

REGIONAL FOCUS

Introducing the CADENCE Operational Information System in Africa

Wednesday 18 August 2021

13:00 – 15:00 CAT



Ms. Boni Dibate

Director Africa Affairs

CANSO



Ms. Coleen Hawrysko

Operations Programme Manager

CANSO

INTRODUCTION

The CANSO Operations Standing Committee (OSC) oversees the Operations Programmes where seven (7) Work Groups and four (4) Task Forces improve operations in aviation. The CANSO ATFM Data Exchange Network for Cooperative Excellence Task Force (CADENCE TF) is the newest task force.





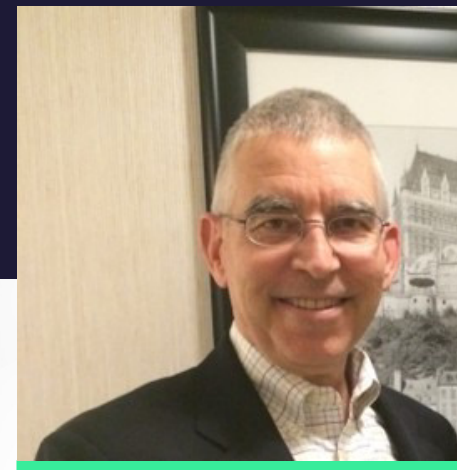
Mr. Stuart Ratcliffe

Co-Chair CANSO ATFM/CDM
Workgroup
Metron Aviation



Ms. Midori Tanino

Co-Chair CADENCE Task Force
FAA



Mr. Joe Hof

Co-Chair CADENCE Task Force
CGH Technologies



Mr. Stuart Ratcliffe

Co-Chair CANSO ATFM/CDM Workgroup

Metron Aviation

WHAT OPPORTUNITIES ARE THERE TO ENHANCE THE ATFM PROCESS IN AFRICA?

- Enhance the regional operational situational awareness among stakeholders
- Enhance the CDM processes
- A reminder what CDM is!

CDM

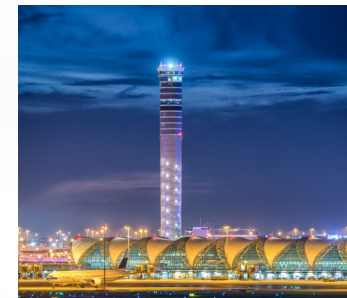
Why:

- CDM allows all members of the air traffic management (ATM) community to participate in ATM decisions that affect them.
- This is difficult if they do not have all the required information.

Who:

- ANSPs
- Airlines
- Associations (IATA)
- Military
- Meteorologists

CANSO



CDM

What:

- Demand prediction
- ATFM Solutions
- Weather Forecasts
- Procedures
- ATFM Daily Plan
- ATFM Measures
- Capacity
- Constraints
- Weather
- NOTAMS
- CNS Serviceability
- CDM Teleconference

When:

- All Phases of ATFM



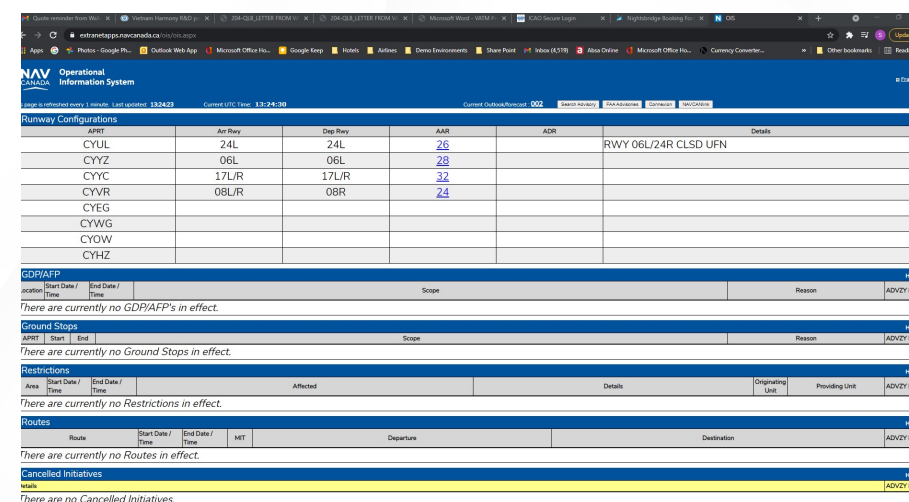
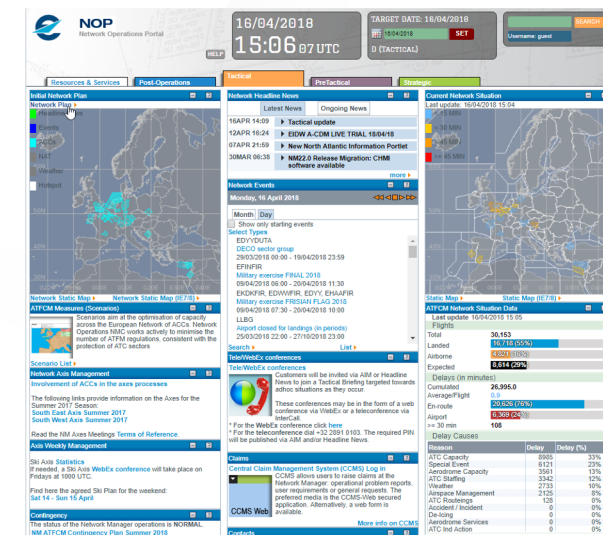
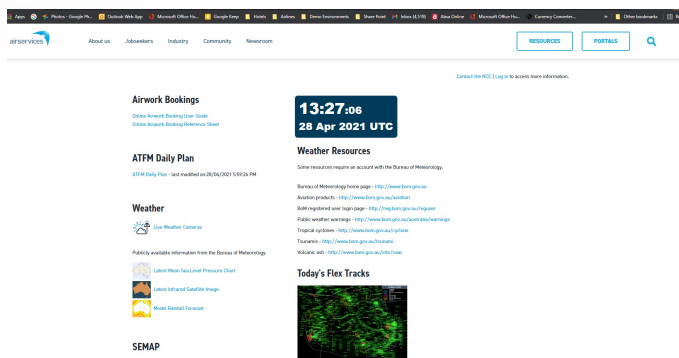
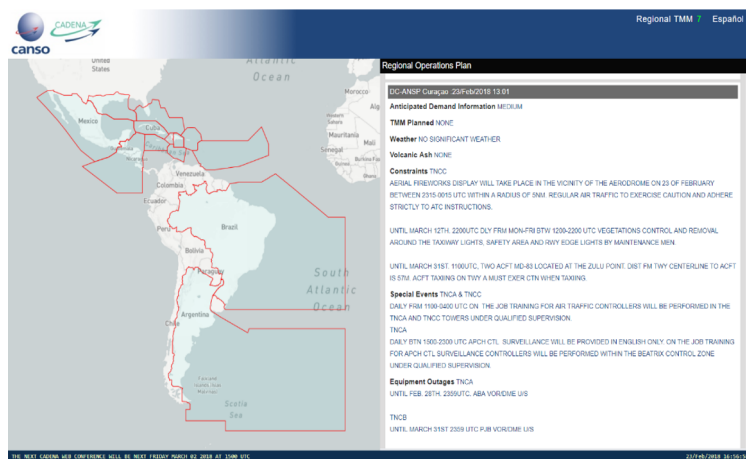
CDM

