Make your customers feel special

Delivering Emotionally Enriching Digital Experience to Air Travellers

Key Service Areas

**Multi-channel Commerce**
- E-commerce | Mobile | NDC | Ancillary | Merchandising

**PSS Transformation**
- Post-merge Integration | Data Migration | Validation

**Travel Loyalty**
- Collection | Redemption | Partner on-boarding | Promotions

**Airports**
- AOCC implementation | Commercial | Partner Integration

**Digital**
- Analytics | Digital Experience | Cloud

**Airlines Cargo Operation**
- Digitisation | Automation | Handling Time Reduction

**In-flight Catering**
- Meal Planning | Equipment Handling | Galley Planning

The NIIT Technologies Advantage

- 30+ years; 18 countries
- Partner to 50+ airlines and 14 airports
- IATA strategic partner
- End-to-end services: Consulting, Technology, Digital, and Business Process Management

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BRISBANE LEADS WITH SMART BIOMETRICS

Brisbane Airport, in partnership with SITA and Air New Zealand, has launched an Australian first trial of facial recognition technology that is set to transform the future of travel, from check-in to boarding.

The new SITA Smart Path™ technology uses sophisticated biometrics which allows passengers to present their details at a self-service kiosk at check-in. Then, when ready to board, use an automated boarding gate to be verified using face recognition technology to access the aircraft.

It means that once travel documents are linked to the biometric at check-in, the passenger can complete the boarding process without the need to present a boarding pass, a passport or travel documents.

SECURE

“This trial will allow us to test and refine new technology that we hope will make standard check-in and boarding processes more efficient and secure in the very near future,” says Roel Hellemons, General Manager Strategic Planning and Development, Brisbane Airport Corporation.

“A key benefit of working with SITA is that its technology integrates with our existing common-use infrastructure – check-in kiosks and boarding gates.”

For more about SITA Smart Path™ see ‘The promised world of blockchain’, page 35.

SECURE JOURNEYS TO TACKLE THREATS

SITA has announced the formation of the Secure Journeys Working Group to address airport security threats in the US and to work towards creating a secure and efficient passenger experience throughout the airport.

The announcement, made in Atlanta, will see the launch of the Secure Journeys initiative in response to the current security climate and recent attacks on non-secure areas of the airport, including the Brussels airport bombing and Fort Lauderdale airport shooting.

The value of Secure Journeys is its ability to bring together leaders, experts and representatives from across the air transport spectrum. Solutions and recommendations identified by the group will be vital to informing key decision makers.

Brian Cobb, VP of Customer Services, Cincinnati/Northern Kentucky International Airport (CVG), said: “Because CVG is a mid-market airport, we have the unique ability to quickly test the effectiveness of emerging technology on security and efficiency.

“As a member of Secure Journeys, we can use our knowledge to help shape recommendations to the TSA and CBP based on real-world experience rather than untested concepts. We look forward to collaborating as a community to ensure the safety and convenience of the traveling public.”

ADVANCED CYBERSECURITY FROM AIRBUS AND SITA

AIRBUS and SITA have launched new Security Operations Center Services specifically for the air transport industry.

This new incident detection services will provide airlines, airports and other industry stakeholders with information about unusual cyber activity that may impact their businesses.

Together the two companies will use their expertise to detect cyber activity relevant to airlines and airports. When requested, the Security Operations Center Services will provide appropriate containment and remedial action ensuring that a company’s digital assets are safe from attack.

This Center is the first of a new portfolio of cybersecurity products and services being developed by SITA.

INDUSTRY FACTS IN AN INSTANT

AIR TRANSPORT IT TRENDS HUB

Commended by the Marketing on Mobile Awards (MOMA)

Visit the Air Transport IT Trends Hub on SITA’s website for the full range of air transport industry trends, charts, facts and figures from our latest surveys, and more.

See the latest charts and videos for SITA’s surveys and reports, including:

• Airline IT Trends Survey
• Airport IT Trends Survey
• Baggage Report
• Passenger IT Trends Survey

You can freely download material for your own use.

www.sita.aero/it-trends-hub

AIR TRANSPORT IT REVIEW
Prestigious accolade for Drop&Fly

Drop&Fly, SITA’s bag-drop unit, has been awarded the prestigious 2017 iF Design Award: Public Product, in recognition of its state-of-the-art design and intuitive user interface.

Drop&Fly provides passengers with an easy-to-use interface which makes checking in bags a convenient and pleasant experience. Its one-step self-bag drop process, which allows passengers to print their tags and check in their bags at the same time, delivers a fast, customer-centric passenger experience.

It is fully customizable to the individual needs of the airport and its hybrid functionality enables a switch from self-service to an agent-assisted mode in a matter of seconds.

The iF Design Award, recognized as a symbol of design excellence around the world, confirms SITA’s expertise in matching form and function.

Champ wins excellence award

Champ Cargosystems has won the STAT Times International Award for Excellence in Air Cargo, in the category of ‘International IT Systems Provider of the Year in Africa’.

The award was presented in February 2017 in Johannesburg during the biennial air freight industry trade conference, Air Cargo Africa. Champ is a committed member of the African Airlines Association.

Bologna opens gates for faster immigration

Bologna Guglielmo Marconi Airport is to speed up the immigration process for passengers from the European Union who hold a biometric passport, with the introduction of new self-service immigration control technology from SITA.

Using world-leading facial recognition technology to confirm that the passenger is the passport holder, SITA’s iBorders® BorderAutomation automated border control gates (ABCGates) will provide passengers with a smooth ‘walk-through’ experience.

20 seconds

With an average processing time of under 20 seconds, the ABCGates confirm that the passenger has an authentic, valid passport and is authorized to enter the country while fingerprint verification is also provided to further enhance security when required.

Sita invests in LocusLabs

SITA has completed a strategic investment in dynamic mapping company LocusLabs. The investment supports SITA’s continued focus on developing and delivering common-use geo-location technology which allows passengers to identify services using location.

The solution, which merges mapping with a wide range of location data, allows airports and airlines to use the same dynamic maps and data but tailor them to their own requirements.

This additional funding will help LocusLabs further enhance its mapping capabilities, which is already in use at several major international airports as well as by airlines.

“LocusLabs’ geo-location capability adds real value to SITA’s cutting-edge airport app and opens new possibilities to enhance the passenger experience using location,” says SITA’s CTO Jim Peters.

“Future smart buildings and augmented reality applications are the new frontier for maps and with the support of SITA, both as an investor as well as a technology specialist in the air transport industry, LocusLabs can bring these technologies to fruition,” says LocusLabs CEO and Co-Founder, Campbell Kennedy.

Stop press!

Nice Côte d’Azur Airport will further streamline aircraft movements across the airfield with SITA’s Airport Management Solution, providing a more predictable flow of aircraft departures and minimizing delays. See also: ‘The big picture’, page 12.
NEW TECHNOLOGIES PROMISE TO HELP AIRLINES AND AIRPORTS TO ‘LOOK AHEAD’ – TO PREDICT FUTURE EVENTS THAT THREATEN TO DISRUPT TRAVEL. SO SAYS A NEW REPORT FROM SITA.

THE VIEW AHEAD OF US?

Passengers want certainty on their travels – whether taking a quick weekend away or heading for an important meeting with colleagues or customers on another continent. Uncertainty leads to anxiety and stress. And it’s no different for the thousands involved in delivering air transport.

One thing is certain. The status quo is not acceptable. Air traffic is doubling every 15 years. From a couple of hundred million in the early 1960s, by 2035 the numbers traveling by air will have passed well over seven billion, double the 2015 figure.

PRESSURE

More than two thirds of that growth will come from today’s existing network and there will be some 33,000 new passengers and freight aircraft. [Source: Airbus GMF 2016.]

Yet the number of airports won’t have doubled in that time and border controls will remain under pressure.

So airports and airlines must work together to be smarter at ensuring smooth-running operations and dealing with the estimated US$25 billion cost of flight disruptions. And as always they continually need to consider how to make the whole experience easier and less stressful for passengers.

TECH INSIGHTS

This is the sub-text for SITA’s latest 360 Degree report, ‘The Future is Predictable’. It provides insights into some of the innovative thinking by airlines and airports already emerging to tackle disruption – harnessing artificial intelligence (AI), cognitive computing, predictive analytics and other progressive technical capabilities.

Anything that airlines and airports can do to predict and reduce the high level of anomalous disruptive events – including the time-consuming and costly special management required to resolve them – will be a cost saving for their businesses and a benefit for everyone, including their passengers.

Underpinning everything are the very human opportunities this can open up for airlines and airports to forge better, more meaningful connections with customers during irregular operations.

What businesses experience as process exceptions, individuals experience as anxiety. Passengers will prize facilities and services that help them minimize their personal disruption and stress.

TECH INVESTMENTS

The report affirms how strongly the industry is taking these opportunities. For example, in the next three years, more than four out of five airlines will be ramping up investments in predictive technologies including business intelligence (BI) and predictive analytics. More than two-thirds will be investing in the Internet of Things.

“Over the next 10 years,” notes Nigel Pickford, Director Market Insight at SITA, “more than four out of 10 airlines and airports expect to trial or pilot some of the new and emerging technologies that are based on artificial intelligence and cognitive computing.

“The idea is to give themselves the tools to be more responsive to sudden operational issues, to mitigate operational impact and provide improved information for passengers.”
Meanwhile, over the next three years, almost half of airports will either have put in place, or will have planned, one or more technology solutions to deal with flight disruption – including processes for recovering from disruption, as well as providing quality proactive responses for passengers.

MOBILE FOCUS

Not surprisingly, smartphones feature strongly. A majority of airports already provide real-time disruption information to passengers’ mobile devices. And around two thirds of airlines are planning to enable automatic rebooking for all passengers, offer different re-booking services for high-value customers, and provide self-service tools.

LESSONS

One lesson from ‘The Future is Predictable’ is that the industry needs to be ready to harness a vast range of data, structured and unstructured, if it’s to benefit from the possibilities of predictive technologies.

DENVER INTERNATIONAL AIRPORT

The airport is progressing a five-year program to harness BI and data analytics to improve performance. The airport began offering BI as an enterprise-wide service in 2015, implementing dashboards and self-service tools, and supporting data mining, data analysis and data visualization, while introducing data science for advanced analytics.

“Our aim is to maintain the airport’s momentum and competitive advantage by enabling predictive and optimization capabilities through a smarter business intelligence and analytics infrastructure,” according to Robert Kastelitz, the airport’s SVP of Technologies and CIO.

For the future, the airport will focus on integrating more data sources, including divisional applications, sensors and video, plus external sources, such as social media and sentiment analysis, all of which will support prediction and problem solving scenarios.

