# Departure Manager Benefits Major Hub Airports

## Operational procedures in the air and on the ground are optimized to reduce engine running times as well as emissions and environmental pollution

**April 2007: Frankfurt International Airport is the second airport worldwide that is using a departure manager to optimize the whole airside process at the airport. With the successful start of operations of its departure management solution Delair demonstrates again very impressively that Darts4D is working beneficially for major hub airports.**

Pressure from the European Union to reduce emissions and environmental pollution is increasing. For this reason, operational procedures in the air and on the ground have to be optimized to reduce engine running times.

In 2004, the operator of Zurich airport analyzed the effect of the departure manager Darts4D DMAN as one of the most important parts of Advanced Collaborative Decision Making (A-CDM). Most visible effect of this process optimization was that Darts4D DMAN reduced queues of waiting departures at the take-off runway during peak hours: In Zurich, this reduced the queues from 6 to 10 to 3 to 4 departures, which subsequently has resulted in 1,150 tons reduction of fuel burn. Additional effects were reduced emissions of 4.2 tons NOx, 4.0 tons HC, 33.7 tons CO, and 3,62 tons CO2.

It is expected these positive effects are even higher for larger airports like Frankfurt. Already during the first weeks of successful operation, Darts4D DMAN has shown its expected potential.

Software based systems for optimized air traffic procedures contribute to coping with traffic growth at remaining physical airport resources. They support controllers' precisely timed planning and control regarding arrival and departure traffic. With precise planning and shorter staggering times, runway capacities can be used optimally.

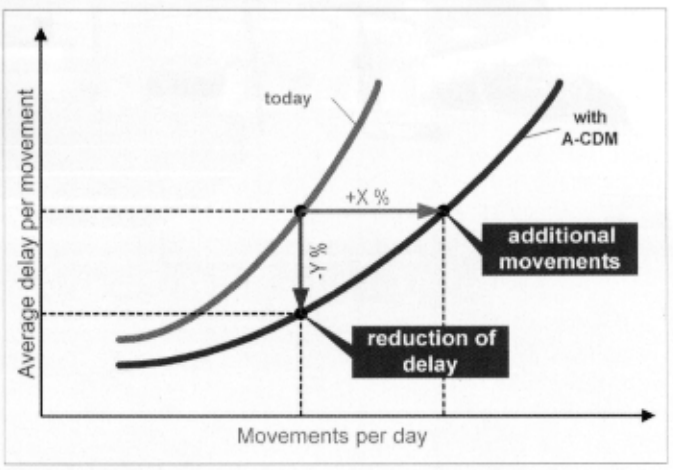
Based on flight plans, radar, and weather data, and considering noise reduction measures, tower controllers are provided with an optimum sequence of arrivals and departures in connection with corresponding departure and arrival times. Thus, controllers are supported in their air traffic planning and they can concentrate on safe air traffic control.

The objective is to achieve a harmonic traffic flow from which airport, carrier, passengers, and residents will profit. Utilization of capacities is improved and delays are reduced. Fewer holding patterns, shorter taxi times before departure, and optimized procedures result in reduced fuel consumption and less noise and pollution emission.

With its A-CDM product suite, Delair Air Traffic Systems GmbH has developed a solution to optimize airside processes at airports. Product suite includes the A-CDM platform as the interface between Delair's applications and external systems as well as other advanced planning tools. Advanced tools consist of the arrival and departure manager Darts4D (developed in cooperation with DFS based on the DFS arrival manager 4D-Planner and Delair's departure manager Darts4D DMAN), resource manager Sally, and electronic flight strip system Focus. Darts4D DMAN and Sally at Zurich International Airport and 4D-Planner at Frankfurt International Airport have been operational since 2003. In April 2007, Darts4D DMAN was also implemented successfully at the Frankfurt International Airport. This year Delair will implement Focus at one of the fastest growing airports in the world: Dubai International Airport.

Delair Air Traffic Systems GmbH was founded in 1997 by employees of German Aerospace Research Center (DLR) at the research airport Braunschweig. With the use of their know-how from research and development, Delair aimed at developing innovative air traffic management systems. Delair develops systems to optimize processes of air traffic control, airport operators, airlines, and handling agents.

Delair products are in operation at the international airports of Frankfurt and Zurich, where they are reducing costs and improving airport processes. END




*Delair's departure manager Darts4D DMAN is one of the most important parts of Advanced Collaborative Decision Making (A-CDM), which reduces delays and allows additional movements.*