Hamad International Airport (Qatar) is enhancing the passenger experience through innovative digital wayfinding using QR Codes. These codes are strategically placed across the terminal, including Flight Information Display Screens and Passenger Digital Assistance Kiosks. Travelers can seamlessly navigate the expansive terminal, find dining options, retail experiences, departure gates, and more. The system is compatible with all mobile devices and utilizes the airport’s Wi-Fi. The Digital Concierges at ORCHARD offer information about various amenities. The airport’s ongoing digital transformation strategy aims to optimize operations and provide a seamless journey, aligning with its commitment to create an exceptional airport experience since its establishment in 2014.

The Civil Aviation Authority of Singapore (CAAS) and Singtel have launched a 5G Aviation Testbed at Singapore Changi Airport Terminal 3’s airside. The testbed will last for two years and aims to raise productivity for critical airside functions, such as aircraft ground operations, ground handling, and line maintenance services. It allows companies to trial and adopt new solutions using 5G’s high bandwidth, high-speed connectivity, and ultra-low latency.

The testbed will support projects like the teleoperation of autonomous vehicles (AV) and the secure ground transfer of critical flight data between aircraft and data centres. This will enable continuous monitoring of AV operations in real-time, using high-definition video streams with low latency and high transmission stability, allowing operators to supervise AV operations remotely.

Singtel is upgrading around 4,000 Singtel 4G corporate mobile user lines at the airside to 5G lines to facilitate the development of use cases and improve connectivity for aviation workers. Safety guidelines and mitigation measures have been developed to ensure safety in flight operations during the wide-scale deployment of 5G at the airport.

Aviation companies interested in using 5G connectivity for innovation and productivity initiatives can seek co-funding under the Aviation Development Fund. Singtel’s Paragon 5G Platform will support the development of transformative digital solutions requiring ultra-fast speed, hyperconnectivity, and ultra-low latency.

The 5G Aviation Testbed is seen as a critical enabler for technological trials, autonomous vehicle operations, and long-term growth and competitiveness of Singapore’s air hub post-Covid. It will enhance operational capabilities and boost efficiency at Changi Airport.

Incheon International Airport (South Korea) has introduced a new biometric identification system called "Smart pass" that uses facial features of travellers to replace passports. The service enables quick and efficient identification of passengers at departure and boarding gates without the need for physical passports or boarding passes. The system has been implemented across all departure gates and 16 boarding gates at the airport. It is currently available for passengers flying with specific airlines and is expected to be fully integrated for all airlines by April 2025. Passengers can use the ICN Smart pass mobile application or self-check-in kiosks to register their facial information at least 30 minutes before using the service. The biometric information can be used for five years. The airport
expects this technology to enhance aviation security and increase passenger convenience. Similar facial recognition systems have been implemented in other international airports worldwide.

**Shanghai Pudong International Airport (P.R.C.) has partnered with ADB SAFEGATE to enhance its Airport Operational Database/Resource Management System (AODB/RMS).** The upgrade aims to optimize resource allocation, improve apron efficiency, stand usage, and passenger experience while reducing operational costs. By updating rules and operational data, the RMS can now automatically complete over 80% of stand allocation operations, streamlining processes and saving time for staff. The collaboration is part of PVG's digital transformation journey to maximize resource utilization and improve apron operations. ADB SAFEGATE provides integrated solutions for airports, airlines, and ANSPs, focusing on efficiency, safety, sustainability, and cost reduction in the aviation industry.

**SITA and Indicio have entered into a co-innovation agreement to accelerate the development and deployment of digital identities for travel.** They aim to create Digital Travel Credentials (DTC) that allow passengers to securely store a digital version of their passport in line with ICAO standards on their mobile devices. The DTC will be a verifiable credential that passengers can share with various entities as needed during their journey. The technology ensures authenticity, integrity, and ownership verification, reducing the risk of fraud. The successful trial of this technology was conducted with the Government of Aruba, streamlining the travel authorization process for passengers at Queen Beatrix International Airport. SITA's adoption of digital identities is seen as a significant technology breakthrough that simplifies the identification process and promotes seamless travel.

**Amsterdam Airport Schiphol (The Netherlands) has decided to purchase 19 baggage robots after a successful two-week pilot project.** These robots have been developed specifically for Schiphol and are designed to assist baggage handlers by lifting heavy suitcases, improving working conditions. The robots will be used in baggage reclaim Zuid, where KLM, Aviapartner, and Viggo handle departing passengers' baggage within Europe. The airport plans to put the robots into use quickly, with the first one being deployed this autumn, and aims to have all 19 robots in operation by the beginning of 2024. Schiphol expects that the robots, developed by the Danish company Cobot Lift, will be able to lift 80% to 90% of all baggage items when used on a large scale. This initiative is part of Schiphol's commitment to comply with the Labour Inspectorate's requirements and improve working conditions for staff in the baggage basement.

