International Civil Aviation Organization

Eighth Meeting of the Aerodromes Operations and Planning Sub-Group (AOP/SG/8)

Bangkok, Thailand, 15 to 19 July 2024

Agenda Item 7: Airport Innovation and Technology

BAGGAGE HANDLING SYSTEM OPTIMIZATION AND AUTOMATION

(Presented by Republic of Korea)

SUMMARY

This paper presents the initiatives on Baggage Handling System (BHS) Optimization and Automation at Incheon International Airport, which has reported a total of 154 mishandled bags over the past five years, equating to a rate of 2 mishandled bags per million. The application of optimized tools and the introduction of automation processes are necessary to maintain this achievement, especially with the completion of the phase 4 construction project.

1. INTRODUCTION

1.1 With the number of airline passengers showing a recovery trend from COVID-19, the operation and maintenance of airport facilities have become crucial. The Baggage Handling System (BHS) at Incheon International Airport is a critical component, and it has demonstrated high performance with a low number of mishandled bags, recording only 154 mishandled bags in the past five years, which corresponds to 2 mishandled bags per million.

2. DISCUSSION

Current Challenges in Operation Readiness Post-Construction

2.1 Incheon International Airport's phase 4 construction project, aimed to be completed by November 2024, involves extending Terminal 2 rather than building a new terminal. This extension necessitates the integration of the current system with the new one, all while ensuring the ongoing operation of the existing system. Integration began last year, and the goal of conducting both operation and integration simultaneously is progressing successfully.

Optimization Tools for System Operation

2.2 To ensure the continuous high-quality operation of the system, the operations team has developed several optimization tools. These tools enable operators to monitor the flow of baggage and the system's status in real-time, and to track the path or position of specific bags.

Automated BHS

2.3 In line with the trend of Digital Transformation, the BHS Operations team has been working towards implementing a 'Fully Automated BHS'. Currently, efforts are being made to incorporate robots into the system to handle tasks that are hazardous or difficult for humans to perform.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper and share best practices and technological advancements in BHS optimization and automation.

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