Case study
Amsterdam Airport Schiphol

Automated border control gates aim to reduce queues and maintain security at the Netherlands' busy international terminal
Preparing for Growth

 Ranked as Europe’s fourth largest airport, Amsterdam Airport Schiphol processes over 50 million passengers a year and more than 130,000 tonnes of cargo per month.¹ With an annual expected growth in passengers of approximately 5 percent, but no anticipated increases to its more than 400 border guards, airport executives were all too aware of the need to achieve speed and mobility while enhancing security and safety for travelers and trade.

 Seeking a solution that provided self-service border control, Amsterdam’s Ministry of the Interior and Kingdom Relations, the Royal Military Police² and the Schiphol Group approached Accenture to launch a trial automated border control system at Schiphol airport. In March 2012, the Minister for Immigration, Integration and Asylum Policy, Gerd Leers, announced the trial of a new system which involves using electronic gates equipped with facial recognition to compare passengers’ identity with the digital photographs in their passports. The system can also identify forged passports and persons who may be on an authority’s “wanted” list.

¹ http://www.schiphol.nl/
² Known as the Royal Maréchaussée
Increasing traffic volumes and concerns about passenger protection are not the only challenges for border management agencies worldwide. As with many international businesses, the economic downturn—with the potential for staff reductions—and growing technological demands have had an impact on airports’ operational efficiencies. Indeed, difficulties with implementing a chip in the passport as part of the authentication process and the ever-growing requirement for both national and European watch lists serve to make the border process more complex and time consuming.

For Amsterdam airport, recent changes initiated by the Dutch government positively affect its opportunity for growth. With government agreement to increase the number of planes active at the airport to a maximum of 500,000 per year, against its current 300,000 flight slots at present, there is vast potential to expand. As a result, Amsterdam Schiphol can enjoy growth until at least 2020, deferring the need to build new airports to cope with traveler demands.

Following a thorough assessment of passenger traffic to better understand how many travelers use which departure, arrival or Schengen hall at the airport, the Schiphol airport and border teams examined 21 activities to establish where automation of the border process could be most effective. Fundamental passenger processing elements such as swiftly authenticating a passport photograph are an obvious target for automation and can quickly bring value. Other activities, such as obtaining travel data on a boarding pass, or assimilating the behavior of passengers, also known as profiling, are more complex and were not included in the initial scope of the project. Since around 80 percent of all travelers have a European Union e-passport, automated border gates were an obvious choice for easing border control at Schiphol. To accommodate periods of peak demand, more automated border control gates would be required, so balancing wait times with throughput was an important criteria. At present, the accepted waiting times as detailed in the service level agreement between the airport and border staff are: 10–6–6, which translates as 10 minutes waiting time at the departure filter, six minutes at the arrivals filter and six minutes for passengers in transit. The advent of e-gates aims to reduce this waiting time to zero.

### How Accenture helped

Following success with a response to tender from the Ministry of Interior, Accenture initiated the first phase of a Self-Service Passport Control project in August 2011. Accenture recommended a staged implementation of border e-gates to automate the passport checking process. The first twelve gates were installed in October 2011 in departure hall 3, in succession arrivals hall 3 and the Schengen/non-Schengen border crossing area at the airport by June 2012. Gates were delivered in batches of six up until a formal launch of the trial in March 2012, by which time 24 gates were available. By the summer of 2012, 36 gates are expected to be up and running. Each batch of six gates requires two border guards, replacing an allocation of two border guards for two manual desks and freeing up border agency resources to manage immigration exceptions, such as overstays. A monitoring station is also part of the e-gates configuration; here, a supervisor can oversee the status of the e-gates, transactions times, alerts and assess the time spent on the clearance process in real-time.

The physical gates were supplied by Portugal-based Vision-Box, a company specializing in automated border control systems, and the software was developed through collaboration between Accenture and Vision-Box. Accenture was able to draw on our experiences of earlier projects using automated border control at two airports in the United Kingdom to provide a solution that was both swift to install and easy to manage.

Aside from overseeing the Self-Service Passport Control project, Accenture was also responsible for designing the animations to instruct travelers on how to use the gates. Within the first six weeks of the trial, more than 210,000 passengers have been through the e-gates. What is more, in the first weekend of their use, the gates were able to identify discrepancies in four travelers’ passports that resulted in exclusions from crossing the border.
Where are the benefits?

