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Tallinn Airport (Estonia) has enhanced its security checkpoint with the introduction of new Rapiscan Systems scanners, enabling passengers to keep liquids and large electronic devices within their hand luggage during screening. This upgrade allows for more lenient restrictions on liquids, now permitting containers up to 2 litres in hand luggage, including items such as shampoos, sun creams, toothpaste, soft drinks, and liquid foods.

However, passengers are reminded that these revised liquid volume restrictions might not be adopted at all airports, advising them to verify the regulations at their destination and any transit airports for return flights.

Glasgow Airport (United Kingdom), in collaboration with Connected Places Catapult and other partners, is set to trial new Artificial Intelligence (AI) and Augmented Reality (AR) technologies aimed at improving accessibility for passengers requiring special assistance.

This initiative is part of the Connected Airport Living Lab program and aligns with the key themes of the FTE Digital, Innovation & Startup Hub in 2024, focusing on AI, Robotics, and the Internet of Things (IoT). The trial will involve innovators working alongside Glasgow Airport's accessibility team and user research specialists to conduct live tests within the terminal. These tests are designed to observe how participants interact with the technologies and to gather feedback that will inform further development of these solutions.

Technologies being trialed include:

- **ChapARone by Gazooky Studios:** An instant messaging service that combines AI and AR to help disabled passengers by providing information through a network of accessible-QR coded info-points.
- **Hello Lamp Post:** An AI-powered digital assistant that offers 24/7 communication and assistance through location-specific QR codes, improving support, navigation, and wayfinding for passengers.
- **Signapse:** Uses the latest AI techniques to deliver automatic sign language announcements, catering to deaf passengers by providing announcements in both British and American Sign Language.
- **Signly:** Offers sign language translations in multiple languages (British, American, Irish, and German) through pre-recorded videos accessible on smartphones via QR codes, making information more accessible to passengers who use sign language.

The trials aim to enhance the travel experience for passengers needing special assistance, making air travel more inclusive. This effort also presents an opportunity for companies to test and refine their technologies in a live airport environment, supported by the collaboration with Glasgow Airport and the Connected Airport Living Lab program. #1214.AIT1

British Airways (BA) is embarking on a significant overhaul of its ground support equipment at Heathrow Airport as part of its strategy to achieve net-zero emissions by 2050, encompassing both air travel and ground operations. The initiative, with an investment of GBP 7 billion, is set to be completed over the next three years. BA plans to replace all its ground vehicles, including vans, cars, and cargo transporters, with hybrid or electric models where possible. Additionally, the airline will transition more than 750 pieces of ground equipment to use hydro-treated vegetable oil

(HVO), a sustainable alternative to diesel, affecting vehicles from aircraft de-icing units to baggage loaders. The comprehensive upgrade also involves replacing diesel passenger aircraft steps with electric versions, introducing 135 new electric tugs, and eliminating 38 diesel passenger buses. This step is part of BA's ongoing efforts to lessen its carbon footprint, which has previously included the adoption of electric and hybrid cars as well as remote-controlled pushback vehicles for airside operations.

British Airways, alongside its parent company International Airlines Group (IAG), plans to introduce baggage robots at London's Gatwick Airport (United Kingdom) to mitigate staffing challenges. After successful trials at Heathrow Airport, these driverless vehicles are slated to commence operations at Gatwick in May, with potential expansion based on the trial's outcomes. **The robots, developed by Aurrigo** and costing between GBP 100,000 and GBP 250,000, aim to enhance efficiency and safety while reducing the reliance on labor and equipment by 90%.

This innovation addresses staff shortages post-COVID and frequent ground staff strikes by easing the workload on existing staff. Initially, the robots will transport baggage containers between planes and terminals, with future models expected to autonomously load and unload these containers. Aurrigo's autonomous vehicles are also being tested at Singapore's Changi Airport, and there is interest from other airports like Munich, Stuttgart, and Amsterdam's Schiphol.

Schiphol Amsterdam Airport (The Netherlands) is currently conducting a trial with electric autonomous buses on its airside, using two self-driving Ohmio buses that follow a fixed route and stop at various locations close to cleaning and ground handling companies. This service is designed for employees, aiming to explore the benefits and employee perceptions of autonomous transport. In its initial phase, the trial focuses on integrating the technology with the airport infrastructure and gathering user feedback. So far, 89% of users are willing to repeat the experience, citing safety and positivity towards the service. The trial, part of Schiphol's ambition for an emission-free and autonomous ground operation by 2050, will continue until the end of April to further test the technology and consider potential expansions.

The Bag-Intel consortium is preparing for its third project at Adolfo Suárez Madrid-Barajas Airport (Spain), focusing on enhancing the efficiency of baggage customs control without increasing staff, through the use of artificial intelligence (AI). This project is part of a series, with the first two implementations in Denmark's Billund Airport and Greece's Makedonia Airport in Thessaloniki. In Billund, the full Bag-Intel system includes a dog inspection track, an x-ray/CT scanner, and cameras for luggage registration and re-detection. Thessaloniki's setup, minus the dog track, involves an x-ray/CT scanner and a handheld device for bag tag scanning before x-ray/CT analysis, aiding risk analysis by collecting data such as departure airport.

