

for *inter airport* from MAI #1139

The Covid-19 pandemic has refocused IT spending priorities for airlines and airports in 2020 as revenue plunged and the industry faced new health and operational requirements needed to keep flying. Among the key findings from SITA's 2020 Air Transport IT Insights, just published, was an accelerated investment in automated passenger processing focusing on touchless and mobile services. There was also a strong focus on virtual and remote IT services that allowed employees to work from home while ramping up communications with passengers. Cybersecurity and cloud services – that helped automate operations and drive new efficiencies – were key.

In 2020, SITA data showed that flight volumes plunged 44% year-on-year due to the pandemic. As a result of this impact on demand, IATA forecast the airline industry's full-year loss at USD 118 billion. David Lavorel, CEO SITA at Airports & Borders, said: "The severe slowdown in 2020 forced the air transport industry to focus on driving new cost efficiencies. Adding to the pressure, airlines and airports had to rapidly incorporate new health measures such as touchless passenger processing and the handling of new health information and protocols, including PCR testing in many destinations. These efforts have been made in a market that continues to face rapid changes in air travel regulations that make operational planning volatile and last minute.

"To solve these challenges, **the industry has turned to technology and, in many cases, reprioritised where they invested in 2020.** The good news is that airlines and airports were able to capitalise on existing trends to automation and have made significant strides in implementing new solutions that will bring new improvements for the passenger now and into the future."

Data and automation are key. **Making the check-in process completely touchless is now the main priority for airports** and airlines to help protect passengers and staff, improve the passenger experience, and drive efficiency.

Biometric technology is the focus for airport investment with 64% of airports aiming to roll out self-boarding gates using biometric & ID documentation by 2023, three times as many as in 2020. Airlines have doubled implementations and plan to double investment for self-boarding using biometric & ID documentation by 2023 (82%).

Similarly, airlines are prioritizing a completely touchless check-in process, and most want mobile touchless payment options for all services provided. The majority (79%) is focused on enabling self-bag drop for passengers. **All essential customer services will become contactless from booking to arrival, including automated lounge access and mobile delayed baggage reporting.**

Airline mobile applications for passenger services is a priority with nearly all (97%) of airlines having major programs and R&D in place by 2023. By 2023 the majority of airlines plan to send passengers real-time notifications on their mobile devices about their bags and plan to provide real-time bag-tracking information for staff.

In response to the pandemic, most airlines and airports are investing more in in-house virtual and remote IT services allowing employees to work in a more agile and effective way while speeding up

communications with passengers. Almost three-quarters of airports and airlines will continue to invest in data exchange, cloud services, cybersecurity, and business intelligence to accelerate their digital airport processes. This includes increasing services on passenger mobile apps and ensuring staff services are accessible via mobile or tablets.

Perth Airport (PER), WA, in Australia has installed a new airport operational system for streamlining airline and ground handler flight management procedures. The new system will enhance operational performance and quickness by using reliable data, analytics, and intelligent automation. The project has been undertaken in partnership with Veovo, a provider of information technology and services. The new system will enhance operational performance and quickness by using reliable data, analytics and intelligent automation, enabling coordinated decision-making across the airport, for every flight, on a daily basis. Perth Airport COO Scott Woodward said that the upgraded operational management system will swiftly increase the airport's ability to scale up its procedures efficiently after international and domestic travel resumes completely.

Woodward said: "The new system will provide our airline partners and their handlers seamless and timely information, real-time flight updates and the opportunity for increased collaboration between the airport and its users.

"And with the current volatility, the need to deliver safe and reliable conditions for our airline partners to operate will be critical as the aviation industry recovers from the severe impacts of the pandemic."

Perth Airport chief financial officer Brian Pereira said that the airport and Veovo executed the complex transition to the new system seamlessly during the pandemic, without disrupting critical airport services.

Veovo's Intelligent Airport Platform links and examines data in connection with the flights, airside and landside activities to offer precision for the airport, its aviation partners and passengers in real-time.

Its optimisation and decision support tools allow the airport to form strong resourcing plans and handle unbalanced operations, leading to more efficient gate allocations, enhanced flexibility, and a more

foreseeable experience for customers. Veovo CEO James Williamson said: "We're delighted that Perth has partnered with Veovo to undertake one of the industry's most significant digital transformations at such a critically-important time. "While the whole industry rethinks their approach to operational planning, Perth Airport is leading the way on improving efficiency and the customer experience in the new age of travel."

