Collaborative Decision Making
Paris Charles de Gaulle Airport

November 9th, 2017
WMO AERONAUTICAL METEOROLOGY SCIENTIFIC CONFERENCE
AeroMetSci 2017
Toulouse, France

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Paris CDG Airport
CDM Implementation

Goals to achieve

Examples

Gains
Airport Infrastructure Information

- Surface: 3200 ha
- 2 pairs of runways Dpt/Arr – dedicated mode (scheduled capacity: 120 mvts/h)
  - 110 km Taxiways
  - 8 ILS CAT 3
- 9 passenger terminals, 2 hubs fret

Statistics 2016

- 66 M passengers
- 473,000 movements (ARR/DEP),
  - Average / day: 1300 mvts
- Ops Capacities: ARR 73 / DEP 76
  - 154 Airlines

Weather environment

- Low Visibility Procedures (LVP)
  - Snow
  - Winter 12/13: 30j – 59 cm
  - Winter 10/11: 23j – 30 cm
Arrivals

Highest peak: P2

≈ 700 flights/ day

At peak hour: 1 acft/ 30 s

Capa max: 73 a/h

Departures

≈ 700 flights/ day

At peak hour: 1 acft/ 30s

Capa max: 76 d/h

Air France Hub Structure = 45% of traffic
1. High and rapid growth of the traffic between 1996-2000, in particular with the new Air France Hub

2. Pressure at peak times

3. Disruption during Adverse conditions
   - Snow event W03 (2 days)
     - Cancellation: 25%
     - Delays: +2h/flight
     - 5000 passengers in terminal
     - 5000 passengers in the hotels
CDM@CDG: Challenges

Share information

Harmonize processes & Optimize capacities

Improve Regularity, predictability and punctuality

Parking
Handling
Safety...

Gnd traffic flow
Weather
Human Res...

Catering
Boarding
Connection...

Airport
ATC
Airlines

CDM process
Information
Communication
Décision

CDM improves planning, performance & operations in adverse conditions
On « D Day », the process has to be organized

- Gather the key actors
- Facilitate communication
- Make decisions and take actions

**PROCESSUS CDM**

- Identify the contingencies
- Clarify the goal to achieve
- Share decisions

- Organize resources & procedures
- Manage and apply the procedures

- Define a program
- Connect or develop appropriate tools
- Training and staff organization

- Share info
- Information availability
- Active and pro active collaboration

- Involve all actors
CDM implementation

Goals to achieve

Examples

Gains

Paris-CDG : Tower control by night
CDM@CDG

CDM@CDG : for all parties’ interest

✓ for Eurocontrol the European Network Manager: more up to date and accurate information leading to better network planning

✓ for the airport operator: improved use of stands/gates

✓ for the ground handler: more accurate arrival times and planning. Better use of resources

✓ for the aircraft operator: improved awareness about the status and location of the aircraft, more accurate fleet predictions. Significant decrease in fuel costs - for the environment: less noise and lower CO₂ and NOₓ emissions

✓ for the air traffic controllers: reduced workload due to a greater predictability of traffic

✓ for the passenger: reduced delays and probability of missed connections, better reliability on flights meaning improved customer satisfaction

CDM@CDG:

✓ Optimises the aircraft turnaround process and improves operational efficiency.

✓ Is based on information exchange between operational users and suppliers of services at airports.

✓ Improves accuracy and predictability of arrival and departure information.

✓ Improves punctuality as airport partners work together as an aircraft turnaround team.
Operational collaboration: Different ways to share information

- CDM Website
  - Share information
  - H24

- Teleconferences
  - + Activation CDM Cell
  - Strike, Snow, thunderstorms...

- Main CDM actors
  - Main partners:
    - ATC
    - ADP
    - Airlines
    - Météo France

- Daily Teleconferences
  - Post ops 12h40
  - Pre ops 18h30
  - Debriefing morning peaks
  - Prepare D+1
  - Sharing ops infos

- CDM Management
  - Monthly Meeting
  - KPI
  - Common actions plan

- Monthly

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- Debriefing morning peaks
- Prepare D+1
- Sharing ops infos

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CDM implementation

Goals to achieve

Examples

Gains
Share information for pro activity

Update on regular basis

Communicate for better understanding

Develop tools to meet customers needs and expectations
The « aerogramme »: a reference

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• Characterize the CDM Cell operational collaboration’s level
• Adaptate de-icing & snow clearing means
• Purpose cancellations flights (Airspace Nav. Services Tconf.call)
The strategical decisions are focused on the optimization of the capacities and,

- Runways and Taxiways snow clearing strategy

And other information!
CDM implementation

Goals to achieve

Examples

Gains
 Improvement on:
- Safety
- Punctuality
- Forecasting
- Confidence
- Performance and capacity
- Quality standards
- Risk assessment
- Crisis management
- Airport image
CDM@CDG

Figures

- Aircraft queuing (-40%)
- ATC delays
- Taxy time (up to 20%)

Environmental impacts

- Fuel (5400 T / year)
- CO2 emissions (17000 T / year)
Aéroport Paris-Charles De Gaulle