

## Kronos Helps Qantas Airways Plan Long-Range Requirements for Crew Resources

Recognised as one of the leading long-distance carriers, Qantas Airways is the world's second-oldest airline, founded in 1920 in the Queensland outback of Australia. Qantas pioneered services from Australia to North America and Europe. Today, The Qantas Group employs approximately 38,000 people across a network that spans 142 destinations in Australia, the Asia-Pacific, the Americas, Europe, and Africa. The flying businesses of the Qantas Group include Qantas, QantasLink, and Jetstar brands that domestically operate more than 5,000 weekly domestic flights in Australia, 250 weekly flights within New Zealand, and nearly 700 international flights a week to 80 international destinations in nearly 40 countries.

### Moving beyond spreadsheets

As Qantas continues to grow — both in aircraft and numbers of flights — the sophistication of its operations began to outstrip the manual, labour-intensive processes it used to schedule and plan its flight crew resources. Like most airlines, Qantas uses a complex system of seniority and merit to enable flight crews to bid for routes and promotions, planning its resource requirements two to three years in advance. Previously, the airline used a basic combination of fragile spreadsheets and manual processes that relied on the intuition of Qantas's experienced planning team.

According to Trevor Voget, manager of air crew resourcing and analysis for Qantas, that created certain challenges for the airline. "Spreadsheet planning worked fine 10-15 years ago when we had two types of craft," he explains. "However, as we grew, relying on a manual process limited our ability to do comparative analyses. It was difficult to optimise our crew and infrastructure resources — so there were clearly hidden costs stemming from that approach. And, of course, with spreadsheets, data integrity is certainly an issue."

### Responding to new demands

With the company's continued growth, Qantas's crew-resources team would create three-year rolling plans to determine their staffing, equipment, and training needs — plans that took approximately one month to complete. New enterprise bargaining agreements then created new demands, mandating increases in productivity, better-timed training, and greater transparency for the planning process itself.

Seeking a new platform for managing crew resource planning, Qantas turned to the Kronos® Altitude® suite of customized crew planning, management, and optimisation solutions designed exclusively for the airline industry. In particular, Altitude ManPower Planning™ (MPP) helps strategically plan for optimised, qualified, and properly trained manpower levels and a cost-effective and efficient operation of the projected fleet.

Altitude MPP helps airlines manage short-term and long-term planning requirements for every applicable category of crewmember and supports enhanced decision-making. Crew planning staff can evaluate the manpower impact of changes made to the fleet, from vacations to contract negotiations to opening or closing bases. By more accurately forecasting future events and how they affect manpower, Altitude MPP provides an optimised window to the future, enabling the airline to determine exact staffing levels and deployment costs, more accurately forecast and eliminate manpower shortages, and understand training requirements and training capacity.

*"The information that Altitude MPP provides enables us to make faster, smarter decisions about crew allocations, ensuring our flight crews are fully utilised, and as a result we minimise our crew costs."*

Trevor Voget,  
Manager of Air Crew Resourcing  
and Analysis

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### Qantas Airways

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**Category:** Manufacturing

**Business Type:** Airline

**Employees:** 2,200 pilots

**Product:** Kronos Altitude MPP

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## Optimising plans, reducing costs

Each year, Qantas identifies and publishes category vacancies that crew members can bid for using Altitude MPP's crew interface. These vacancies — and any consequential vacancies — are awarded or assigned to qualified pilots based on seniority and merit. There are usually several iterative cycles of bidding to determine which employees will work on which aircraft at which locations. In the award of training vacancies, Altitude MPP includes a series of optimising functions to allocate around different constraints such as merit restrictions, date limitations, pilot constraints, training requirements, and more.

The Altitude MPP Training Solver, working within those many constraints, helps Qantas identify dates for pilots to begin training. "We build in a set of parameters — simulator constraints for example," says Voget, "and Altitude MPP creates a complete schedule for all needed training around those constraints."

Over the short term, Altitude MPP also helps Qantas optimise its next roster period. The user can more accurately assess crew availability and make more informed decisions to ensure efficient use of flight crew by category. The airline can award, assign, or cancel annual leave; increase or decrease workload to available category establishment; readjust training course commencement dates; and more. Altitude MPP helps ensure that decisions comply with industrial awards (union contracts).

## Faster, smarter decisions

According to Voget, the primary benefit of Altitude MPP revolves around the ability to perform long-term comparative analysis. "Altitude MPP enables us to look at our crew requirements and determine how to best meet those requirements," he explains. "Depending on the promotional training program, Qantas may identify a training capacity constraint, such as a simulator. Through scenario modelling and comparative analysis, Altitude MPP allows us to determine the most cost-effective way to offset that constraint and meet crew requirements — whether through internally managed training or a combination of internal and external resources.

"We can run multiple scenarios very quickly and come up with a cost-effective plan. The information that Altitude MPP provides enables us to make faster, smarter decisions about crew allocations and ensure our flight crews are fully utilised. As a result, we minimise our crew costs by making better choices about the impact of schedule variations and supplementary or charter requests."

Voget also praised Altitude MPP's ability to make the process more visible and transparent to all participants. "We use actual names and service dates, so both the user and management can see the precise impact of the proposed operations," he says. Qantas also uses Altitude MPP's flexibility to model different scenarios. For example, by changing different metrics and parameters, the team can assess the impact of changes to schedules or industrial awards.

Ultimately, Altitude MPP delivers significant cost savings to Qantas. "Whether it be long-term planning or short-term fine tuning, Altitude MPP helps us in our training and evaluation processes, and minimises the costs of these processes to the company," he says. Moving forward, Qantas is also assessing ways to integrate Altitude MPP with a Leave Solver and Training Resource Management system to further optimise crew establishments and training programs.



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