ENTER A WORLD OF OPTIMIZED RESOURCE PLANNING
Where airport services maximize safety, quality and passenger comfort
Demand-driven resource planning above and below the wing

Successful airport service providers master complexity to meet their business goals.

Every decision an airport service provider makes balances profitability with keeping tens of thousands of stakeholders happy, in a constantly changing environment.

Your planners and dispatchers must ensure that passengers are processed with speed, safety and comfort, while managing complex variables including employees, equipment, facilities, airlines and flights. Your company’s future depends on how well they perform.

This is where DELMIA Quintiq comes in.

_Airservices Australia_ has cut payroll-related inquiries by 80% and reduced processing time, printing costs and errors, while increasing productivity and strengthening fatigue risk management.

_KLM Catering Services_ improved its delivery performance to over 99% and, through more efficient use of its vehicles and drivers, gained 3% in capacity.

_LSB Sky Chefs-Brahim_ has cut labor costs by 20% – and they’re still decreasing – and reduced its number of trucks and vans by 15% and 35%, respectively.

Read on to discover if your operation has the key capabilities to succeed. Find out how DELMIA Quintiq’s world of optimized resource planning could help you overcome the everyday challenges of your business.
“We have improved our ability to respond to flight delays and therefore our customer service. Our planning process is much better, and we can predict where manpower issues might occur, which in turn reduces overtime.”

– LSG Sky Chefs-Brahim
Can you:

- Keep your operational plan aligned with your flight schedule?
- Minimize the effects of disruptions caused by delays, congestion, extreme weather, equipment breakdown or staff sickness?
- Make best use of staff availability in shift schedules, taking union agreements and employee preferences into account?
- Explore the impact of plan changes on KPIs and make decisions that enable you to achieve your business goals?
- Coordinate all your ground staff and the equipment and facilities they use within a single plan?
- Ensure smart assignment decisions when the information flow is too great for the human mind to deal with?
- Perform collaborative decision making among multiple stakeholders?
- Manage stands and gates according to airline preferences, safety regulations, equipment and site specifications?
- Communicate revised plans quickly across your operations?
Do you get the best results out of your planning?

Challenge 1
Demand-driven shift planning

At peak hours, there’s congestion at check-in, security, and baggage claim areas. Off-peak, staff often sit idle.

Shift planning is a constant challenge, because it’s not just about meeting variable demand. It involves complicated, employee-specific rule checking, and it’s largely reliant on the planner’s personal knowledge.

DELMIA Quintiq response
Accounting for skills

Your planner identifies the combinations of employees, skills and qualifications needed through the day. You can see clearly who is available for overtime and who can be reassigned.

The shift plan incorporates all the rules, regulations and personal requirements, with your scheduler able to adjust it from his own knowledge.

Passenger – and employee – bottlenecks are eliminated.

Your planning system enables the scheduler to optimize shift planning for best demand coverage.
Challenge 2
Dealing with uncertainty in a hectic environment

Aircraft switches, flight delays, cancellations and other disruptions all affect ground crew and passenger services. You need to replan your workforce and tasks on the spot.

Your legacy point solutions mean it's a struggle to replan employees and tasks quickly, efficiently and cost-effectively. Especially when you can't see the wider impact.

DELMIA Quintiq response
Support to create robust schedules

With strategic buffers in your schedule your dispatcher can respond quickly and effectively to sudden changes.

Real-time transparency of the entire chain of flight and airport activities and the systems' intelligent support allow you to seamlessly manage allocation of resources throughout the day, immediately updating stakeholders.

You reduce delays caused by your operations and cut unbudgeted overtime shifts.

Total visibility and insight allow you to create a flexible daily schedule.
Challenge 3
Last-minute schedule changes: Are you ready for them?

A nearby airport closes, and ATC informs you that your airport will receive 12 additional flights over the next 2 hours.

When resources are planned in separate systems, it’s difficult to determine quickly whether the slots, ground staff and equipment are available or if there will be delays for regularly scheduled flights.

You struggle to determine how this unexpected development will affect costs, overtime and safety compliance for your operations.

