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ASIA AND PACIFIC REGIONS**

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**AGENDA ITEM 3: AVIATION SAFETY AND
AIR NAVIGATION**

**CANSO EFFORTS IN
AIRPORT COLLABORATIVE DECISION MAKING**

(Presented by the Civil Air Navigation Service Organization)

SUMMARY

Close partnership among airports, airspace users and Air Navigation Service Providers (ANSPs) to reduce congestion and delays is key to improving safety and efficiency at airports. The success of such partnerships is demonstrated through the application of Airport Collaborative Decision-Making (A-CDM). This paper describes the efforts of CANSO in helping States and ANSPs implement A-CDM and provides a preview of its future work to support and encourage ANSPs to actively participate in A-CDM implementation both globally and in the region.

CANSO EFFORTS IN AIRPORT COLLABORATIVE DECISION MAKING

1. INTRODUCTION

1.1 Today, almost half of the world's top 20 airports for passenger and cargo traffic are in the Asia Pacific Region. With over a billion passengers travelling by air annually, the Asia Pacific Region accounts for over 30 percent of global air traffic. As air traffic continues to rise, the development of close partnerships and collaboration among stakeholders such as airport operators, airspace users and ANSPs is key to the reduction of air traffic congestion and delays and the improvement of flight safety and efficiency.

1.2 This partnership is demonstrated through the concept of airport collaborative decision-making or A-CDM in short. A-CDM is a process involving the sharing information between the main stakeholders based on the establishment of collaborative working methods and practices. It is an important element of the ICAO Aviation System Block Upgrades (ASBU) aimed at improving airport operations and overcoming the problems of congested airports.

1.3 As ANSPs play a critical role in ensuring the safety and efficiency of flight operations CANSO has established an A-CDM Subgroup under its Air Traffic Flow Management Work Group within the Operations Standing Committee to support and facilitate the effective implementation of A-CDM among its Members. This paper describes the efforts undertaken by CANSO on A-CDM globally and in the region.

2. DISCUSSION

2.1 The concept of airport collaborative decision-making began more than a decade ago with A-CDM in Europe and its equivalent (Surface-CDM) in the USA with the objective of optimising operations at airports through effective collaboration among its stakeholders. It requires a change of mind-set and working methods involving the main stakeholders of an airport which includes, at a minimum, the ANSP, airport operator, ground handlers, and the airspace users. Successful implementation of A-CDM therefore requires a paradigm shift from individual stakeholder performance to overall system performance.

2.2 The objective is to improve the performance and overall predictability of airport operations by enabling the key stakeholders to work together as a team for mutual benefit through the transparent sharing of information. The process which starts with the establishment of collaborative working methods and practices is now a well- documented concept that is accepted worldwide and supported by concrete results at numerous airports.

2.3 From an ANSP perspective, the benefits are clear - increased predictability of traffic demand arising from the implementation of A-CDM allows for better planning of ATC operations. All airside processes are more visible, including their effects on air traffic services thus facilitating recovery from irregular operations through better coordination. Investment decisions can also be optimised to target areas that bring the most benefit to overall airport operation.

CANSO A-CDM Publication

2.4 To support and encourage ANSPs to play a leading role in the implementation of A-CDM CANSO has developed a guidance document (*Airport-CDM Optimisation through Collaboration: An Introductory Guide for ANSPs*) to assist in implementing the A-CDM concept and processes. This publication was introduced last year at the 53rd DGCA Conference and can be downloaded from the CANSO website www.canso.org.

ICAO A-CDM Task Force

2.5 As a follow-up to this, CANSO is now participating actively in the newly established ICAO APAC A-CDM Task Force which held its first meeting in Kunming, China in April 2017. CANSO is working closely with other Task Force members and is developing a survey questionnaire to establish the current status of A-CDM implementation in the APAC Region. Following the survey, an expert review would be conducted to analyse the effectiveness of existing A-CDM programmes in the APAC Region and to develop recommendations and additional guidance material as required.

