

# COPENHAGEN AIRPORT

Centralized, integrated and streamlined workforce planning for Scandinavia's busiest airport



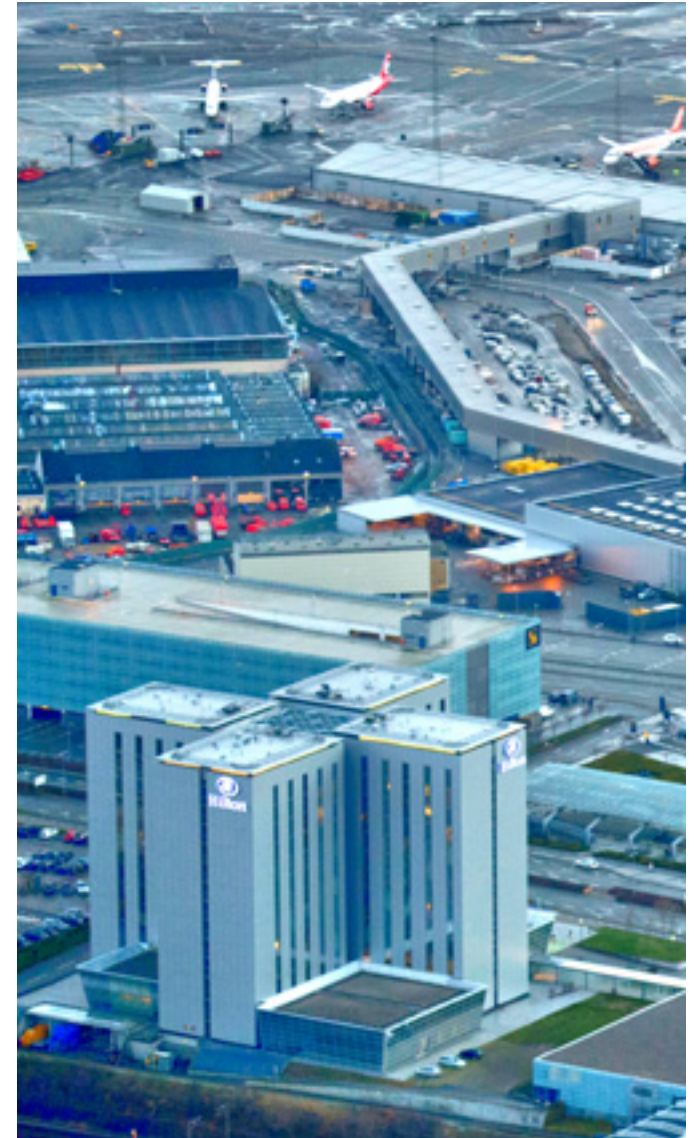
# The customer

Copenhagen Airport (CPH) is the busiest international airport in Scandinavia, with over 24 million passengers passing through its doors each year. Dubbed the gateway to Northern Europe, CPH is the largest airport in the Nordic region, serving 60 airlines and over 79,000 passengers daily. These numbers are expected to rise as the airport recently started servicing 22 new routes ranging from continental routes such as Groeningen and Yekaterinburg to transatlantic routes such as Boston and Miami.

Behind the scenes, it takes around 2,000 people to keep the airport running smoothly, 24 hours a day. This includes 1,000 staff who clear passengers and their carry-on luggage before they board, maintenance staff who ensure all doors, escalators and elevators are working at all times, and cleaning staff who keep the building immaculate. There's even a team of bird

hunters who prevent avian creatures from doing any damage to planes. The airport building itself has over 100 doors, all with different levels of security and maintenance requirements – adding another layer of complexity to managing the airport's infrastructure.

CPH has a comprehensive and strategic approach to workforce planning to ensure the facility runs like clockwork. In the last 10 years, it has been named "the most efficient airport in Europe" eight times. To maintain its reputation as one of the world's best airports, CPH's operations team examined how data could be actively used to enhance operational forecasting and planning. With that objective in mind, CPH sought a partner to help redefine its workforce planning processes.





Copenhagen Airports **CPH**

## Fast facts

<b>Business:</b>	Airport management
<b>Ownership:</b>	Privatized
<b>Location:</b>	On the island of Amager, 8 kilometers south of Copenhagen city center
<b>Staff:</b>	Approximately 2,000
<b>Passengers:</b>	Over 79,000 per day, 29 million per year (2016) 92% are international travelers, flown by 60 airlines

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– Charlotte Bolvig,  
Senior IT Project Manager

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# The challenge

“We are essentially many companies within a company. We have many departments with very different characteristics, different unions and different kinds of employees. Workforce planning is a very complex task,” explained CPH’s Charlotte Bolvig, Senior IT Project Manager.

In 2007, the airport operations team recognized that its staff planning tools no longer met its workforce planning requirements. 11 departments relied on various solutions ranging from SAP to spreadsheets and even paper and sticky notes. Staff rosters and shift patterns quickly became out of date if any variable changed – for example, if someone called in sick. Without a clear view of the airport’s overall staffing requirements, alternative solutions were not clear, for example, an extra employee may be called in to work when a few hours of overtime by an on-site staff member would have been sufficient.

