CASE STUDY

Integrated checkpoint solution helps Keflavík Airport handle rapid growth
Positioned around 50km southwest of capital Reykjavík, Keflavík Airport is one of Iceland’s major transportation hubs. It is the largest airport on the island and the country’s main transfer site for international travellers. As testament to its importance, the airport is almost exclusively used for international flights and around 95% of all visitors to Iceland pass through its gates.

Keflavík Airport has been in continuous use as an airfield since 1943. It was used by the US Air Force due to its strategic location during World War II and into the 1950s. Today Keflavík is the gateway into and out of Iceland and the premier destination for tourists visiting the country. But it is mainly a developing hub for passengers transferring between 3 continents - North America, Europe and Asia.

The main carriers at Keflavík are Icelandair and WOW air and both use the airport as its main hub. Another 27 airlines will fly to Iceland in the summer of 2018, among them both United Airlines and American Airlines. Keflavík Airport will have direct flights from well over 80 destinations as diverse as New York, Tel Aviv, Toronto, Los Angeles, Amsterdam and Moscow. The airport is operated by Isavia Ltd. (state-owned) and manages air traffic in the Icelandic control area – the size of 5.4 million square kilometres – which makes it one of the largest in the world.

More passengers than ever
However, owing to its prime location and Iceland’s continued popularity as a tourist destination, Keflavík has had to face a number of challenges. One of its primary concerns has been the rapid growth in passenger volumes over the past decade. These have soared from just over 3 million in 2013 to 9 million in 2017. They are expected to rise still further – to 10.4 million in 2018 – which represents an incredible 435% increase since 2010.

“The airport has been growing extremely fast,” says Security Operations Manager Árni Gísli Árnason. “Since I joined a few years ago, we’ve seen several record-breaking highs for passenger traffic. However, our facilities on site have not been able to keep pace with this growth. This means that we’ve had to re-evaluate some of our core processes, such as security, to identify ways of increasing passenger throughput, while maintaining our high standards.”
In recent years, international requirements concerning aviation security issues at airports have also increased substantially, for example, with the introduction of new technologies, such as liquid scanners and explosive trace detectors. As a result, the overall screening quality at all airports has to be higher than ever, and automated processes are vital in maintaining efficient security processes.

In addition, Keflavík has been eager to maintain – and improve – the experience for passengers and ensure a smooth flow of people through the security area. This can traditionally be one of the most stressful points for travellers heading through an airport, so creating a calm and efficient environment was paramount. Keflavík’s challenge was to increase the speed and throughput at the security screening area, in tandem with the steep rise in passenger numbers.

“The rapid growth that we’ve been facing in recent years has had a significant impact on the airport,” adds Supervisor (Security Screening Equipment) Hjalti Hjaltason. “This has been the main reason for us to optimise our facilities, and, as part of this process, the security area.

“We knew that if we were able to increase the passenger throughput, it would mean reduced waiting times and more happy faces. Ultimately, if people spend more time inside the airport, it means more revenue for us – it’s the ideal situation.”

Seamless integration
Performance and quality requirements are especially stringent in the Nordic region, which was another main driver for Keflavík to invest in a high-performance and quality solution. To improve its operations, the airport chose to install Vanderlande’s PAX OPTIMA advanced passenger checkpoint (APC) solution. Beginning with four automated screening lanes in 2015, its security area now comprises eight lanes with integrated remote screening software.

Vanderlande’s PAX OPTIMA solution is a seamless system that combines a modular, state-of-the-art automated screening lane with remote screening (or centralised image processing). This allows screening agents to share the workload, counter the effect of traffic variation and significantly improve operational efficiency.

The solution at Keflavík is based on a ‘pull’ philosophy and incorporates an empty tray recognition system (ETRS). In addition, it has Level 2 security integration with Smiths 6040i and RFID recheck workstations.

“When we started looking for a security solution that would work for us, we visited many airports to see how they were coping in similar situations,” says Árni. “This was also because we didn’t have the time to collect data on site, because we were growing so fast and had to do something almost immediately.
We cherry picked what we thought would be a good fit and created the tender for the lanes at the end of 2014.

“At Keflavík, we cannot increase the size of our security checkpoint any further, unless we construct a new building, so we needed a modular solution that helped us in terms of using our available space. Up until a few years ago, we were also heavily reliant on a manual operation, which was far too ineffective.