“OUR AIM IS TO MAINTAIN THE AIRPORT’S MOMENTUM AND COMPETITIVE ADVANTAGE BY ENABLING PREDICTIVE AND OPTIMIZATION CAPABILITIES THROUGH A SMARTER BUSINESS INTELLIGENCE AND ANALYTICS INFRASTRUCTURE.”

ROBERT KASTELITZ
SVP OF TECHNOLOGIES AND CIO, DENVER INTERNATIONAL AIRPORT
As the capabilities grow, so will data sources. But data will only flow freely - and predictive services given greater depth – if it’s liberated by development and investment in the right systems and technology. It can be a tough call. For example, one of the greatest challenges cited by easyJet is to integrate different data silos and bring the data into the airline.

“There’s going to be a lot of trial and error across all industries,” comments Alberto Rey-Villaverde, Head of Data Science at easyJet. “You might have a fantastic algorithm, but how do you digest the stream of knowledge that’s coming from these algorithms in terms of decisions?”

“Airlines are high volume businesses. We might need to change the front line? Current processes will need to change, people might need to change the way they work. This is where difficulties lie.”

**THE TECHNOLOGY HAS HELPED US BETTER INFORM CHECKPOINT RESOURCES AND PROCESS MANAGEMENT, REDUCE WAIT TIMES, AND BETTER INFORM PASSENGERS, REDUCING THE STRESS OF UNCERTAIN WAIT TIMES.”**

**JOHN NEWSOME**
**IT DIRECTOR, GREATER ORLANDO AIRPORT AUTHORITY**

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**ORLANDO INTERNATIONAL AIRPORT**

The airport uses the Business Intelligence (BI) capabilities of SITA’s QueueAnalyzer tool to create a real-time view of security checkpoints, which enables it to respond quickly to unexpected conditions.

It also uses historic data to establish wait-time profiles for different times of the day, days of the week and seasons, allowing the airport to better allocate resources. The airport has halved the number of passengers spending more than 15 minutes waiting in a queue.

“The technology has helped us better inform checkpoint resources and process management, reduce wait times, and better inform passengers, reducing the stress of uncertain wait times,” says IT Director for the Greater Orlando Airport Authority, John Newsome.

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**SITA LAB: TACKLING DISRUPTIONS**

A recent study has shown that flight disruptions cost the air transport industry US$25 billion each year and the SITA Board and Council have identified this area as a key priority by funneling investment into research.

As SITA’s technology research team, SITA Lab is currently evaluating disruption detection and prediction capabilities to help tackle this huge challenge and reduce costs to the industry. SITA will invest into a community innovation program to benefit the air transport community.

SITA’s disruption warning initiative began by collecting a vast amount of existing data on flight movements, weather and flight delays with the goal of building an ecosystem that looks as close as possible to the real world. We will continue to look for more data sources to inject into the ecosystem and we will be validating our delay predictions with airlines and airports.

See ‘Let’s defeat disruption.’

Renaud Irminger, Director, SITA Lab
LET’S DEFEAT DISRUPTION

DISRUPTIONS COST AIRLINES AROUND US$25 BILLION IN 2016. IN A GAME-CHANGING INITIATIVE, SITA IS PIONEERING DISRUPTION MANAGEMENT CAPABILITIES AND EMERGING TECHNOLOGIES TO HELP TACKLE THIS WASTE.
The air transport industry is based on the premise that it can take people and goods safely, reliably and efficiently almost anywhere in the world. But as demand continues to grow exponentially, operational inefficiencies and flight disruptions have become one of the core challenges airlines and airports face on a regular basis. The industry is responding aggressively, ramping up investments in tools that will enable them to predict disruption, according to SITA’s recent report ‘The Future is Predictable’. For example, over the next three years 91% of airlines are investing in business intelligence (BI) and 84% in predictive analytics.

The permutations for any kind of disruption are considerable. Bad weather, industrial action, IT outages, unexpected technical faults and staff sickness can hit at any time. Delays involving another airline or airport disruption may result in the crew running out of legal work-time, while Notice to Airmen (NOTAMs) may be overlong and not fully digested, leading pilots to miss potentially important information.

**STRESS**

The resulting delays and flight cancellations are stressful for passengers, airlines and airports alike. It hampers their ability not only to provide exceptional customer service, but also to reduce operational costs while expanding their network and maximizing revenues.

Poor on-time performance (OTP) results in loss of revenue and passenger loyalty, and can eventually affect brand and reputation. SITA analysis shows that 50% of delays are under the airlines’ control, with 30% due to weather, 20% to air traffic control issues and less than 1% to security.

By collaborating more effectively and making the right decisions earlier, airline Operations Control Centers (OCCs) and Hub Control Centers (HCCs) would prevent and mitigate over 20% (i.e. 10 percentage points) of those delays, saving the industry an estimated US$3 billion annually.

**EARLY ANSWERS**

Long-term the industry aims to enhance its predictive capabilities, to avoid or mitigate disruptions to airport and airline operations. However, more immediate efforts are focused on disruption management initiatives to improve recovery, in particular resolving the impact of disruption on passengers.

Recent initiatives have included Italian airline Meridiana’s disruption notification service via SMS and email, as noted in ‘The Future is Predictable’, which enables the airline’s passengers to accept or amend proposed flight changes at the touch of a button and, in some cases, to apply for refunds.

KLM provides rebooking via WhatsApp for connecting passengers arriving at Schiphol Airport during a major disruption. Overall, the report notes that about two thirds of airlines are planning to enable re-booking services for all passengers, including self-service tools via kiosk or mobile.

Airline staff and operational service partners, such as ground handlers, are also vital links in the chain and, over the next three years, a growing number of airlines will be rolling-out mobile devices to staff to allow team members to access information and tools to help them deal with flight delays and cancellations.

**TECH IS KEY**

Technology is the critical element here. To enhance their capabilities, airlines are turning to common or well-integrated systems to improve the quality of their data and their ability to share it internally.

They also intend to implement automated tools to prevent or mitigate predicted flight disruptions; by the end of 2019, 63% of airlines expect to have implemented integrated systems to predict potential disruptions and their impact before they occur; and 61% expect to be automatically preventing or mitigating predicted flight disruptions, according to SITA’s report.

Airports are looking to mobile devices too, as well as social media, to provide mass notification of disruption while improving the flow of information to staff and stakeholders. By the end of 2019, almost two thirds of airports will have implemented tools for automated and real-time communications and status visibility for service stakeholders.

Increasing focus is being placed by airports on collaborative decision-making (CDM) programs – not only to maintain flight schedules and aircraft turn-around times, but also as the key to managing disruptions.

**PREDICTION**

While these actions are an essential part of the response to any kind of disruption, they relate to disruption management. What’s needed, in addition to managing disruption effectively when it happens, is more time to allow airlines and airports to plan ahead.
A small number of airports are using predictive technology to minimize disruptions. However, by 2019, almost 50% of the world’s airports expect to be using integrated systems to predict potential disruptions and their impact before they occur, while four out of 10 airports are looking to implement automated predictive alerts before flight disruption events.

But all of these initiatives depend on ready access to high quality data – and the tools to interpret and deliver relevant information which can be used to avoid disruption or to manage it so that there is minimal impact. Technology is critical, but so is the process used to provide optimal results.

COMMUNITY PROGRAM

As part of its remit to work for the benefit of the air transport community, in 2016 SITA launched a number of community innovation programs to explore new solutions to some of the industry’s most pressing challenges. The programs look further into the future at promising technologies or new ways of doing things that could have a big impact on the industry.

One such program is to explore the provision of information and updates through a global disruption warning system accessible to SITA members. This will consider the different perspectives and objectives of stakeholders involved, while citing common issues faced and the emerging technology and approaches that promise to ‘defeat disruption’.

The program will also investigate the potential use of emerging and new technologies, including operational intelligence, business intelligence, artificial intelligence (AI) and cognitive computing.

GAME-CHANGER

SITA’s initiatives in this field began with work on a disruption management platform, in partnership with Australia-based Constraint Technologies International (CTI), which is being progressed by SITA’s Airports business, with the SITA Lab looking at disruption detection and disruption prediction.

“SITA has been pioneering disruption management capabilities to help tackle the huge challenge faced by air transport – to boost OTP and reduce costs to the industry,” comments Nick Gates, Portfolio Director for Airports, at SITA.

Working with CTI, SITA is developing an advanced disruption management system which Gates describes as a “game-changer” for the air transport industry.

In Q4 2017, SITA will launch the first version of this innovative disruption management solution for airline OCCs and HCCs, enabling them to make the right decisions earlier. “In fact, our software can help prevent and mitigate over 20% of those delays in the control of airlines,” says Gates.

“It works by integrating siloed data to create a ‘single truth’ data set in real-time,” he adds. “By using optimization algorithms, a wide range of day-to-day operational issues, such as flight delays, total delay cost and the impact on subsequent flights, crew assignments, connecting passengers and baggage, can be solved in real-time.”

A fully functioning decision-support tool, based on a rules-processing engine and mobile technologies with interactive visualizations (for networks and airports), Gants and dashboards, is available for demos and trials.

IDEAS

SITA’s community program for a global disruption warning system will also evaluate ideas for disruption detection and prediction, notes Thierry Le Gall, Program Manager at SITA Lab.

“Taking into account flight, weather and other data, we’ll explore the possibilities for airline and airport visualization and monitoring of incidents, as well as historical and trend data, and the emerging technologies such as AI.

“Toward the future, we need a good understanding of the past – which means a lot of data over a long period. Airlines have increasingly large repositories of data, but they have tended to regard it as proprietary. If the community can pool that data, then greater accuracy can be found in predictions,” Le Gall adds.

PLANNING THE NEXT STEPS TOWARDS PREDICTING DISRUPTION

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<td>50%</td>
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<td>solution</td>
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<td>Integrated system to predict disruptions before they occur</td>
<td>53%</td>
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<td>Automatically preventing or mitigating predicted flight disruptions</td>
<td>54%</td>
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% of airlines/airports implemented (or planning to implement) technology solutions to address flight disruption management by 2019

ANALYSIS

Disruption detection requires analysis of a mass of existing data on flight movements, weather and flight delays, to build an environment that looks as closely as possible like the real world.

This includes NOTAMs (which alert pilots about potential hazards along a flight route) or at a location that may affect the safety of the flight), as well as news feeds from local and national sources worldwide.

To help analysis, there’s strong potential in using AI machine learning with sophisticated analytics to extract and decode information from the NOTAMs.

JOIN A POC?

“Predictability is a natural antidote to passengers’ anxiety and, for many, the inevitable stress of traveling,” says Le Gall. "It also helps all those working to ensure the smooth operation of air transport. "A far greater sense of predictability for day-to-day travel would be a valuable step forward for the air travel community, helping airlines and airports to reduce the US$ 25 billion wasted every year through flight disruption."