Airport operator Malaysia Airports is testing robotics technology at its Istanbul Sabiha Gokcen International Airport (SAW) to provide a safe and contactless travel experience under its group-wide Airports 4.0 initiative. ISG has introduced its first social robot, the 'Aerobot', which will not only help travellers navigate through the airport but also promote a safe airport environment by reminding passengers of new travel practices. SAW was selected to pilot this technology as it is currently witnessing better traffic movement recovery than Kuala Lumpur (KL) International Airport, making it more viable.

Malaysia Airports group CEO, Dato' Mohd Shukrie Mohd Salleh, commented: "Last month [January 2021], ISG registered 1.3 million passenger traffic movements or 60% of the group's total. As such, we will be able to have a more meaningful gauge on the success of this latest initiative and its implementation viability at our other airports. As a group, we make an active effort to find technology solutions that can enhance service levels and also serve as measures to enhance safety and passenger experience."

The mobile robot has been programmed to communicate in more than 20 international languages, including English, French, Spanish, Russian, Arabic, and more. Aerobot is capable of profiling passengers and can immediately customise relevant conversation points by using artificial intelligence (AI) technology. It can also answer flight inquiries, read barcodes, and escort passengers to their boarding gates.

Backed by SITA's state-of-the-art technology, Bahrain International Airport's (BIA) newly opened passenger terminal is better prepared to respond to the changing demands of travel

during the Covid-19 pandemic. The ultra-modern facility positions BIA as the most advanced boutique airport in the Gulf Region, increasing its capacity to 14 million passengers per year. A key focus for Bahrain Airport Company (BAC), the airport's operator and managing body, was to optimize the passenger experience and operations to quickly recover from the pandemic through 2021 and beyond. Using SITA's Operations at Airports portfolio, the airport benefits from real-time insights, improved stakeholder collaboration, and increased agility to optimize operations. The solution includes SITA's Flight Info Displays Systems (FIDS), providing a dynamic platform for communicating important information and managing the passenger flow.

SITA is also providing Flex, its advanced cloud-based passenger processing solution. Flex allows airlines and the airport to develop new cloud-native applications for passengers and airport workers that transform the passenger experience and create new revenue opportunities. Flex will be delivered with SITA Smart Path kiosks enabling a low-touch mobile and biometric-enabled check-in experience that combats Covid-19 by reducing the passengers' and staff's risk of contracting the virus.

The SITA solution also includes a baggage reconciliation system to help manage the delivery of passengers' bags end to end.

Charlotte Douglas International Airport (CLT) new security checkpoints feature Vanderlande's automated screening lanes as part of a major terminal expansion project. To increase operational capacity and provide its customers with a positive experience, the airport undertook a \$600 million terminal expansion project in December 2019. The project includes the consolidation of the airport's five security checkpoints into three high-efficiency checkpoints, all equipped with Automated Screening Lanes (ASLs) to increase throughput and enhance security. Vanderlande was selected through an RFP process for the design and installation of the first five ASLs, which were deployed in December 2020.

Featuring the latest technology and powered by Vanderlande's premium remote screening software, the state-of-the-art ASLs will allow CLT to centralise its screening operations to further improve operational efficiency. The modular design of the lanes also eases the transition from AT X-rays to CT technology.

ADB SAFEGATE recently installed its Safedock Advanced Visual Docking Guidance Systems (A-VDGS) and SafeControl Apron Management solution at the new Salt Lake City International Airport (SLC), UT.

The new airport, which opened Phase I in September 2020, was designed to reduce taxi times and aircraft idling. The ADB SAFEGATE solution will support airlines with safe, precise automated docking and a more efficient apron operation.

ADB SAFEGATE will provide 80 Safedock T1 A-VDGS as well as its SafeControl Apron Management (SAM) solution as part of a larger gate project awarded to JBT Aerotech for delivering passenger boarding bridges (PBB). In the first phase, 47 Safedock systems and SAM have been deployed on schedule. The remaining Safedock units will be deployed in phase II scheduled for a 2024 unveil. The company has collaborated with JBT AeroTech to provide data to the Jetway JetDock® automated PBB docking system. In this installation Safedock data containing details of where an aircraft stopped, in relation to its designed park position, is utilized by the JetDock® system. This enables the bridge to automatically drive and dock with an aircraft, speeding up the entire turn. A safety interlock restricts the Safedock and JetDock® docking activity if the bridge is not in its predefined park position to avoid collisions between the aircraft and the bridge.

ADB SAFEGATE has also integrated Safedock and SAM with the other JBT AeroTech ground equipment (Ground Power Units and Preconditioned Air) so that it can alert airlines about potential equipment issues and provide current status and usage to help streamline operations and maintenance. SAM uses flight information from the Airport Operational Data Base (AODB) to prepare the A-VDGS for an arrival and sends real-time gate availability information back to the AODB.