CPH’s biggest department is airport security. Its existing system did not provide staff planners with a clear visibility of short- and long-term workforce requirements. For the short term, it is crucial to have a real-time view of security staffing. This is because the number of employees needed to man the security lanes at any given time will depend on the volume of people going in and out of the building. This greatly varies over a 24-hour period and is also dependent on the hour or time of year.

The fact that the airport never closes makes planning even more complex. One challenge that airport managers faced was scheduling employee vacations. Requests were difficult to manage without an automated system in place.

Another challenge was in how CPH had to factor around 1,000 union laws into its staffing requirements. Breaching union laws could result in industrial action – a potentially costly consequence. Naturally, the airport could not afford to suffer from any reduced staff productivity.

“We want to ensure that our workforce is being deployed as efficiently as possible,” said Lars Bever-Gimsing, Head of Security Resource Management. “Ideally we would use optimization technology to improve rotation patterns for staff shifts while adhering to all regulations.”

Ultimately, the airport needed to find a way to automate and improve its staff planning, given the critical role its employees play in serving international travelers and airlines in addition to the thousands of ground crew responsible for turning around planes on tight schedules.



# The requirements

The airport's operation team wanted a centralized system to manage the staff of 11 departments. These departments essentially function as small, independent divisions, each handling specific areas of operations such as security, cleaning, passenger services, vehicle maintenance, technical maintenance and bus drivers.

The planning system CPH needed had to recognize and anticipate peaks in demand to enable the facility to plan its workforce needs. The airport's project team wanted the solution to create automated rosters and assign employees according to rotation patterns, while fine tuning the process of assigning the remaining shifts.

The team also required the new system to have operational planning functions, including functions that would enable planners to assign specific tasks to employees in different departments. This is needed, for example, when assigning additional staff to man a security lane or to fix an elevator in a different part of the airport. Given the vast expanse of the airport,

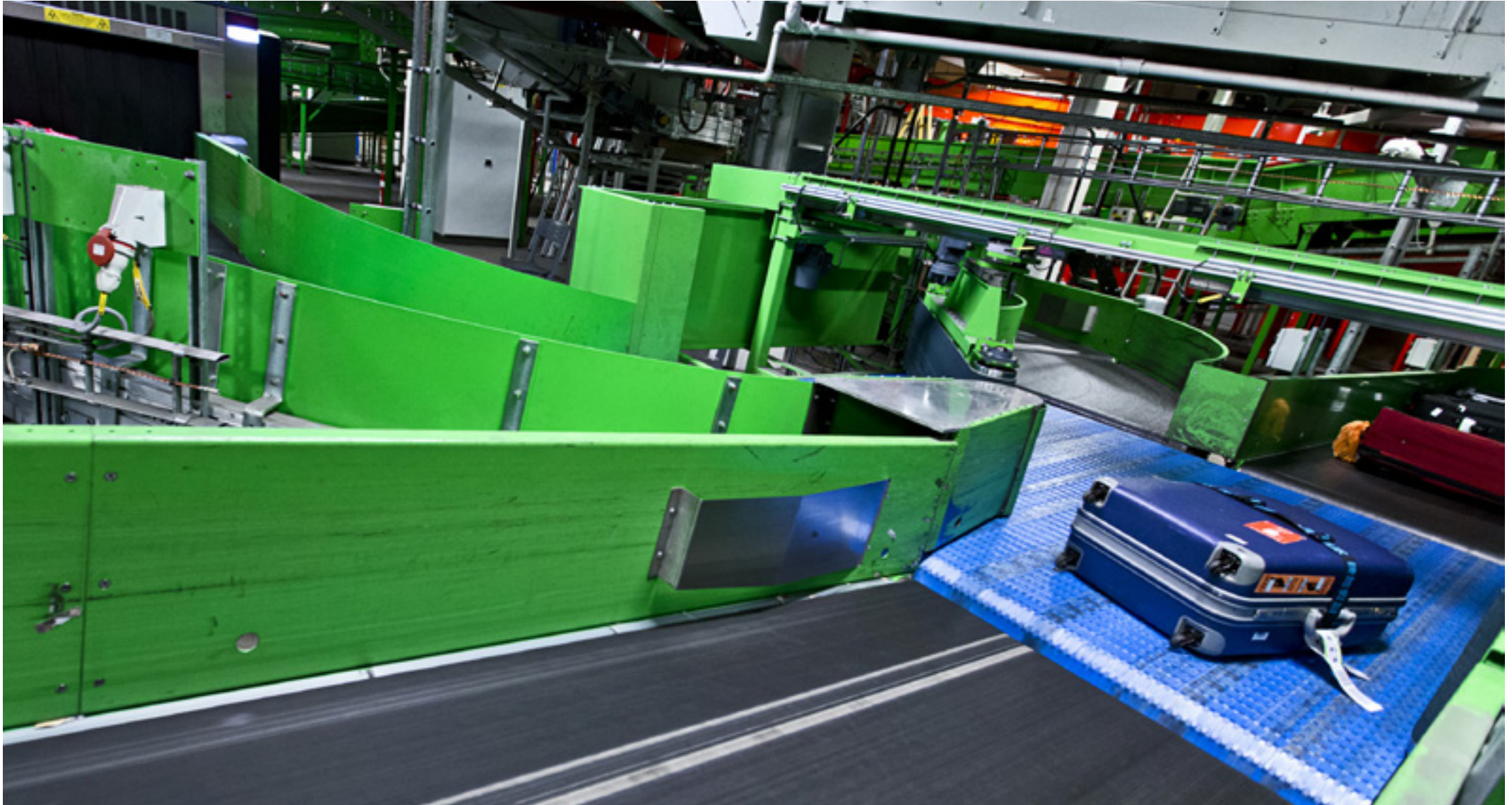
the actual amount of travel to and from areas where fixes are required can add up to a significant amount of unproductive staff time if the route is inefficient.