“In the meantime,” concludes Le Gall, “we’re inviting forward-thinking airlines to take part in a proof-of-concept exercise. See ‘Proof of concept - a call to airlines’.”
INTEGRATED CONTROL CENTERS ARE ALLOWING AIRPORTS TO ‘SEE THE BIG PICTURE’, AS A VITAL TOOL IN MANAGING AIRPORT OPERATIONS EFFICIENTLY AND EFFECTIVELY.

THE BIG PICTURE

When passengers, bags and aircraft start stacking up at the airport due to a major disruption, response teams need to work fast. That means having simultaneous access to as much information as possible.

But at too many airports there’s a lack of visibility of the bigger picture and poor exchange of information between the airport operators, air traffic controllers, airlines and ground handlers.

The result is critical minutes lost trying to coordinate between different command and control centers – time that should be spent executing a well drilled plan.

Even during routine operations, having separate centers of operational control can be inefficient and lead to slow decision-making at both the tactical and strategic level.

INTEGRATED VIEW

In a bid to improve the situation, airport operators are seeking to move away from the segregated approach to command and control functions that has evolved as the airport has expanded. The aim now is to bring together all the key operational voices into a single command and control center.

Wayne Matrose, Senior Business Development Manager at SITA, believes the growing congestion at airports makes the change inevitable.

“There are more passengers and more aircraft every day. Airports operations are under pressure, working to their max, and beyond, in some cases,” he says.
‘Just to keep normal operations running smoothly means airport operators need to perform more efficiently every day. This isn’t sustainable. The traditional siloed setup cannot cope and is costing airports money through slow and reactionary decision-making – particularly in times of irregular operation.

‘It’s much more efficient to have the right people, processes and data sources working together in the same room so that there’s a single view of the airport’s operations. It speeds up decision-making and emergency response capabilities. This is what an integrated airport control center gives you,’ says Matrose.

RIGHT DECISION, RIGHT TIME

Integrated airport control centers are already common at major airports, but increasingly they’re becoming accessible to medium and smaller operators. One airport that SITA has worked with to design and build such a control center is Düsseldorf Airport, Germany. See ‘Punctuality at Düsseldorf’. It proved to be a success story from which SITA has developed an integrated airport control center solution called SITA ControlBridge.

Assembled in a modular portfolio, the solution can integrate and facilitate command and control of core airport functions, covering airport operations, physical security, and engineering and facilities management.

In addition, several ancillary or supporting functions can be included, such as baggage management, service desk and internal IT support, as well as a full suite of solutions to support the airport’s emergency response mode of operation.

“We can provide a common operating picture across the airport from a single location,” says Matrose.

“Operational staff get all the information they need to take the right decision at the right time, helping to remove the guesswork from the job. As a result, everybody is operating at the same level, getting the big picture without missing the details.”

Recognizing that each airport is unique, the solution is modular, customizable and scalable to meet both current and future needs of the airport. The design and build process uses a progressive approach, which allows the airport operator to extend its integrated command and control capabilities over time, in line with its growth expectations.

SINGLE SUPPLIER

One problem that has held back smaller airports has been the time it takes to go through the process from the drawing board to a fully integrated command and control capability.

To address the issue, SITA uses a design-build partnership approach, with compartmentalization of investment and risk, as an alternative to the challenges inherent in the traditional design-bid-build approach, which tends to be both more expensive and takes longer.

“As a single supplier, customers like that we can cover the operational model, the work environment for the staff and the technology solutions,” Matrose explains.

SAME PAGE

Inevitably disruption occurs, but how well the airport responds to the situation can make a big difference to the impact on the passenger, airlines and not least the cost to the airport.

As Matrose says: ‘In the end, the best plan is making sure everybody is prepared and on the same page. An integrated control center is critical to this.’

INTELLIGENCE AND CONTROL

PUNCTUALITY AT DÜSSELDORF

Dissatisfied with the punctuality of its operation, Düsseldorf Airport set out to commission an integrated Airport Control Center (ACC). SITA was contracted to design and deliver the ACC enabling multi-stakeholder occupancy in the control room.

SITA was also selected to provide several applications to enable Airport Collaborative Decision Making (A-CDM) compliance. Published information shows record rates of recovery from disruption at Düsseldorf Airport after a 60-minute runway closure in November 2015: the airport had recovered completely (every delayed flight departed) in just 45 minutes.

A SMARTER WAY TO TRAVEL

Abu Dhabi Airports plans to virtually double passenger traffic at Abu Dhabi International to 45 million by 2025. To meet demand Abu Dhabi Airports is investing heavily in new infrastructure. Technology will play a vital part. Abu Dhabi Airports partnered with SITA to introduce its latest technologies across Abu Dhabi International Airport’s three terminals as well as in the new Midfield Terminal.

Find out more online about its Airport Management Solution, Airport Operational Database and Passenger Flow and Business Intelligence technology, as part of the airport’s Smart Travel concept.

VINCI AIRPORTS’ SMOOTH OPERATIONS

Keeping operations running smoothly while handling the growth in passengers and aircraft is a constant challenge. Top 5 international airport player, VINCI Airports, turned to SITA for help to deliver efficiencies and synergies across its global network of 35 airports.

VINCI is implementing SITA’s multi-airport Airport Management Solution starting with 22 airports in Portugal, France and Cambodia. It will provide the tools to manage equipment and staff in real-time. SITA will also introduce its business intelligence portal, AirportPulse, enabling airport teams to monitor, predict and manage daily airport operations.

For the full stories:

www.sita.aero/air-transport-it-review

IN THE END, THE BEST PLAN IS MAKING SURE EVERYBODY IS PREPARED AND ON THE SAME PAGE. AN INTEGRATED COMMAND CENTER IS CRITICAL TO THIS.”

WAYNE MATROSE
SENIOR BUSINESS DEVELOPMENT MANAGER, SITA

FOR MORE

Download our ‘Airport Integrated Control Center’ paper:
www.sita.aero/controlbridge
WITH LITTLE MORE THAN A YEAR TO GO BEFORE IATA RESOLUTION 753 KICKS IN, ARE WE ON THE BRINK OF A REVOLUTION IN BAGGAGE TRACKING?

A RESOLUTION FOR BAGGAGE

There’s no doubt that baggage handling has massively improved in the past 10 years. While the number of passengers has soared, the total number of mishandled bags has been halved. The result is fewer disgruntled passengers and a handy saving of US$22.4bn. But the reality is that almost 23 million bags are still being mishandled every year. And with passenger numbers expected to double between 2015 and 2030 to seven billion, the need for a radical change has been recognized and actioned.

That’s the context for IATA Resolution 753, which member airlines must implement by June 2018. The requirement is deceptively simple: to track each bag onto the aircraft, into arrivals areas and even transfer systems, and to share the tracking information with all those involved in delivering the baggage back to the passenger at the final destination.

Although the Resolution is not specific on the point, it is also expected that, in time, passengers will be able to track their bags, in a similar way to tracking a parcel. IATA’s 2016 Global Passenger Survey reports that passengers are keen to see the entire baggage process “shaken up”, with almost two-thirds wanting to track their bag throughout the journey, while SITA’s 2016 Baggage Report* notes that 96% of passengers are interested in receiving bag collection updates on their mobile device.

SIMPLE & EFFECTIVE

There are different technology approaches being explored to provide the ‘shake-up’, from digital luggage tags using GPS trackers linked via

“BAGGAGE TRACKING IS A KEY WAY THAT OUR INDUSTRY CAN CONTINUE TO DRIVE DOWN COSTS AND IMPROVE SERVICE AT A FUNDAMENTAL LEVEL. RESOLUTION 753 IS MANDATORY FOR ALL MEMBERS, AND DEMANDS TRACKING IN KEY LOCATIONS.”

ANDREW PRICE
HEAD, GLOBAL BAGGAGE OPERATIONS, IATA

(Introduction to ‘Baggage Tracking: IATA Resolution 753/A4A Resolution 30.53 Implementation guide’ published August 2016.)

an app, to premium services providing a door-to-door tracked service. However, a much simpler solution using existing technology and a global presence is being implemented – Radio Frequency Identification (RFID) technology. This can accurately track passengers’ baggage in real time across key points in the journey (in conformity with Resolution 753) – and in the process enable the air transport industry to save more than US$3bn over the next seven years.

SITA and IATA have recently published a detailed business case for the concept – ‘RFID for Baggage Tracking’ – which they estimate could reduce the number of mishandled bags by an extra 25% by 2022. The benefits of RFID are already being recognized by industry players. Prominent among them is Delta Air Lines, which is moving from bar-coded tags to RFID for all the millions of bags which it handles annually. Of particular interest is the ability to address mishandling during transfer between flights, one of the most significant weak points in the baggage process.

SAVINGS

The report notes that initial deployments of RFID have shown bags tracked at a more than 99% success rate, translating into a drastic reduction of mishandled bags. At the same time, it allows higher automation, proactive care and reduced manual operations – and can be deployed for as little as US$0.1 per passenger on average, while generating savings of more than US$0.2 per passenger.

The savings are expected in three areas. First, a rapidly growing improvement to end-to-end tracking, with a reduced cost of finding and returning mishandled bags, as well as efficiency gains in baggage operations. Second, fewer delayed flights as a result of improvements in aircraft loading/off-loading. And third, reduced deployment and operational costs linked to the addition of new tracking points required under IATA Resolution 753.

With some major airlines and airports already introducing RFID technology, combined with its compatibility with existing barcode technology, adoption of RFID across all airports could provide a positive return for airlines, both in cost savings and passenger satisfaction.

SMOOTHING THE PATH

Andrew Price, Head, Global Baggage Operations at IATA, says that he expects Resolution 753 to have a major impact on bag handling performance. “From 2018, with the introduction of industry-wide baggage tracking through Resolution 753, we are expecting to have a reduction in the number of bags that actually need tracing, because the number of bags mishandled should reduce,” he says.

To smooth Resolution 753 implementation, IATA’s Baggage Working Sub Group on Tracking and Tracing has published a guide that will drive a common industry approach to collecting, storing and sharing the tracking information for baggage.

Baggage tracking is one of the five community innovation programs that SITA has launched to address some of the industry’s most pressing challenges. The others are identity management; the facilitation of IATA’s New Distribution Capability (NDC); an industry-wide disruption warning system; and enhancing cybersecurity across the industry.
As air transport experiences advancing digitization there’s never been a greater need to rapidly harness the power of innovation and bring the benefits to the industry. Such is the view of SITA’s CTO, Jim Peters, who’s also responsible for SITA Lab. Peters believes that: “Given the multiplicity of players, touchpoints and interactions in the air transport eco-system it’s vital to proceed with innovation in a collaborative fashion.

