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DLR develops planning system on behalf of DFS to optimise air traffic flow at airports

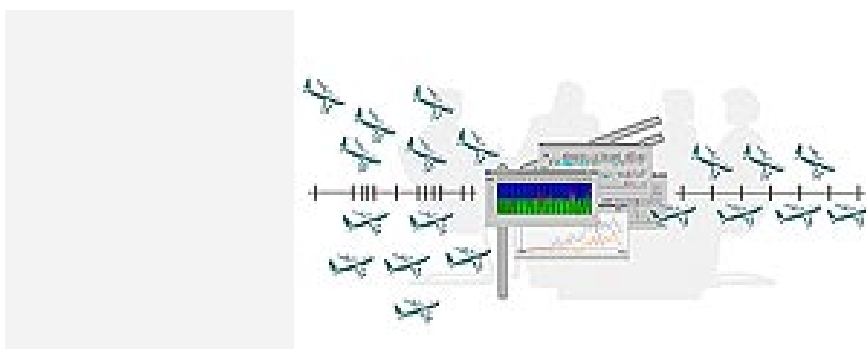
26 October 2006



Rush hour on the runway

A new planning system CLOU (Co-operative Local Resource Planner) uses predictive, site-wide process optimisation in airports to significantly improve the punctuality of arriving and departing flights. The German Aerospace Center (DLR) designed the system as part of Aviation Research Programme III in collaboration with an industrial consortium that includes Fraport (the operator of Frankfurt Airport), DFS (Germany's national air traffic control service) and Lufthansa. The project was developed to prototype stage on behalf of DFS..

The performance of the CLOU system was tested using simulated situations. Scientists were able to significantly improve the punctuality and flow of air traffic compared with the usual first-come, first-served method – particularly in poor weather conditions.



The CLOU planning system

Unlike conventional tactical planning systems like AMAN (Arrival Manager) and DMAN (Departure Manager), which produce schedules for approximately the next half-hour, CLOU generates a schedule for all take-offs and landings over the next three hours.

By predicting available capacity on landing runways and using flight schedules, CLOU optimises punctuality and capacity utilisation at Frankfurt Airport, making the airport more efficient and contributing to environmentally conscious management. CLOU calculates scheduled times, which the airport then aims to meet using a range of control measures to allow flights to be processed smoothly without unnecessary time spent waiting. The airlines' priorities for punctual processing of particular flights and the requirements of DFS are all taken into account.

Later on in the year there are plans to test CLOU in parallel to real operations, in so-called 'shadow mode', to refine the settings and parameters within the planning system.

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