



**OPTIMIZING
WORKFORCE
PLANNING AT
SCANDINAVIA'S
BUSIEST
AIRPORT**

Dubbed the gateway to Northern Europe, Copenhagen Airports (CPH) is the largest and busiest airport in the Nordic region.

In 2021, Copenhagen was again named “the most efficient airport in Europe” by the independent Air Transport Research Society (ATRS) for the 15th time. Behind the scenes, it takes more than 2,700 people every day to keep the airport running smoothly, 24 hours a day.

CPH has a comprehensive and strategic approach to workforce planning to ensure the airport runs like clockwork. The focus is on developing a solid data platform to empower employees through technology, and create opportunities to unlock the value of digitalization and use of data.

The operations team at Copenhagen Airports prioritizes effective operations that - despite inevitable disruptions - deliver highly positive customer experiences. A strong collaborative partnership between Copenhagen Airports (CPH) and The Logic Factory (TLF) has resulted in a sophisticated solution that cuts through operational complexity and optimizes workforce planning.



approx.
75,000
passengers daily



16,500
employees



320
routes



60
airlines

THE CHALLENGE

Copenhagen Airports' ambition is to provide exceptional customer service consistently. Their employees - across departments including security, cleaning, and baggage handling - play a critical role in exceeding the service expectations of the airport's international travelers.

The airport operations team at CPH needed a centralized, inter-departmental workforce planning system to manage staff more effectively across its 14 departments. Each department functions independently and handles specific operational areas, including security, cleaning, passenger services, vehicle and technical maintenance, and bus transfers.

Due to the operational complexity at CPH, the transition to any new system had the potential to be fraught. The new system needed to recognize and anticipate peaks in demand, create automated rosters, and assign employees according to optimal rotation patterns. Additional complexities in operational planning also needed to be handled by the system:



Coping with frequently-changing regulations around factors like leave and overtime management



Given the vast expanse of the airport, taking travel time into consideration when assigning tasks to avoid inefficient routes and unproductive staff time



Handling changing variables. Often, sensible, alternative solutions for certain scenarios - such as when a staff member called in sick - were not always clearly visible



Balancing excellent customer experience with an increasing need to offer flexible working conditions for all employees.



A good illustration of the level of complexity is in airport security, CPH's largest department. The number of employees needed at the security lanes at any given time depends on the volume of people going in and out of the building and varies greatly depending on the time of day (or time of year!). It's crucial for the CPH team to have a real-time view of security staffing. And an airport that never closes makes planning even more complex.

Key system requirements:

- 1 Minimal disruptions during implementation**
- 2 Integration with existing systems:**
 - Payroll, HR, task scheduling, mobile apps
- 3 User-friendly interface**
- 4 Employee portal:**
 - To self-register task/shift time
 - To check rosters
 - To request shift swaps/days off
 - To automate the process of earning TOIL
 - To schedule employee vacations
 - Adhoc/sick leave
 - Shift swapping
 - Overtime registration

THE SOLUTION

DELMIA Quintiq provided an integrated workforce planning solution configured to provide a 100% fit with CPH's complex operations. When selecting DELMIA Quintiq in 2014, Senior IT Project Manager at that time, explained:

“
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.

”

The system doesn't simply automate the planning process – it proactively seeks opportunities to improve efficiencies and reduce costs. The software also helps CPH solve complex staff planning challenges, including creating rosters and schedules and managing vacations while maximizing utilization and considering both labor rules and employee preferences. The solution encompasses all operational employees at the airport.

CPH's ambition is underpinned by effective resource planning: having the right people in the right place at the right time. Post-COVID, staff rehiring challenges were widely experienced across Europe.

But, with a DELMIA Quintiq planning solution already in place, CPH was able to bounce back more quickly after the pandemic than other airports.

THE PARTNERSHIP

“In 2018, we began looking for a new partner to support us with enhancing our solution. Project knowledge, broad expertise across a variety of DELMIA Quintiq roles, and scale of operations were key requirements in selecting a new partner.”
Morten Hougård Rasmussen, Senior IT Asset Manager at Copenhagen Airports.

