International Civil Aviation Organization

MIDANPIRG/19 and RASG-MID/9 Meetings

(Riyadh, Saudi Arabia, 14 – 17 February 2022)

Agenda Item 5.7:   **ATM-SAR**

THE CANSO AIR TRAFFIC FLOW MANAGEMENT (ATFM) DATA
EXCHANGE NETWORK FOR COOPERATIVE EXCELLENCE
(CADENCE)

(Presented by CANSO)

SUMMARY
The CANSO Air Traffic Flow Management (ATFM) Data Exchange Network for Cooperative Excellence Task Force (CADENCE TF) was created to support the implementation of a regional Operational Information System (OIS). The purpose of this OIS is to accelerate the implementation of regional ATFM/Collaborative Decision Making (CDM) through the capabilities offered in the CADENCE OIS. These capabilities are based on the success of CANSO ATFM Data Exchange Network for the Americas (CADENA) OIS. CADENCE OIS is ready to use and CANSO offers it to regions at no baseline cost with trainings and the manual.
Action by the meeting is at paragraph 5.

1.   INTRODUCTION

1.1   The CADENCE TF was created on 22 March 2021 as a strategic initiative to develop a network for operational coordination and information sharing among air navigation service providers (ANSPs) in Flight Information Regions (FIRs) around the world. The CADENCE TF will focus on the enhancement and implementation of operational information sharing capabilities using an OIS that is designed to support ATFM/Collaborative Decision Making (CDM). The CADENCE TF is a subgroup of the CANSO Operations Standing Committee (OSC).

1.2   The objectives of the CADENCE TF are listed below.

1) For regional and international functional groups, support identifying the needs of information sharing and analyse if the CADENCE-offered OIS is beneficial for them;

2) Provide strategic leadership and support in the development, enhancement, implementation, and sustainability of CADENCE-offered OIS;

3) Support the establishment of a project management plan to help ensure the effective implementation and enhancement of CADENCE-offered OIS;

4) Study and review the effectiveness of CADENCE-offered OIS and identify further enhancements if necessary;

5) Support the establishment of agreements between regional or functional group participants that allow for information exchange between stakeholders and enable common situational awareness;

6) Based on the project management plan, support the establishment of an action plan that includes operations, information exchange, metrics, and training;

7) Support the rollout of a global OIS website;

8) If the function supported by CADENCE OIS is related to the work being done by another CANSO WG or TF, then the CADENCE TF will coordinate and collaborate with that group for the benefit of all; and

9) Maintain close coordination among the stakeholders and the OSC to optimize the use of available resources and experience.

1.3   There is no single ATFM/CDM solution that is applicable globally. Every region has its own unique considerations. To support regional ATFM/CDM implementation needs, the CADENCE TF will work with the respective regional ICAO offices, ANSPs, and other ATFM stakeholders to assist with shaping a solution that leverages the benefits offered by CADENCE to address regional demands.

1.4   The unique contribution to regional ATFM/CDM by CADENCE would be the implementation of a basic, regional OIS, at no cost to ANSPs or stakeholders. Thus, the regional OIS is a web-based, independent, and transparent system that does not rely on physical infrastructure or host resources.

2.   BACKGROUND

2.1   CANSO and CGH Technologies, Inc. signed an agreement on 22 March 2021. The 20-year agreement secures the provision of a purpose-built collaborative software platform (a.k.a. OIS) based on the successful Latin American and Caribbean CADENA regional initiative.

2.2   The CADENCE OIS platform is, therefore, now available in all regions and will be supported by CGH Technologies, Inc. The platform will enable ANSPs, airlines and potentially other airspace users to share information, facilitate situational awareness, and engage all stakeholders in the development of collaborative approaches to address the issues.

2.3   The baseline OIS offered to regions consists of the functionality included in the CADENA OIS version 3.2. The CADENCE OIS is a free and effective way for ANSPs to comply with the guidance material contained in ICAO Doc. 9971, Manual on Collaborative Air Traffic Flow Management. The platform can also be used to complement reoccurring ATFM/CDM teleconferences by allowing for the continued (inter-teleconference) exchange of operationally significant data on a single platform that is easily monitored by a minimal staff.

2.4   In the Latin American and Caribbean region, the CADENA Regional Implementation Group (RIG) has accomplished many of its objectives by effectively utilizing the functionality of its OIS to help the region work together to reduce air traffic delays, lessen environmental impact and improve collaborative planning on everything from runway construction to the management of air traffic following

natural disasters. The CADENA RIG and its OIS have delivered significant benefits to the Latin America and Caribbean regions. We look forward to working with other regions to deliver these same benefits.

2.5   The CADENCE OIS was previously presented by CANSO in a Working Paper (WP/57) at the ICAO High-Level Conference on Covid (HLCC) in 2021. As a result of WP/57, ICAO (through the HLCC Safety Stream) "encouraged States to continue developing this type of capability with support from ICAO regional offices".

3.   ICAO MID ATFM REGIONAL IMPLEMENTATION THROUGH INFORMATION EXCHANGE

3.1   CANSO acknowledges that there are numerous ATFM/CDM technologies available on the commercial market. This section describes a unique opportunity to implement a free multi-nodal cloud based ATFM/CDM system in the MID region that is based on proven success in other areas of the world.

3.2   In the event that regional members determine the CADENCE OISs functionality, transparency and common platform meet the needs of the MID Region, one of the first steps would be to identify the body(ies) responsible to serve as the Regional Implementation Group (RIG). The ICAO MID already has a strong regional ATM sub-group (SG) and ATFM Task Force (TF) with an appropriate structure and state/ANSP participation that could effectively serve this function.

3.3   The MID ATM SG and ATFM TF could therefore determine what operational information would be beneficial to share on the OIS.

3.4   The CADENCE offered, free OIS platform, is capable of sharing a wide variety of operational information. The OIS supported information that can be exchanged includes, but is not limited to:

1) Regional Traffic Management Measures
2) Active Reroutes and Route database
3) Airport Delays (arrival and departure)
4) Advisories (Urgent or FYI)
5) NOTAMs
6) ATFM Daily Plan
7) Email Push Notification
8) Contingency Forms
9) Airport/Airspace Capacity
10) Other unique information such as briefing related to commercial space operations or volcanic eruptions and their related impacts

3.5   The CANSO CADENCE TF would help implement the MID regional OIS including ANSP and airline training to use the OIS effectively.

4.   ADDITIONAL INFORMATION

4.1   The public view of the existing CADENA OIS is accessible via https://www.cadenaois.org.

4.2   Please direct any technical questions about the CADENCE OIS to the CANSO CADENCE TF Co-Chairs, Joe Hof (jhof@cghtech.com) and Midori Tanino (midori.tanino@faa.gov).

4.3   Please direct any general questions regarding CANSO, its operational programmes and/or regional engagement to the CANSO Operations Programme Manager, Scott Leis at scott.leis@canso.org .

4.4   Please note that CANSO will be contacting States/ANSPs in the region to identify any States that would be willing to conduct a voluntary, non-obligatory, cross (FIR) boundary system trial for proof of concept in the region. In the event such a trial occurs, a paper presenting a summary of the experience, best-practices and lessons learnt will be presented at future regional ATM SG/ATFM TF meetings for consideration and potential follow-up.

4.5   CANSO will also submit this information to the upcoming MID ATM SG and MID ATFM TF meetings. Any additional information that becomes available after the submission of this paper to the MIDANPIRG/19 meeting will also be included.

5.   ACTION BY THE MEETING

5.1   The meeting is invited to note the contents of this Paper.

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