



Agenda Item 3: Implementation of air traffic flow management (ATFM) and improvement of procedures for flow coordination between units

ATFM AND A-CDM IN COLOMBIA

(Presented by Colombia)

SUMMARY

This information paper informs the Meeting about the progress made in the collaborative initiative being carried out by the UAE (Special Administrative Unit) of civil aviation of Colombia, together with airport manager OPAIN S.A., for the development and integration of ATFM and A-CDM into the National Airspace System and its airport network, specifically for the Eldorado international airport. The Air Navigation Plan of Colombia describes the ASBU NOPS and ACDM modules to be developed at national level, in line with global and regional guidelines.

1. Background

1.1 The Directorate of air navigation services and the Air Traffic Flow and Capacity Management Group (ATFCM Group) develop processes to manage the ATM DCB and AO components through actions to improve the ASBU NOPS and ACDM modules, as defined in the Air Navigation Plan of Colombia and in line with the Global Plan, with a view to strengthening ATM in Colombia, consolidating ATFM at local and regional level, and leading harmonisation of A-CDM implementation in Colombia and in the Region.

2. Analysis

ASBU NOPS

2.1 For capacity/demand balancing purposes, the ATFCM service has been implemented to conduct the strategic assessment of traffic flows, the capacity and runway resources of the ATM system, and aerodromes, airports and sectors of the national Airspace System, in order to determine the conditions and regulations required for an efficient use of existing capacity, and to develop capacity improvement management initiatives, taking into account the need for consistency between airspace capacity and aerodrome and airport capacity.

2.2 The ATFCM Group implements these processes based on the CDM concept, obtaining information from different sources in order to maintain a common situational awareness as required by ATFCM.

2.3 In the strategic phase, the ATFCM Group participates in the airport slot coordination and schedule facilitation processes in order to optimise all the means available to maximise flow, setting the bases for advance assignment of slots and programming of itineraries.

2.4 In the pre-tactical phase, mechanisms are being developed to, initially, assign entry and exit times to aerodromes and airspace volumes and, progressively, and when possible, make adjustments to available means, resource allocation, foreseen paths, and airspace organisation, in order to mitigate any imbalances.

2.5 Finally, in the tactical phase, dynamic changes are made to entry and exit times to aerodromes and airspace volumes, and users adjust schedules and programming. Subsequently, procedures are developed to make dynamic adjustments to airspace organisation for capacity balancing.

ASBU ACDM

2.6 The purpose of A-CDM is to improve the exchange of information among A-CDM partners and define collaboration procedures and rules in advance. More importantly, A-CDM is an airport ATFCM enabler to reduce delays, improving predictability of occurrences and optimising the use of resources. A-CDM implementation will allow all partners to optimise their operations and collaborative decision-making, by knowing their preferences, limitations and the actual and expected situation. The sharing of accurate and timely information and the customisation and implementation of procedures, mechanisms and tools will expedite decision-making by A-CDM partners.

2.7 A core feature of all CDM processes is the existence of predefined collaboration procedures and rules agreed by the parties before operations start. These procedures and rules describe the way in which CDM partners will cooperate and how decisions will be made to ensure efficient operations and equity among the interests of the partners.

2.8 The Directorate of air navigation services and the ATFCM Group, together with airport manager OPAIN, develop action plans based on the target dates defined for each ACDM module improvement block, through a project that is under development.

2.9 The FCMU COLOMBIA has a METRON HARMONY system for the exchange of information enabling a common situational awareness of air operations at the various airports of SINEA. The system will support implementation through integration with the automated ACDM platform to be developed based on the technical specifications defined for each airport case, in order to achieve two-way exchange of messages. Furthermore, the Eldorado international airport has systems available such as A-SMGCS, DCL, DMAN, eFPV and AMAN, which will be duly integrated to ensure an ACDM Information Sharing Platform (ACISP) that is sufficiently robust for effective optimisation of air operations at the airport and in the network.

2.10 The A-CDM project for the Eldorado airport contemplates the need to analyse the relationship that exists among airport operators, AO, GH, ATC and ATFM, which currently work together to improve decision-making with a view to reducing delays and improving air traffic flow through optimised use of the capacity of the various airport resources and airspace and airport ATM.

2.11 For the purpose of its sequential development, this project has always been based on the six A-CDM conceptual elements, namely information sharing, milestone approach, variable taxi time, pre-departure sequencing, management of adverse conditions, and collaborative management of flight and path information updates.

2.12 Project phases are as follows:

- a) ANALYSIS. Of current status, gaps, cost-benefit, operational concept and implementation plan.
- b) DEVELOPMENT. Of operational procedures, general technical requirements for the ACISP and initial assessment of procedures.
- c) IMPLEMENTATION. Of ACISP and its interfaces, and of operational procedures.
- d) VALIDATION. Of ACISP, procedures and performance monitoring.

Likewise, each conceptual element consists of development, implementation and validation phases.

2.13 The UAE of civil aviation leads this collaborative project for the Eldorado airport, together with OPAIN S.A., estimating implementation by the second semester of 2021.

3. Suggested action

3.1 The Meeting is invited to take note of the information provided in this information paper.