After a detailed review process, The Logic Factory (TLF) was selected as both a project and support partner. TLF provides ongoing development as well as maintenance on software solutions for DELMIA Quintiq customers. Helping DELMIA Quintiq customers achieve a range of business goals, the TLF team is uniquely well-placed to assist CPH with system enhancements and support to ensure it remains fully operational and relevant according to the ever-changing rules and regulations for aviation industry employees.

On board with CPH for more than five years, TLF provides continuous gold-level support. The TLF team comprises highly skilled consultants with a proactive approach to problem-solving. Their breadth of experience and in-depth knowledge of the solution is crucial given its complexity and importance in driving operational efficiency. In addition to ongoing support, TLF works with the CPH team on around 2 to 3 releases each year. Continually improving various aspects of the solution's functionality ensures it continues to meet customer needs.

These projects include:

- **Structural changes to accommodate shifting labor rules**
- **Multiple upgrades of the DELMIA Quintiq core version software**
- **Reactive problem solving**
- **Rebuilding one of the optimizers**
- **Building a new user-interface**
- **Building a new mobile app service**
- **Extending integrations to other systems**

Optimization gives CPH's planners the best options to fulfill demand, balance employee preferences, and comply with peak rules. Everything is documented. Changes can be tracked. And complex resource management scenarios can be handled with ease, for example, departments with different characteristics and types of employees.

The workforce planner's employee portal gives staff more control over their schedules. They can now check assigned shifts and upcoming tasks, request time off, swap shifts with colleagues, and volunteer for overtime.

THE RESULTS

Successful optimization projects require a deep understanding of what makes a good plan; the correct data in the right system, common goals for the planning team, and robust KPIs. By establishing a clear ROI for the solution to unlock, CPH was able to gain clarity over specific employee functions to create long-lasting operational transformation and optimize human resource utilization.

Morten Hougård Rasmussen explains:

“The flexibility of the DELMIA Quintiq solution means that we can configure the solution to our unique work conditions, constraints, and requirements. And with the optimizer, it provides a true fit with our operations and processes.”

Using the software, the operational complexity of handling staff resources is reduced. This delivers efficiency in managing passenger flow through the airport. At many airports, staffing is outsourced. But the CPH team can lean on their workforce planner to effectively manage this function in-house.

The introduction of the new mobile app enables workers to make changes to their schedule, apply for leave, and request shift swaps on the go, giving them greater flexibility and an improved user experience. Seamless integration means that changes are reflected in real-time, further simplifying the complex workforce scheduling.



Our planning solution is incredibly complex. Over the years, we have built a strong collaboration with The Logic Factory. The stability of both the project and support teams has been a significant part of our continued success. It's close to perfect cooperation.

John Hansen,
Consultant Business Analyst,
Copenhagen Airports

Managers, when recruiting, now even use the solution as an incentive to join CPH. Because, for job candidates, the possibility of creating your own work schedule is a compelling perk.

By opting for The Logic Factory's gold support package, any problems with CPH's workforce planning system are speedily resolved. For example, errors in payroll generation have been all but eliminated, with any discrepancies being easily found and fixed.

Collaboration and trust are the basis of any successful partnership. CPH and The Logic Factory work closely to continually improve the solution, adapting quickly to changing business requirements and consistently delivering the best customer experience.

ABOUT THE LOGIC FACTORY

The Logic Factory (TLF) is a global Supply Chain Planning and Optimization consultancy whose mission is to help customers make lasting performance improvements through optimized planning in the domains of manufacturing & supply chain, logistics, and workforce.

We offer high-quality planning, scheduling, and optimization solutions as well as hosting, maintenance, and support services. We believe in building long-term relationships based on mutual trust – as a valuable partner that supports business growth.

Having worked with DELMIA Quintiq for around 15 years, we are particularly adept at implementing and supporting Quintiq software. We are proud to be a DELMIA Quintiq Platinum Implementation Partner.