“This is certainly an approach etched into the DNA of the SITA Lab.” See ‘Keep innovation focused’, page 18.

“But it’s also important to remember that innovation is for the good of the entire industry, globally, so we must base it on global standards and digital infrastructures,” says Peters. This is much like the approach SITA has taken with the Common-Use Beacon Registry – to offer beacon-based services over shared infrastructure – which was subsequently turned over to IATA and ACI.

CIO AGENDAS
So it is that innovation and ‘digital transformation’ – driven by the Internet of Things, analytics, mobility, cloud, security and more – have become the hot topics dominating air transport CIO agendas.

Equally, they remain top of mind with industry associations, which is why we include extracts here from an IATA ‘Airlines International’ feature earlier this year.*
IATA: CAN AIRLINES KEEP UP WITH DIGITAL PACE?

Alexandre de Juniac, IATA’s Director General and CEO, has already made clear his focus on improving the industry’s speed of innovation. “I value speed,” he says. “Our world is changing very rapidly. Each day brings something new: at times it’s a challenge, other times it’s an opportunity. “The key to success is being able to respond quickly. My experience in the air transport industry has been that we often struggle with speed, and, as a result, innovation can suffer.”

MINDSET

“The rate of change is increasing across all industries, and especially a customer-facing industry like aviation,” says Tim Grosser, IATA’s Head of Digital Transformation. “The way to communicate with customers is continuously changing. If you don’t innovate, your current or future competitor will. Innovation is not a choice. The mindset must be to move faster.”

STRUCTURED

Grosser suggests airlines need a structured process to move from idea to evaluation to implementation. Rather than focus purely on creating new ideas, airlines must also plan and control the execution of the innovation project portfolio.

An idea without realization is just an idea, not innovation. The key is to define the problem that needs solving and then focus on the scope of the solution required. Accepting failure and understanding global trends are essential. “The failure of ideas is part of the process, and brings you one step closer to finding that successful idea,” Grosser notes.

“But you must focus on where you want to innovate by looking at the big challenges, which have the big payout. Also, look at new technologies and see where they are providing new opportunities.”

PARTNERSHIPS

Partnerships throughout the process increase the chances of a positive outcome. Already, many airlines are partnering with technology providers, universities, and startups to brainstorm potential new products and test their viability. This needn’t be a costly affair. “Not so many years ago, developing a new, technology-based product would have involved lots of resources, such as buying a server and setting it up,” says Grosser.

“That took time and money. Now, thanks to cloud computing, if necessary, we could do tests multiple times a day and for a few hundred dollars. Cloud computing is a major tool for speeding up innovation.”

At the last World Passenger Symposium, Dr Jassim Haji, Director of Information Technology at Gulf Air, revealed that the implementation of cloud technology has enabled the airline to reduce the number of physical servers by 35%, amounting to a 24% cost saving in capital expenditure. These cost savings enable more investment into innovation.

“INNOVATION IS NOT A CHOICE. THE MINDSET MUST BE TO MOVE FASTER... BUT YOU MUST FOCUS ON WHERE YOU WANT TO INNOVATE BY LOOKING AT THE BIG CHALLENGES, WHICH HAVE THE BIG PAYOUT. ALSO, LOOK AT NEW TECHNOLOGIES AND SEE WHERE THEY ARE PROVIDING NEW OPPORTUNITIES.”

TIM GROSSER
HEAD OF DIGITAL TRANSFORMATION, IATA

* From an article appearing in IATA’s ‘Airline International’.

“Being quick and being accurate are not competing goals,” explains Grosser. “They can coexist quite happily. Being smart in innovation leads not only to speed but to a better product.”

In short, it is much easier now for airlines to experiment or change direction.

TECTONIC

IATA’s Simplifying the Business (StB) program is assisting. In 2016, StB focused on reinventing the baggage process, the future of payments, digital identity, and collaboration via open application program interfaces.

This program assists both large and small airlines by pooling resources and collectively focusing on the major problems. “Tectonic changes are underway,” stresses Neetan Chopra, SVP, Emirates Group IT. “Digital business models have a completely different form.

“We are used to steady growth but these new digital artisans live in an exponential world. It is not about doing digital, it is about being digital. It is about action. Ideas should be shared but for a business it is about execution and speed.”
KEEP INNOVATION FOCUSED

INNOVATION NEEDS TO FOCUS ON INDUSTRY CHALLENGES AND PAIN-POINTS, SAYS JIM PETERS, CTO, SITA.

As IATA’s Head of Digital Transformation Tim Grosser says, “you must focus on where you want to innovate by looking at the big challenges ... look at new technologies and see where they are providing new opportunities.”

I couldn’t agree more. For one thing, as part of its community remit the SITA Lab is investigating potential opportunities for air transport across an array of technologies. They include artificial intelligence, conversational systems, the Internet of Things, virtual reality, blockchain, big data, analytics, wearables, robotics, drones and more.

Crucially, we’re focusing on areas where we believe these new technologies and innovations will have a transformative impact on our industry; where they will make a real difference to processes, costs and ways of working.

EASING PAIN-POINTS

Our mindset is to constantly foster innovation to tackle pressing industry issues – where our initiatives take the industry a step closer to solutions that will drive a more efficient travel experience for passengers while easing some of the pain-points faced by airlines, airports, government agencies and ground handlers today.

It requires a highly collaborative approach, working hand-in-hand with airlines, airports and technology specialists globally, through numerous pilots and trials within a secure environment. In addition, every year SITA Lab hosts an Innovation Day (see page 19) where some of the most innovative companies in the aviation sector from around the world are invited to share their latest projects.

START-UPS

We’ve also established SITA Ventures, focused solely on investing in early stage funding of travel related start-ups. As SITA Lab continues to build a community of like-minded innovators, it’s as much about disseminating our own extensive knowledge and experiences as it is about taking learning from others.

This includes sharing technology with other research bodies, on the basis that good ideas get better when shared, helping to push the tech envelope further, and build a better air transport community.

COMMUNITY NEEDS

Part of SITA’s mandate has always been to drive technological innovation for the benefit of the wider air transport community.

For that reason, SITA has committed to five Community Innovation Programs that actively seek solutions to improve passenger flow, save money and drive greater efficiency.

They include new baggage tracking capabilities; identity management to enable secure and rapid passenger flow through airports; an industry-wide disruption warning system; and enhancing cybersecurity across the industry. We are also working on the facilitation of IATA’s New Distribution Capability (NDC).
And finally, over the next few years SITA will work together with IATA to develop technology to drive NDC adoption and deliver key capabilities that will ensure that NDC becomes a reality.

ROADMAP
SITA is investing millions to explore new solutions in these focus areas, says Peters, on top of the company’s usual continuous investment in new products and developments.

REACH FOR THE STRATOSPHERE
Innovators often use the word ‘stratosphere’ as a metaphor. But for some it has a more literal meaning, as a day with the SITA Lab team looking at what’s on the edge of the IT radar proved. Speaking to SITA Lab’s Stephane Cheikh, who’s involved in SITA Ventures – an initiative investing in early stage travel-related start-ups – here’s a snapshot of some companies the Lab is involved with.

SolarStratos – aiming to offer the first commercial two-seater solar plane in history, while heralding the start of more environmentally friendly forms of air travel.

OpenStratosphere – aiming to build and operate regional fleets of drones in the stratosphere using 100% solar energy, providing a cheap alternative for some satellite use cases.

Max Planck Institute – researching Personal Aerial Transportation Systems (PATS) to help overcome ground-based vehicle congestion [a European Union research project]. PATS would be based on Personal Aerial Vehicles (PAVs) for use by the public in commuting between work and home.

IdentityMine – exploring the use of augmented reality headsets in aviation. Its team was part of the first wave of developers trained on Microsoft’s HoloLens 3D augmented reality headset technology. The potential is there to provide productivity enhancing opportunities for air transport roaming workforces.

Skylights – aiming to disrupt the in-flight entertainment market with its Virtual Reality headset called Bravo, which allows passengers to immerse themselves into their own movie theater environment, free from the distractions associated with watching seatback screens.

API.AI – advancing Artificial Intelligence [AI] to make technology understand and speak human language and help developers build intelligent conversational interfaces (‘Siri-esque’) for their products and services. [Acquired by Google in 2016].

30SecondsToFly – using AI technology to put the human element back into travel planning. Its travel management software, called CLAIRE, uses AI to act as a virtual assistant and learn about user preferences.

Amazon Web Services – using its Lambda cloud-based, server-less computing service to enable apps to be run and managed in a cloud environment at the code level.

Monax Industries – exploiting blockchain technology to develop an open source platform called Eris that can be used for automating processes that require a contractual framework.

Loyyal – using blockchain to provide a universal loyalty and rewards platform, with added security.

See full online article at:
www.sita.aero/air-transport-it-review

“OUR COMMUNITY INNOVATION PROGRAMS HELP TO PROVIDE A CLEAR ROADMAP OF WHERE WE CAN MAKE THE MOST DIFFERENCE. IF, IN ANY OF THESE FOCUS AREAS, WE CAN HELP MAKE IT EASIER TO DO BUSINESS IN THE AIR TRANSPORT SECTOR, THEN WE WILL HAVE SUCCEEDED.”

JIM PETERS
CTO, SITA
Robots in airports are nothing new. From Japan to Amsterdam, Geneva to San Jose, airport operators are experimenting with robots or intelligent machines to help check-in baggage or assist passengers in finding their way through busy airports.

SITA is among those that have trialed various robotic systems in airports. Leo, the baggage robot, has attracted global attention, helping passengers to check in their bags as they approach the terminal building. Airports have also explored the use of mobile kiosks.

But use of robotics has so far been experimental and has some way to go before finding its way into the mainstream. “For SITA, Leo was the first foray into the use of robotics in airports and showed that there’s a clear interest in using robotics in airports globally,” says Stephane Cheikh, Innovation Manager at SITA.

“We at SITA Lab have asked ourselves where will robotics have the biggest impact over the next 20 years and how can we deliver those products and services?”

FUTURE GLIMPSE

“For example, Leo provides a glimpse into the future where robots can make a real difference in managing baggage at every step of the way from check-in to delivery at the destination,” says Cheikh.

“This has helped us shape our thinking around the real use of robotics. It’s here where robotics will have their biggest impact. In areas which are very process-driven.”
"This works well in areas where basic passenger information is needed and can be quickly provided," says Cheikh.

"However, mobile apps do a better job when faced with providing complex wayfinding or information. Here artificial intelligence can also dramatically help to provide personalized information where robotic wayfinding is better used for once-off, formatted interactions."

"That's not to say that we don't see a real benefit to robotics. We just need to be sure we use it in the right place at the right time," he adds.

