CANSO ASIA PACIFIC CONFERENCE 2017
HA NOI, VIET NAM
3 -5 MAY 2017
CANSO view on A-CDM

Case study on A-CDM at HKIA

Change management & human factors
What is A-CDM?

Shared Processes & Information Sharing = A-CDM

- Stakeholder, e.g. ANSP
- Stakeholder, e.g. airlines
- Stakeholder, e.g. airport operator

Lack of shared awareness and collaboration

ARRIVAL  TAXI IN  TURN AROUND  TAXI OUT  DEPARTURE

What is A-CDM?
What is A-CDM?

A-CDM is about partners working together and making decisions based on more accurate and higher quality information.

A-CDM requires collaboration between all partners involved in the management of flights.
What is A-CDM?

**LOCAL RULES & PROCEDURES**

- APP/TWR ATC
- Airline/GH/AP

**A-CDM Platform incl**

- Exit (Est. Taxi In Time)
- EIBT (Est. In-Block Time)
- TOBT (Target Off Block Time)
- EXOT (Est. Taxi Out Time)
- TSAT (Target Start-up Approval Time)
- TTOT (Target Take Off Time)
- ARDT (Actual Ready Time)
- ASAT (Actual Start-up Approval Time)
- AOBT (Actual Off Block Time)
- ATOT (Actual Take Off Time)

**Information from systems (e.g. AODB, A-CDM, EFS, AMAN, ATFM...)**

- AIBT (Actual In-Block Time)
- ALDT (Actual Landing Time)
- AIBT (Actual In-Block Time)
- Ground Movement Data

**Stand planning**

- ARR & DEP Sch. & Flight Plan

**Ground Movement Data**

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**ALDT (Actual Landing Time)**

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Aireon
CANSO's "Best Practices"

Methodology
Common Vocabulary
Objectives & Performance
A-CDM Procedures

System solution
Information Integration
CANSO's "Best Practices"

- Bring in all stakeholders from the start
- The group can educate themselves and agree on goals, not as individual organisations, but as part of the overall system
- Each stakeholder needs to understand how their involvement contributes to the overall system performance and how their contribution matters
CANSO's "Best Practices"

- Commonly define and agree on the strategic objectives
- Set Key Performance Indicators (KPIs) that align with the objectives
- Create the "organization" that shall lead and manage the program
- Set up individual and group obligations, and the schedule for implementation
CANSO's "Best Practices"

**GLOBAL GUIDANCE DOCUMENTS**
- **COMMON** vocabulary & definitions
- **A-CDM**
- **WHO** provides the data
- **HOW** shall data be updated & BY WHOM
- **LOCAL RULES & PROCEDURES**
  - **WHAT** data shall be shared
  - **HOW** do we prioritize different data
  - **HOW** shall data be displayed & TO WHOM
  - **HOW** shall data be updated & BY WHOM
  - **HOW** shall data be measured

**SUPPORTING SYSTEMS**

**WHAT** data shall be shared

**WHO** provides the data

**HOW** do we prioritize different data

**HOW** shall data be displayed & TO WHOM

**HOW** shall data be updated & BY WHOM

**HOW** shall data be measured

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CANSO's "Best Practices"

- Monitoring is an on-going and an essential component in understanding the success and weakness of the A-CDM procedures.

- Outcomes and assessments must be shared within the stakeholder group.

- If the agreed processes do not meet the expected results and objectives, they need to be improved.

- Move away from BLAME culture.

CANSO's "Best Practices" diagram:

- **Plan**: Agree on objectives, obligations, and schedule.
- **Engage**: Involve and educate partners to get them on board.
- **Implement**: Procedures & Tools.
- **Improve**: Identify potential improvements.
- **Monitor**: Review Performance.

Monitoring is an ongoing and an essential component in understanding the success and weakness of the A-CDM procedures. Outcomes and assessments must be shared within the stakeholder group. If the agreed processes do not meet the expected results and objectives, they need to be improved. Move away from BLAME culture.
CANSO's "Best Practices"

A-CDM IS AN ONGOING ENGAGEMENT
CANSO A-CDM Guide

PURPOSE:
- Assist in the implementation of the Airport-CDM concept and processes.