How:

- Person to Person calls
- E-MAIL
- CDM Platforms
- EUROCONTROL Messages
- ATFM stakeholder planning teleconferences:
- ATFM strategic, pre-tactical and tactical plans
- ADP
- WEB Pages Links to ATFM-related information:
- Weather websites

How can this information be easily shared - OIS





Qualitative Benefits - understood intuitively

More information sharing, better decision

Better coordination, better decision

Better decision, more benefits



Ms. Midori Tanino

Co-Chair CADENCE Task Force

FAA

PURPOSE OF CADENCE TF

- The CADENCE TF is a strategic initiative designed to help develop, or enhance, a network for operational coordination and information sharing among ANSPs around the world.
- The CADENCE TF will focus on supporting the:
 - Enhancement of regional collaborative decision making (CDM) processes and procedures in regions where ATFM capabilities already exist.
 - The implementation of regional ATFM/CDM processes and procedures in regions where such capabilities have yet to be developed.

BACKGROUD Of CADENCE - CADENA

CANSO ATFM Data Exchange Network for Americas

ATFM Situation in Latin Americas

- Fragmented airspaces
 - Multi-nodal ATFM operation
 - Most states need adjacent states to conduct effective ATFM
 - Collaboration is a must
- Many states are financially constrained
 - Difficult to make big financial investments
 - Difficult to make investment with low ROI to yourself
- Latin America had little ATFM operational experiences in a collaborative manner prior to CADENA

CADENA became operational quickly and all ANSPs can participate with small investment

- 2016 Jun – Established
- 2016 Aug – The 1st CADENA Meeting
- 2016 Dec – Started regional ATFM/CDM Operational Planning Web Conferences
- 2017 Aug – Initial version of the CADENA Operational Information System (OIS), **a web application platform**, launched

Basic solutions



You need only:

1. Computer
2. Internet Access
3. Human Resource

CADENA KEY REGIONAL STAKEHOLDERS

ANSPs

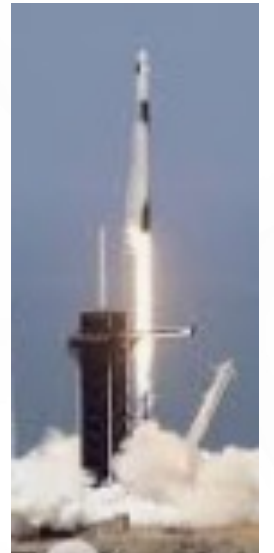
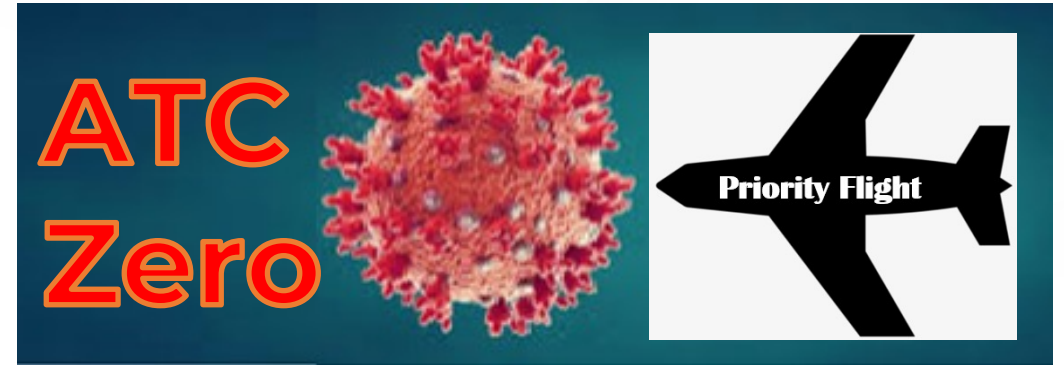
- EANA (Argentina)
- COCESNA (Central America)
- UAEAC (Colombia)
- ECNA (Cuba)
- DC-ANSP (Curacao)
- IDAC (Dominican Republic)
- DGAC (Ecuador)
- FAA (USA)
 - ZMA, SJU, ZHU, ATCSCC
 - Space Operations Office
- OFNAC (Haiti)
- JCAA (Jamaica)
- SENEAM (Mexico)
- TTCAA (Trinidad & Tobago)
- INAC (Venezuela)

State/Territory/Group

- ANSA (Aruba)
- DGAC (Costa Rica)
- MWCR (Grand Cayman)
- CARRG (Caribbean Aviation Resilience and Recovery Group)



