ACHIEVING MORE INTELLIGENT AIRPORTS
The world’s airports are becoming ever more crowded. Airports Council International (ACI) estimates there will be seven billion passengers travelling through the world’s airports by 2020 – that’s equivalent to the global population.

Airports are under pressure to accommodate this growth, but many are already operating well above their capacity. Other problems like slot restrictions and overcrowded airspace are driving up congestion and flight delays, creating problems that go beyond our industry. In the US alone, for example, the Joint Economic Committee (JEC) estimates that flight delays cost passengers, airlines and the US economy about $40 billion each year.

In some regions there is insufficient investment in airport infrastructure to deal with this increase in passenger demand, so airport operators are faced with having to do more with what they’ve already got. And that means making more intelligent use of the infrastructure – and the technology – that’s already in place.

SITA’s latest Airport IT Trends Survey shows increased optimism for IT-related spend this year, particularly in Europe, with more than half of all airports around the world expecting it to rise. By harnessing the power of new technology, new efficiencies and productivity can be achieved that will boost operational performance and deliver a better passenger experience.
Mobility is fundamental to unlocking this potential. Mobile technology is already in the hands of passengers, with their smartphones and other consumer electronics, and can act as a bridge to airports’ and airlines’ own technology infrastructure. It opens up many exciting possibilities, including extending self-service throughout the passenger’s journey, providing and receiving information, and even generating new marketing-based revenue streams. According to the Airport IT Trends Survey, 88% of airports plan to provide mobile applications for passenger information by 2015.

One technology that has received a lot of attention and is currently being assessed by the industry is Near Field Communications (NFC), where devices can communicate via radio signals, and this is increasingly becoming available on mobile phones. It enables boarding passes to be stored in phones as electronic tokens and then read and verified by ‘readers’ placed at touch points around the airport.

IATA has already looked at different applications for NFC, including baggage check-in, security check-points, lounge access and boarding. Our research arm, SITA Lab, has also performed a ‘proof of concept’ demonstration using NFC technology to automatically open security, airline lounge and boarding gates. France’s Toulouse-Blagnac Airport trialed SIM-based NFC in summer 2012, enabling passengers to pass through the airport’s checks, controls and gates using only their BlackBerry smartphones.

Mobile devices can also give passengers access to new information and services. There are already hundreds – if not thousands – of travel apps downloadable today. Some use geo-location technology to determine the most appropriate information for you based on where you are in your journey – and this is an area that is expected to become hugely important in the next few years. Receiving directions to a space in the airport car park, or directions and time to the gate based on current traffic flows through the airport could become everyday norms for passengers.

With wireless and sensor technology also being deployed throughout airport campuses to manage and control operations more effectively, and employees using mobile devices to improve productivity, the opportunities seem endless. However, they will result in the creation of much more data, that many more people will wish to use.
The increase in data volumes requires a new wave of innovation to filter out the noise and turn it into actionable information – we need to make airports intelligent. Most of the technology to achieve this already exists – it’s almost true to say that ‘the intelligent airport is here and now, but it’s yet to be distributed’. In fact, it’s starting to happen; the Airport IT Trends Survey has reported that 57% of airports rate business intelligence as a high priority.

We are a 24/7 industry, so information needs to be up-to-date as well as accurate. With this in mind, airports are starting to invest in geo-location technologies to track, in real-time, the location and movement of staff, vehicles, baggage and passengers. This enables airports to react much more quickly to unfolding events by deploying extra staff and equipment at bottlenecks. Indeed, 50% of airports see geo-location technology as a priority to reduce passenger congestion.

We’ll see huge benefits – such as reduced delays on the tarmac, minimized fuel consumption and trimmed turnaround times. Airports will be able to fine-tune their operations to ensure a smoother passenger flow towards the gates. Airlines will receive earlier notifications of passengers unable to make flights so that their bags can be unloaded before flights miss their take-off slots. And, airport management and stakeholders will know the location of their staff at all times and be able to communicate with them instantly.

This ‘always-on’ environment will also lead to an improved experience for passengers who will be better informed and less stressed. They will have accurate transit times for getting from the car park to boarding the aircraft, and a clearer idea of how long they can spend in retail and waiting areas. They’ll enjoy a far more ‘hassle free’ experience at the airport.

At SITA we have already worked with a number of airports, including Copenhagen Airport, to evaluate location-sensing within terminals, using Bluetooth and Wi-Fi technologies in passengers’ mobile devices. The results have helped passengers navigate their way through the airport more efficiently, and given airports a more accurate view of traffic flows towards the aircraft and queue lengths at critical touch points.

