

CASE STUDY

TURKEY



TRANSPORTATION

DIGITISING THE PASSENGER EXPERIENCE AND BUILDING A SMART AIRPORT OF THE FUTURE

Sabiha Gökçen International Airport has ambitious growth plans. It expects to add a second runway in the coming years, enabling it to almost double passenger numbers. Sabiha Gökçen doesn't just want to be big, it wants to be smart. Its Aruba architecture enables the airport to build out a network to cover the entire site, from the terminal to hotels, parking to public transport. This will be the basis for the airport's plans to digitise the passenger experience.



Sabiha Gökçen International Airport is Istanbul's second airport. In 2019, 35.5 million passengers used the airport. When the second runway is complete and operational, the airport expects this number to rise to 65 million. This is incredibly quick growth. The airport only opened in 2008.

"We have 41 flights landing or taking off every hour," says İsmihan Baysal Anderson, IT & Automation Director, Sabiha Gökçen International Airport. "And we're the most punctual major airport in the world."

ORCHESTRATING A HUGE COMPLEX ENVIRONMENT

To make sure flights land and take-off on time is no mean feat. Sabiha Gökçen International Airport has to orchestrate a complex landscape of airlines, ground crew, air traffic controllers, security and passengers. It does so 24 hours a day, seven days a week, with customers that are often stressed and in a hurry to be somewhere else.

"To harmonise operations we want to see everything, to control everything," says Baysal Anderson. "Our technology investment is critical."

None more so than the network. The airport's underlying network is based on HPE FlexFabric from the DC core to the Campus access, while the airport enjoys uninterrupted Wi-Fi coverage, offering passengers



REQUIREMENTS

- Ensure the scale to meet expected growth in infrastructure and passenger numbers
- Connect all operational platforms, from ticketing to CCTV to baggage handling
- Simplify network management and visibility across a large and complex site

SOLUTION

- Wi-Fi 6 Aruba Access Points
- Mobility Controllers
- Mobility Conductor
- ClearPass for NAC
- AirWave for monitoring
- FlexFabric Switching from DC Core to Campus Edge
- Intelligent Management Centre (IMC)

OUTCOMES

- Collects the data to prompt immediate service interactions and inform future plans
- Provides access to high-speed Wi-Fi for all airport users, a new government requirement
- Establishes platform on which to build out digital operations, from facial recognition to robotics
- Enables digitisation of the entire passenger journey through the airport

seamless roaming via over 500 Aruba AP-500 series Wi-Fi 6 access points.

Corporate network access control and secure SSID provisioning to business tenants is secured and orchestrated by Aruba ClearPass Policy Manager and the entire network is overseen by AirWave Network Management. The wireless access points are managed via Aruba 7210 Mobility Controllers which are orchestrate by a Mobility Conductor.

The IT team benefits from the Live-Update and Zero Touch Provisioning capabilities of the Aruba AOS-8 architecture to hugely simplify and automate firmware and software updates and the deployment of new



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İSMIHAN BAYSAL ANDERSON

IT & Automation Director, Sabiha Gökçen International Airport

infrastructure. Together, this plays a key role in the airport's operational excellence, from CCTV or communications to baggage tracking or digital ticketing to flight punctuality.

“Technology is one thing but for a project of this size and importance technology alone is not enough,” says Serkan Yetişkul, Network and Operation Chief, Sabiha Gökçen International Airport. “Aruba has an excellent service structure here in Turkey. We needed the company's knowledge and support.”

The use of the Aruba Wi-Fi 6 and Zigbee-enabled access points and Edge Services Platform (ESP), creates a wireless experience capable of supporting AI, IoT, 5G bridging and latency-sensitive applications. It means operational teams can work effectively off mobile or handheld devices throughout the airport.

Sabiha Gökçen International Airport can also open up the network to other airport users – support contractors, airlines or retailers – securely, and with the visibility and reliability to command a service fee. Network connectivity and services are already provided to a number of the 8,000 or more business tenants and the airport expects to be doing so increasingly over time.

THE HEADROOM TO COPE WITH FUTURE DEMAND

The Aruba approach establishes a platform that is scalable, secure and easy to manage. It enables the

airport to accommodate its 100,000 passengers per day, with the headroom to cope with planned growth.

“The government will soon require all airports to provide fast, free Wi-Fi for all passengers,” explains Baysal Anderson. “We're already in a position to do so.”

With free Wi-Fi comes an even stronger need for network oversight, security and protection. The team sees the role of Aruba ClearPass extending from providing corporate NAC to orchestrating the entire network access, including the public segment.

The airport's network is already generating the commodity that businesses value most: data. Sabiha Gökçen International Airport is gathering huge amounts of information on passenger habits, on dwell times and on operational performance. The Aruba network connects a range of sensors, from cameras to air conditioning controls.



“Data analytics is the real opportunity,” says Baysal Anderson. “We can see if queues are building up, or whether we need to build new facilities, or what restaurants are most popular. Some things we can manage in the moment, others help inform future plans.”

EXTENDING THE NETWORK TO UNDERSTAND THE PASSENGER JOURNEY

As the airport plans to expand its physical infrastructure (a link to the Istanbul Metro is expected imminently), it expects to do the same with its network.



Baysal Anderson wants to extend the network beyond the terminal, covering the entire site, through the car parking, hotels and city transport areas.

“There is an opportunity to digitise the entire passenger journey through the airport,” she explains. “We know the journey starts at home. We want to connect the online search, checking if the flight is on time, to parking your car, to passing through security.”

In the future, the airport experience may revolve around facial recognition: passengers will be scanned as they enter the airport and directed to where they need to go. Their face will be their boarding pass; personalised offers and experiences will be communicated to them as they move across the site – whether that is a discount on a coffee, or reminding them where their car is parked. All these touchpoints will be connected to the Aruba network.

“There are two ways for an airport to make money: through the airlines and passenger numbers, and through retail and services,” Baysal Anderson points out. “We’re looking at robotic baggage handling and moving further into the service space. The Aruba network supports the digitisation of our operations as well as simplifying and securing it.”

