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## **for *inter airport* from MAI #1141**

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**Airports Council International (ACI) World has issued a report revealing that airports have accelerated their investment in technology to aid in recovery from the Covid-19 pandemic. ACI World has collaborated with SITA for the past 17 years on the annual Airport IT Trends Survey**, which feeds into SITA's Air Transport IT Insights. This year's report has found that airports have been agile in adapting to the changing health and safety requirements, focusing on automated and touchless solutions for both customers and staff. Results from the survey reveal airports are spending 5.46% of revenues in 2020 on IT - which represents about USD 3.5 billion in absolute spend – and that 55% of the responding airports estimate that their 2021 IT budgets will either stay the same or increase. The survey revealed that 87% of airports confirmed that programs to address passenger health and safety protocols have either been implemented or are planned. These include sensors, video monitoring, and robots to automatically monitor passenger social distancing, temperature checks, sanitisation, and other health criteria. Business intelligence tools, which can be linked to these technologies to help staff maintain a safe airport environment for all customers and staff, ranked third of airport's top investments. Touchless self-service offerings at airports have been an unsurprising investment, with an increasing number of airports having implemented solutions during the pandemic. 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.

David Lavorel, CEO SITA at Airports and Borders said: "In the face of a severe slowdown in 2020, the air transport industry was forced 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. To solve these challenges the industry has turned to technology such as biometric technology (83% of airports), offering more mobile apps for passengers and staff, and focusing on remote and virtual IT services."

Other notable findings include: 89% of airports confirmed they offered self-service check-in options; 64% said they have implemented biometric-enabled immigration border gates; 79% of respondents said they provided bag tags capability at kiosks; 77% of airports will implement the infrastructure or have already done so, to support biometric touchpoints across the airport; 67% of airports will implement or have implemented self-service boarding gates; 52% of airports have or plan to implement ACRIS standards for data sharing; and 83% of airports are implementing a major cyber security programme with 11% looking into a pilot programme.

**Meanwhile, SITA is significantly expanding its Agile DevOps teams by more than 55 people in Letterkenny, Ireland, to develop the next generation of its highly successful SITA AT AIRPORTS portfolio.** As the air transport industry begins its slow recovery from Covid-19, airports, airlines and governments are looking to further streamline their operations and passenger journey through automation and digitization. To meet this growing demand, SITA is accelerating the innovation and development of new solutions across baggage management, airport operations, passenger

processing and border management. These solutions are used in more than 1,000 airports and more than 60 governments globally.

David Lavorel, CEO SITA AIRPORTS & BORDERS, said: "We all are eager to see our industry rebound, and technology is a vital component of its recovery. Airports and airlines are looking to technology to automate the passenger journey while digitalizing their operations to drive new cost efficiencies. Many of these solutions are being developed in Letterkenny." Lavorel noted that Ireland, and Letterkenny in particular, had in recent years established itself as an important hub for software development. "Through the support of the Irish government, Letterkenny is recognized as a vital hub for software innovation, making it an obvious choice as a strategic location for the development of our SITA AT AIRPORTS portfolio."

**IFS has launched IFS Cloud™, a single platform that connects all of its products to deliver the end-to-end capabilities a company needs to orchestrate its customers, people and assets.** Customers can choose to deploy best-of-breed or leverage the power of connecting their value chains across capabilities such as enterprise resource planning (ERP), customer relationship management (CRM), human capital management (HCM), asset management (EAM) and field service (FSM). With IFS Cloud, IFS offers a unique and single technology platform with one common user experience, one data model and one consistent support offering. IFS Cloud brings simplicity, choice and innovation to organisations that need to evolve to new business models, control costs, expand faster and serve their customers better. By implementing IFS Cloud, companies can easily scale and simply switch on new functionality (such as additional modules or new innovative capabilities) when the time is right for their business. Likewise, customers can choose how and where they deploy IFS Cloud, which has been engineered for the cloud but can be deployed on-premises with a choice of residency. Unlike many offerings, IFS customers will benefit from the same solution functionality and delightful user experiences, regardless of their deployment choice, without compromise.

As a departure from competing, legacy suites and software portfolios that rely on complex and costly integrations, IFS Cloud is designed to make it easier and more cost-effective for customers to buy, deploy, run, and update their enterprise software. IFS Cloud marks the start of twice-yearly feature releases, giving customers the choice to move to the latest version as and when their business is ready. With digital innovations embedded, IFS Cloud's architecture also includes new and improved application services for intelligent and autonomous business that can be natively leveraged across IFS products and across industries. This makes it practical and affordable for customers to take advantage of technologies such as machine learning (ML), augmented and mixed reality (AR/MR), artificial intelligence (AI), and internet of things (IoT), ready to use 'out of the box'. IFS Cloud is being adopted by a number of pioneer customers across IFS focus markets of Aerospace & Defence, Construction & Infrastructure, Energy & Utilities, Manufacturing, and Service industries. One such customer is Cimcorp Group, a world-leading manufacturer of robotics and automation systems.

