USE CASE

AIRPORTRESOURCE MANAGER
RUNWAY PERFORMANCE MANAGER (RPM) MODULE

MANAGES RUNWAY CAPACITY AND ENABLES SOUND PROACTIVE ACTION

Airports that operate at close to their maximum runway capacity are constantly at risk of delays and cancellations and, typically, they cannot predict what the situation will be in the upcoming 12 to 18 hours. Airports mostly operate in reactive mode and flight delays are announced only shortly before they occur. SITA has developed an application that takes into account the various factors that affect runway capacity and predicts the knock-on effects of these factors.

ISSUES

Lack of runway capacity information

With limited information on runway capacity, airport stakeholders cannot make effective decisions.

Limited information on the impact of flight schedules

Many variables influence runway capacity, which in turn can affect arriving and departing flight schedules. Airport operators are usually limited to identifying the short-term effects only. However, without the proper tools, it is impossible to predict the impact in a 12 – 18 hour period and therefore operators work with average values.

Absence of decision-making support tools

Airport operators often have to take decisions without having visibility on the potential outcome.

SITA SOLUTION

The RPM module, which is a feature of AirportResource Manager, is a proven application that:

- Takes into consideration various inputs such as weather conditions, runway usage limitations, regulatory constraints and flight data to calculate the accumulated delays over the following 12 – 18 hour period.
- Presents the projection of delays over time and the actual runway(s) status.
- Enables to create 'what-if' scenarios simulation, allowing the operators to take effective decisions on flight delays, cancellations or the re-prioritization of runway access at a very early stage.

BENEFITS

- Improves situational awareness for all airport stakeholders
- Facilitates robust planning
- Helps optimize the allocation of mobile resources
- Ensures proactive operations adjustment instead of ad hoc reactions
- Enables airports to effectively recover from unscheduled events
- Simplifies compliance with environmental regulations on noise and air quality

"RPM is an

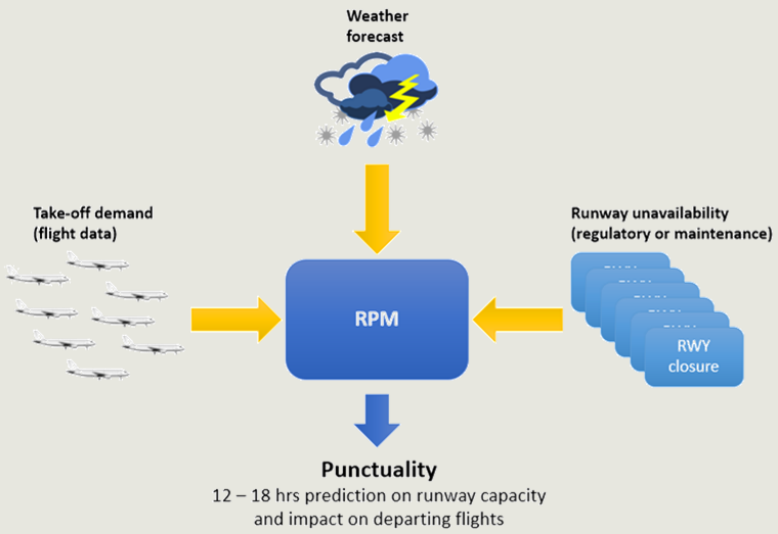
essential tool

that enables us to identify capacity constraints at an early stage, on our airport control center's screens. RPM's identification of upcoming delays allows both us and our partners in the ACC to take initial action, thereby minimizing delays and their impact on our travelers."

Thomas Hansen
Head of Airport Control Center
Düsseldorf International Airport

SITA
Create success. Together

HOW DOES IT WORK?



- Real-time information
- Integration with third-party systems
- Increased predictability
- Part of the AMS portfolio

SOLUTION COMPONENTS

The RPM module calculates the available runway capacity, which is influenced by several factors such as weather conditions, infrastructure limitations, night closures, emissions and noise limits. The calculation is done for accessing (taxiing) and using the runway (landing and take-off). The flight's punctuality is calculated based on the comparison between the runway usage demand and the runway capacity.

Integration – the RPM module is part of the AMS portfolio and uses the AirportCentral framework to store flight data information. Integration with third-party systems is possible.

Performance status prediction – the operators can see the runway performance status prediction for the next 12 – 18 hours and the overall delays impact.

'What-if' scenarios simulation – the operators can simulate different scenarios to check the potential impact on their business objectives.

CASE STUDY

Düsseldorf International Airport (DUS) is using the RPM module as one of the main tools in its airport operations control center (AOCC). DUS is limited in the use of its parallel runway system (one runway must remain closed for 50% of the airport's total operating hours) and the RPM module allows DUS to minimize the impact of this restriction due to proper delays forecasting and flexible use of the runway system. The airport is now able to take proactive decisions on which aircraft departure to delay or bring forward, to ensure that the runway operates at its maximum capacity.

Overall, DUS identified the following benefits:

- Reliable forecasting of expected delay situations, which in turn improved both service and savings for airlines and handling agents
- Reliable quality of airport collaborative decision-making (A-CDM) operations, even in adverse conditions, which increased the performance level for the predictability of delays.

For more information please contact us at
info@sita.aero

SITA
Create success. Together