



Smooth operations

From baggage tracking and passenger processing to apron management, runway scheduling and turnaround times, Elena Lodge investigates how the digitalisation of airport processes is creating more efficient operations both landside and airside.

We are well and truly in an era of artificial intelligence (AI). There's no denying that the potential of AI for use in professional environments is great, particularly within the complexities of airport management.

Digitalisation in general has plenty to offer airports, airlines and ground handlers seeking to rapidly improve the efficiency of operations. In fact, many major aviation players are already using digital software to level up and take their operations from sound to seamless.

Here, the companies leading the charge dive into what they're offering and the benefits of digital operations for airports.

SEAMLESS JOURNEYS

"The basic needs of travellers remain consistent," says a spokesperson for digital solutions provider Amadeus, explaining that passengers want "a smooth airport experience for check-in, bag drop and boarding that saves time and offers the choice of an automated or agent-led experience".

Amadeus offers cloud-based solutions, integrating hardware and software to manage every passenger touchpoint from check-in to boarding, while also offering advanced biometric capabilities.

To help manage passenger flow more efficiently, its Amadeus Airport Insights works in tandem with Amadeus Flow and Amadeus's Airport Operational Database to offer airport operators the

"Gaining a single data view of baggage operations means airlines and ground handlers can understand the MCT on a given route or for a given station."

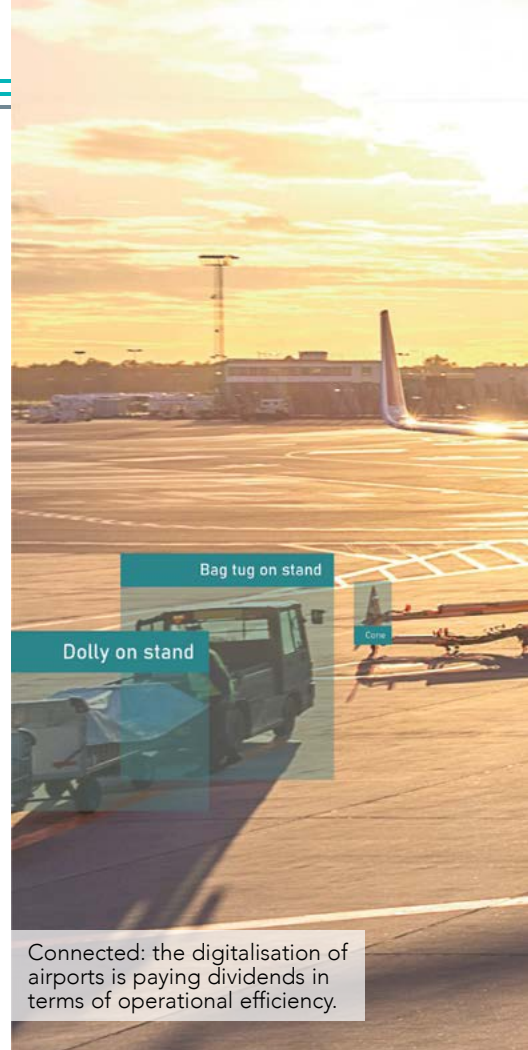
Amadeus

ability to display data analysis from passenger flow touchpoints on to a single view dashboard.

The display enables operators to quickly access data such as passenger movements, issues, their time spent in a certain place and more, with predictive demand forecasts and machine learning capabilities allowing operators to prepare for passenger bottlenecks, baggage miscommunications and fluctuations in demand.

"During 2021, the number of mishandled bags increased by 21 per cent, representing more than four in every 1,000 bags," says Amadeus's spokesperson.

"It's now possible to predict baggage delays and misconnections before they happen. Gaining a single data view of baggage operations means airlines and



Connected: the digitalisation of airports is paying dividends in terms of operational efficiency.

ground handlers can understand the Minimum Baggage Connection time (MCT) on a given route or for a given station."