With increased globalization resulting in a rapid growth of international travel and trade, verifying identities at country borders is more complex than ever. The proliferation of information has increased the need for accurate identification of individuals and a more efficient, open movement of travelers and goods. Safe and fast border passage has benefits for travelers and border authorities.

Benefits to travelers

- Greater speed and efficiency: Automated systems mean a “one-step” process with travelers being processed through the automated gates in less than 15 seconds. Taking up less physical space, a greater number of automated gates than manual desks also means minimal queuing for the traveler.
- A more enjoyable “customer experience”: Straightforward and simple to use, the e-gates raise the appeal of using the airport. Travelers are empowered to manage their progress through the border process.
- Meets global travel demands: The e-gates suit the demand for a greater volume of country border transactions and introduces a self-service approach, with minimal intervention from the authorities.

Benefits to the airport and border authorities

- More effective border forces: The e-gates are taking over some of the routine work of the Royal Military Police, freeing them up for more informed decision making about entrants to the country. The system uses a technical platform that enables consultation with the databases of other agencies to highlight passenger anomalies and help prevent fraud and immigration discrepancies.
- Enhancing cost efficiencies: Using less physical space and processing more travelers helps to introduce greater cost efficiencies and position the airport for future growth. Minimal time and cost for training meant border guards used a “train the trainer” approach which was completed in a matter of days.
- Greater control and management: Automation helps increase the capacity for better control and management of the total border process. Monitoring stations enable the smooth running of the e-gates and highlight problems quickly and easily. A unique, one-step, two-door gate design gives the border guards better control over the border process.

As of this date, the Self-Service Passport Control project has delivered on its promise. A three-month trial has fine-tuned the system and aligned all the processes and information streams. As a result, the system is now operationally sound and successfully demonstrated.

“With passenger increases at Schiphol airport in the region of 5 percent every year, even with an economic downturn, we knew queue waiting times would only get worse,” says Kier-co Gerritsen Project Manager, Self-Service Passport Control project, Dutch Ministry of the Interior, the Netherlands. “By introducing automated border control so that we can operate a self-service passport system, we can not only improve the traveler experience but also gain new efficiencies at the border.”
How the e-gates work

To be eligible for automated border control, passengers’ passports must meet the following requirements: clear evidence of correct authentication, biometric capabilities such as a chip and photograph of reasonable quality, and issuance from the European Union member states or the European Economic Region (Norway, Iceland, Liechtenstein or Switzerland).

Instead of European Union travelers having their passports manually checked by a border agent, they can enter a gate and place their passport on an automated device. In a matter of seconds, the device can read and authenticate the passport while a camera located on the automated border control takes a picture of the traveler’s face. The photograph is checked in the system for a biometric match with the picture stored on the ePassport’s chip. The passport data is also used for background checks to identify potential fraud or authentication issues. If all the ePassport checks, background checks and identity verification are successful, the gates open and the traveler is free to continue on his journey. If there are difficulties, the matter can be escalated to border staff. A lighted symbol at the exit gate indicates the gate status for border agents monitoring the system.

If automated border control cannot be completed, a message is displayed to the traveler directing them toward manual immigration processing, without any further feedback on why they have been rejected. The border guard processing the manual control is aware of the rejection causes through an information display at the exit door, while the supervisor at the monitoring station has the possibility of accessing a very detailed overview of the failed transaction.
Accenture has solid experience of delivering coordinated border management and identity services. Our approach to border management is intelligence-led, requiring a complete view of risks and opportunities, a knowledge-sharing culture and a strategy built on proactive decision making. Having already completed successful automated border control projects in the United Kingdom, the Ministry of Interior and the Amsterdam airport were able to benefit from the skills and experience of the Accenture team and to achieve an end-to-end border management solution. “Accenture has successfully demonstrated experience and insight, not only in border management and control, but also in the local Netherlands market,” says Richard Camman, Border and Identity Management Lead for Europe, Africa and Latin America, Accenture. “By combining our know-how with the latest technologies, Accenture is helping to not only innovate border management processes but also prepare the airport for high performance in the future.”
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