The system also needed to have vacation planning functions. It had to facilitate employees self-registering the amount of time spent on shifts and tasks, including overtime. CPH wanted to automate the process of earning time off in lieu when employees perform additional shifts or work at night or during public holidays.

Another feature that was important to CPH was a user-friendly interface. CPH requested for an employee portal that staff could use to check their own rosters and request shift swaps or days off. The whole system needed to integrate with existing systems including payroll, HR, task scheduling and mobile applications.

Finally, CPH needed to be able to implement the new system without creating too much stress for the organization and its employees.







## The choice

CPH was looking for a vendor with experience in optimizing workforce planning process across various sectors.

Out of 50 vendors that responded to the tender, DELMIA Quintiq was the only one to meet all the airport operator's requirements.

"We were looking for a software product to help us with workforce planning. However, we recognized that we wouldn't have been able to work with a system if we needed to change our operations to suit the system. In effect, we needed a system that could fit our operations and processes," said Bever-Gimsing.

Bolvig added: "We chose DELMIA Quintiq for the flexibility of its solution. DELMIA Quintiq's experience in different industries gave it a major advantage as well because other vendors had some experience with airports but not across all the different functions we have."

Apart from the clear advantage of having optimization technology as a core part of the solution, another major factor for choosing DELMIA Quintiq was the possibility of customizing the solution to fit CPH's work conditions and requirements.

Bolvig said: "We knew we wouldn't have been able to use a system that didn't fit exactly with our operations."



## Implementation

DELMIA Quintiq built an integrated workforce planning system, tailor-made to ensure the software platform met 100% of CPH's needs.

"The system goes above and beyond CPH's requirements. It doesn't just automate the process at the back end, but finds opportunities to make the process even more efficient," said Bolvig.

An example of this is how the system provides workforce planners with information on travel time based on where various repair sites are located across the airport's three terminals. Planners can then take travel time into consideration when coordinating maintenance staff assignments.

DELMIA Quintiq also built an employee portal which allows staff to have more control over their schedules. The portal enables them to check their assigned shifts and upcoming tasks, request time off, swap shifts with colleagues and volunteer for overtime shifts.

The implementation is also one of the first that DELMIA Quintiq has designed which integrates with a third-party mobile application.

The app lets employees:

- Check their assigned shifts using mobile devices
- View specific tasks for the day
- Accept or decline new shift assignments
- Record time spent performing tasks

The mobile app also collects that information and sends it back to SAP.

According to Bever-Gimsing: "Our employees love the new self-service portal. Being able to view their assigned shifts and tasks on the go, or record overtime hours through their mobile devices really puts our staff in control."



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“Since it was possible for the solution to model our business requirements and constraints, we now have a system that actually fits our operations.

“Apart from achieving something we couldn’t do with manual planning, DELMIA Quintiq enables us to optimize our workforce planning, beyond just automating functions.”

– Charlotte Bolvig,  
Senior IT Project Manager

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## The result

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“Now, we can see how many employees we have in the different areas, assess how efficiently we are using these employees to ensure that we optimize our resource utilization.”

– Lars Bever-Gimsing,  
Head of Security  
Resource Management

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Having a solution that modeled CPH’s unique requirements and constraints gave the airport the assurance of a system that truly fit their operations. DELMIA Quintiq enabled CPH to optimize its workforce planning beyond just relying on automated functions.

The new workforce planning system enabled CPH to reduce paper work, save resources and ensured that employees are being used to their full capacity. For example, the airport can now perform the same number of security checks but with the more efficient use of staff – leading to a reduction of wasted productivity.

“Previously, although the airport was running smoothly, we knew we were not planning in an optimal manner. With DELMIA Quintiq, we can gather data and effectively process all that information towards optimizing our manpower planning,” said Bever-Gimsing.

The solution gave CPH clarity over their operations, enabling visibility over employee numbers in specific areas of the airport. This enhanced visibility allowed CPH to assess the efficiency of its workforce, ensuring optimal resource utilization.

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