“For these reasons, we were quite descriptive in the tender about what we wanted. Ultimately, Vanderlande had the best price and the most optimal solution in terms of what we deemed necessary to the airport.”

When passengers approach the lanes, they are notified via a green light under the dispenser that a tray is available. Personal items are then laid in the trays to help users progress at a steady rate. Once they have divested their belongings, a conveyor moves the trays to the X-ray scanner. If their items clear the X-ray machine, the passengers collect their possessions from the pick-up zone and continue their journey.

Meanwhile, in a remote screening room, a separate team of security staff can observe X-ray images from the lanes in a calm and noiseless environment. This is the core purpose for the remote screening software.

To maintain focus and a high level of efficiency, each member of staff only spends 20 minutes per shift performing this function.

If security staff identify a bag as being suspicious, the information is sent back to the lane where push diverts slide it across to a secondary lane to the recheck area. Individuals with rejected baggage make their way to the manual inspection zone.

“From my perspective, the integration of innovative systems and intelligent software makes our security operations extremely efficient,” confirms Hjalti. “The most beneficial aspect, however was the implementation of the remote screening software, without a doubt. It gives us more flexibility to adapt our activities as necessary.

“For example, it’s easier to add one screener, than to man an entire lane! By sending an additional operative into the remote screening room, it’s like we’ve opened another lane.”
A win-win situation
Since the installation of the security lanes and the software, Keflavík has quickly reaped the benefits from PAX OPTIMA. One of the biggest advantages of the combined system has been the increased passenger throughput, which has improved by approximately 30%. It has also helped the airport to enhance its use of staff resources, levels of communication between all stakeholders, and the overall experience for its passengers.

“As with any new installation, there have been some challenges, but I think that the airport and Vanderlande have learned so much from this project,” says Árni. “However, it has all been worth it, because the solution has brought us the throughput levels we desired. The information that is being processed by our screeners is also being handled in a more systematic way than ever before.

“Previously, the majority of processes were manual and relatively old-fashioned. Now, everything is automated, and this change has only taken a few years to achieve. For me, it’s a win-win situation all round in terms of passenger happiness, employee satisfaction and reaching our objectives as a management team. We’re also going to have a favourable return on our investment and access to better insights.”

Throughout the project, Keflavík was keen to create teams consisting of Isavia and Vanderlande employees to enable the smooth flow of information between all parties. This was managed by Vanderlande personnel from The Netherlands, Spain and Canada.

For Hjalti, this close cooperation was crucial to achieving a good result: “Vanderlande has been on a positive learning curve since the beginning and that has benefitted both organisations.

“They have been willing to help us to continually improve this crucial part of our operation, which is tremendously important. I think the best way to describe it, is that Vanderlande and Isavia have learned to work as one team. We’re able to throw ideas back and forth, and Vanderlande is always willing to listen to our needs. Basically, they are motivated to gain a better perspective of what we do and how we want to do it.”
There is also added value from the solution, as Árni explains: “When we purchased the software on top of the security lanes, it was helpful that we didn’t have to deal with multiple suppliers. We only have to go through one line of communication for software, hardware, servicing and everything else. I think that in creating this combined unit, Vanderlande has been able to meet our needs perfectly, and it’s been the ideal fit for our operations.”

**Listening to customers**

Owing to the positive contribution made by Vanderlande’s solution on site, and the synergies that have been created between both organisations, optimism is high at Keflavík.

“As with any good partnership, it keeps getting better,” says Árni. “I think both Vanderlande and the airport have learned so much from this whole process, and I’m looking forward to working with them again in the future.”

Hjalti has been impressed by the sheer scale of the difference since the integration of Vanderlande’s solution: “The summer of 2015 was one of the biggest periods in the airport’s history, and we almost had queues reaching out to the parking lot! However, 2017 was even bigger, but 99% of passengers were waiting less than 10 minutes at the security area. I actually called the company that measures these waiting times, because I didn’t believe it.

“As an airport, we’re not in it for the short haul, so we need suppliers who are committed to a long-term relationship. Keflavík needs partners that we can rely on for future expansion, and to share our vision. Sales are obviously important in every transaction, but, for me, what happens after the sale is what matters most. For this reason, it’s Vanderlande’s continued eagerness to listen to us – and make improvements – that makes them so reliable.”