

A-CDM

Airport Collaborative Decision Making

"Improving efficiency while helping the environment"

ACI EUROPE
AIRPORTS COUNCIL INTERNATIONAL

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David McMillan,
Director General EUROCONTROL

I am pleased to report that we do now seem to be recovering from the recession-induced slump that has so affected us all. Traffic in Europe is growing again, particularly in the south east.

This reinforces the need for air traffic management (ATM) to respond and to improve its performance. The way forward is agreed – SESAR, founded on the concept of a performance-based ATM system built around fully-integrated, 4D trajectory-based operations.

Airport Collaborative Decision Making is an excellent example of much of the work going on to achieve the SESAR operational concept. It depends upon partnership – working together to improve performance. It is based on an integrated approach, with information being shared across different players. It emphasises the network nature of ATM where an apparently local decision can have implications across Europe. And of course it is focused on airports – at the heart of the need to increase capacity.

A-CDM is also a fine illustration of the way that improvements in performance can often be achieved without major capital expenditure. It is more a question of changing culture and working practices. Of course, that doesn't make it any easier to implement! However, it does mean that it's very likely to make sound financial sense.



Olivier Jankovec,
Director General ACI EUROPE

The global economic crisis and the resulting changes in the structure of the European aviation market have led to a renewed focus on efficiency and performance for Europe's airports. In this context, processes aimed at streamlining operations on the ground are essential. They allow us to make the most of existing capacity while lowering operational costs and reducing both noise and CO^2 emissions.

This is precisely what A-CDM is about. The enhanced, timely exchange of information that is at the heart of A-CDM creates a virtuous circle of operational gains on the ground and beyond, throughout the air transport network.

The result is a win-win situation for all partners involved: airports, airlines, air navigation service providers and ground handlers. Ultimately, this optimisation of resources helps to make the journey smoother for the passenger and reduces environmental impact.

Since 2008, ACI EUROPE has played a key role in raising awareness about A-CDM and driving its implementation at European airports. Our A-CDM Action Plan, developed jointly with EUROCONTROL as part of a wider cooperation agreement, has been a particularly exciting venture. While it has already yielded significant results, we look forward to getting more airports involved and making A-CDM an operational feature of Europe's airports.

What is **A-CDM?**

Airport Collaborative Decision Making (A-CDM) is about improving the operational efficiency of all airport partners by reducing delays, streamlining the predictability of events during the progress of a flight and optimising the utilisation of resources.

The partnership involves airport operators, aircraft operators, ground handlers and air traffic control working together more efficiently and transparently and sharing data in real time. A-CDM means making better decisions – based on more accurate and timely information, including the Central Flow Management Unit at EUROCONTROL (CFMU), having the same operational picture.

The A-CDM concept is implemented in the airport environment through the introduction of a **set of operational procedures and automated processes.** A phased, bottom-up approach for implementation is essential, in order to achieve the maximum benefit.

Information sharing is the first and most essential element of A-CDM as it creates the foundation by creating a common situational awareness. In addition, it potentially brings predictability and resource efficiency benefits. After the creation of this information platform, the main priority is the implementation of the **target off-block time** (TOBT) by using the **milestone approach** to improve predictability during the turnaround process of aircraft. These are two essential requirements for implementation of the remaining concept elements. With **variable taxi time** in place, the link between off-block time and take-off time becomes transparent to all partners as well as the CFMU. With the **pre-departure sequencing** function the **target start-up approval time** (TSAT) can be calculated, providing an off-block sequence.



Dr Michael Kerkloh,
CEO of Munich Airport

"Munich is the only airport in Europe that has been implementing Airport Collaborative Decision Making in its regular operations since 2007. This networking of the airport, airlines, ground handling, handling agents and air traffic control has enabled us to optimise and accelerate our operational processes in the area of aircraft handling. Among the benefits are substantially reduced delays between the landing and departure of aircraft and a decrease by approximately one third in waiting times spent on the ground with engines running. Through improved resource planning, all parties involved save costs. The environment also benefits from significantly lower emissions."



Mr Tim Hardy, Airside Director, BAA Limited

"Going forward, Airport Collaborative Decision Making (A-CDM) is the foundation stone of the Single European Sky ATM Research (SESAR) project and a key enabler to the realisation of the ATM Masterplan bringing cost, capacity, safety and environmental benefits to our airline customers both during normal operations and especially through times of disruption. All airports will be touched by SESAR and their integration and industry leadership through such initiatives as A-CDM will bring much needed predictability to the needs of the travelling public and reputational benefits to all stakeholders in the years to come."



With the above four elements of A-CDM in place, the last local airport step is to implement **CDM in adverse conditions.** Using pre-departure sequencing for the situation where different bottlenecks occur enables air traffic control to keep the traffic capacity optimised. With all local A-CDM concept elements successfully implemented, the airport is ready to connect with the CFMU for collaborative management of flight updates with the exchange of the flight update message (FUM) and the departure planning message (DPI).

Detailed information about Airport CDM is available at ***www.euro-cdm.org***



Mr Ad Rutten, President of ACI EUROPE and COO of Schiphol Group

"The increasing (peak) traffic volumes within European airspace and resulting complexity is making it a challenge to handle air traffic efficiently at airports. To further improve the flight and ground handling processes operational cooperation between all the partners in the chain needs to be optimised. Just like in a relay race, the final result is a sum total of the combined efforts.

