Dedicated to innovation in aerospace

Forecasting runway allocation

MeteoGroup

PRODUCTS & SERVICES

Plan runway operations up to 30 hours ahead under all weather conditions

Providing decision support is becoming increasingly essential as airports become busier and noise regulations are tightened. To guarantee a safe and efficient handling of air traffic under more demanding meteorological circumstances, NLR has developed a unique tool to support the procedure of runway allocation. The tool can be tailored to match the needs of the client.

One unique tool with multiple benefits

Forecasting Runway Allocation helps Air Traffic Supervisors who want to ensure safe traffic handling and sufficient capacity under all weather conditions by offering decision support in selecting the most favourable runway configuration.

ATC DECISION SUPPORT

For safe and efficient handling of traffic, ATC supervisors observe the weather forecasts to plan runway changes. Adverse weather conditions make this an art that is very difficult to master.
Our tool supports the supervisor by determining all possible runway combinations together with their probability of use, based on the actual and forecasted weather. This eases the workload and allows the ATC supervisor to select the most favourable runway combination, now and in the next several hours.

The weather forecast is based on a multi-model MOS-system provided by MeteoGroup. MOS is a statistical technique that combines the forecasts of different weather models with measurements from local ground stations into a single, high quality forecast. This approach takes the local characteristics of the airport into account that would otherwise be lost when using a generic weather model.

CAPACITY MANAGEMENT

With the introduction of planning systems, such as CDM (Collaborative Decision Making), AMAN (Arrival Management), DMAN (Departure Management), and CDOs (Continuous Descent Operations), the look-ahead time for runway operation changes significantly. Our tool increases the effectiveness of these planning systems and procedures by extending the planning time horizon. With accurate capacity forecasts, stakeholders will be able to plan their operations and assign resources more efficiently.

The runway forecasts can be used to balance capacity and demand. If future demand exceeds the predicted capacity, the tool warns the ATC supervisor.

RUNWAY CONFIGURATION MANAGEMENT

Runway changes require new inspections, lights to be switched on or off, and traffic to be redirected. This makes runway configuration management a complex affair. However, changing weather or operational conditions can make reallocation of runways a necessity. Using our tool, the ATC supervisor is able to plan these configuration changes more efficiently.

INDEPENDENT REFERENCE

An Air Traffic Supervisor needs to guarantee safe and efficient operations, usually using a noise preferential runway system. Yet, the required actions are not always understood by the outside world. Our tool provides the supervisor with objective support to take the decision.

CONTACT US ANY TIME
for support in finding and developing solutions with prediction of runway use and capacity based on weather forecast and noise regulations.

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