes on the growth of other sectors and its ability to reduce inflation through the smooth distribution of goods and services throughout the country. Currently in Indonesia, the air transportation sector contributes for 2 per cent of total GDP. The multiplier effect caused by the air transportation sector is the provision of jobs (that have an impact on reducing poverty) and increasing the growth of tourism sector.

## 2. THE BASKET OF MEASURES

2.1 The concept of smart airport is an airport that implements and utilizes the technology needed to support operational performance and better airport services for users, namely passengers, aircraft, and cargo. The Key Performance Indicator (KPI) in the smart airport concept in Indonesia is operational efficiency, optimum capacity, and eco friendly. Services that can be provided in order to support the smart airport concept are:

- a) On Time Performance (OTP) and slot management with Airport Collaborative Decision Making (A-CDM):

Soekarno Hatta Airport - Jakarta and I Gusti Ngurah Rai Airport - Bali have implemented the Airport Operational Control Center (AOCC). In general, AOCC functions as a control center to oversee airside and landside operations and includes all arrival and departure activities at the airport. The existence of all stakeholder representatives in the same room has a positive impact on joint decision making on various operational matters that can be taken quickly and precisely as the implementation of Airport Collaborative Decision Making (A-CDM). More controlled airport operational arrangements under one control at AOCC can maximize utility services at crowded airports. This in turn can improve airport operational efficiency, such as saving the use of lights, air conditioning, electricity and more through the effective management of passengers in the boarding gate or check-in area.

- b) Passenger seamless journey through the application of the Internet of Things (IoT) in each passenger service process:

PT. Angkasa Pura II has now launched and developed the "Indonesia Airports" application specifically designed to help service users to make the best use of their time at the airports they manage, provide convenience, and improve passenger safety starting from the pre-journey phase, on-journey and post-journey. This application will also make it easier for service users to get flight information, a guide that contains information on hotels, restaurants, etc. to flight insurance. This application will be downloaded on Android Google Play and Apps Store on iOS.

- c) Reduced dwelling time through cargo handling process automation:

In some airports, the implementation of smart baggage handling system (smart BHS) can cut the chain of conventional activities of baggage handling from aircraft to passengers.

2.2 The use of Smart Security, namely Airport Security Web at Soekarno Hatta Airport, will make Aviation Security (Avsec) personnel at the airport work faster by relying on digital systems that have been implemented, especially in identifying restrictions or prohibited items. Digitizing the security system at the airport at this time can also reduce ineffective costs, without reducing the applicable security requirements. The use of this system is also expected to improve the quality of service and data processing to be more perfect for flight security and safety.

2.3 The implementation of smart airport not only improves service to passengers and stakeholders, but also increases airport operational efficiency and creates added value for e-commerce businesses in Indonesia.

### 3. **DGCA PROGRAMMES SUPPORT**

3.1 The Government shows political willingness to support the implementation of smart airports through medium and long-term strategic planning documents in order to be able to survive and develop in the digital economic era. Moreover, the support of the Government including the development of infrastructure and technology also the facilitation of creative economy. The Government also expedite the entry of investors both from within and from abroad.

### 4. **DISCUSSION**

4.1 The digital and disruptive technology has created benefits for consumers, as well as introduced opportunities and challenges for incumbent businesses, regulators and policy makers. As we recognized from the conclusion of the Fourth ICAO World Aviation Forum in Brazil in 2018, prescriptive regulatory approaches cannot keep pace with technological development and could unnecessarily hamper innovation. Therefore, as a regulator we have to place the aviation development in the heart of national development planning and accommodate the increase of air traffic demand as well as respond to the diversified needs of providers, users and consumers.

4.2 The Government should reaffirm its political willingness to facilitate the innovations on airport operations by giving tax incentives. Hence, the policy is still under in the process of in-depth review.

4.3 The regulator must strive to face the challenges of digital airports. One of the challenges is related to the preparation of human resources quality. Other challenges are the employment rate as businesses will began to do away with older employees and replace them with generation Z employess.

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