**Finnish airport operator Finavia has partnered with Amadeus to modernise all aspects of passenger handling, including software, hardware and services, at 11 of the 20 airports it operates.** As Finavia moved toward the final stages of a large expansion project at Helsinki Airport – which began in 2013 and will see the terminal increase in size by 45% and baggage handling and passport control capacity grow by 50% – it decided to look at upgrading its technology infrastructure across its wider airport portfolio. Finavia currently serves more than 50 airlines that operate scheduled flights, and their ground handling companies, and has over 600 check-in desks at the 11 airports. With the new Amadeus Flow cloud platform, a single internet link connects all of the airports to Amadeus, where any airline application can be easily deployed in a matter of hours.

Amadeus is also deploying its Airport Pay solution from the cloud, allowing passengers to pay for ancillary services such as extra baggage or lounge access conveniently and in a contactless manner at all check-in desks. The flexibility of the cloud infrastructure means that Finavia, airlines and ground handling companies can easily open, close or move check-in desks, boarding gates or services with agility in

response to fluctuating passenger demand caused by Covid-19. This agility will also be used to better cope with seasonal demands at airports like Lapland, where passengers will be able to check-in and even drop their bags from Lapland's hotels in future.

Yannick Beunardeau, vice president airport IT, EMEA at Amadeus, commented: "The immediate pressures of Covid-19 and the demands of long-term digital transformation both require a new approach to airport technology. Airports need to be able to roll out new capabilities quickly and they need to be able to adapt services to changing requirements of passengers. By choosing to run its infrastructure from the cloud with Amadeus, Finavia is ready to innovate for many years to come."

The major technology modernisation will also see a full hardware refresh including 600 agent workstations, printers and scanners that are all fully integrated into the Amadeus Flow platform. The migration will begin to yield benefits during 2021 and is expected to be fully completed at 11 of Finavia's 20 airports at the beginning of 2022.

### **Netherlands-based Vanderlande has been awarded a contract to deliver a state-of-the-art baggage handling system (BHS) to Western Sydney International Airport (SWZ) in Australia.**

The greenfield project is being completed in several phases and is expected to enter operational readiness and acceptance trials (ORAT) in late 2024 and open to international, domestic and freight services in late 2026. To prepare SWZ for the future, Vanderlande is delivering a range of innovative solutions as part of the BHS package. Based on unique shuttle technology, Vanderlande's ADAPTO BAGSTORE will be the heart of the system, and provide flexibility and scalability, high storage density and 100% redundancy. ADAPTO BAGSTORE also gives WSIA the ability to 'batch build' baggage, ensuring efficient use of resources and to deploy the emerging service of 'reclaim on demand' due to its ability to store inbound bags. Vanderlande's high-speed TUBTRAX individual carrier system (ICS) works in harmony with ADAPTO and allows in-tub screening. In addition, all Vanderlande solutions are integrated with its high-level controls platform, VIBES. This intelligent software solution covers the complete baggage process, and interfaces directly with airport and airline IT systems to provide a holistic view.

The Vanderlande system will also include out-of-gauge baggage handling utilising FLEET Bag AV-technology, speed loaders for efficient ULD loading, and a central make-up area for economic use of resources. It will even link to a sub-system in which couriers will be able to drop off bags enabling WSIA to provide the option of remote check-in and bag drop services. Vanderlande will also integrate self-bag drop and state of the art in tub baggage screening into its system.

### **US company TKH Security (Park Assist) has been awarded the parking guidance system (PGS) contract for Los Angeles International Airport's (LAX) new parking facility.**

The garage – a 4,300-place parking structure – will provide drop-off/pick-up locations and short- and long-term parking options. The four-storey garage will be the first component of LAX's Landside Access Modernisation Programme (LAMP), opening in 2021. The facility will utilise TKH Security's M4 smart-sensor system, which relies on camera-based monitoring to track occupancy and provide guidance throughout the garage. The company says that the system is designed to help parkers quickly and easily locate available parking spaces by, for example, using color-coded LED lights to indicate which spaces are available. It claims this not only enhances the customer experience by significantly reducing the search and park times for travellers, but also improves traffic flow and relieves congestion to ensure the facility is operating at maximum efficiency. Alongside the M4 technology, the airport's PGS will be equipped with several software add-ons, including Park Select-Rate, Park Finder and Park Alerts.

The customer-centric Park Finder software module utilises LPR (license plate recognition) technology to ensure that parkers can easily pinpoint their vehicle upon returning from travel. Using a Park Finder-enabled pay station, travellers enter their license plate number into the system and are guided to their vehicle. The Find Your Car locator searches a database of parked vehicles in the garage, identifies the correct license plate number and corresponding vehicle, and provides step-by-step directions to get to the car. Park Alerts increases control and security in the garage. This software extension allows parking

management to set automated time and license plate-based rules and alerts that help staff regulate activity in the facility, enabling management to respond quickly to any violations.

