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IATA has warned of potential airport chaos unless governments move quickly to adopt digital processes to manage travel health credentials (Covid-19 testing and vaccine certificates) and other Covid-19 measures. Pre-Covid-19, passengers, on average, spent about 1.5 hr in travel processes for every journey. Current data indicates that airport processing times have increased to 3.0 hr during peak time with travel volumes at only about 30% of pre-Covid-19 levels. The greatest increases are at check-in and border control (emigration and immigration) where travel health credentials are being checked mainly as paper documents. Modelling suggests that, without process improvements, the time spent in airport processes could reach 5.5 hr per trip at 75% pre-Covid-19 traffic levels, and 8.0 hr per trip at 100% pre-Covid-19 traffic levels. **“Without an automated solution for Covid-19 checks, we can see the potential for significant airport disruptions on the horizon.** Already, average passenger processing and waiting times have doubled from what they were pre-crisis during peak time. And that is with many airports deploying pre-crisis level staffing for a small fraction of pre-crisis volumes. Nobody will tolerate waiting hours at check-in or for border formalities. We must automate the checking of vaccine and test certificates before traffic ramps up. The technical solutions exist, but governments must agree digital certificate standards and align processes to accept them,” said Willie Walsh, IATA’s Director General.

Paper-based Covid-19 document check would force travellers back to manual check-in and border control processes that are already struggling even with low volumes of travellers. If governments require Covid-19 health credentials for travel, integrating them into already automated processes is the solution for a smooth restart. This would need globally recognised, standardised and interoperable digital certificates for Covid-19 testing and vaccine certificates. Digitalised certificates have several advantages: avoiding fraudulent documentation; enabling advance ready-to-fly checks by governments; reducing queuing, crowding and waiting time in airports through integration with self-service check-in; increasing security through integration with digital identity management being used by border control authorities; and reducing the risk of virus transmission via the person-to-person exchange of paper documents. Where governments require airlines to check travel credentials, governments should accept traveller-friendly apps, such as the IATA Travel Pass, to efficiently facilitate the process. “This cannot wait. More and more people are being vaccinated. More borders are opening. Booking patterns tell us that pent-up demand is at extremely high levels. But governments and the competent authorities are acting in isolation and moving far too slowly. A smooth restart is still possible. But governments need to understand the urgency and act fast,” said Walsh.

There will be no place for traditional airports to operate without advanced and smart technologies in the future, which stresses the absolute necessity for airports of the future to enhance security and facilities enabled with smart devices, according to Khalifa Ibrahim Al Saleis, CEO of Security Industry Regulatory Agency (SIRA). Delivering the keynote speech on

Future Technologies Enhancing Airport Security at the recent Global Airport Leaders Forum at the Dubai Airport Show 2021, he said Dubai Airport sits in the first place in the world on the number of international travellers, with 89.1 million travellers in 2019. According to ACI, in 2018 there were 8.8 billion passengers at world airports. In 2040, the number is expected to increase to 19.7 billion. These large number of travellers means that travel procedures need to be simplified, while maintaining the safety and security at the airports and passengers. **Smart airports are the future of air travel because of the smart devices provided to reduce waiting queue, waiting time, reduction in queue for passport control, security check and at duty-free and other outlets.** Smart counters resulted in reducing waiting time, waiting queues, waiting time for passport control, security check, and duty-free and other outlets. In 2018 and 2019 it was recorded that 78% users of these services were economy class passengers, which helped avoid crowding and reduction in waiting time at the terminal. The use of smart phone application for travel procedure, such as printing boarding pass, advance ticket booking, reduced the waiting time at the airports achieved social distancing.

In 2018 and 2019, some 40% of Emirates airline passengers used online check-in service. Self-registration kiosks at the airports reduced human contacts that helped social distancing. It is estimated that these procedures reduced at least 30% of time spent at airports. The use of advance technology, smartgate and smart tunnel, introduction of digital passport supported by biometric technology speed up the travel procedure. **The digitalisation of visa and certificates using blockchain technology and digital encryption makes it very difficult to tamper with the documents, especially when it is linked with biometric and fingerprint identification technology.** The use of smartgate at Dubai Airport (DXB) reduced the time for completing travel procedures at the emigration and passport control to 15 sec. The use of smart tunnel for passengers at DXB led to reduction in time to 9 sec without the need to stop at the emigration counters.

Dnata has partnered with global IT company, Kale Logistics Solutions, to create an e-commerce platform for cargo operations in the UAE. The new platform is set to be built upon the firm's existing programme, CALOGI, which the two companies plan to update to incorporate a digital appointment and customs services management amenity for customers. Dnata inaugurated the original software in 2008 in Dubai. According to the company, it consists of a highly integrated, cost-effective trading system for supply chain stakeholders including sales agents, airlines, logistics providers and ground handlers. CALOGI also allows the cargo community to work in a paperless workspace. Building upon this platform, both companies plan to enable partners to connect with their customers and authorities on one programme. It is also expected that clients will be able to integrate existing workflows through application programming software (APIs) and utilise its new functions. "Our new e-commerce platform will help our supply chain partners and customers in Dubai optimise their operations and reduce costs through improved processes and enhanced visibility into their businesses," said Bernd Leo Struck, Dnata's senior vice president for UAE Cargo and DWC Airline Services.

London Stansted Airport (STN) in the UK has completed the refurbishment of its baggage handling system (BHS), which it says is the largest upgrade to its baggage network since the current terminal opened in 1991. The work involved replacing the ageing set-up of conveyor belts and chutes with 2.4 km of track and 180 automated carts. Designed by Beumer Group, the new low-energy, fully automated system is said to be both faster and more efficient than the one it replaces and the longest system of its type in the world. At speeds of up to 5 m/sec, bags will take around six minutes to travel from check-in to being ready to load onto an aircraft.

