



**Case Study:** Transportation & Logistics

# This intelligent airport takes off at major European air hub, grounding its costs and delays

How one of the world's busiest airports took a new, digital approach to ensure a profitable future.

When you're already one of the world's top 10 airports, operating at around 98% capacity, how do you further your ambitions? The obvious solution would be to increase your flights, either by physical expansion or extending the number of hours you operate. But these options aren't currently open to one of Europe's top air hubs, which already serves around 75 million passengers a year to and from 83 countries. A proposed third runway has been approved by the government but still has to go through a public consultation process, with planning application approval not slated until 2020. Moreover, the airport's hours of operation have been limited to 19.5 hours a day, maximum.

## At a Glance

A leading airport needed to improve efficiency and customer satisfaction to cement its position as one of the world's most successful air hubs. Integrating manual and legacy systems, our team delivered a platform that predicts demand in real time to minimize delays and maximize utilization.

## Outcomes

- Reduced passenger delays by an average of four minutes per passenger, equivalent to 155 million passenger delay minutes or 5% of the total.

# Creating happy flying experiences by solving the aviation gridlock

**We integrated manual and legacy systems and delivered a platform that predicts demand in realtime.**

Unable to pursue either of these obvious options for growth, the airport looked for another route to improve its already enviable status as a global flight hub. Its management figured that by being more efficient to respond to the rapidly changing factors that affect the day-to-day running of the airport, the business could optimize its use of capacity for the passengers on the 1,300 flights that leave and arrive daily.

This would involve having to improve predictions of customer flows and demand, react to flight delays and their consequences, and improve resource allocation to increase productivity, cut costs and enhance the passenger experience. Cognizant, which already had a relationship with the client, proposed a digital platform incorporating more than 30 functions that would turn the airport business into the first truly intelligent air hub in the country.

## Our approach

To make this vision a reality, our experts investigated the 30-plus business functions that made up the airport's activities. We also gathered intelligence from the business ecosystem, from air traffic controllers and civil aviation authority personnel to baggage handlers and cleaners.

We found that much of the data to accurately predict demand and improve planning was already being gathered, but either manually or from dispersed across a range of legacy systems. Acting as a system integrator, we brought all the data together and then developed a platform that would meet the client's business objectives. In brief, we:

- **Digitally modelled the airport's operations** after thorough research.

- Saved up to \$4.5 million a year through a reduction in misconnect costs and improved flow rate across airport operations.
- Achieved a 40% increase in peak check-in desk throughput.

- **Vetted vendors**, selecting the best possible hardware and systems after in-depth discussions about the client's business objectives. Since the solution would be cloud-based, we proposed Microsoft Azure, aligning with existing commercial arrangements at the airport.
- **Realized the project against an aggressive deadline** with minimal disruption to the client's business operations.
- **Delivered insights** by taking data from critical applications, without impacting the sources, and putting it into an Azure cloud for integration and analysis.
- **Used artificial intelligence and analytics to predict passenger flows**, which led to fewer delays and fewer disruptions to passengers transiting the airport—enhancing the customer experience and streamlining travel.
- **Integrated a decision support system** to give management a 360-degree view of airport operations, flows and incidents.
- **Made data available in real time** to allow decisions affecting optimization to be informed by up-to-the-second information and intelligence.

Once we completed this first phase of the project, its benefits for the airport and the traveling public became increasingly clear. Desk throughput

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increased by 40%, indicating faster and more cost-effective passenger processing. Efficiency gains have been calculated at up to \$4.5 million per year, thanks to a reduction in misconnect costs and improved flow rate at functions across airport operations.

Overall passenger delays went down by 5%, equivalent to 155 million passenger delay minutes per year. Although it's impossible to infer that this has had a direct effect on the figure, the operator's Airport Service Quality score has increased since implementation.

## **Results speak**

The senior project lead for IT at the airport says: "The project arrived with an aggressive timescale and it significantly exceeded expectation. The business has quickly been able to identify some great opportunities for operational improvements and the project has got the attention of several of the execs, for all the right reasons."

The second stage of the project, currently under evaluation, would deliver a total airport solution that would even more benefits for the operator.

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## About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 193 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at [www.cognizant.com](http://www.cognizant.com) or follow us [@Cognizant](https://twitter.com/Cognizant).

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