Airport CDM
Lessons learnt & Challenges ahead

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Contents

• Airport CDM history
• Current status
• Lessons learns
• Future outlook
All started with Scepticism…in early 2000

- CDM Philosophy…
- “Ethical need” for collaboration…
- All projects “must do” it anyway…
- NO NEED for A CDM Project!
Airport CDM could be a mammal?

- Mother of CDM ??
- May be mother of an elephant !
- 22 months gestation period…
- A-CDM born in Dec 2001
First Believers…

• Brussels airport
  opened its doors for trials (the usual victim due to vicinity…)

• Barcelona airport
  developed an Airport CDM prototype, in collaboration with the EUROCONTROL Experimental Centre in France

• Both contributed extensively to the formation of today’s Airport CDM concept elements!
Previous Airport CDM Fora

- **1st A-CDM TF** 12 Dec 2001
  Twice per year (13 in total) 130-150 participants
  Replaced by:
  - The A-CDM Coordination Group (Nov 2007-DEC 2010)
  - The Procedures Group (limited to 30 participants)
  - The Expert panels e.g. Adverse weather, DPI panel
    Replaced by:
    - The A-CDM HTF (Harmonisation Task Force)
Outcome of Stakeholders’ Work in past 10 years

- The A-CDM Implementation Manual (the Bible)
- OCD, FRD
- EUROCAE Technical Specifications (3 Documents)
- Community Specifications (CSs) (published in EU Official Journal in June 2010)
- Cost Benefit Analysis (generic & local CBAs) 9/1 ratio!!
  *(Munich has doubled & tripled this ratio!)*
Airport CDM a European Concept?

- An original concept for European airports
- Adopted by FAA in the US
- Australia, India, Japan
- Paradigm for the ICAO Global CDM Manual
- ACI- CANSO MoC 2012 for promotion & roll out of CDM programs at airports worldwide
Airport CDM…

• A proven concept aiming at improving airside operations at airports

• Allows each Airport CDM Partner to optimise their decisions based on shared, accurate and timely information

• Provides the Airport CDM Partners with adapted procedures, processes and tools

• Dynamically integrates airports with the Network to give you benefits
Airport CDM…

is all about

ACTING ON SHARED INFORMATION!
Airport CDM Information Sharing & Milestone Approach

1. Data consistency check
2. ATOT
3. Take Off from Outstation
4. EOBT – 2 hrs
5. Local Radar Update
6. Final Approach
7. Taxi In (EXIT)
8. ALDT
9. Taxi Out (EXOT)
10. Start Up Request
11. Start Up Approved
12. Take Off
13. ASRT
14. ARDT
15. AOBT
16. ATOT

- ATC Flight Plan Activation (EOBT – 3 hrs)
- In-Block / Actual Ground Handling Starts
- AIBT AGHT
- 7/8
- TSAT Issue
- 9
- TOBT Update Prior to TSAT
- 10
- Boarding Starts
- 11
- 12
- 13
- 14
- Aircraft Ready
- 15
- Off-Block
- 16
- Landing
- 1
- 2
- 3
What is a “Target Time”

- In A-CDM a target time relates to the time of an airport milestone and serves as a "contract" between partners who are thus committed to achieving the milestone at this time. The time is derived only through a collaborative process and is used for milestone monitoring.*

* Definition for the ATM Lexicon uploaded on 27th Jan 2012
CFMU

Linking Airports with the Network

**DPI**
*Departure Planning Information*
Supply the CFMU with updated information concerning a departure flight at a CDM-A

**FUM**
*Flight Update Message*
Inform the Partners at a CDM-A about the progress of an arrival flight
Objective
To share dynamic Airport CDM Information with the ATM Network

Network Ops – Airport – Network Ops

Flight Update Message (FUM)
• *Flight Status, Time over & landing times*

Departure Planning Information (DPI) Message
• *Off-Blocks & Estimated Take-Off Times*
• *Aircraft type, Taxi times & SID*

Benefits
Airports - [Arrival estimates](#) (Improved turn-round planning)
Network - [Take-Off estimates](#) (improved En route sector planning)
The A-CDM believers and doers…

- Full CDM airports (linked to the ATM network with FUMs & DPIs)
  Certificate issued by EUROCONTROL to acknowledge airport partners’ efforts for successful A-CDM implementation!

- Munich - June 2007
  Thanks to Munich the conceptual ideas of the Manual turned into “real” operations!

- Brussels - June 2010
- Paris CDG - November 2010
- Frankfurt - February 2011
- London Heathrow - June 2012
A-CDM ‘a game changer” for airports

- Enhanced punctuality of operations
- Optimised resource management
- Preferences and priorities taken into account
Vision: High-Performance ATM for 2020

- Enable a threefold increase in capacity
- Improve safety by a factor of 10
- Reduce by 10% the environmental impact per flight
- Cut ATM costs by 50%
Network Benefits

• Network Ops
  • Improved traffic count predictions
  • Enhance ATFM slot compliance / reduce number of wasted slots

• PAX
  • Reduction of delays
  • Fewer missed connections
  • Better information e.g. during periods of disruption
How does EUROCONTROL assist European Airports

- Local A-CDM project support
- Procedures development
- Expertise and harmonised documentation
- Training (local & e-learning)
- Validation of airport readiness to connect to ATFM Network (DPIs)
- Assistance in operational trials
Current A-CDM Harmonisation TF

Airport CDM Harmonisation Task Force (A-CDM HTF)
35 participants (Airports, ANSPs, Airline & Service providers)

Tasks: Harmonisation of procedures & processes
- Local e.g. pilot start-up procedure
- Network e.g. data quality
- Alert Messages & KPIs

Deliverables by: Dec 2013
Lessons learnt & System deficiencies

• Not a stand-alone piece of hardware or software
  Example: The Barcelona prototype never became operational due to lack of operational processes and partners’ commitment

• Not a finished process
  Example: CDM airports should continuously improve over time, provide better data quality, harmonise procedures, train staff

• CDM in Adverse Conditions not yet a mature process
  Example: A-CDM Cell at CDG – fortification of local processes in coordination with the Network Manager required
Lessons learnt & System deficiencies

• Compromising contrasting requirements
  Example: reduced fuel burn on taxi out against airline on time performance (from off blocks)

• Cultural and institutional changes needed
  Example: Pilot /controller perception of expediting traffic even if to join the runway queue

• KPIs adaptation in the CDM spirit
  Example: “The CDM hold on stand” is perceived negatively as “ATC ground delay” - IATA delay code adaptation required
Lessons learnt & System deficiencies

- Common united goals against political tensions and power games
  Example: Airports’ efforts to implement A-CDM have stalled for months and years

- Service level agreements to include A-CDM requirements
  Example: SLAs for TOBT provision not only between Airline & Handlers but also between Airport & Handlers

- Operational efficiency to include passenger satisfaction
  Example: check-in-immigration-security are not only extended milestones for increased predictability but the so called “passenger experience” should be linked to airport improved performance
A-CDM Future Outlook

- A-CDM processes implemented at seasonal & small size airports
- A-CDM procedures harmonised through ICAO
- Enhancement of A-CDM through implementation of TAM principles
- Integration of A-CDM with arrival managers en-route and city pair traffic flows
Reference Document & Website

www.euro-cdm.org
Community Specifications- Common Standard for A-CDM
Thank you!