OIS BENEFITS – When



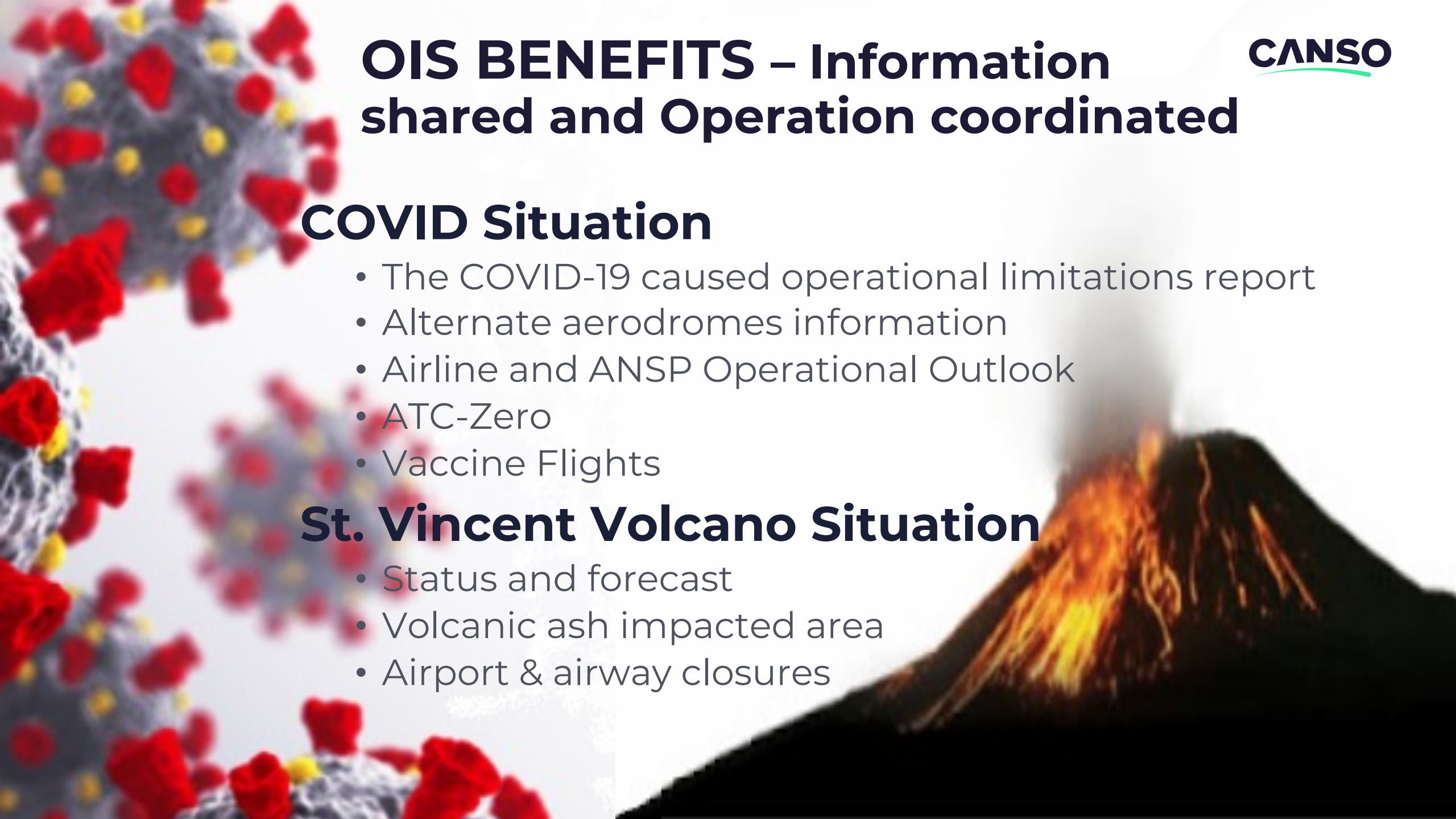
OIS BENEFITS – Information shared and Operation coordinated

COVID Situation

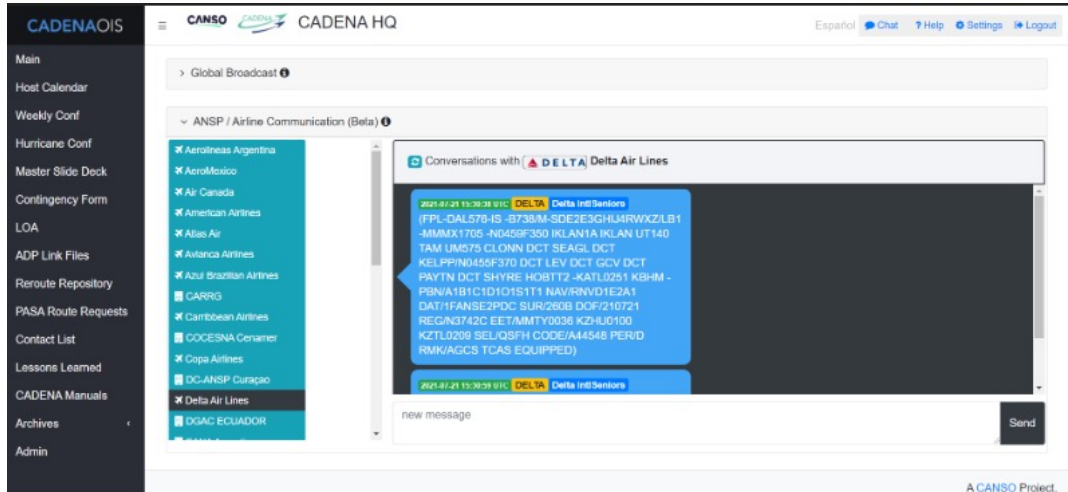
- The COVID-19 caused operational limitations report
- Alternate aerodromes information
- Airline and ANSP Operational Outlook
- ATC-Zero
- Vaccine Flights

St. Vincent Volcano Situation

- Status and forecast
- Volcanic ash impacted area
- Airport & airway closures



An innovative use of the CADENA OIS



CADENA OIS Chat
between an airline
and SENEAM

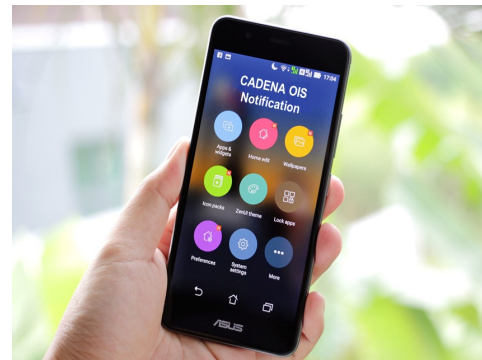
CADENA
OIS Chat
Email
Notification

July 21-22, 2021: The Caribbean region experienced an AFTN and Internet outage.

Avoided unnecessary flight departure delay. Reduced propagation delays and missed connection. Estimated savings of \$690,750 by Volaris Airlines only.