In Madrid, technical partners presented initial work and future plans, discussing involvement of actors or real passengers for the third use case. The team is now preparing to install the necessary equipment at Madrid-Barajas for the project execution. Meanwhile, Denver International Airport is set to receive a USD 26.6 million grant from the FAA to partially fund its baggage handling system modernization, aiming for increased capacity and better energy efficiency.

OSI Systems, Inc., a provider of specialized electronic systems, has been awarded a USD 5 million contract to supply advanced baggage screening technology to a major European international airport. This technology, particularly the 920CT baggage screening systems, is designed to enhance the security and efficiency of the passenger screening process. OSI Systems' Chairman and CEO, Deepak Chopra, highlighted the company's commitment to improving airport security infrastructure with this advanced CT checkpoint technology. With over 40 years of experience in electronics engineering and manufacturing, OSI Systems operates globally, focusing on homeland security, healthcare, defense, and aerospace industries.

JFK Millennium Partners has chosen LOGIPIX US Corporation to implement a Virtual Ramp Control System at the new JFK Terminal 6, as part of a USD 4.2 billion redevelopment

project. This technology, provided by LOGIPIX, aims to enhance security, efficiency, and safety on the ground. Leveraging high-resolution intelligent computer vision solutions, the system will monitor and analyze ground activities using live object classification and tracking. It integrates advanced features like multi-sensor panoramic video technology and Airside Augmented Reality Solution (LAARS) software to support real-time decision-making and improve situational awareness in gate operations. The implementation will occur in two phases during Terminal 6's construction.

Houston City Council has approved funding for advanced Transportation Security Administration (TSA) equipment for the new Mickey Leland International Terminal at George Bush Intercontinental Airport (Texas, United States), featuring a state-of-the-art 17-lane security checkpoint. This checkpoint, among the largest in the U.S., aims to provide a world-class customer service by ensuring a safe, secure, and efficient screening process. Houston Airports targets a TSA security clearance time of 20 minutes or less, a goal currently met over 90% of the time at Bush Airport.

The funding includes USD 11.8 million for nine new **Scarabee Checkpoint Property Screening Systems (CPSS)** Automated Screening Lanes to screen carry-on luggage and personal items, enhancing baggage check efficiency with 3D imaging and advanced explosive detection. This allows travelers to leave electronics and liquids in their carry-ons, increasing screening capacity by over 100 people and bags per hour compared to current equipment. Additionally, USD 1.2 million will fund six Advanced Imaging Technology (AIT) Quick Personnel Security Scanners, which use millimetre wave technology for body screening without the need for passengers to raise their arms, also improving screening rates. This technological upgrade, expected to be operational by the 2026 World Cup, aims to bolster Houston's safety, efficiency, and appeal as a travel hub, potentially serving as a home base for soccer fans traveling across North America for the World Cup matches.

TK Elevator has boosted operational efficiency at Abu Dhabi's Zayed International Airport's Terminal A by supplying over 200 mobility units. These include 106 Passenger Boarding Bridges (PBBs), 93 Advanced Visual Docking Guidance Systems (A-VDGS), and a cutting-edge MAX Monitor & Control system. This comprehensive digital solution offers real-time airport visualization and information, customizable interfaces for seamless integration with any IT system or equipment, catering to the unique requirements of each airport.

With Terminal A covering 742,000 m², it ranks among the world's largest airport terminals, doubling the airport's capacity for passenger and cargo. The terminal, which began operations in November 2023, is designed to handle up to 45 million passengers annually, process 11,000 travelers per hour, and accommodate 79 aircraft simultaneously. The deployment of TK Elevator's solutions not only enhances the efficiency of airport operations but also elevates the passenger experience during both arrivals and departures. The MAX Monitor & Control system, in particular, enhances operational efficiency with its real-time intelligence and equipment availability.

TK Elevator has become a preferred supplier for Zayed International Airport, which already features over 250 TK Elevator mobility solutions across its terminals, including PBBs and A-VDGS, with plans for further installations in the near future. These technologies play a crucial role in ensuring airport safety and a smooth passenger experience.

Publisher's note: The articles in this special report, compiled for **inter airport Europe**, are a few select samples from the biweekly **Momberger Airport Information** newsletter, published since 1973. The newsletter is an advertising-free, global airport news service that consists of 9 modules and allows subscribers to customize their own newsletter package. The modules that make up the biweekly newsletter are: Airport Development (DEV), Calendar of Events (CAL), and the subscriber-selectable modules Airport Operations (OPS), Management, Ownership & Finance (MGT), Ground Support Equipment (GSE), Air Traffic Services (ATC), Consultant & Contractor / Sustainable Aviation (CON), Airport Information Technology (AIT), and Maintenance Base & FBO (MRO). For more information, a sample of a complete newsletter issue, and to order an annual subscription, please visit www.mombergerairport.info