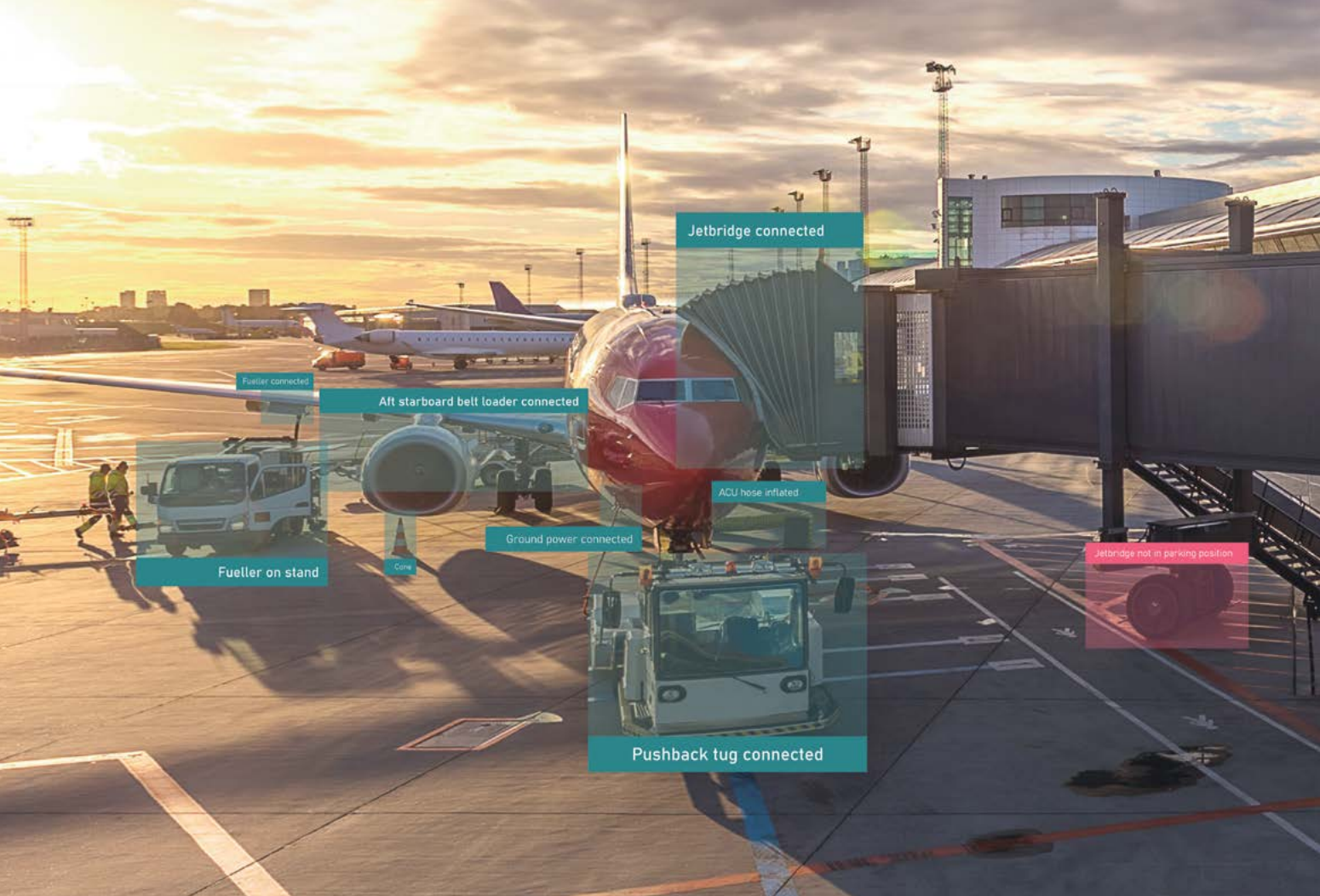
Amadeus's solutions are currently leveraged by hundreds of regional and international airports globally. Most recently, the company signed a partnership with Hamburg Airport to provide Amadeus Flow for its airport operations.

Despite the large number of airports turning to digital solutions to support their processes, these transformations can be slow according to Amadeus.

"The vast majority of airports still run passenger services based on legacy on-premises technology, often from a variety of different suppliers," says the spokesperson.

"The pace of change is often slow, requiring systems integration projects and lengthy certification cycles that hold back digital transformation at the airport.