Manual Entry



“Workloads for dispatchers were reduced considerably using CADENA OIS.” and “... no complaint on social media from our clients ...” *Juan Carlos Muñoz Gallegos, Volaris Airlines*

OIS BENEFITS– Examples

Qualitative Benefits - understood intuitively

- **More information sharing, better decisions**
- **Better coordination, better decisions**
- **Better decisions, more benefits**

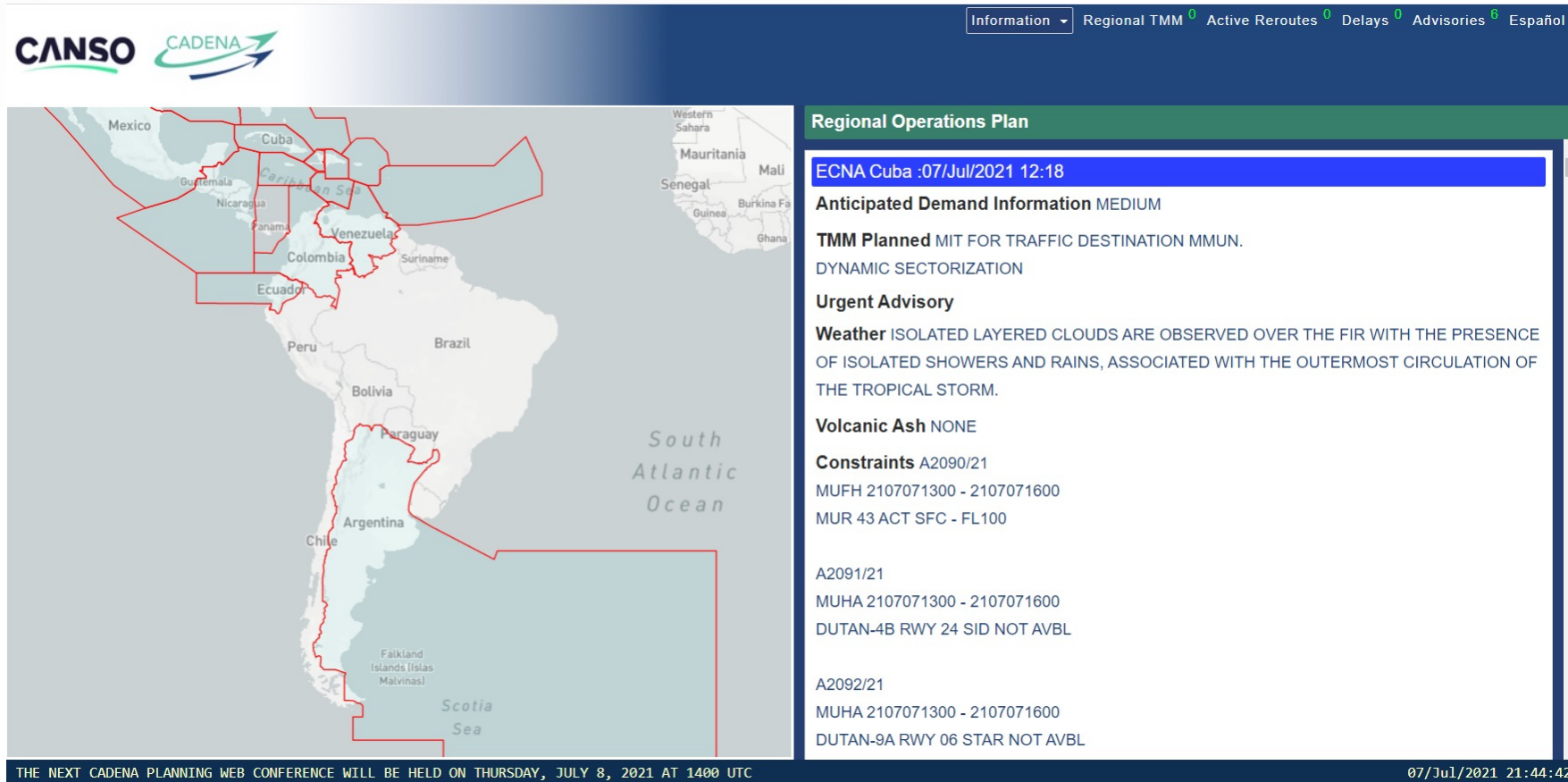


Numbers in this briefing should not be interpreted literally, however, **the savings achieved by stakeholders are real.**

Quantitative (monetary) Benefits

- UAL - Hurricane Maria Recovery Operation Case Study – \$1.0M-\$5.4M
- JBU - Return Home from Hurricane Maria Case Study – \$182.0K
- AAL - Jamaica Loss of Radar Surveillance Case Study – \$225.0K
- CPA - Jamaica Loss of Radar Surveillance Case Study – \$175.5K
- UAL - Colombia Loss of Satellite Comm Case Study – \$192.0K
- DAL - PASA optimization pilot test (ATL-LIM) - \$368.9K/yr, 1,118,000kg of CO2
- VOI – Filed FPLs via CADENA OIS while AFTN outage - \$690.8K

CADENCE OIS – baseline version shared at no cost



The screenshot displays the CADENA OIS website. At the top, there's a navigation bar with 'Information' and links for 'Regional TMM', 'Active Reroutes', 'Delays', 'Advisories', and 'Español'. The main content area is divided into a map on the left and a 'Regional Operations Plan' sidebar on the right. The map shows the Caribbean Sea and surrounding countries like Mexico, Cuba, and South American nations. The sidebar contains the following information:

- ECNA Cuba :07/Jul/2021 12:18**
- Anticipated Demand Information MEDIUM**
- TMM Planned MIT FOR TRAFFIC DESTINATION MMUN.**
DYNAMIC SECTORIZATION
- Urgent Advisory**
- Weather** ISOLATED LAYERED CLOUDS ARE OBSERVED OVER THE FIR WITH THE PRESENCE OF ISOLATED SHOWERS AND RAINS, ASSOCIATED WITH THE OUTERMOST CIRCULATION OF THE TROPICAL STORM.
- Volcanic Ash** NONE
- Constraints A2090/21**
MU FH 2107071300 - 2107071600
MUR 43 ACT SFC - FL100
- A2091/21**
MU HA 2107071300 - 2107071600
DUTAN-4B RWY 24 SID NOT AVBL
- A2092/21**
MU HA 2107071300 - 2107071600
DUTAN-9A RWY 06 STAR NOT AVBL

At the bottom, a footer states: 'THE NEXT CADENA PLANNING WEB CONFERENCE WILL BE HELD ON THURSDAY, JULY 8, 2021 AT 1400 UTC' and the timestamp '07/Jul/2021 21:44:42'.