NEW PROJECT
In 2017, SITA will continue to explore further use cases for the technology and, in particular aspects, how it can be used to complement common-use technology.

"I don't see robots replacing humans when it comes to solving complex operational challenges or where creativity is needed. And don't expect an army of human-like robots to assist you in the airport of the future."

"Rather, expect robots to take care of the mundane, laborious tasks, making travel easier and less stressful," concludes Cheikh.

JOBS FOR ROBOTS
"Robots are essentially useless until we can find them a job to do. Rather than build a robot and then try to find something for them to do, we need to identify problem areas where they can assist and then design a robotic solution," says Tomatis.

"There's a real benefit to using robots to automate processes, saving on time and money." BlueBotics, for example, have used their robotics knowledge to develop automated cleaning machines for commercial use and vehicles to deliver supplies in hospitals. Tomatis believes that the same approach is needed in aviation.

A key focus for SITA and BlueBotics in the Leo project was the use of autonomous navigation systems. Looking at an airport, Tomatis agrees that robots could play a key role in automating processes such as baggage processing and handling.

ASSISTED PASSENGERS
"Another area where robots could play a key role is with assisted passengers," says Tomatis.

"Just as a robot can pick up your bags from the car park or the curbside, so can robots be dispatched to collect and transport passengers to the terminal and onto the gate, ensuring that they're in place to meet the passenger when they arrive and to take them through the airport process."

"For passengers, that would mean not having to hang around in dark hallways waiting for a porter to arrive. It can all be pre-programmed with the passenger travel details already available, but with the flexibility to access and use all the airport services like any other passenger."

AUTOMATION
BlueBotics have also used robotics to automate key wayfinding messages, providing passengers with information on facilities that most passengers need.

This included the use of Robi, a wayfinding robot used at Geneva Airport, which provided passengers with information on shopping and other wayfinding information.

The benefit of a mobile robot is that it can move along with the passenger, helping them find what they are looking for.

MEDIA HYPE
In 2015, robot sales increased by 15% to 253,748 units, again by far the highest level ever recorded for one year and driven by industrial demand in the chemical, rubber and electronic sectors. Growth in 2015 was in line with double-digit growth recorded over the previous five years, showing continued growth in the next few years.

LEO TOURS THE WORLD
Starting at Geneva Airport in May 2016, Leo embarked on a tour that took in cities and countries far and wide, from Amsterdam and Barcelona, to Las Vegas, Hong Kong, Marrakech and cities in South America.
WHEN THEY’RE ON THE GO, TRAVELERS OFTEN SPEND LESS TIME ON-BOARD AN AIRPLANE AND IN AN AIRPORT THAN ON OTHER PARTS OF THE JOURNEY – YET THESE JOURNEY STAGES DETERMINE THE TRAVELER’S EMOTIONAL EXPERIENCES. MAKING THEM SEAMLESS AND EFFORTLESS IS VITAL.
“If all goes smoothly, the least amount of time spent on a journey is on the airplane and in the airport,” says Gene Quinn, Co-founder and founding CEO of Tnooz.

“But a key component of having a productive business trip, a romantic holiday, or a memorable family vacation, is the seamlessness of how you get there.

“And one thing that we sometimes forget about travel is that it’s a very emotional product,” he adds.

EXPERIENCE FOCUSED
The evidence is all too clear that airlines and airports are sharply focused on continuously improving the emotional life-on-the-go experience for travelers.

Airlines are looking predominantly at providing location-based mobile device services for their passengers, with 66%-91% planning to implement these at most journey touchpoints by 2019, says SITA’s surveys.

In the meantime, most airports are either planning or will trial a major technology initiative in this area by 2019. According to Aéroports de Montréal’s CEO James Cherry: “We have to meet our customers’ evolving needs. We want to give them choices and options so that they feel they’re in control of their journey.

Over 20% of airports have already mobilized some of their services, making them easily available to the passengers that pass through their airport every day. By 2019, this will increase to over 70%. It means that airports are not only keeping travelers informed, they’re also ensuring their travelers experience the most seamless journey possible.

Better baggage processes are a key focus. “With the acquisition of Type22 at the end of 2015, SITA took a major step forward in the area of bag drop,” according to Rico Barandun, SITA’s Portfolio Director, Self-Service, Airports.

The Dutch company’s self-bag drop portfolio includes Scan&Fly and Drop&Fly, complementing SITA’s existing end-to-end self-service solutions.

“Bringing Type22’s products into SITA’s portfolio makes us leaders in self-service bag-drop integrated with common-use systems. As we see self-bag drop evolution, it allows us to offer solutions that are perfect both for new airport terminals as well as existing desk environments,” adds Barandun.

INTERTWINED
But it’s equally clear from SITA’s surveys that this seamless experience is becoming less of a ‘nice to have’ and more of an expectation. It’s closely intertwined with travelers’ emotions throughout their journey.

As the research shows, those emotions can fluctuate. At the booking stage of the journey, we see travelers experiencing the most positive emotions.
Yet as passengers check-in for their flights and head through security, we witness a drastic drop as emotions hit their lowest levels.

As travelers become more used to new technology, SITA research shows they’ll most likely lean more towards wanting to complete the mundane journey processing steps before reaching the airport, to allow for more dwell time.

**HUMAN FACTORS**

“Processing steps tend to subtract from the traveler’s airport experience,” says Nigel Pickford, Director of Market Insight, SITA.

“This is precisely why many airlines and airports have their sights set on introducing technologies across the journey steps, such as bag-drop and passenger flow management.

“But the success of such tech depends largely on how it can be adapted or applied to improve the passenger experience, either directly or indirectly via airline and airport systems and their staff.”

“Accelerated adoption across the industry will depend on human factor considerations and breaking down the barriers for those people who do not naturally embrace technology and remain sceptical about the increasingly connected nature of modern life.”

“This all adds to the experience of life-on-the-go and making the passenger’s journey a hassle-free one,” adds Pickford.

**BAG FOCUS**

To help bring about this hassle-free experience, a large majority of airports are providing self-service check-in for both passengers and bags, with 91% of airports having made self-service passenger check-in through kiosks available to travelers.

Of those, 61% have deployed agent assisted common-use bag-drop, whereas 26% offer it unassisted. In addition, one in five airports have a self-service offering at the gate, though this will most likely increase over the coming years.

SITA’s passenger survey also finds that 91% of passengers who use self-service technology to check-in will do so again and again.

“It’s clear evidence that once travelers are converted from face-to-face interaction to ‘easy-to-use’ technology for their travel journey, few want to go back,” says Pickford.

**PRIORITIES**

Mobile continues to dominate the IT investment agenda for passenger services, with nearly 80% of airlines planning major investments in passenger services via smartphones over the next three years.

Other major investments in passenger experience are being directed towards generating ancillary revenues, with 64% of airlines planning programs that will achieve this.

For airports, IT investment in passenger processing takes an equally high priority. Over the next three years, passenger self-service will continue to be high on their agenda, as two-thirds of airports plan major IT projects in this area.

With the growing influence of mobile usage, we’re also seeing 90% of airports undertaking either a major program or a trial project related to mobile apps.

**IOT**

While adoption of mobile usage for passengers throughout their journey is on the rise, there’s no reason for airlines and airports to think they can sit back and relax.

With passengers expecting an ‘always-on’ travel experience, that will mean embrace newer technologies and experiences along the way.
The good news is that new technology adoption is rising fast up the IT agenda, with 45% of airports already planning a program in this area in the next three years.

Crucially for the ‘life-on-the-go’ experience, the Internet of Things (IoT) is one of them. Some 68% of airlines have committed budget to major projects or R&D over the next three years.

For those of us on the move, this will help immensely as the IoT enables objects to ‘tell us’ their status, eliminating the need for manual intervention to gain any sort of information from any object.

This will take the guess-work out of many operational issues, helping airports, airlines and passengers to remain informed at all times.

TAILORED
Improving the passenger experience means furnishing each passenger with personalized and relevant information, where and when they need it.

This alone opens the opportunity of a world where right from booking through to arrival, all the notifications travelers receive are relevant specifically to them in relation to their journey.

Tailored messaging for travelers is no new thing. With the intelligence of Google algorithms, for instance, most adverts on the internet are specific to online search habits. So, what one person sees differs to others.

CHANGI
Singapore Changi Airport’s EVP for Airport Management, Lye Tech Tan explains that keeping passengers informed is key but how they’re kept informed is even more important.

At Singapore Changi Airport, there’s the recognition that it’s all about the individual and as such the airport aims to provide ‘smart’ information relevant to individuals when they need it.

“In a world where we are constantly bombarded with information, having the ability to tailor simple messages for each traveler will make it more meaningful to them,” says Changi’s Lye Tech Tan, EVP of Airport Management.

“Travelers want a seamless service, when and where they need it. In addition, they want to be able to encounter new experiences along the way and share this with those they are connected to in their social media world.”

SKYTEAM
Ultimately, the experience of life-on-the-go, and the emotions evoked by it, are about a balanced approach, with airline and airport staff, as well as processes, being as much a part of the equation as technology.

In fact, the technology and information provided to airline and airport staff is critical to the journey experience, because it enables staff to make informed decisions and take appropriate action when needed.

That’s why, according to the Airport IT Trends Survey, the provision of mobile devices to staff to improve operations is on the rise, with the arrival hall and departure areas being the most common places for deployment.

This need for a balanced approach in making for a better life-on-the-go and a seamless journey is echoed by the experiences of SkyTeam.

As Perry Cantarutti, SkyTeam’s CEO and MD says: “You can’t rely on technology alone to provide a seamless experience. The people factor is vital too. And for it all to work effectively, the correct intersection of technology, procedures and service delivery is crucial.”

FOR MORE
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Search ‘Wireless-mobility’ on www.sita.aero

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www.sita.aero/surveys
AN ALLIANCE WITH TECHNOLOGY

IT AND COMMUNICATIONS SERVICES AT SKYTEAM ARE HELPING THE ALLIANCE’S MEMBERS TO DO WHAT THEY DO BEST – TRANSPORTING MILLIONS OF PASSENGERS AROUND THE WORLD AS SEAMLESSLY AS POSSIBLE. SKYTEAM’S CEO AND MD, PERRY CANTARUTTI, EXPLAINS.
What’s IT’s role at SkyTeam? I see technology at SkyTeam becoming increasingly integral to our operations, enabling us to make our member airlines more efficient and more effective.

We’re now an alliance of 20 different airlines around the world – offering more than a thousand destinations and serving roughly 665 million passengers every year. Therefore it’s critical to ensure that the technology services we provide to our member airlines are second-to-none, as they in turn use these services to provide a seamless experience to their passengers.