"Legacy technology constrains terminal design with airline services like check-in fixed to specific locations, preventing airports from responding flexibly."



TURNAROUND TIMES

While airports consistently juggle a swathe of challenges ranging from fuel price increases to time constraints and ever evolving passenger expectations, delays in aircraft departures and arrivals, which are often caused by slow turnarounds, consistently rank among the top customer complaints.

Assaia uses its machine learning-based software aimed at managing and optimising airside operations for airports, airlines and ground handlers to address the issue of improving turnarounds, specifically time, resource maximisation, environmental sustainability and apron safety.

Using AI and computer vision, Assaia monitors all aspects of the turnaround, providing the data to the turnaround manager through their desktop or mobile phone, with automated alerts in place for pre-agreed parameters.

Assaia's core service, Apron AI Base, enhances turnaround operations by providing real-time visibility and accurate predictions for turnaround events,

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helping its airport users make informed decisions and take full control of its turnarounds.

The tech company also offers Assaia TurnaroundControl, which similarly utilises computer vision event detection technology, but offers an interface that is more specific to airlines and ground handlers due to its focus on maximising on-time performance.

Assaia's customer base currently consists of a variety of airports, such as Aeroporti di Roma, Calgary Airport Authority and Toronto-Pearson International Airport; airlines, including low-fare carriers such as Volaris, Southwest and Spirit; as well as ground handlers, such as dnata, Gate Gourmet, LSG and Menzies Aviation.

Also noteworthy is the recent introduction of Marubeni Corporation, the joint owner of Swissport Japan, to Assaia's Strategic Partner Community, the company's global network of aviation leaders.

By investing in the Strategic Partner Community, Marubeni Corporation aims to expand the scope of its exclusive distribution rights for Apron AI in Southeast Asia for the first time since Marubeni obtained the rights for the Japanese market back in 2019.

MOBILE TECHNOLOGY

Another company facilitating the digitalisation of airport operations is SITA, the multinational information technology company focused on



Airport AI

providing IT and telecommunication services to the air transport industry.

SITA has created a series of next-generation platforms aimed at providing airports with more cost-effective, responsive and resilient operations for its customers.

Its portfolio includes solutions such as SITA Flex, the mobile-enabled common-use technology for contactless passenger processing, and SITA Connect Go, which helps address the limitations of older global WAN networks and challenges posed by new industry trends. Meanwhile, its Passenger Flow Management (PFM) platform captures and accesses real-time data and data analysis across the entire passenger journey, allowing airports to avoid congestion and maintain passenger flow.

With features including document validation, passenger tracking, queue management, passenger profiling and flow forecasting, PFM allows airports to optimise efficiency of the passenger journey and create a more seamless passenger experience.

SITA also offers its SITA Airport Management platform, which helps airlines, airport and ground handlers to run collaborative and efficient operations on a single platform, from landside to airside and landing to turnaround and takeoff.