**SITA is upgrading Air France-KLM Group's self-service kiosks across major European airports, including Charles de Gaulle and Schiphol (France).** The new TS6 kiosks offer enhanced functionalities, including seamless mobile connectivity and contactless payment options. These kiosks comply with EU PSD2 SCA law for two-factor authentication and are also PCI Point-to-Point Encryption (P2PE) compliant, ensuring security and reducing PCI DSS compliance costs for the airlines. The modular design of the kiosks allows for customization and future upgrades, such as biometrics. Air France-KLM values the kiosks' reliability and user-friendliness, while SITA emphasizes the importance of digitalizing the passenger journey for efficient airport operations and improved traveller control.

**Siemens Logistics has been awarded a contract to operate and maintain the baggage handling system at Palma de Mallorca Airport in Spain.** The service contract encompasses various components, including the conveyor system, sorters, check-ins, and baggage reclaim carousels. The contract, with a duration of two years, includes the option for two additional one-year extensions. Siemens will employ both corrective and preventive maintenance methods to ensure the reliable operation of the conveyor system. Palma de Mallorca Airport, handling around 29 million passengers annually, relies on a smoothly functioning baggage handling system. Siemens Logistics, with a strong presence in Spain, aims to provide a top-notch service, building on its experience of over 17 years of collaboration with airport operator Aena.
Moonware, a Los Angeles-based startup, has developed an AI-powered operating system (OS) called HALO that aims to transform ground operations at airports. HALO algorithmically coordinates various factors, including flight data, crew schedules, and ground movement, to optimize ground operations in real-time. The system aims to reduce delays, congestion, and turnaround times at airports. Moonware has secured $2.5 million in pre-seed financing and plans to launch the OS initially with commercial airlines, starting with those that manage their own ground operations teams. The company envisions a future where all aspects of ground operations are autonomous and is also exploring opportunities with the U.S. Air Force. HALO’s potential to enhance the efficiency and coordination of ground operations could be significant, especially with the emergence of new air travel technologies.

Spanish airport operator AENA has initiated a Framework Agreement for the supply and installation of energy-efficient LED lighting systems in its airports, with a budget of over EUR 30 million. This agreement aims to upgrade airport lighting technology over the next 4 years, aligning with AENA’s commitment to reducing carbon footprint and achieving its Climate Action Plan. The plan focuses on sustainability and energy efficiency, particularly through improved lighting. The scope includes supplying and installing efficient lighting equipment in terminal buildings, service areas, parking lots, and access roads across AENA’s airport network. The chosen contractor must ensure lighting compliance, replace fixtures if needed, and maintain specified lighting levels. Interested companies have until September 7th to submit their bids.

Smiths Detection’s long-term Spanish distributor, TECOSA, has secured the company’s largest-ever single order of hold baggage security (HBS) scanners. TECOSA won a contract worth more than £128 million with Aena, the world’s top airport operator, to deploy Smiths Detection’s ECAC Standard 3 approved explosives detection systems in five international airports across Spain. The contract includes the HI-SCAN 10080 XCT scanners, which use dual-view, dual-energy line scanning with high-resolution 3D Computed Tomography (CT) for enhanced security and low false alarm rates. The scanners can be updated to detect future threats. The order also includes fully redundant matrix servers, data storage, and an Unaccompanied Baggage Inspection (UBI) module. The contract involves screening systems for out-of-gauge baggage and a seven-year service agreement. This order will bring the total number of airports upgraded to Standard 3 by Smiths Detection to 50, with around 500 advanced and approved systems installed worldwide.

Smiths Detection’s HI-SCAN 7555 DV X-ray scanner has received ECAC EDS CB C1 certification, making it an approved explosive detection system for cabin baggage by the European Civil Aviation Conference (ECAC). The scanner’s certified automated explosives detection algorithm eliminates the need for random searches, streamlining the security screening process, increasing passenger throughput, and improving the overall passenger experience. The scanner can be enhanced with Smiths Detection’s iCMORE Weapons algorithm software for automatic detection of guns, knives, and ammunition. The certification complements Smiths Detection’s portfolio of airport checkpoint solutions.

Publisher’s note: The articles in this special report, compiled for inter airport Europe, are samples from the biweekly Momberger Airport Information newsletter, published since 1973. The newsletter is an advertising-free, global airport news service that consists of 8 modules and allows subscribers to customize their own newsletter package. The items in this report represent only a small sample of Momberger Airport Information. The modules that make up the biweekly newsletter are Airport Development (DEV), Calendar of Events (CAL), and the subscriber-selectable modules Airport Operations (OPS), 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 and to order an annual subscription, please visit www.mombergerairport.info