The new SLC construction project, costing USD 4 billion, started in 2014 and will continue through 2023/24. In 2020, the airport unveiled Concourse A – West on 15 September 2020 where Delta Air Lines occupies 25 gates, including six international gates. This is Delta's second largest hub in the country.

Concourse B-west opened on October 27 with 20 gates for Alaska, American, Frontier, JetBlue, Southwest and United Airlines.

Greater Orlando Aviation Authority (GOAA), which operates Orlando International Airport (MCO), FL, has chosen AERO BridgeWorks to deliver a turnkey project for the airport's new South Terminal, specifying ADB SAFEGATE's Safedock Advanced Visual Docking Guidance System (A-VDGS) and SafeControl Apron Management. The GOAA chose the automated solution to help ensure a safe and efficient ramp and support the common-use gate environment at the new terminal. "Orlando International Airport is still Florida's busiest airport. Recent passenger numbers reflect a growing confidence among air travellers, and we're preparing to better serve them as well as our airline partners," said Davin Ruohomaki, Senior Director of Planning Engineering and Construction for the Greater Orlando Aviation Authority. "We feel that the use of technology will ultimately translate to a smoother passenger experience."

The new world-class domestic and international airport terminal will feature 16 airline gates capable of accommodating at least 21 aircraft, depending on the combination of narrowbody, jumbo and super-jumbo aircraft. Specialty airside construction firm AERO BridgeWorks will install ADB SAFEGATE's Safedock A-VDGS. The contractor has ordered 23 new Safedock A-VDGS units, with the option to add more when the airport moves forward with the expanded Phase 1.

ADB SAFEGATE will also deliver its SafeControl Apron Management solution at MCO. SAM automates the docking process by connecting the Safedock A-VDGS to the airport's AODB (Airport Operations Database) so that flight information is shared with the A-VDGS prior to arrival. SAM uses the A-VDGS to track aircraft as they enter and depart the gate, sending accurate gate availability information to stakeholders which allows gate assignments to be made in real-time. With the integrated set-up, the Safedock A-VDGS will also serve as a Ramp Information Display System (RIDS) to communicate critical flight information and updates to flight and ground crew to further streamline the aircraft turn process.

ADB SAFEGATE will also supply airfield lights for the South Terminal project. Much of Orlando International Airport's airfield ground lighting is from ADB SAFEGATE, including its airfield lighting control and monitoring system (ALCMS), power solutions and runway status light solution (RWSL) for runway safety. In addition to being one of the first airports to install ADB SAFEGATE's LED runway edge lights, the airport has switched mostly to LED lights and continues this environment-friendly transition.

The Mallaghan Bendibelt is an aircraft baggage loading system which is designed to enable baggage to be loaded/unloaded in a safe, efficient and expedient manner with the operator in control from within the baggage hold. With a unique curvature design and key safety features, it can deliver a number of significant benefits including turnaround efficiencies, reduction in manpower costs and manual handling. Through automation, it reduces the risk of manual handling injuries and ground damage to aircraft. In North America and South America, 50 units are in service with airlines, including United, JetBlue. Demo units of an electric Bendibelt will be available in North America from Q3 2021 onwards, according to Mallaghan officials. These units offer a major focus on Lithium-Ion battery technology, and high voltage options are under development.

Vanderlande recently launched PAX Divest Assistant, a new self-service application for airport security checkpoints. The innovative solution allows passengers to move through the divestment process without the help of a local agent, contributing to a seamless experience and helping to enhance safety at the checkpoint. Self-service applications are now common in airports worldwide, and widely used and appreciated by passengers. However, security checkpoints lack self-service options and are heavily reliant on constant interactions between agents and passengers. In the context of a global pandemic, airports must limit physical contact between their employees and travellers while factoring in resource limitations.

To address this challenge – and with a view to the future of security checkpoints – Vanderlande has developed PAX Divest Assistant. With this new concept, support agents are located remotely and can connect to passengers in need of assistance via video calls. This capability delivers increased flexibility to airports while providing staff with a safer and more pleasant working environment.

“Vanderlande sees a future in which security screening is a seamless process and passengers can enjoy a stress-free journey through the checkpoint,” said Vanderlande’s executive vice president and board member Andrew Manship. “We believe that the launch of this new solution is the next step towards achieving this vision, moving towards a situation where efficiency and the passenger experience go hand in hand.”