Is IT enabling better cooperation? Alliances rely on cooperation among members, and IT clearly plays a key connecting part in that. But we have seen dramatic evolution in the world of aviation and of course IT. In fact, this is why I’m often asked about the added value of alliances today.

Over the 16 years since SkyTeam was founded, the world’s major aviation markets have formed significant airline groupings in North and South America, Europe and Asia. In addition, joint ventures and deeper levels of cooperation are continually taking shape.

But the reality of our business is that, aside from the difficulties of bringing together airline networks, technologies and services, there are also legal constraints that prevent airlines from merging and truly consolidating across geographic and national boundaries.

However, alliances have evolved strong forms of cooperation that contribute to a seamless journey around the world.

Yet, even with that level of cooperation, we need to be ever mindful that the world is a big and diverse place; traveler demands and expectations differ, and there are a multitude of macroeconomic considerations that airlines must take into account. That’s where alliances, and the technologies they use, come into play.

You mention expectations? Yes, SkyTeam started in the year 2000 when alliances were about creating network and scope, and the industry was very much more fragmented. Travelers didn’t have the expectations that they have today, about being able to traverse the world in a seamless, ‘always-on’ manner.

As network coverage increased, alliances then embarked on ‘getting the basics right’ – focusing less on building geographic scope and more on creating that smooth and efficient travel experience.

For SkyTeam, this is where technology became much more important for us, from focusing on priority services, transfers and developing lounges – all the way through to simplifying the travel experience for all.

We addressed this new opportunity in several ways. The first being SkyPriority. We became the first airline alliance to offer a branded series of specialized services for high value customers, such as priority check-in, baggage drop-off and boarding.

Enabled through technology, these aligned in-airport services to make alliance-wide travel easier, faster and more convenient. Today our 20 member airlines fully subscribe to SkyPriority, which means we offer these benefits at over 1,000 airports around the world. So, as traveler numbers increase, I’d say that alliances are becoming more valuable to the industry and the seamless journey it is creating.

So your IT is helping create such seamlessness? Yes, it’s playing a key role in bringing seamlessness to the journey. But let’s also remember we can’t rely on technology alone to provide this seamless experience. The people factor is vital too.

Our alliance connects about 26 million customers a year between carriers and, of course, things don’t always go as smoothly as we’d like them to.

But there are ways to minimize disruption – such as equipping airport and airline staff with the tools needed to allow them to help passengers.

That includes enabling airline staff to see which flights are coming in late and to check if any customers are at risk of missing their connections, then either rebooking them or holding flights.

For all of this to work smoothly, there’s a large reliance on training. It includes creating a culture among frontline staff which instills the value that customers of other airlines who are part of our alliance are also ‘my customer’ and that they have a commitment to serving them.

To do this, we’ve created a SkyPriority app that solicits feedback from customers who are encountering SkyTeam’s services along their travels.

And moving forward? We strongly believe alliances are as relevant today as they have always been. But now it’s less about building geographic scope and more about creating a better customer experience.

With the basics like SkyPriority in place, moving forward, the next frontier is centered on a more sophisticated airport experience, on service recovery and the implementation of digital tools.

“YOU CAN’T RELY ON TECHNOLOGY ALONE TO PROVIDE A SEAMLESS EXPERIENCE. THE PEOPLE FACTOR IS VITAL TOO. AND FOR IT ALL TO WORK EFFECTIVELY, THE CORRECT INTERSECTION OF TECHNOLOGY, PROCEDURES AND SERVICE DELIVERY IS CRUCIAL.”

What about technology at SkyTeam in the future? These days we’re working in an ‘always connected’ environment, we’re more social and time-conscious.

We’re also seeing a decline in brand loyalty, where decisions are now made based on an entity’s ability to connect with them.

SkyTeam is undertaking a couple of initiatives to tackle this challenge. The first relates back to SkyPriority. We’re now engaging customers through mobile devices and enabling them to be more expressive and more involved in their use of these services.

To do this, we’ve created a SkyPriority app that solicits feedback from customers who are encountering SkyTeam’s services along their travels.

FULL INTERVIEW ONLINE
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THROUGH THE LENS OF HOSPITALITY

WITH ITS REPUTATION AS A TRENDY, SERVICE-FOCUSED AIRLINE, JETBLUE AIRWAYS LOOKS AT INNOVATIONS AND THE PASSENGER EXPERIENCE “THROUGH THE LENS OF HOSPITALITY”, SAYS THE AIRLINE’S EVP AND CIO, EASH SUNDARAM.
You say customer focus sets you apart?

We believe we’re innovating the customer experience in a way that sets us apart from low cost and full service carriers.

We see ourselves as a customer service company that happens to fly planes. When we were founded in 2000, we believed there had to be a better way of doing things. We knew we had to focus obsessively on people and service – with the philosophy of humanity in air travel.

We view the JetBlue experience through a customer’s eyes and are beginning to see major shifts in some areas as a result.

Where are those shifts?

Three years ago, to deliver a seamless travel experience, we looked at what our customers go through – evaluating all our services and capabilities ‘through the lens of hospitality’. We’re looking at eliminating steps which don’t add value, and if we can’t eliminate, we’ll automate.

For pre-flight self-service, we’re able to eradicate check in with a small but impactful innovation we’ve introduced to the US market called ‘Auto Check In’.

It’s a small first step in a major customer experience refresh we’re undergoing to make traveling with JetBlue more personal, helpful and simple.

We rolled out a new, fresh-looking web boarding pass over a year ago, to keep up with the growing needs of our customers.

In addition to showing new information like a seat map, it also presents information that was included on the old boarding pass in a more customer-friendly way.

We’re now working on making it a permanent boarding pass. We’re also working on a program to launch permanent bag tags.

What other changes?

We’re introducing self-service as a major feature of our lobbies, including kiosks to print bag tags and empower customers to tag their own bags.

We already have this model at a number of airports, such as Albany, San Juan and JFK. Since launching self-tagging, these airports have virtually eliminated the need for queuing in the lobby.

We’re taking care of all personalized touchpoints, and we want to streamline the airport experience for customers and crewmembers alike, making it seamless. We’re working with several partners, like SITA, to explore how we really do get to the next level of frictionless travel.

You mentioned crew?

The crewmember experience is integral to the customer experience. JetBlue’s 18,000 crewmembers interact with our customers day in, day out.

We’re giving solutions to customers and crewmembers, providing tools and technologies that enable them to interact better with each other.

It’s not just about sharing information. With airport FIDS and GIDS, we often see problems like a delayed flight. The question is, what do you do with that information?

How does that translate at the airport?

We want that airport experience to be a transitional, not a transactional, experience. In fact, we think the biggest evolution to the travel experience will happen on the ground.

There are lots of opportunities to dispense with the old way of doing things and become more customer-friendly, without sacrificing customer service.

For instance, most of our crewmembers at the airport will be mobile and not confined to the ticket counter.

They’ll roam the lobby with tablets, interacting with our customers as personal information booths. So we’ll have smarter staffing.

What other technologies?

We’re looking at the so-called ‘travel ribbon’ – which embraces all the stages of the travel experience.

Our objective is to give crewmembers personal information on passengers. We want crewmembers, on being approached by customers, to know who the customer is, for instance.

We are early adopters of a lot of technologies, whether it’s Apple Pay or Apple Watch. Technologies like these are already available.

I always tell my team, we don’t need to invent things as an airline, we need to be innovative and to embrace these technologies, making sure they’re available for customers and crewmembers.

Companies like SITA are providing us with the capability to use these technologies. JetBlue’s app for the Apple Watch, for example, is part of a portfolio of JetBlue apps for iPhones and Androids.

What’s happening on board?

We take a lot of pride in our new front cabin service, for example, our premium experience called ‘Mint’. This is a competitively-priced international business class style seat that started between John F Kennedy and Los Angeles on our new A321 aircraft.
Say one of our customers is flying from Buffalo to Dubai connecting through Kennedy and Emirates. If we know the Buffalo-Kennedy flight is delayed, there are one and a half hours in flight to fix that problem, not pass the problem to the airport.

Our crewmembers can re-accommodate a customer right there and then in the plane, and tell them when the next available connections are. Or, of course, customers can do it onboard themselves.

What innovations lie ahead?

One of the newest things we’ve launched is JetBlue’s Technology Ventures, of which I’m Chair. This is our own venture capital initiative in Silicon Valley and it underlines how committed we are to innovation.

We’ve started investing in early stage startups. It’s one way for us to bring in and be an early adopter of innovative technologies. We partner with other companies to see how we can adopt best practices, be it for retail or automotive, for instance.

We don’t limit ourselves to the aviation world. We look at industries outside to take us to the next level of the customer experience, and as I said before, we view that experience through the lens of hospitality. That’s the type of mindset we have.

It’s a small section of the cabin but it’s a big evolution for JetBlue, and we’re expanding it to other routes, including the Caribbean. The seat is completely customized for JetBlue and includes a 15-inch screen with the latest in live entertainment.

But the vast majority of our customers fly our core experience (we don’t call it coach) and it’s this that keeps us in business. Our Net Promoter Score (NPS) for core is close to 65.8, which is very high in this industry.

What about onboard Wi-Fi?

JetBlue’s planes provide a high-speed broadband wireless experience called Fly-Fi. It’s so important we have that foundational element, based on a powerful Ka-band satellite that we launched in a partnership a couple of years back.

With enormous bandwidth and capacity, we can offer an at-home experience virtually across the entire plane.

We have a premium bandwidth package available for those who’d like to upgrade.

We think providing a free taste of Wi-Fi today will generate revenue potential. Of course, it gives us the ability to interact with our customers in a much different way.

Any other uses?

Yes, Fly-Fi is not just for our customers. We’re also using it to empower crewmembers, the first use being with iPads which are a point of sale device – we were the first airline to offer Apple Pay in the skies, in fact, and we now offer credit card facilities.

But these tablets provide much more than that. They contain specific details for the flight – things like the seat map, SSR codes and frequent traveler status. They allow us to provide a more personalized experience for our customers in the air. And new services are being added all the time, including an app enabling crewmembers to manage their schedules.

We’ve partnered with SITA on many of these apps. With all the customer data in our systems, we know there’s a lot of potential for tablets. We’ve developed a centralized portal called the ‘Customer Hub’ to give us that 360-degree view of customers and consolidate countless data sources.

So what about disruption?

Every airline talks about disruption. People’s flights get canceled, people get stranded at airports. With their iPads onboard, our crewmembers have the connectivity and apps to manage the disruption in real time.

We don’t limit ourselves to the aviation world. We look at industries outside to take us to the next level of the customer experience, and as I said before, we view that experience through the lens of hospitality. That’s the type of mindset we have.