Exchange:

- MS documents (Word, PPT, Excel)
- Text, pdf, and picture files

Enter:

- ATFM Solutions
- Advisories/Notices
- Airport delay
- ATFM Daily Plan
- Calendars
- PASA Route Requests

<https://www.cadenois.org> CADENA OIS version 3.2 is the CADENCE OIS baseline. Public domain for read only. Member domain to read and upload information.

Also offered by CADENCE are:

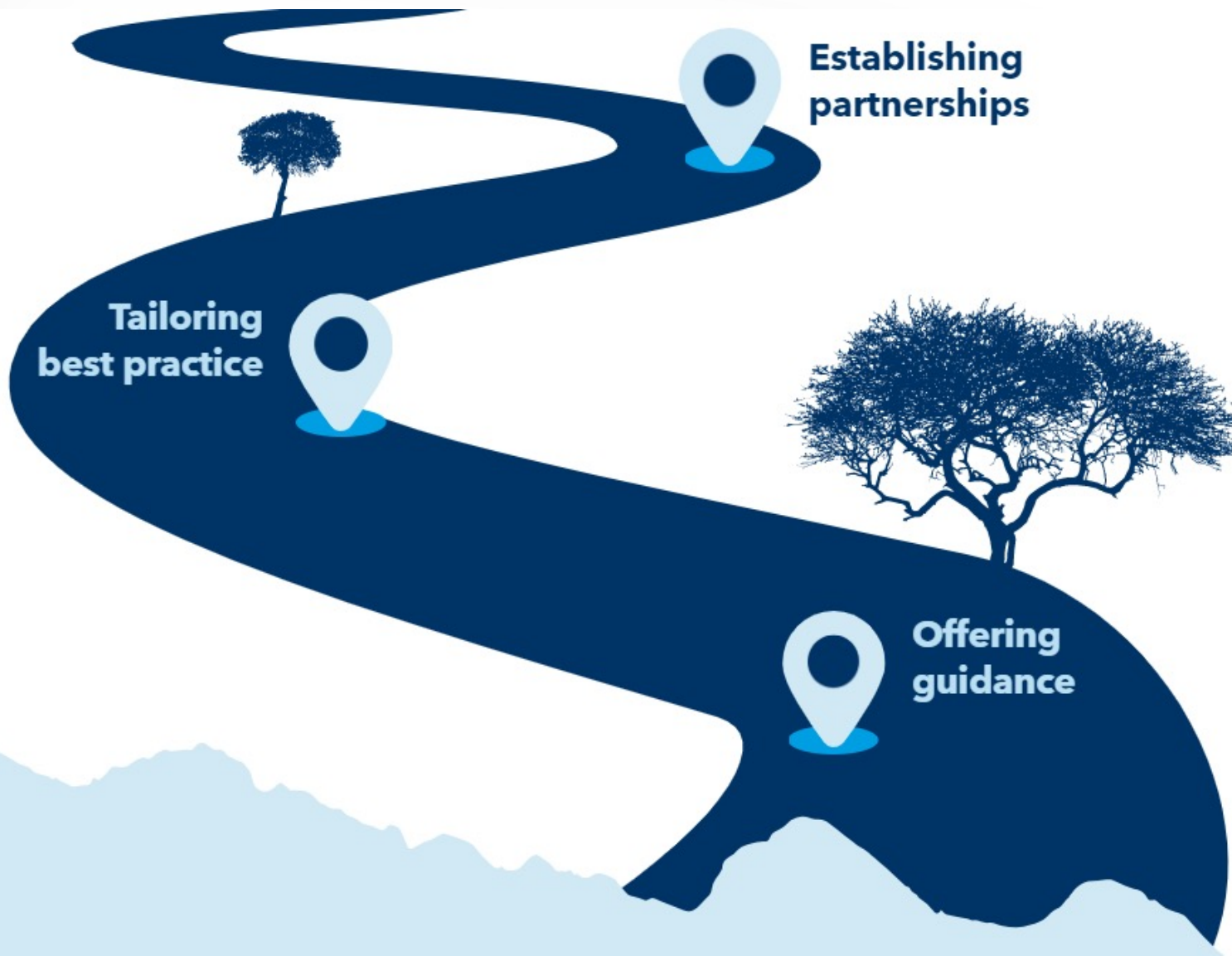
- Most of the CADENA produced documents including CADENA ATFM/CDM Procedures Manual, CADENA OIS Manual, and training materials.
- Most of the CADENA forms including ATFM Daily Plan, the 14 Contingency event checklists.
- Most of the LOAs, PASA routes database, etc.
- Support to launch the use of a regional CADENCE OIS, including training.



CANSO Mombasa ATFM Roadmap

“CANSO Mombasa ATFM Roadmap requires strong partnership, collaboration, **a platform for data and information sharing**, and most importantly – stakeholder commitment to achieve seamless operations in Africa.”

The CANSO Africa Conference 2018 concluded with seven emerging issues



- 1. Collaboration**
2. Technology and innovation
3. Policies and regulations
- 4. Data and information sharing**
5. Member commitment
- 6. Implementation plan of CDM, A-CDM and ATFM**
7. Compliance with ICAO requirements