DELMIA Quintiq response
Real time alternatives fast

As the dispatcher sees the additional flights show up on his screen, he uses of his all-in-one system’s powerful optimization support to select the best possible scenario for allocating your resources, while meeting safety requirements and avoiding extra costs.

The system monitors and displays the status of all airport events in real-time and alerts the planner of rule violations, conflicts or compliance issues. It communicates the consequences of your planning decisions to all stakeholders.

React fast to events with a powerful system that reallocates resources and alerts constraint violations.
Challenge 4
How quickly can you respond to equipment failure?

Your apron staff reports the breakdown of the push-back tractor at one of the aircraft parking positions. The plane waiting to be pushed back may not be able to depart on time.

Can you mobilize a replacement vehicle and have the plane turned around in time for the next arrival?

Keeping your daily operational plan on target is hard. Technical problems and other disruptions can create a chain of messy consequences.

DELMIA Quintiq response
Support for interdependent, multi-resource challenges

The dispatcher has immediate insight into replacement tractors’ availability, drivers’ shifts and the consequences for the rest of airport operations. He selects the best option and communicates the change across your affected operations before the breakdown ever becomes a problem.

Your dispatcher can make better decisions, and your company continues to provide its services on time and on budget.

Quickly solve rescheduling puzzles involving people, equipment, locations and other interconnected factors.
Challenge 5
Do your systems communicate with each other?

You’ve been notified of a number of flight delays. Your planner becomes overloaded, and your entire organization feels the repercussions.

Your various point solutions have a hard time communicating with each other. You have to handle each item, then print out your revised plan and run it over to other departments, who have to enter it into their systems manually.

The DELMIA Quintiq response
Flexible integration

Rescheduling in your daily operations is a breeze, because all your systems talk to each other.

All areas operate within a powerful single-platform resource planning solution. It is so flexible that it interfaces with all other airport service, airline and airport systems and uses their outputs to provide a clear, unified plan. Any chance for error is eliminated.

The solution enables collaborative decision-making across systems and departments and even organizations. All aspects of planning decisions are visible in real time to the entire operation.

You have time to focus on building an effective, rather than just feasible, plan.
Challenge 6
To outsource or not to outsource?

You’ve just received your schedule for the summer season. Are you going to match peak activity by hiring seasonal employees, or by contracting out your services?

You turn to your spreadsheets to work out the implications of outsourcing, but there’s no answer in sight. Your planners will have to spend hours assessing the options and their effects.

DELMIA Quintiq response
KPI-driven planning: Not just KPIs, your KPIs

With a few clicks, you add the details of the summer schedule to your planning tool. It checks against your company’s resources, and highlights undercapacity. You compare the structural costs of labor, according to your company-specific, preset KPIs. You weigh the options of extending existing contracts, assigning overtime and contracting external resources. The system combines your planner’s expert knowledge with mathematical decision support, so you know in an instant your most cost-effective course of action.

The ability to explore airport resource plans according to KPIs you care about, drives significant improvements in profitability.
Challenge 7
An airline announces new flights: Can you handle them?

A leading airline has purchased new aircraft and is going to add several new routes linking your airport to other destinations. How will the extra demand affect your capacity in terms of ground staff, equipment, stands, gates and baggage facilities?

Without a complete view of what your operations can handle, you lack the decision support to determine the additional expense and whether you can meet customer preferences.

DELMIA Quintiq response
What-if scenario support

With what-if scenarios you know immediately what you can – and should – handle.

Your planner uses powerful multi-scenario analysis, taking costs and SLAs into account, to assess whether your company can manage the new flights using current capacity or by adding resources.

Not only do you keep your customers happy by responding quickly to their announcement, you know at the outset that the strategic decisions you make are cost-effective.

What-if scenarios help you explore profitable alternatives and make structural decisions.

“This is one of the few IT projects which has been implemented on time and within budget. The punctuality of the distribution of the catering products to the aircraft has increased from 98% to 99.5%, which is an important improvement for us. It has exceeded our expectations concerning the functional requirements.”