Full interview online

www.sita.aero/air-transport-it-review
Your airport’s going through major change?
Yes, our annual growth rate over the past 10 years has been 4.1%, with international growing the fastest – up 6.7% last year.
Since 2000, we have invested US$2.5 billion in a major modernization and expansion program to meet this growth, and last May we inaugurated an extension of the international jetty that added six new gates.

How is IT enhancing the passenger experience?
We know that more than 98% of new passengers carry a smartphone. The new millennium generation is connected all the time – which changes both their expectations and behaviour.
We have to meet our customers’ evolving needs. We want to give them choices and options so that they feel they’re in control of their journey.
That’s why we’ve embedded technology everywhere in the new area, and we are using it to enhance customer experience.
We’re offering free Wi-Fi, as well as about 1,000 chairs equipped with charging stations and USB ports.

After having introduced a responsive design website in 2014, we launched an official airport app last spring called YULi. It aims to facilitate direction, offer promotions and create the best experience possible within the vicinity of the airport.

How are you achieving that?
We’ve made sure you can use our app with one hand, while accessing over 90% of its functionality within two clicks.
We do this partly by swapping a menu for a map with icons – it makes it much easier to find what you need and where you’re going.
We had two immediate constraints – money and time. We had to keep within a very tight budget, and we wanted it to be available before the new extension to the airport opened.
We brought in some expert mobile vendors to help build the app and made a radical choice about accessibility. We were the first to provide an iPhone app that uses indoor positioning via Wi-Fi. The results have been outstanding with a strong signal and no need for other infrastructure.

We launched the app in March 2016 and we had 30,000 downloads within three months. We offered the Android version in late July.

How might customers use the app?
Let’s say a customer wants to get through the whole business of turning up at the airport and pass through screening and security as quickly as possible.
We’re developing something called Breeze Through the Airport to help customers maximize their working time, from the moment they turn up at the airport to getting through screening, security and boarding.
Customers can obtain this from our website a couple of days before their flight. It will include the purchase of valet parking and a priority security window, allowing them to “breeze” through to the business lounge.
Meanwhile, YULi keeps tabs on where they are, where they need to go for the gate, and any waiting time.
Take another example: a family going on vacation. They may be a little more budget-conscious. They use YULi to book parking online and to obtain a good discount for doing so.
They use a QR code to get into the car park. They then use the app to navigate their way through the parking area.

And soon we hope they will be able to use a guidance system which, given the family’s flight number, will find the most convenient parking spot for their departure. We’re working on that element, which we think will be helpful and popular.

Once everyone is in the terminal, the app’s map will help them find amenities, security checkpoints and retail concessions. For returning customers, we can offer a contextual promotion, perhaps a discount in a family restaurant.

They’re all also free to choose self-check-in or self-tagging and the self-bag-drop. They can use Automated Passport Control (APC) and soon we’ll be offering a mobile passport control system that the US Customs and Border Protection is developing.

Can you measure the impact?

For departures, 97.9% of customers are satisfied or very satisfied. For arrivals, it’s 96.8%. We’re very proud of those numbers.

After we launched the YULi app, we saw online reservations – whether through website or mobile – increase by 20% in just a few months.

It’s still early days but we’re crunching the data as it accumulates to see what products, which type of traveler, and which destinations are the most profitable and what products our customers want.

How far do you see digital changing travel?

Without a doubt, digital is transforming life on the go. It’s expanding the landscape, with new players and new influencers.

But digital is transforming everything. It’s also taking us into new areas of data. For example, global asset lifecycle management for aircraft engines.

We have the potential to gather some very valuable information for engine manufacturers. It’s important for them to know under what conditions the engines operated while at the airport. Was it raining? Was de-icing used?

This is potentially rich information that we can share to help them enhance their own customer offer.

We also must consider the move towards the ‘connected and intelligent city.’ Again, there is a wealth of information we need to consider because, of course, life on the go starts and ends at the passenger’s home.

There are even more substantial opportunities ahead. For instance, we are adding 15 electrical charge stations for electric cars this year.

We recently introduced the Téo electric taxi service at the airport. Québec’s pension fund manager, the Caisse de dépôt et placement, is also working on a direct train connection with downtown.

One day we will have the capability for passengers to come to the airport in a car which then autonomously returns home! We need to start thinking about that.

Will you learn more from the data you obtain?

We discuss these issues with our major airlines at the airport and we share the entire extent of the passenger journey: identifying where the airport brings the most value and where the airline brings the most value.

There are very clear touchpoints where we can exchange information that could bring significant extra value to the passenger. We’re pursuing those discussions because we want to share information.

For example, we’d like to have booking information so that when a passenger arrives at the airport we know who they are and where they’re going, without having to ask those questions.

It means we can learn more about customers and their expectations, without becoming intrusive.
SINGAPORE CHANGI AIRPORT IS TURNING TO TECHNOLOGY. NOT JUST TO ENHANCE CAPACITY AND PASSENGER PROCESSING, BUT TO ENGAGE CUSTOMERS, SAYS THE AIRPORT’S EVP FOR AIRPORT MANAGEMENT, LYE TECK TAN.

IT’S ABOUT MORE THAN CAPACITY

“BY MAKING SMART USE OF TRAVELER DATA, AIRPORTS CAN NOW CREATE AN INDIVIDUAL EXPERIENCE FOR EACH TRAVELER REGARDLESS OF TRAVELER NUMBERS, PROVIDING A CONTEXT-SENSITIVE SERVICE AT THAT PARTICULAR MOMENT IN TIME WHEN THEY’RE ON THE MOVE.”
Tell us about airport capacity and traveler experience?

The growth in traveler traffic in the Asia-Pacific region is set to continue.

Catering for more travelers requires that we increase our capacity and processing efficiency to ensure that we continue to deliver exceptional passenger experience. Our focus on some key technology developments will help with this.

Today, we are capable of handling 66 million passengers a year. In 2016 alone, we served 58.7 million passengers and we are fast approaching our maximum handling capacity. With the new Terminal 4 opening in 2017, we aim to increase Changi’s handling capacity to 82 million passengers a year.

However, we are not stopping there. We will have our third runway by 2020 and in the next 10 to 15 years, we will open Terminal 5, which will take us to an annual handling capacity of 135 million passengers.

But our investments are about much more than just indiscriminately adding ground floor area. In addition to building new terminals and runways, we are factoring in new IT and communication capabilities that would allow us to grow more sustainably, and at the same time, keeping our guests as our focal point.

So it’s as much about customer experience?

Singapore Changi Airport is about service from the heart. We constantly innovate and reinvent ourselves with the aim to provide the best possible experience to all our travelers and visitors.

Keeping our guests happy is increasingly becoming less about providing the standard airport facilities or basic efficient processes that travelers expect and more about the extra features that make their experiences unique, enjoyable and ultimately, memorable.

Our customers’ needs are changing rapidly and the ability to understand, anticipate and respond to their needs quickly is important. This is where technology comes in. It offers us the opportunity to engage our passengers, and to know and remember their preferences to deliver passenger journeys that are convenient and fun for them.

In terms of the time spent at the airport, there is only a very small window of opportunity in which airports are able to engage their passengers. So why not ensure they have the best experience possible?

How are you moving forward?

We truly need to start designing airport processes from a passenger’s perspective. There is a need for airlines and airports to collaborate in harmonizing and integrating functional processes. All these are going towards raising the level of service that we can jointly deliver to passengers.

My hope is that we will reach a point where our airport partners, and we at Changi, collaborate hand in glove so that to the traveler it feels as though the seamless service they enjoy is all coming from the same company. This would be the ideal for all.

So personalization is top of mind for Changi?

Today’s customers are ‘non-stop customers’ who have access to an immense amount of information and are constantly re-evaluating their options. It is important for airports to understand what passengers want and what would make a real difference to their travels.

In a world where we are constantly bombarded with information, having the ability to tailor simple messages for each traveler will make it more meaningful to them.

Travelers want a seamless service, when and where they need it. In addition, they want to be able to encounter new experiences along the way and share this with those they are connected to in their social media world. So, it is now up to airports to organize ourselves to cater to these types of travelers.

So what is IT’s role in the passenger experience?

With connectivity infiltrating almost every area of our lives, we are all more knowledgeable now than ever before – thanks to the vast array of information available at our fingertips.

By making smart use of traveler data, airports can now create an individual experience for virtually each traveler regardless of traveler numbers, providing a context-sensitive service at that particular moment in time when they are on the move.

Given the rate of technological advancements, arranging driverless airport transport or notifying an airline concierge of your arrival through location-based applications, are just some of the many enhancements travelers can look forward to.

Whether it be pre-emptive notifications for travelers about security queues, or even location-aware notifications telling travelers of nearby specials or preferred items they have previously purchased – the possibilities are endless.

Final thoughts?

The customer remains the most important consideration of all and we need to constantly keep going back to what they want.

But it is never static – it is always changing. And the challenge we give to ourselves in this new digital space, is how do we establish a meaningful long term relationship with the dynamic customer.

That said, in spite of the constant flux that the aviation industry is in, our basic tenet is simple – to create a Changi that every guest loves. This has not changed since we started in 1981.

FOR MORE

Read about SITA’s Wireless & Mobility Solutions
Search ‘Wireless-mobility’ on www.sita.aero
THE PROMISED WORLD OF BLOCKCHAIN

AMONG THE ALPHABET OF NEW TECHNOLOGIES EMERGING TO CHANGE OUR LIVES, BLOCKCHAIN MIGHT TURN OUT TO BE THE MOST IMPORTANT. BUT IT’S PROBABLY THE LEAST UNDERSTOOD. SO WHAT MAKES THE POTENTIAL OF BLOCKCHAIN SO EXCITING?
Blockchain. Never mind the hype, what exactly might we expect to gain from this much touted emerging technology? The answer lies in ‘trust’. Blockchain, which is rapidly becoming superseded by the term ‘Distributed Ledger Technology’ (DLT), is all about trust.

Put simply, blockchain, or DLT, is a ledger of digital events than can be replicated, shared and trusted without the need for central authority. Its characteristics are resiliency, disintermediation, and traceability, as well as the fact it’s tamper proof.

‘IT’S NOT THE THING’

The real ‘so what’ is this: DLT is important because it’s tamper proof. DLT is not the thing … it’s tamper proof.

NEW MODELS

With DLT, by checking the blockchain and confirming transactions, the entire system is effectively transparent and self-regulated, with no central authority needed to manage the data. In turn, this reduces the need for transaction or management fees for third parties.

“This has the potential to reduce operational, governance and regulatory overheads for existing business practices and to create new business models where otherwise the complexity of sharing data in a trusted environment is prohibitive,” says O’Sullivan.