Mr. Joe Hof

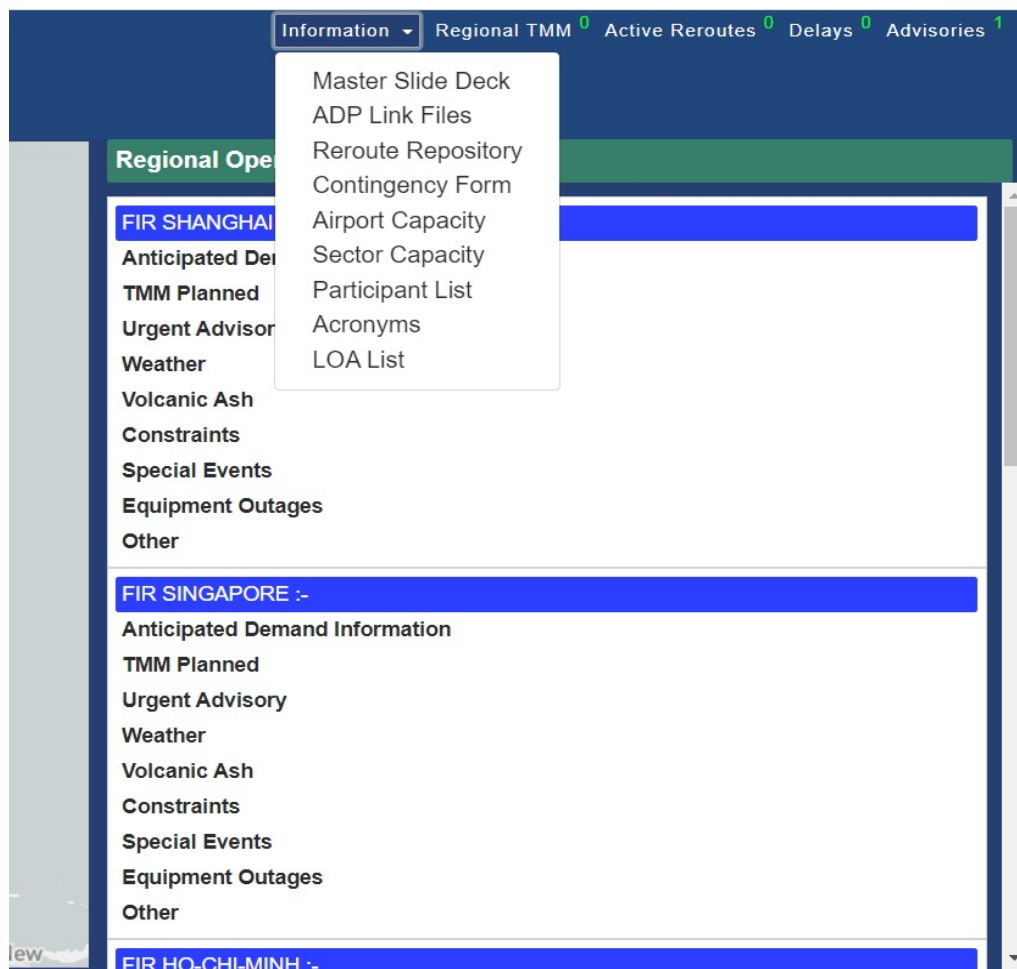
Co-Chair CADENCE Task Force
CGH Technologies

ANSP PARTICIPATION: What is asked of the ANSPs?



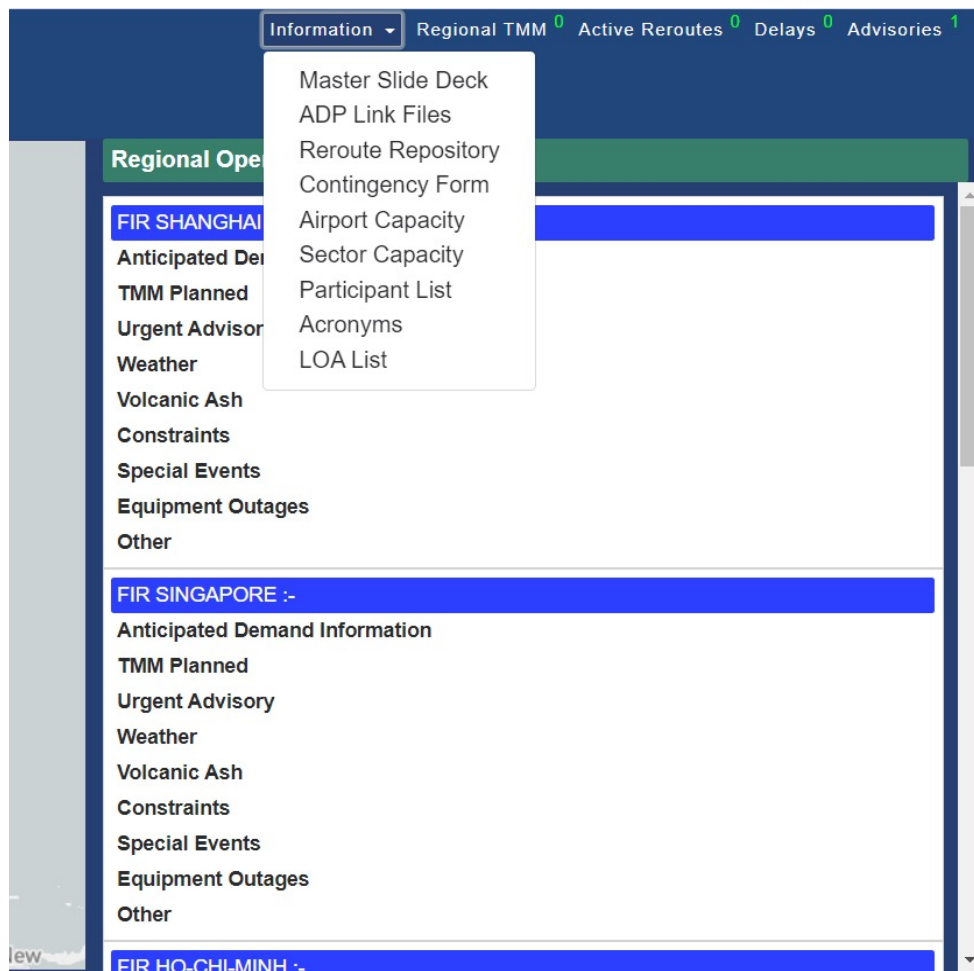
- It will begin with an opportunity to coordinate and work with CADENCE to determine the best approach for your region
- One approach could be via your regional ATFM group

ANSP PARTICIPATION: What information could be shared?



- **It depends !**
- The CADENCE OIS is capable of sharing a wide variety of operational information
- The decision on what operational information could be shared will be best determined by your regional ATFM group

ANSP PARTICIPATION: How will info be shared and how frequently?



- The recommendation is to start using the **CADENCE OIS** to share operational information quickly and inexpensively
- The decision on the type of operational information to be shared, frequency, and other operational procedures will be best determined by your regional ATFM group

WHAT IS REQUIRED TO USE THE CADENCE OIS?

