



*How do we* reduce costs,  
lower emissions, improve  
punctuality, and forge  
stronger partnerships?

Airport CDM  
offers a real and  
viable solution  
for efficiency.

NOW READ ON TO FIND OUT MORE ABOUT HOW AIRPORT CDM  
IS WORKING FOR OTHERS AND WHAT IT COULD DO FOR YOU... ➤



# Airport Collaborative Decision Making is all about acting on shared information

Implementations at pioneer airports have shown that two milestones are essential for improving the efficiency of operations. These are called "**Target Off-Block Time**" and "**Target Start Up Approval Time**".

Experience has shown that focusing on these two target times enables airports to take a step forward in operational efficiency. It creates a commitment by partners that each will rely on – and it really works.

## Target Off-Block Time (TOBT)

represents the time that an airline or handling agent estimates that an aircraft will be ready, all doors closed, boarding bridge removed, push back vehicle available, ready to start up/push back immediately upon reception of clearance from the tower.

It is issued by the airline or handling agent and can be considered as a sort of agreement for the ready time that all partners aim to achieve. It is an important trigger for departure management.

## Target Start Up Approval

**Time (TSAT)**, on the other hand, is the responsibility of ATC and informs the flight crew and other partners when an aircraft can expect start up and/or pushback approval, which in turn helps them to manage the turn-round process. It takes into account the TOBT as well as the allocated ATFM slot and the traffic situation.

## The Partners

Airport Operators, ATC, CFMU, Aircraft Operators, Ground Handling and Ground Service Providers

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**Collaborative Management of Flight Updates** enhances the quality of arrival and departure information exchanges between the CFMU and the CDM Airports.



## The Problems

- Insufficient or unreliable information
- No single partner has the complete picture
- Accurate information is provided too late for a partner to be ready

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**CDM in Adverse Conditions** achieves collaborative management of a CDM airport during periods of predicted or unpredicted reductions of capacity.

3

**Collaborative Pre-departure Sequence** establishes an off-block sequence taking into account operators' preferences and operational constraints.

2

**Variable Taxi Time** is the key to predictability of accurate take off and in-block times especially at complex airports.



## The Solution

**Airport CDM Information Sharing** is essential in that it forms the foundation for all the other elements and must be implemented first



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**The Milestones Approach** (Turn - Round Process) aims to achieve common situational awareness by tracking the process of a flight from the initial planning to the take off.



## Airports, the missing link in the ATM network

Airport information missing

The only information regarding departure times used for planning purposes by the CFMU today is Estimated Off-Block Time. This is taken from the filed flight plans and is only updated if the delay is longer than 15 minutes. This system works fine if everything runs smoothly. But the real situation can often be very different from the plan. If anything goes wrong on the ground, the deviation is not communicated to the network sufficiently in advance for people to take appropriate action.

While the CFMU today lacks accurate information on actual departure times, for their part ground handlers and airport operators often have no real-time information on arriving traffic. This too can cause problems if, for example, an aircraft arrives early, and the allocated stand is occupied.

The final step in Airport CDM addresses these issues, providing automated messages that provide the 'missing link' effectively connecting the airport to the ATM network.

# The benefits

## Airport CDM enables you to...

- 
- 1 Improve planning and resource utilisation through better (and more accurate) information sharing
  - 2 Recover quicker from adverse conditions
  - 3 Improve planning at a network level



### 1 Improve planning and resource utilisation through better (and more accurate) information sharing

Each partner has at some point a piece of information that is more up-to-date and more reliable than the estimates used by other partners; yet all too often this better information is not shared. Airport CDM helps to create common situational awareness by making this information visible to those that are affected by it. Each partner has the same picture, more accurate than before, and acts on it. This in turn results in more efficient operations and better use of resources for everyone.

*"If there is a delay, we know it sufficiently in advance and can deal with it much better. In the past, dealing with these situations involved a lot of phone calls and questions for our hub*

*controllers. Now, there is no need for open questions about what is happening. The information is available."*

Airport dispatchers, Zurich.

### 2 Recover quicker from adverse conditions

If all other Airport CDM elements are already in place at an airport, special Airport CDM procedures for adverse conditions can be applied. These procedures enable people to manage the situation efficiently and facilitate a swift return to normal capacity. It also ensures that de-icing, whether on stand or remote, becomes part of the overall process of handling a flight. The time required for de-icing becomes visible and it can also be accounted for in the calculation of the various target times.

*"CDM in adverse conditions will never solve all the problems... but sharing information with*

*all partners definitely helps."*  
Werner Suhner, Swiss

### 3 Improve planning at a network level

CDM airports are connected with the CFMU via Flight Update Messages (FUM) and Departure Planning Information (DPI) messages. These automated DPI messages keep the CFMU up-to-date with progress and enable them, if necessary, to update Calculated Take Off Time and send an FUM to the next destination airport. This all helps to improve predictability and extend the local benefits of Airport CDM to the whole ATM network.

Airports benefit too, because when the predictability of arrivals is improved, airport resources can be used more efficiently.

## The result is you...

- 
- 1 Save costs
  - 2 Reduce emissions
  - 3 Enhance trust and understanding with partners
  - 4 Improve your image
  - 5 Increase availability of en-route and airport capacity



### 1 Save costs

Cost-benefit analysis concludes

- Expected benefits of up to €90M (over 10 years, all partners included)
- Benefit-to-cost ratio of up to 9/1
- Quick return of investment for all partners – 2 years
- Risk of financial loss is practically non-existent

There is a very strong case for implementing Airport CDM

### 2 Reduce emissions

By using more accurate taxi times and up-to-date readiness information, ATC can better

plan the departure sequence for flights. If 50 major airports in Europe could save one minute of taxi time per flight, as Brussels has achieved, Airport CDM could save airlines 145,000 tonnes of fuel annually which would contribute to 475,000 tonnes of saved CO<sub>2</sub> emissions.

### 3 Enhance trust and understanding with partners

*"The way we now discuss is completely different to how it was in the beginning. Transparency does miracles. The post-analysis of problems has become more constructive and is no longer 'a blaming culture'."*  
Marc Matthys, Belgocontrol

### 4 Improve your image

*"Harmonised procedures throughout Europe and awareness of the actual flight status - that's why pilots love CDM airports."*  
Matthias Groppe, Lufthansa CityLine

### 5 Increase availability of en-route and airport capacity

*"The majority of flights are now ready for take off at the runway already when their slot window starts, that means five minutes before the Calculated Take Off Time. More than 85% of flights now meet their ATFM slots."*

Airport CDM Munich Results

# TAKE STEPS TO BOOST YOUR EFFICIENCY

Airport CDM has been pioneered by Brussels, Munich, Zurich and Barcelona airports. Many others are also at various stages of planning and implementation – including Amsterdam Schiphol, Prague and Oslo.

Airport CDM is one of the five priority measures in the Flight Efficiency Plan published by IATA, CANSO and EUROCONTROL. It is also an enabler to many of the technological advances being developed by SESAR.

Studies have shown that Airport CDM offers substantial benefits for minimal investment – and that EVERYONE wins

– airlines, airport operators, air traffic control, ground handlers and the air transport network as a whole.

Find out more about what is involved in Airport CDM, the processes and the benefits, by reading the Guide and the Manual, published by Eurocontrol or visiting the dedicated website [www.euro-cdm.org](http://www.euro-cdm.org) and downloading the reports and studies available.

You can also talk to the Eurocontrol Airport CDM Team who are actively supporting Airport CDM implementations across Europe.



For further information visit the European CDM website [www.euro-cdm.org](http://www.euro-cdm.org) or contact:  
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