Linkage to ATFM

2.6 There is currently a strong focus on Air Traffic Flow Management (ATFM) in the APAC region which has its roots in CDM. A CDM city pair project was first pioneered by CANSO and the ANSPs of Thailand and Singapore for flights between the Bangkok and Singapore city pair that involved the ANSPs as well as their airports and airlines. This project which culminated in a successful operational trial of live flights in 2012 became the precursor of what is now known such as the Multi-Nodal Air Traffic Flow Management (ATFM) project involving multiple ANSPs, their airports and airlines as well as CANSO and IATA.

2.7 As a key element of the ICAO ASBU, ATFM is closely linked to A-CDM and is one of the top ten priority items in the APAC Seamless ATM Plan. CANSO therefore established an ATFM Workgroup to support ATFM and CDM efforts globally and in the region. In the APAC Region for example, CANSO is an active member of the APAC ATFM Steering Group and has helped draft the APAC Regional Framework for Collaborative ATFM. Outside APAC, CANSO is driving an ATFM initiative in the Latin American and Caribbean region known as the CANSO ATFM Data Exchange Network for the Americas (CADENA). While A-CDM optimises the turnaround process at airports, ATFM specifically enables the balancing of demand against capacity in airspaces and airports through CDM and situational awareness. When ATFM and A-CDM systems are integrated it leads to optimised and efficient management of passengers/luggage/cargo from point of departure to point of arrival.

Future Work

2.8 The CANSO A-CDM Subgroup is now working on several tasks to be completed over the next couple of years. Some of these tasks are described below.

2.9 Task 1: Packaging and promoting the work done by the A-CDM Subgroup

The goal of this task is to promote and capitalise on the work done by the A-CDM Subgroup in the past by building-up an A-CDM Go-Team, structuring a 2 or 3 day A-CDM Workshop and developing the related training material in order to:

- a) Disseminate the CANSO vision on A-CDM;
- b) Offer the opportunity for CANSO ANSPs interested in implementing A-CDM to directly discuss with CANSO A-CDM experts;
- c) Promote the value of active membership in the A-CDM Group.

The A-CDM Workshops will explain the basics of A-CDM, the philosophy behind it, as well as provide CANSO Members with a general idea of how A-CDM can be implemented.

2.10 Task 2: Delivering a document on “Recommended KPAs and KPIs for A-CDM”

The goal of this task is to provide harmonised Strategic Objectives, Key Performance Areas (KPAs) and Key Performance Indicators (KPIs) to measure the actual effect of A-CDM on ANSP operations. The document will:

- a) Consider existing technical and qualitative KPIs and KPAs from different sources: Eurocontrol, FAA and CANSO (*Recommended Key Performance Indicators for Measuring ANSP Operational Performance* published in 2015);
- b) Determine other KPIs and/or KPAs as relevant;
- c) Develop guidelines to measure these Key Performance data;

2.11 Task 3: Delivering guidelines to implement A-CDM inside and outside the ANSP

The goal of this task is to describe what A-CDM implementation would require of ANSPs both from inside the organisation and externally with regard to their partners in order to successfully make collaborative decisions within the airport ecosystem. It will:

- a) Enable ANSPs to understand their role from a process and technical perspective when implementing A-CDM;
- b) Address all the ANSP layers from front line operators to top management: role, benefits and issues;
- c) Widen the A-CDM scope to impacts on landside in order to better understand the constraints faced by airport managers and how ANSPs influence the turnaround process as well as their core responsibility in the arrival and departure phases;
- d) Develop the A-CDM maturity scale;
- e) Develop guidelines to overcome the challenges of information exchange: sharing of data, introduction of reference times and related start-up procedures; moving from “first come, first served” to “best planned, best served” philosophy;
- f) Portray the effects that ANSPs can expect after A-CDM implementation.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

- a) Note the information on CANSO’s A-CDM efforts contained in this paper;
- b) Encourage States, ANSPs and Airport Operators implementing A-CDM to make use of the CANSO material; and
- c) Discuss any other matters as appropriate

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