**Nordic ground handling company Aviator recently announced the introduction of the Kalmar FB600EL, a fully electric tow tractor for pushback and maintenance towing of widebody aircraft, to Aviator's Finland operations.** The fully electric, 60-t conventional tractor, increases Aviator Finland's capability within wide-body operations and is a welcome addition to the company's arsenal of Ground support equipment (GSE). The machine is suitable for towing weights of up to 600,000 kg and can be used for aircraft of the majority of Aviator's customers, including the Embraer ERJ 190, Airbus A319-321 family, A330, A350 and Boeing 737, B757, and B787. As the global attention to eco-consciousness continues to grow, the Kalmar FB600EL tow truck marks the next step in Aviator's sustainability initiative towards electrically operated GSE. When fully charged, the vehicle can be in operation for up to 4 hr. In addition to its operational capacity and sustainability advantages, the Kalmar FB600EL also holds attractive economic benefits, according to Aviator. The truck runs at lower operating and maintenance costs in comparison to regular diesel counterparts.

**Honeywell has announced the recent introduction of its Navitas Turnaround Manager (TMAN) software module.** TMAN, part of the Honeywell Navitas Platform Suite, is an integrated software module that supports safer and faster stand turnaround and capacity optimisation. It helps to improve situational awareness across landside and airside operations by integrating with gate systems, the Airport Operations Database (AODB) and Advanced Visual Docking Guidance Systems (A-VDGS). TMAN allows airport operators to control and monitor the visual docking guidance systems and gate equipment, increasing the speed and visibility of turnaround operations and reducing downtime by up to 25%. With advanced support maintenance functions, engineering crews can react faster to faults, encouraging greater uptime and ground operational effectiveness. With the help of modern 3D technology and multiple-source data collection, the system offers improved situational awareness for the apron/ramp controllers; provides an integrated view of all airport stands and docking status; provides a flight plan viewer and manages operations through a rich user interface; displays easy-to-read ramp information; optimises resources allocation; and improves the uptime of stand operations, reducing delays and congestion.

**The fleet of deicing vehicles at Munich Airport (MUC) in Germany has now received particularly powerful and environmentally friendly support: the all-electric Elephant e-BETA from Denmark's Vestergaard Company which has been in use at EFM, the company responsible for deicing and aircraft towing at MUC.** According to Vestergaard, the Elephant e-BETA is the first electric deicing vehicle. The spray arms and nozzles, which are driven by electric motors, perform the deicing of aircraft silently and effectively. At the heart of the vehicle is a generously dimensioned lithium-ion battery power pack that enables the electric deicing of up to 15 aircraft. This allows the deicing vehicle to complete about two to three hours of operation without needing to be recharged. The vehicle still drives to the deicing areas with a conventional diesel engine and can therefore be used flexibly, but at the site itself, the engine is switched off and the all-electric deicing begins. Compared with conventional deicing vehicles, the electric version can avoid up to 87% of the CO2 emissions caused by the vehicle. The electric deicing vehicle thus fits in perfectly with Munich Airport's climate strategy, which envisages the airport operating in a CO2-neutral manner by 2030 at the latest. #1141.GSE8

**All Nippon Airways (ANA) in Japan will partner with Toyota Industries Corporation to conduct a test of the latest autonomous towing tractor in the restricted area at Tokyo Haneda Airport (HND) from 29 March to 2 April 2021.** "Our work with Toyota Industries has led to

several successful autonomous towing tractor tests that we have continually learned from," said Masaki Yokai, Senior Vice President of ANA. Hisashi Ichijo, Executive Officer of Toyota Industries, added: "We are collaborating with ANA at Haneda Airport to accelerate the development of innovative technology. We are making important breakthroughs that bring us one step closer to our goal of establishing autonomous driving technology that is able to make airport logistics smarter around the world."

For this latest round of tests, Toyota Industries will introduce a newly developed autonomous towing tractor equipped with higher location tracking abilities that ensure smooth operations between indoor and outdoor environments. This advanced, high-precision model is able to transport a large amount of cargo, even in the congested driving conditions found at HND. The new tractor features increased location tracking abilities and improved towing capacity. By building on the information gained from prior tests, the vehicle will be equipped to navigate open spaces as well congested environments. It is equipped with 3D LiDAR and a 2D laser scanner, as advanced components that allow it to constantly track its position via road pattern matching and GPS.

ANA has previously conducted tests of autonomous vehicles in the past at Kyushu Saga Airport (HSG) in Saga Prefecture, and at Nagoya Chubu Airport (NGO) in Aichi Prefecture, and the Haneda trials will measure the performance of the latest model, confirming that it is able to operate safely and efficiently in a major airport setting. If the vehicles perform as expected, ANA aims to begin utilising autonomous technologies beginning in October 2021.