– KLM Catering Services
Planning for business goals

Planning is key to achieving your business goals. By including KPIs for quality, efficiency and safety in all planning decisions, DELMIA Quintiq’s solution ensures that:

- Optimal utilization of all resources
- Full compliance with rules and regulations
- Performing each task at the right time by the right person with the right training and qualifications

- Quick reaction to disruptions, assessing impact and recommending the best countermeasures
- Greater employee satisfaction and retention through scheduling that considers personal preferences
- Constantly updated demand planning based on the most recent data, including the latest flight information
The benefits of KPI-based planning

**Business goals**
- Quality (punctuality, passenger experience, adherence to service level agreements)
- Efficiency (cost savings, optimized resource utilization, employee retention)
- Safety (adherence to rules and regulations, up-to-date training and maintenance)

**Ramp services**
- In the case of disrupted operations, resources are immediately redirected and delayed flights are quickly put back on schedule
- Teams access planes quickly and in the correct order
- Overstaffing, understaffing and idle time is minimized

**Check-in services/Security/Gate services**
- Queues are shorter
- Less pressure and stress results in fewer errors
- Regulations are followed
- Counters staffed to exactly match demand

**Baggage Handling**
- Baggage reach their intended destination on time (e.g., delays due to incorrect handling are minimized)
- Efficient staffing and capacity planning of work stations for loading and unloading of baggage handling system
- Optimizing routing in the baggage handling system for inbound/outbound/transfer flights

**Catering**
- The right orders in the right quantities are delivered on time to the right flights
- Each aircraft is serviced by the right type of truck
- Multi-trucking routes are optimized for time and distance

**Cleaning**
- Real-time re-planning ensures cleaning crew is ready to service aircraft as and when needed
- Correct crew size ensures timely and thorough cleaning of each aircraft

**Airport Management**
- Enter a world of optimized resource planning
- Airport management

The benefits of KPI-based planning
- Ramp services
- Check-in services/Security/Gate services
- Baggage Handling
- Catering
- Cleaning

**Airport Resource Planning & Optimization**
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### Planning levels

- **Strategic Planning**
  - Years ahead
  - Quarterly
  - Monthly

- **Tactical Planning**
  - Weeks ahead
  - Daily

- **Scheduling**
  - Days ahead
  - Minutes

- **Dispatching**
  - Day of operation/Ad hoc changes

### Capabilities

- Demand forecasting
- What-if scenarios
- Shift requirement generation
- Training planning
- Hiring and outsourcing decision support

- Demand smoothing
- Leave planning
- Roster generation
- Roster assignment
- Workflow management
- Maintenance planning

- Shift assignment
- Task assignment
- Employee availability and preference management
- Equipment planning

- Real-time exception handling
- Ad hoc change management
- Fast communication

### Benefits

- Improve labor contracts
- Improve customer SLAs
- Create organizational transparency
- Reduce resource cost
- Optimize composition of teams and resource pools
- Increase performance

- Optimize sequencing of tasks within SLA windows
- Reduce peaks in demand
- Create robust resource allocation plans
- Achieve a fair distribution of workload
- Facilitate labor law compliance

- Increase productivity
- Increase resource utilization
- Increase employee satisfaction
- Reduce overtime
- Facilitate labor law compliance

- Increase SLA adherence
- Improve passenger experience
- Reduce costs
- Improve response times

### Horizon

- 01/01 to 12/31
- 01/01 to 02/15
- 01/01 to 01/05
- 08:00 to 09:00
The capabilities you have been exploring are part of the powerful DELMIA Quintiq airport resource planning and optimization system. Global players in the aviation industry rely on DELMIA Quintiq to:

- Reduce costs
- Make best use of resources
- Increase performance
- Improve passenger experience
- Increase SLA adherence
- Optimize the composition of teams and resource pools
- Create robust resource allocation plans
- Reduce overtime
- Comply with labor law

For details on how the DELMIA Quintiq system can optimize your operations, visit our website.
Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes’ collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 210,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.