



## ASSEMBLY — 40TH SESSION

### TECHNICAL COMMISSION

#### Agenda Item 30: Other issues to be considered by the Technical Commission

#### IMPLEMENTATION OF AIRPORT COLLABORATIVE DECISION MAKING (A-CDM) IN INDIA

(Presented by India)

#### EXECUTIVE SUMMARY

At busy airports, it is very common to see long queues of departing aircrafts at runway holding point waiting for take-off. Airports Authority of India has developed an in-house A-CDM system to mitigate this issue. After successful implementation of the system at high density Indian airports, Airports Authority of India is looking forward to assist enthusiastic ANSPs / Airport Operators to implement this system. This Working Paper presents India's proposal for implementing A-CDM system globally in general, and Asia Pacific Region in particular.

**Action:** The Assembly is invited to:

- a) appreciate the advantage of early implementation of A-CDM at busy airports for improving operational efficiency;
- b) note the proposal of India in providing support for software, installation, commissioning, training etc. to willing States; and
- c) encourage States to adopt an A-CDM model of India through the transfer of knowledge.

<i>Strategic Objectives:</i>	This working paper relates to the Air Navigation Capacity and Efficiency Strategic Objectives.
------------------------------	--

<i>Financial implications:</i>	Nil.
--------------------------------	------

<i>References:</i>	ICAO Doc 9971, <i>Manual on Collaborative Air Traffic Flow Management</i> APAC Seamless ATM Plan v5.0
--------------------	--

## 1. INTRODUCTION

1.1 The objective of the Airport Collaborative Decision Making (A-CDM) project is to improve overall efficiency of airport operations at busy airports. The primary focus is on reducing aircraft holding delays at runway holding-point. This results in substantial saving of aviation fuel and reduction in carbon emissions. This is achieved by improving the decision-making process by sharing of relevant processed information among aviation stakeholders.

1.2 At the time of the survey the APAC Seamless ATM Plan, Version 2.0, September 2016, included the expectation that all high-density aerodromes (aerodromes with more than 100,000 aircraft movements per annum) should operate an A-CDM system serving the Major Traffic Flow (MTF) and busy city pairs.

1.3 Airports Authority of India took up first A-CDM project development for Mumbai Airport. All the project activities viz. software development, network design, hardware planning, live testing, implementation and software maintenance were completely done by an in-house team of Airports Authority of India (AAI).

1.4 There are two Blocks of A-CDM including B0-ACDM Airport CDM and B1-ACDM Enhanced Airport CDM. The B0-ACDM combines and reconciles efforts of aviation entities in-and-around an airport to achieve an effective and efficient turnaround process. As the upgrade from B0-ACDM, B1-ACDM Enhanced Airport CDM will pave the way towards a cross-border network of collaborative ATFM that the node-based decision making process at the airport will be enhanced by sharing up-to-date relevant information and by taking into account the preferences, available resources and the requirements of the stakeholders at the airport.

1.5 To achieve the aims of B1-ACDM, the implementation phase of B0-ACDM should be ideally interoperable-by-design that A-CDM is not only a local system serving an airport but also a node with adequate capabilities and features for integration with domestic air traffic flow management and interoperability with other systems of the cross-border net-centric air space.

## 2. DISCUSSION

2.1 Noting the experience of States / administrations gained from the implementation of A-CDM and recognizing a collaborative approach in the implementation of A-CDM would lead to the optimization of airport operations which contributes towards achieving seamless ATM in the APAC Region, the 54<sup>th</sup> DGCA Conference encouraged States / administration to:

- a) work towards harmonization of A-CDM practices in the APAC Region and to participate in the ICAO Asia Pacific A-CDM/TF; and
- b) implement A-CDM taking into account the cross border ATFM operations.

2.2 The Government of India's Civil Aviation Policy also mentions the need of A-CDM implementation at all major Indian airports for promoting sustainable aviation by reducing congestion. In-line with these guidelines, AAI took initiative to implement A-CDM at Mumbai Airport which is operational since 10-12-2015. Subsequently, A-CDM system has already been made operational at Kolkata and Chennai Airports. A-CDM implementation at Ahmedabad, Jaipur, Guwahati and Trivandrum Airports is in the final stages. Data integration between Mumbai, Kolkata and Chennai A-CDM sites and ATFM has also been achieved.

2.3 India and the Civil Air Navigation Services Organisation (CANSO) had provided a summary of the results from responses to ICAO, APA-CDM survey questionnaire and conclusion drawn from the survey results in the second A-CDM Task Force meeting.

2.4 India, at the APAC Task Force Meeting, provided an overview of the A-CDM platform developed by the Airports Authority of India (AAI), and the experience gained from implementing A-CDM at busy Indian airports, that includes Mumbai, one of the world's busiest single-runway operations airports, which could achieve 54 ATM per hour. Information was provided on the features of the system, objectives, data sources, system output and information display, project milestones, challenges, solutions and benefits.

2.5 AAI is ready to offer the software driven system to willing ANSPs / Airport Operators globally, for software, installation, commissioning and training in implementation of A-CDM projects through sharing of expertise gained in its A-CDM projects.