The upgrade work was initially carried out in stages to minimise disruption. However, the drop in traffic because of the coronavirus pandemic meant the airport could speed up the project and complete it ahead of schedule. The work also included linking the new system with a new check-in area that opened in 2019 and the installation of 'Standard 3' baggage scanners which are required under new EU regulations.

EASIER has inaugurated its biometric SkyLanes in the new West Gates at the Tom Bradley International Terminal at Los Angeles International Airport (LAX), CA. Equipped with EASIER biometric boarding gates, Los Angeles World Airports (LAWA) inaugurated the new building at Los Angeles International Airport (LAX) on 24 May 2021. As part of the LAX modernisation plan, the management of Los Angeles World Airports (LAWA) and EASIER signed a three-year contract for the installation and operation of SkyLane automated biometric boarding on 7 November 2019. Following the implementation of protection measures defined by the US Congress, EASIER, in partnership with IDEMIA, deployed SkyLanes with a facial recognition system to help US Customs and Border Protection (CBP) manage border control and increase air passengers' security. This technology, efficient and convenient for passengers, allows their boarding in one step without having to show a boarding pass or a passport. The SkyLane is EASIER's latest generation of automated doors for access control and boarding. Equipped with a secure entrance passage with swing doors and a patented unicity detection system, the SkyLane guarantees precise passenger tracking and a very high level of security by preventing unauthorised boarding. EASIER has deployed 52 SkyLanes in the new Bradley West Gates and 24 SkyLanes in the existing gates at Tom Bradley International Terminal. Under the contract, a total of 128 SkyLanes will be deployed with possible expansions in other terminals.

UK-based Accesso Technology Group has partnered with Boston Logan International Airport (BOS), MA, to pilot a Virtual Security Line. The partnership marks Accesso's first foray into the airline industry and positions BOS as a pioneer in adoption of virtual queuing technology.

A trial implementation of the Virtual Security Line – powered by Accesso's Qsmart virtual queuing platform – was launched in April 2021 for an initial eight-week period. "More than ever, our customers want an easy and efficient travel experience. Even before the pandemic, we had been working on integrating more technology and innovation into the traditional services provided at Boston Logan International Airport," said Kwang Chen, chief information officer at the Massachusetts Port Authority, which owns and operates BOS.

Passengers preparing to enter the Virtual Security Line can do so using the Qsmart platform directly from their mobile device (no mobile app download is required). A countdown allows passengers to see their remaining wait time and they are notified in the browser session when it is their turn to enter the line; at the line's entrance, airport staff conduct a contactless scan of the QR code on the passenger's mobile device to redeem their place in line. Without the need to configure additional hardware, Qsmart has a rapid implementation time, Accesso says, which makes the process easy for airport staff, as well. Additionally, Qsmart enables staff to reduce traffic inconsistencies and, instead, forecast and achieve a steady, manageable flow of arriving passengers.

The latest product developments and service innovations at Goldhofer Airport Technology all have a focus on safety, efficiency, and sustainability. In support of its mission to become a full solutions provider in the field of GSE (ground support equipment), the company now offers electric versions of its tried-and-tested cargo/baggage and aircraft tow tractors. In addition, more and more airport operators and ground handling providers are taking advantage of the comprehensive service and consulting offering available from the globally operating GSE provider. They benefit from accelerated product development cycles and flexible services, including online training, support with augmented reality technology and remote maintenance. In addition to the economic advantages, this also means additional safety for employees in times of the coronavirus.

The Covid pandemic has increased the pressures on the air travel industry worldwide to find more efficient, sustainable and, above all, safe handling solutions. In addition to growing demand for electrically powered vehicles and product-related services – such as maintenance and repairs – Goldhofer has also seen an increase in interest in consulting services relating to infrastructure and equipment. "We are clearly focused on efficiency gains. This means employing fewer resources than in the past while handling all processes at the same or a higher level," commented Rüdiger Dube, Head of Strategic Product Management Airport Technology at Goldhofer. "The decisive factor here is a 360-deg view of all

aspects and requirements in everyday GSE operations. Viewing individual processes in isolation is not the solution.”

The industry is also showing additional interest in Goldhofer’s new online training and remote maintenance services for reduced travel expenses, faster response times and lower costs. “We developed these new services before Covid-19 in order to achieve a general reduction in service costs and downtimes for our tow tractors. Now, of course, with the challenges to the air travel industry posed by the coronavirus, demand for these services is buoyant – as they greatly reduce the points of contact between employees,” Dube said.

Raytheon Intelligence & Space has secured a five-year, USD 318 million Transportation Security Administration (TSA) contract to expand checked baggage screening equipment deployment at federally managed airports. Raytheon Intelligence & Space is a subsidiary of Raytheon Technologies and previously executed the installation of new and upgraded existing checked baggage screening equipment in 155 airports in the nation’s central region. The new contract would expand the scope to all the approximately 430 federal airports nationwide. “We have worked with the TSA since its inception to strengthen security at our airports,” said John DeSimone, vice president of Cybersecurity, Training and Services for Raytheon Intelligence & Space. “This nationwide expansion of our partnership allows us to continue to protect passengers from evolving security threats.” Company officials said Raytheon Intelligence & Space is a trusted partner of TSA, with more than 20 years of airport security services experience, noting Raytheon has installed, upgraded, or decommissioned over 1,700 pieces of TSA security equipment over the course of the past six years. Raytheon Intelligence & Space officials said the company delivers technologies customers need to succeed in any domain versus any challenge, noting the business develops advanced sensors, training, and cyber and software solutions, providing a decisive advantage to civil, military, and commercial customers in more than 46 global locales.