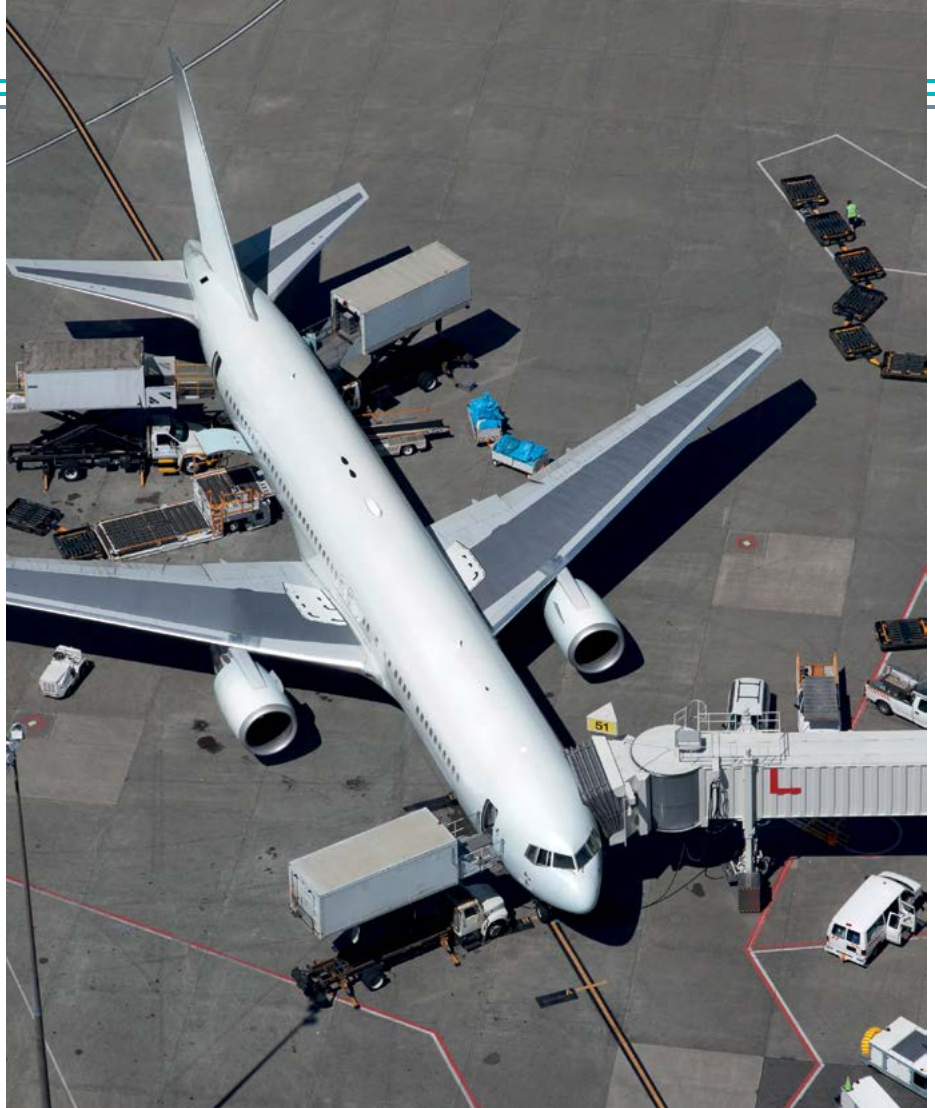
According to SITA, its airport customers have seen benefits including improved airport processes, reduced taxiing times and increased operational efficiency.

DIGITAL TRANSFORMATION

Making the switch to digital operations can provide airports with a whole host of benefits, improvements and efficiencies.

“Airports will continue to face operational challenges if they don’t embrace digital technologies,” says George Richardson, the CEO and co-founder of AeroCloud.

“This is particularly pertinent given the sector continues to face disruption post-pandemic, such as industrial action and flight cancellations.”



Assia’s machine learning-based software aims to manage and optimise airside operations.

Richardson adds that real-time data, which can be provided through digital software, places airports in a far better position to respond quickly and effectively when disruptions arise.

AeroCloud creates modular and scalable airport management software solutions for the airport sector that aim to provide airport stakeholders with real-time data, including airport staff, airlines and ground handlers.

It is currently partnered with 47 airport customers, including a number of regional airports such as Liverpool John Lennon, Teesside and Manchester Airport in the UK, and is expanding its presence in North America, where existing airport customers include Sarasota Bradenton International Airport, Eastern Iowa and Tampa International.

The company’s Airport Operations System leverages AI and machine learning to provide real-time analytics for airports, allowing them to plan, monitor

and improve operations and enhance the passenger experience.

AeroCloud also recently announced its Common-Use Passenger Processing and Self-Service solutions, enabling airlines to share check-in desks and self-service kiosks for bag tag printing and bag drop.

Implementing these solutions provides airports with the ability to maximise the space in terminals, resulting in more efficient costs and operations, and a more streamlined passenger journey.

For airports, airlines and ground handlers alike, opting in to the digital solutions on offer is certainly a choice worth exploring.

AeroCloud’s Richardson sums it up best, saying: “Digital solutions, simply put, make airports better. They have the power to truly transform the airport’s operations, empowering stakeholders to prioritise what truly matters: delivering exceptional passenger experiences and pursuing commercial goals.” ■