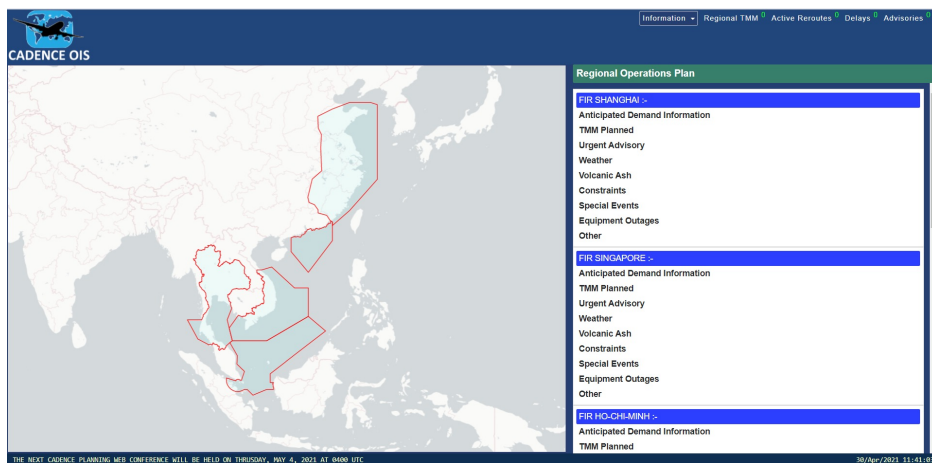
Internet Connection: Cable modem, DSL or better Internet connection (2 Mbps or faster)

On a PC: Internet Explorer 11, Microsoft Edge 90 or later, Mozilla Firefox 75 or later, Google Chrome 86 or later


- JavaScript enabled, Windows 8 or later, Dual-core 2.4GHz CPU or faster with 4GB or more of RAM

On a Macintosh: Safari 14 or later, Mozilla Firefox 75 or later, Google Chrome 86

- JavaScript enabled, Mac OS Mojave or later

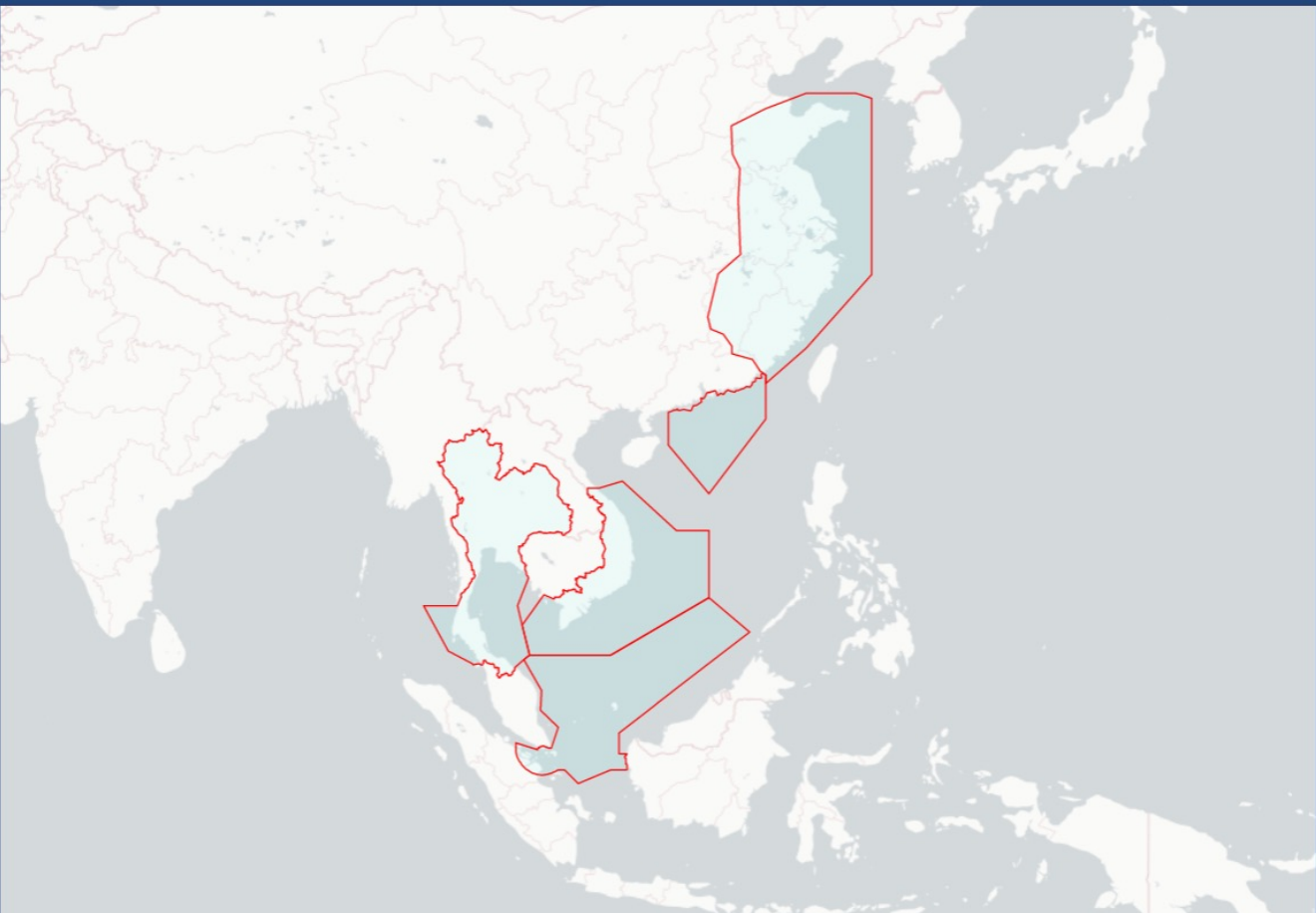


DEMOSTRATION OF THE CADENCE OIS



CADENCE OIS

Information ▾
Regional TMM ⁰
Active Reroutes ⁰
Delays ⁰
Advisories ⁰



Regional Operations Plan

FIR SHANGHAI :-

- Anticipated Demand Information
- TMM Planned
- Urgent Advisory
- Weather
- Volcanic Ash
- Constraints
- Special Events
- Equipment Outages
- Other

FIR SINGAPORE :-

- Anticipated Demand Information
- TMM Planned
- Urgent Advisory
- Weather
- Volcanic Ash
- Constraints
- Special Events
- Equipment Outages
- Other