OBJECTIVE
- To support ANSPs in the improvement of the global air transport efficiency by outlining topics for consideration e.g. involvement of relevant stakeholders when embarking on an Airport-CDM implementation

DOWNLOAD
- www.canso.org/publications

Airport Collaborative Decision-Making: Optimisation through Collaboration
An Introductory Guide for Air Navigation Service Providers

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CANOS’s Next Steps

**CANSO A-CDM Subgroup Focus:**

- Task 1: Packaging and promoting the A-CDM subgroup existing deliverables
- Task 2: Delivering a “Recommended KPAs and KPIs for A-CDM” document
- Task 3: Delivering an “Implementing A-CDM inside and outside the ANSP” document

LET’S WORK TOGETHER

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CANSO view on A-CDM

Case study on A-CDM at HKIA

Change management & human factors
Introduction

- **Hong Kong International Airport:**
  - 2 parallel RWYs, capacity of 68 movement/hour (3rd under construction by 2020)
  - 100+ airlines (96 international airlines)
  - ~70 million passengers/year (4th busiest in APAC, 8th in the world*)
  - ~4.5 million ton cargo (No 1 in the world*)
  - ~412,000 movements/year

- **Objective:** Increase information sharing, predictability, capacity, and utilization of resources as well as lowering fuel consumption and costs

- **Scope:** Implement A-CDM procedures and supporting system to facilitate all stakeholder at the airport

- **Stakeholders:** A joint collaboration project between Airport Authority of Hong Kong, Civil Aviation Department, all airlines, ground handling agent and the solution provider.

*ACI 2015 statistics
Scope of implementation

1. Information Sharing
2. Milestone Approach
3. Variable Taxi Time (VTT)
4. Pre-Departure Sequence
5. CDM in Adverse Conditions
6. Integration with Flow Management

- CDM creates predictability and common awareness during e.g. typhoons, thunderstorms.
- DEP information updates
  - TSAT
  - Target Take Off
  - Taxi times
Methodology

Workshops to Engage & Collaborate

Workshop #1
What is A-CDM
- Organization
- A-CDM Benefits
- Roles & Responsibilities
- Build A-CDM knowledge

Workshop #2
Initial Procedures & Solution Support
- ConOps Development
- Initial solution requirements

Workshop #3
Operational Guidelines & User Tools
- Mature ConOps
- A-CDM Key Performance Indicators
- Demo end user solution

Workshop #4
Final adjustments & implementation
- Final ConOps
- Demo “mature” end user solutions
- Implementation of A-CDM

Training
Tailored training sessions
- Technical training
- Operator training

✔ Management
✔ Operators
✔ ANSP
✔ Airport
✔ Ground Handlers

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Procedures → Information → User Tools
Procedures → Information → User Tools
Procedures → Information → User Tools

A-CDM Solution

Airport
- A-CDM Performance

RAMP
- A-CDM Milestone Progress

AOC
- A-CDM TOBT Management

Crew

GH

ANSP
- Departure Manager

Embark
- En-route
- Landing
- Taxiing
- Take-off

Gate

Embark
- Taxiing
- Take-off

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CANSO view on A-CDM

Case study on A-CDM at HKIA

Change management & human factors
A fast changing industry

Air Traffic Controller Licence

RNAV

Airspace Design

PBN

Remote tower

PBN

Aircraft

AMAN

Drones

SMGCS

A-CDM

Point Merge

A-SMGCS

Environment

Safety

Infrastructure

A-CDM
Resistance to change

- Mistrust in the organization
- Comfort zone
- Previous experiences
- Miscommunication
- Fear of the unknown
- Group effect
- Habits
The change curve

Kubler-Ross change curve

- **Denial**
  - Disbelief: Looking for evidence that it isn’t true

- **Shock**
  - Surprise or shock at the event

- **Frustration**
  - Recognition that things are different, sometimes angry

- **Depression**
  - Low mood, lacking in energy

- **Decision**
  - Learning how to work in the new situation, feeling more positive

- **Integration**
  - Changes integrated: a renewed individual

- **Experiment**
  - Initial engagement with the new situation

- **Creative Alignment**
- **Maximize Communication**
- **Spark Motivation**
- **Develop Capability**
- **Share Knowledge**
Change management

1. Diagnostic

2. Planification

3. Implementation

4. Feedback and support

"Once you've mastered this simple technique, we'll move on to something more challenging like changing your corporate culture."
Stretch your comfort zone!

Danger
Learning
Comfort

Live Here

WHERE THE MAGIC HAPPENS

YOUR COMFORT ZONE
Stretch your comfort zone!

Can you identify the zone each stick figure is in?

Source: Kenneth Chan, LinkedIn
Change management enablers

**Involvement**
- Sharing experience
- Stimulating the participation

**Communication**
- Explaining the benefits
- Presenting the change management steps, publications

**Training**
- Theoretical training
- Simulations
- Workshops, conferences,....