A-CDM can be used to deploy resources and the available infrastructure more effectively. It also makes it possible to respond quickly to changes in the operational situation, such as delays or special weather conditions. Next to local efficiencies at all our airports, this improved info sharing is beginning to provide substantial network benefits of 10 to 20%, by removing the need for 'overflow' buffers in capacity constrained EU airspace."

Mr Marc MATTHYS ,
Senior Expert ATS at Belgocontrol & Brussels Airport CDM Project Manager



"A-CDM features a unique element: the information sharing which is key to keeping the tower fully informed about the readiness and status of any flight. This dramatically reduces the controller workload, thereby allowing for greater operational efficiency.

Furthermore, the reduction of taxi times (in 2008: -25% compared to 2007) led to a significant decrease in emissions and noise. This environmental benefit comes alongside the operational efficiency gains, bringing added-value even for the airport's surrounding communities.

Finally the improved data quality and flight predictability are beneficial for the whole ATFM-network."

Partnership between **ACI EUROPE** and **EUROCONTROL**

On 28 October 2008, ACI EUROPE signed a Memorandum of Understanding (MoU) with EUROCONTROL which committed the two organisations to joint action to enhance the capacity of airport infrastructure across Europe.

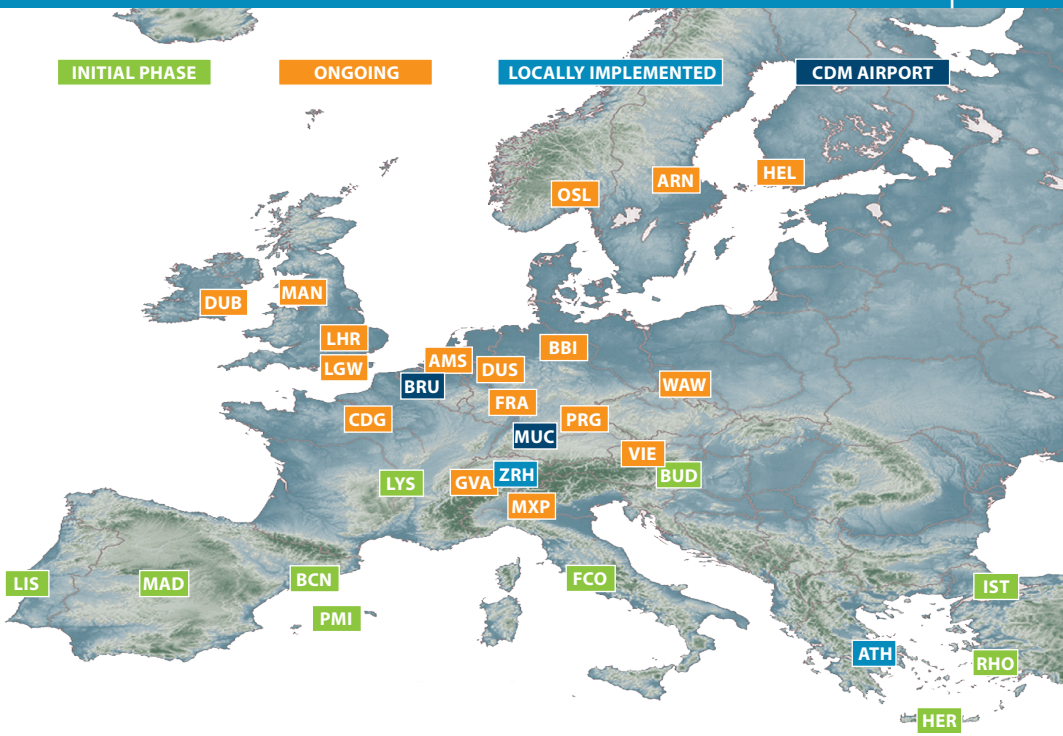
As part of the agreement, EUROCONTROL and ACI EUROPE set to work on implementing A-CDM between airport operators, airlines and Air Navigation Service Providers at more than 40 European airports.

Annual progress updates on the commitment of airports in the implementation of A-CDM are given every year at the annual ACI EUROPE Airport Exchange event. In 2009, it was announced that more than 30 airports had become engaged in the programme. The goal for 2011 is to advance full implementation at committed airports.



Mr Jacques Dopagne, Director Central Flow Management Unit

"At network level a more dynamic system is being implemented which will deliver to all stakeholders a greatly increased performance. A key element of the new air traffic management system will be the need to exchange highly accurate information – it is clear that the old style of operation will not work in the future. I am delighted at the progress being made on A-CDM. The two-way exchange of accurate information between airports and the network is already resulting in improvements in performance and delivering the flexibility that is needed. The benefits include enhanced predictability, reduced delay, more flexibility for those aircraft that are running late, better use of resources and significant environmental benefits."



EUROCONTROL/ACI EUROPE
joint targets for 2011

A-CDM implementation is now gathering pace. Although only two airports (Munich and Brussels Airport) have fully implemented A-CDM, 29 others have started.

By end of 2011, the target is for A-CDM to be fully implemented at:

- Amsterdam Schiphol
- Frankfurt
- Helsinki
- London Gatwick
- London Heathrow
- Paris CDG
- Prague
- Zurich

and to be locally implemented at the following airports:

- Athens
- Dublin
- Heraklion
- Lyon
- Manchester
- Rhodos
- Vienna
- Warsaw

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