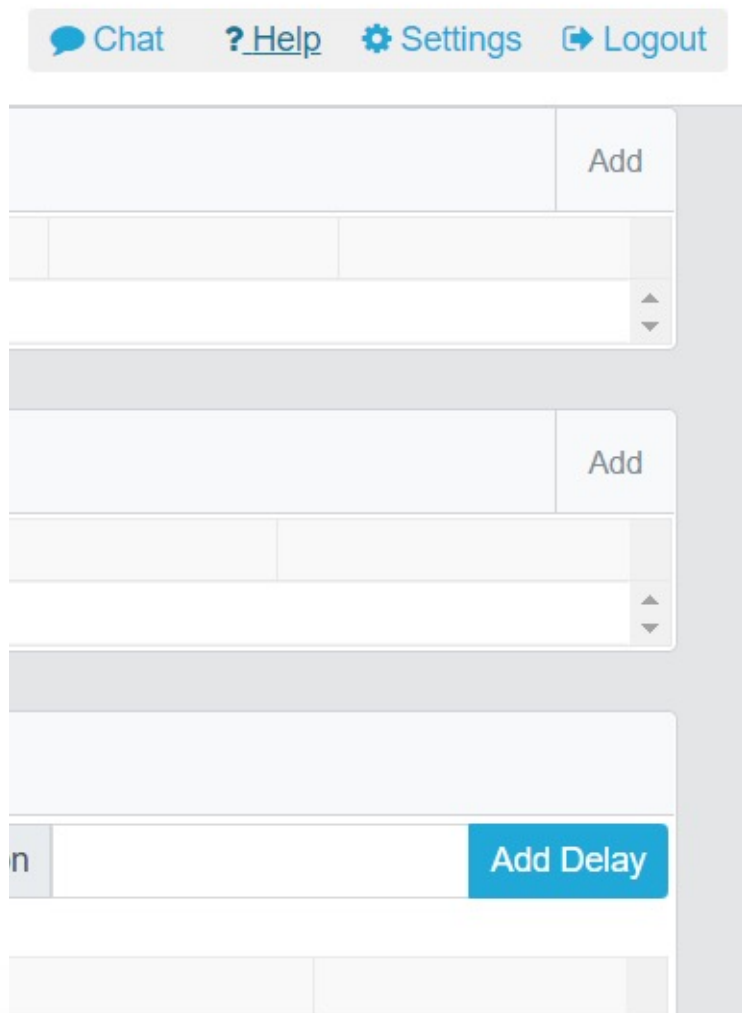
FIR HO-CHI-MINH :-

- Anticipated Demand Information
- TMM Planned

THE NEXT CADENCE PLANNING WEB CONFERENCE WILL BE HELD ON THURSDAY, MAY 4, 2021 AT 0400 UTC

30/Apr/2021 11:41:03

HOW IS THE CADENCE OIS SUPPORTED?

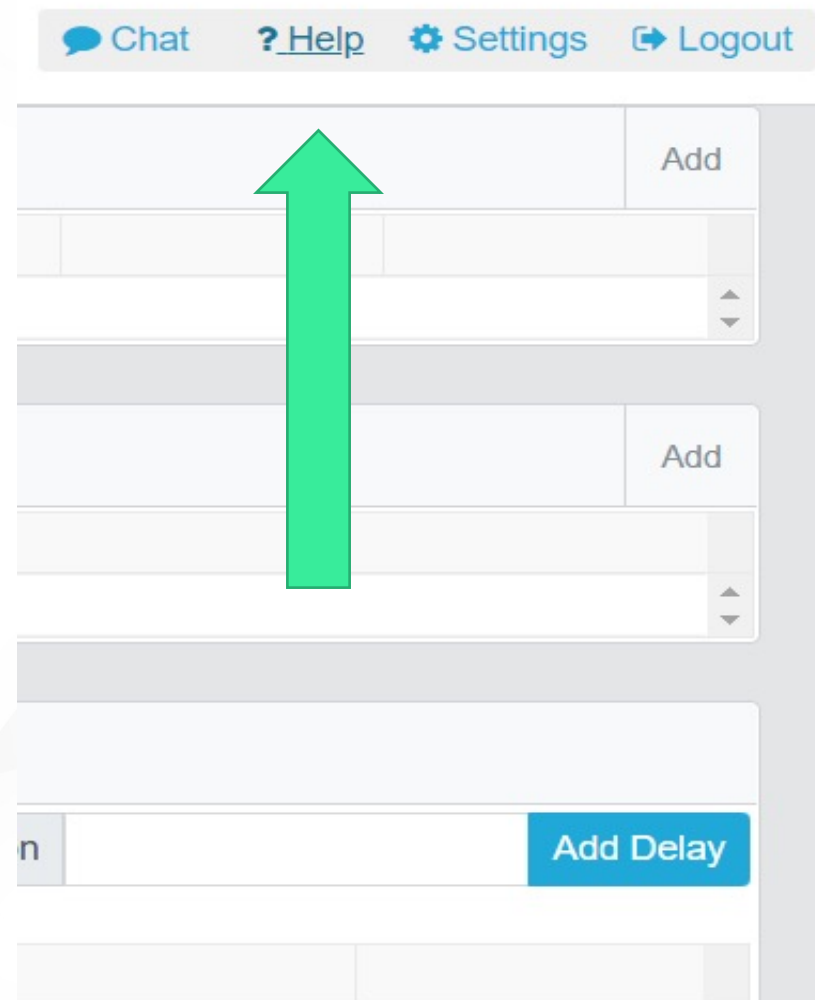


The screenshot displays the CADENCE OIS web application interface. At the top, a navigation bar contains links for Chat, Help, Settings, and Logout. The main interface is divided into a sidebar on the left and a main content area. The sidebar includes sections for adding new items, with 'Add' buttons visible. The main content area features a large input field, a dropdown menu, and a section with a blue 'Add Delay' button. The interface is clean and modern, with a light gray background and blue accents.

- The CADENCE OIS is supported by technical staff at CGH Technologies' offices in Herndon, Virginia, USA
- The technical staff is normally available from 1200 UTC to 0000 UTC

WHAT TO DO IF THERE ARE TECHNICAL ISSUES THAT NEED ADDRESSING?

- Click on the Help link after logging in to your homepage
- This will allow you to send an email to the Help Desk located in Herndon, Virginia





QUESTIONS AND ANSWERS



Ms. Coleen Hawrysko

Operations Programme Manager

CANSO



Ms. Boni Dibate

Director Africa Affairs

CANSO



THANK YOU

