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**Agenda Item 5: A-CDM Operations and A-CDM/ATFM Integration**

# COOPERATION BETWEEN CHINA AND EUROPE IN AIRPORT COLLABORATIVE DECISION MAKING

(Presented by CHINA)

**SUMMARY**

This paper presents the cooperation between China and Europe in the field of airport collaborative decision-making since 2019. Under the European-China Aviation Project Plan, China and Europe will start with comparative and differentiated research on A-CDM, conduct on-site inspections, write research reports, hold workshops and other activities, and form the "A-CDM Implementation Study Report".

## 1. INTRODUCTION

1.1 Airport Collaborative Decision Making (A-CDM) is an operational system proposed and developed by Eurocontrol, suitable for the integration of airside and ground side operations at airports. The Civil Aviation Administration of China (CAAC) and the European Aviation Safety Agency (EASA) attach great importance to the implementation of A-CDM. In accordance with the Global Air Navigation Plan (GANP) of ICAO, they have developed their own implementation manuals and technical standards. With the support of stakeholders, as of May 2024, 41 airports in China and 33 airports in Europe have implemented A-CDM operations.

1.2 In 2019, CAAC and EASA jointly carried out the EU-China Aviation Partnership Project (EU-China APP), aimed at strengthening the economic partnership between China and the European Union in the field of civil aviation, and conducting technical cooperation and policy dialogue in areas such as safety management, airworthiness, air traffic management, general aviation, drones, environmental protection, and new technology applications. Based on the EU-China APP framework, China and Europe have carried out a series of A-CDM activities.

1.3 When formulating the EU-China APP work plan, CAAC and EASA held extensive consultations and discussed in detail the specific cooperation content in various professional fields of civil aviation. Regarding cooperation in the A-CDM field, considering that both parties have developed implementation standards for A-CDM technology and have multiple airports operating A-CDM, cooperation in this field will start with comparative and differentiated research on A-CDM between China and Europe.

## 2. DISCUSSION

On-site visit

2.1 The two sides of China and Europe have determined the ideas and content for comparative and differentiated research on A-CDM, mainly including: selecting airports operating A-CDM as examples, conducting on-site inspections of the A-CDM operation of sample airports, writing research reports, and holding workshops to develop work plans.

2.2 Determine the sample airport - After two rounds of communication in September and October 2018, both parties confirmed Amsterdam Schiphol Airport and Guangzhou Baiyun Airport as sample airports for A-CDM comparative research.

2.3 In September 2019, the European side selected three experts to conduct on-site visit at Schiphol Airport in Amsterdam, Netherlands. During this period, European experts met with all partners involved in the development and implementation of A-CDM at Schiphol Airport, visited the Schiphol Airport Operations Center, discussed performance measurement standards with stakeholders, and potential future developments outside of A-CDM (such as the Airport Operations Center APOC, Airport Operations Plan AOP, etc.)

2.4 In November 2019, three European experts conducted a 5-day visit at Guangzhou Baiyun Airport. During this period, European experts visited the Guangzhou ACC, China Southern Airlines Operation Control Center, Guangzhou Baiyun Airport Operation Control Center, and apron (including apron and ATC towers) to gain a detailed understanding of the use of functions such as A-CDM system data sharing, milestone management and time prediction, ground release sorting, A-CDM and flow management system (ATFM) data interaction, as well as the organizational structure of Guangzhou Baiyun Airport Operation Management Committee and its flight classification and disposal, key resource coordination, and implementation of adverse conditions operation procedures.

Hold a workshop

2.5 Write a research report- From December 2019 to January 2020, European experts compiled detailed on-site visit data, consulted relevant information from organizations such as the ICAO, EASA and IATA, and completed a comparative and differentiated research report on China Europe A-CDM - the "A-CDM Implementation Study Report".

2.6 Convene a workshop - After completing the A-CDM Implementation Study Report, it was originally planned to hold a workshop from February 26 to 27, 2020 to share with you, but it was postponed due to the COVID-19 epidemic. After multiple communications, the China Europe A-CDM Comparison and Differentiation Research Workshop was held in Chengdu, China from May 22 to 23, 2024. During the workshop, the two sides discussed the latest development of China Europe A-CDM, airport wide management, intelligent operation, airport digital twins, and other issues. They also discussed and formed conclusions on the 24 suggestions proposed in the A-CDM Implementation Study Report.

A-CDM Implementation Study Report

2.7 The A-CDM Implementation Study Report consists of 16 chapters, mainly including background introduction and executive summary, research methods, introduction to A-CDM implementation in China and Europe, detailed comparison of 8 dimensions, regional/country harmonization, recommendations and conclusions, etc. Among them, comparative studies on 8 dimensions include:

2.7.1 Implementing regulations for A-CDM - The report lists the policy provisions for promoting the development and implementation of A-CDM at the government level between China and Europe, as well as the A-CDM certification procedures for both sides.

2.7.2 A-CDM development and implementation- The report describes the time required and reference technical standards for the completion of A-CDM construction at airports between China and Europe.

2.7.3 Involvement of major stakeholders- The report compared the main responsible parties for A-CDM construction, with China being the airport management agency and Europe taking various forms (such as air traffic control units leading or airport management agencies leading); This article describes the "Operations Management Committee" model adopted by Chinese airports, which integrates ANSP, airlines, ground services, fuel and other units to form a three-level organizational structure, namely the strategic level, management level, and execution level.

2.7.4 A-CDM communication plan and training- The European airport website releases the A-CDM concept and training plan, while the Chinese airport website releases flight updates.

2.7.5 Information exchange and data sharing- Both A-CDM parties have achieved data sharing among stakeholders locally; The Chinese side has developed a national operation data sharing platform for data sharing between ANSP, airlines, and airports, promoting the development of A-CDM in China; Europe adopts a centralized approach, which centrally manages flight plans and airspace, as well as implements flight flow management based on agreements between member states.

2.7.6 The role of technology in A-CDM - The report describes the advanced technologies adopted by Guangzhou Baiyun Airport to promote the implementation of A-CDM, including hardware servers, user terminals, handheld intelligent terminals, and onboard units (OBUs); Guangzhou Baiyun Airport has developed an airport operation management information platform, which enables data sharing and interaction between internal and external information systems of the airport; Guangzhou Baiyun Airport has specially deployed high-speed wireless networks to support high-speed real-time data exchange and high-definition video transmission, achieving high-speed mobilization of airport ground support resources.

2.7.7 Performance indicators- European experts believe that direct comparisons between Chinese and European airports are inappropriate, as different performance indicators and measurement techniques can make such direct comparisons unreliable and misleading; The report analyzed the indicators of normal takeoff rate, average short-term takeoff delay time, and long-term delayed flights at Guangzhou Baiyun Airport, and the improvement before and after the implementation of A-CDM; Listed the improvement of indicators such as ground average taxi time, flight punctuality, and CTOT compliance after the implementation of A-CDM at Amsterdam Schiphol Airport, analyzed the reduction of carbon emissions and the economic benefits it brings.

2.7.8 Strategic supervision and management- The report describes that the implementation of European A-CDM requires support from stakeholders to sign memorandums of understanding and appropriate service level agreements. The European A-CDM Implementation Manual provides airports with a template for such documents; The Guangzhou Baiyun Airport Operation Management Committee has formulated a charter, which stipulates the responsibilities of the committee, its management, and all members of the executive team to carry out resource allocation, efficiency optimization and research, problem solving, inspection, and evaluation.

## 3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) discuss any relevant matters as appropriate.

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