Airports will eventually have end-to-end situational awareness, enabling them to track assets and resources in real-time. They will be able to predict peak demands, take action to minimize queue lengths throughout the terminal, and plan staff utilization better.

“It’s almost true to say that the intelligent airport is here and now, but it’s yet to be distributed”

Matthys Serfontein, Vice President, Airports, SITA
Creating intelligent airports requires accurate, up-to-date information that can be distributed to all stakeholders, including the passengers. This means pulling together more complete data on what is happening at the airport, with close collaboration across all the airport ecosystems.

We are starting to see this happen. Airlines and airports are showing a renewed willingness to work closely together. The Airport IT Trends Survey showed as many as 78% of airports have implemented, or plan to implement, an Airport Operations Control Center by 2015. By that time, over two-thirds will have implemented Collaborative Decision Making (CDM) and, in Europe and Asia Pacific regions, that figure will reach around 85%.

This co-operation will result in a leap in efficiency gains at the airport. However the big prize of an information-driven airport will be for those that take a common approach and harness the new digital technologies, resulting in improved forecasting and better-quality decision making.

The critical success factor will be the different entities at the airport sharing their source data. There is increasing recognition of this across the industry by airlines and airport operators, as well as air traffic control, border management agencies, ground handlers and other airport data owners. People are actively engaged in sharing data and focusing on the benefits it offers.

For example, there is currently a lot of debate on how we can gain better insight into the industry’s operational dependencies and linkages by using big data techniques. One application of that is minimizing queues at security checkpoints, which are a major source of passenger frustration according to our SITA/ATW Passenger Self-Service Survey. But if border agencies, airlines and airports shared their data, a great deal could be done to minimize that frustration. Measurable service level agreements (SLAs) could be introduced that keep queue lengths down to a reasonable size by matching the number of open security channels to the demand.
Insights from SITA’s industry surveys show the industry is moving in the right direction towards the vision of intelligent airports:

Investments are planned in technologies to track, manage and share real-time information, enabling processes to be proactive and predictive. Airports’ sights are set on optimizing the passenger journey and anticipating disruptions. They’re actively asking questions like:

- What if you can improve customer service by reducing the number of mishandled bags through real-time baggage tracking?
- What if you can allow passengers to reserve parking spaces in advance and navigate to them via their mobile phones?
- What if you can improve on-time performance by allocating staff in real-time to meet changing demands via their mobile devices?
- And what if you can improve passenger flow and maximize retail opportunities?

The main industry bodies of ACI and IATA, working with their members, are building bridges between the different airport partners and developing a common approach using industry-standard technology. This provides a solid roadmap for SITA to contribute its technology, knowledge and expertise to realize the vision. For example, we are at the center of many of the industry’s data flows, so we can integrate the IT systems and turn the data into actionable information. This was highlighted as a particular challenge in the Airport IT Trends Survey, with more than two-thirds of airports ranking the lack of integration as the main challenge to establish their business intelligence-related platforms.

The good news is that, ultimately, passengers, airports and airlines seek the same things: fluidity, agility, automation and integration. In other words: more intelligent airports.

To discover more about SITA’s industry surveys visit www.sita.aero/content/it-trends-hub

Source:
‘Flying into the future – Passenger Experience 2015’
www.sita.aero/surveys-reports/industry-surveys-reports/flying-into-the-future
SITA AT A GLANCE

The air transport industry is the most dynamic and exciting community on earth – and SITA is its heart.

- Our vision is to be the chosen technology partner of the industry, a position we will attain through flawless customer service and a unique portfolio of IT and communications solutions that covers the industry’s every need 24/7.
- We are the innovators of the industry. Our experts and developers keep it fuelled with a constant stream of ground-breaking products and solutions. We are the ones who see the potential in the latest technology and put it to work.
- Our customers include airlines, airports, GDSs and governments. We work with around 500 air transport industry members and 2,800 customers in over 200 countries and territories.
- We are open, energetic and committed. We work in collaboration with our partners and customers to ensure we are always delivering the most effective, most efficient solutions.
- We own and operate the world’s most extensive communications network. It’s the vital asset that keeps the global air transport industry connected.
- We are 100% owned by the air transport industry – a unique status that enables us to understand and respond to its needs better than anyone.
- Our annual IT surveys for airlines, airports and passenger self-service are industry-renowned and the only ones of their kind.
- We sponsor .aero, the top-level internet domain reserved exclusively for aviation.
- In 2011, we had consolidated revenues of US$1.517 billion (€1.09 billion).

For further information, please visit www.sita.aero