Take a simple banking transaction between two parties, such as the transfer of money. Both parties would involve their banks, plus the banks would use the services of a third organization, normally a clearing house like SWIFT, to perform the transfer.

All three agents in the process would charge a fee and add time to the process.

Similarly, with property transfers there’s a Land Registry-type agency sitting in the middle recording and facilitating the transaction – at a cost.

OPEN, VISIBLE

However, the open, visible nature of DLT means that anyone with access to a copy can see and check every transaction. The need for intermediaries disappears. Which is why the technology is being hailed as a powerful tool for efficiency.

“Think of the streamlining of process overheads where companies find suppliers, add them to their billing systems, define the terms of engagement, track the supply of services, manage the billing and so on,” adds O’Sullivan.

INTEREST

With DLT considered more robust and secure than the traditional setup, major companies around the world are taking an interest in the technology. This is giving rise to an emerging blockchain ecosystem with venture capital backed start-ups finding new uses for the cutting-edge technology.

Even today, more than 20 financial institutions, including heavyweights JP Morgan and Goldman Sachs, are working to create a DLT-based prototype network that can be used to transfer funds between branches in a much faster and economical way than the existing SWIFT network.

**STEPPING TOWARDS SINGLE TOKEN TRAVEL**

SITA is leading the way forward in stepping towards single token travel using e-passports through the development of SITA Smart Path™.

Bringing blockchain capabilities to bear, the solution captures a passenger’s biometric details with a facial scan during an enrolment process at a kiosk or bag drop, whichever is the first touch point in the journey.

Once checked against the passenger’s travel documents, a secure single token is created and stored in a secure biometric database within the airport. It’s then used at every interaction through the airport, for the duration of the passenger’s journey, after which all biometric data is deleted.

**MAJOR TOKEN TRIALS**

Already several single token travel trials are well underway with SITA, including a major airport – one of the world’s fastest-growing – in the Middle East, as well as in Asia Pacific.

One of the latest trials to be announced is at Brisbane Airport, in partnership with SITA and Air New Zealand, with plans to expand the service to more international airlines in the coming months. See page 4.

Based on the trials, SITA Lab is now looking into the next generation of token, a re-usable global travel token, for use at every airport during a trip. This would mean that passengers only have to enrol once with the service to have their biometric, biographic and itinerary data captured and a token created.
TRAVEL IMPACT

Signs that this emerging technology is set to impact the travel industry are starting to appear. One company involved closely with the funds transfer project is Monax. CEO Casey Kuhlman who presented at the last SITA Innovation Day is resolute in his belief that blockchain is going to fundamentally change processes, including air travel within the next five years.

"By 2020, we are going to see many industry verticals, including airlines, delivering high value to both themselves and their ecosystem of partners and suppliers using blockchain technology," he says.

Another SITA Innovation Day company, New York-based Loyyal, is using DLT to personalize and aggregate loyalty programs. It’s developed a platform that makes it easy and safe for multiple programs to unite under a single banner scheme. See ‘Reach for the stratosphere’, page 19.

SINGLE TOKEN

In the meantime, the SITA Lab is evaluating DLT for different use cases within air transport. One of the most revolutionary is to make it the basis for virtual or digital passports in the form of a single secure token on mobile and wearable devices.

Potentially this could reduce complexity, cost and liability, around document checks during the passenger journey. Already trials are underway at a selection of major airports.

Leading the Single Travel Token program is Sherry Stein, SITA Lab Senior Project Manager. "The combination of blockchain, mobile technologies and biometrics offers unique possibilities that simply didn’t exist before," she says.

"With blockchain technology, for example, travelers need only be identified once at the start of the journey, be it at an airport kiosk or the bag-drop." "This could eliminate the need for multiple travel documents without passengers having to share their personal data." See ‘Stepping towards single token travel’. Also see ‘The advent of the token’ in our last issue.

THE FUTURE

The reality is, though, that DLT is not a mature technology. The general perception is that it’s three to five years from maturity. Given that lack of maturity, the space is dominated by start-ups.

"SITA is actively engaging with multiple DLT start-ups and other vendors and industry players to actively keep an eye on the potential, and to evaluate other use cases and developments specifically for the air transport industry," says O’Sullivan.

"There’s also a real need for the industry to take the right approach, to ensure governance, standards, compliance, security and more – which is an area we’re watching keenly."

Given that such an approach is taken, then due to the nature of the air transport industry there are a multitude of opportunities to streamline current processes and improve interoperability of government agencies, industry providers, regulators airports and airlines.

"This includes potential usage for baggage tracking, cargo manifests, aircraft history and maintenance, and a lot more," according to O’Sullivan.

DLT’s ability to ensure trust and security make it perfectly suited to highly interactive environments with multiple suppliers offering multiple services, such as for baggage, check-in, re-fueling, cleaning, de-icing and many other processes at airports.

"With many airlines and airports consuming these services, the scenario involves a complex set of multiple business contracts, which plays to DLT’s unique strengths," concludes O’Sullivan.

FOR MORE

CONNECTED AIRCRAFT

WITH AIRLINES EMBRACING CONNECTED AIRCRAFT, THE FIRST INFLIGHT CONNECTIVITY REVOLUTION IS CLEARLY IN FULL SWING. BUT WE’RE NOW POISED FOR INFLIGHT REVOLUTION NO. 2: OPEN PLATFORMS AND COMMON STANDARDS THAT WILL UNLOCK NEW OPPORTUNITIES FOR DIGITAL SERVICE INNOVATION.

INFLIGHT REVOLUTION NO.2
By 2025, two-thirds of the world’s airline fleet will be connected – enabling passengers to transfer their entire digital lives seamlessly from ground to air.

At the same time this is bringing significant operational opportunities and benefits for everyone involved in the value chain – from airlines and airports to airframe and engine manufacturers, original equipment manufacturers (OEMs) and service suppliers.

The drivers for upgrading to a connected aircraft are fourfold, according to SITA’s 2016 Airline IT Trends Survey: improvements to the passenger experience (46%), maintenance and aircraft health monitoring (15%), benefits for pilots (12%) and improvements for cabin crew activities, such as tablet apps and credit card payments (7%).

STAGE 1

This first stage revolution is accelerating in pace. By 2019, two-thirds of the world’s airlines expect to operate fully connected aircraft, up from 37% in 2016.

By the same date, 74% of airlines plan to provide inflight internet services (33% today), 60% plan to offer mobile phone services inflight (21% today) and 92% of airlines are focusing on smartphone applications to interact with passengers.

Alongside these changes, the habits of passengers are transforming as they themselves are increasingly connected on the ground – and prepared to use their own devices when they can. That offers the potential not only to deliver better inflight connectivity and a more tailored passenger experience, but also to consider removing seat-back screen altogether – saving weight and fuel cost.

A DRAG?

However, the path to realizing these opportunities is full of potential obstacles and constraints. There are operational limitations and incompatibilities across platforms, technologies, fleets and service providers’ own proprietary systems.

In part that’s because technology cycles for aircraft, satellite hardware and infrastructure, onboard communication equipment and mobile devices all evolve at different speeds. As a result, integration, innovation and the unification of the passenger portfolio and passenger experience is complex, time consuming and expensive.

“Many airlines weren’t even aware this was the case when they made a connectivity investment decision and I expect this will be a topic that grows in awareness and understanding soon.”

STAGE 2

In a recent white paper, SITAONAIR – which has been the world-leader in developing inflight connectivity solutions – proposed what will be the second inflight revolution: the adoption of open architecture and common service provision.

This will allow airlines to make passenger connectivity part of the airline brand rather than a lock-in to a supplier’s refresh cycle.

Fully open-system architecture, the paper suggests, is the only way that airlines can become fully empowered to have choice and flexibility in their inflight services and optimize the business benefits of high-speed connectivity. Not least it offers the opportunity to separate key duties, so that the same provider is not responsible for both providing the system and performance monitoring.

According to Singapore Airlines’ Vice President of Product Innovation, Yung Han Ng: “Open system developments facilitate the creation of new and innovative ideas, and enable us to develop products/solutions that are platform and device agnostic, and with a shorter time to launch. If suppliers were to adopt open platform solutions in the future, it would be ideal.”

“OPEN SYSTEM DEVELOPMENTS FACILITATE THE CREATION OF NEW AND INNOVATIVE IDEAS, AND ENABLE US TO DEVELOP PRODUCTS/SOLUTIONS THAT ARE PLATFORM AND DEVICE AGNOSTIC, AND WITH A SHORTER TIME TO LAUNCH. IF SUPPLIERS WERE TO ADOPT OPEN PLATFORM SOLUTIONS IN THE FUTURE, IT WOULD BE IDEAL.”

YUNG HAN NG
VICE PRESIDENT PRODUCT INNOVATION, SINGAPORE AIRLINES

ASK YOUR PROVIDER THESE FIVE QUESTIONS

Airlines can help drive the agenda for change by asking their connectivity solutions provider – to provide your products, applications and services to our passengers:

- Over multiple satellite links?
- Over different onboard transmission equipment?
- Over different satcom terminals?
- Linking directly into our own operating systems?
- And offering end-to-end installation of our choice of equipment and services?
“WE BELIEVE THE TIME FOR OPEN ARCHITECTURE IS NOW. IN FORMAL BID PROCESSES FOR MAJOR CONNECTIVITY CONTRACTS, WE ARE STARTING TO SEE AIRLINES ASKING FOR SERVICE CAPABILITY OVER MULTIPLE FLEET TYPES, IFE TYPES AND SATLINKS. THAT IS WHAT OUR APPROACH TO OPEN CABIN CONNECTIVITY SOLUTIONS IS ALL ABOUT.”

DAVID LAVOREL
CEO, SITAONAIR

BEST INTERESTS
The speed and scale of airline ambitions suggests that an open and common approach is the way forward and in the best interests of the industry as a whole. “The development of software platforms/middleware is obviously important,” comments David Lavorel, SITAONAIR CEO.

“In the broader Internet of Things space, a number of companies have developed connected device platforms and application-enablement platforms that have spurred growth. The airline space should not be any different.”

In response, SITAONAIR is offering a solution that embraces six elements, designed to bridge the differences:

Those six elements are:
• Best-in-class products and services.
• An open-system approach that will eliminate compatibility issues.
• No limit to past or future technology choices.
• Rapid installation and commissioning anywhere in the world.
• Flexible, scalable and sustainable.
• Trusted integration expertise.

As passenger connectivity becomes ubiquitous, providing solutions and systems on an open basis means that consistent passenger experience can be achieved regardless of the technology choices airlines may make or have already made.

Critically, this will promote innovation for airlines and passengers, and bring simplicity at application and user level.

“As OEMs open up their technology platforms,” concludes David Lavorel, “we are ready to work with airlines to maximize the resulting opportunities. We believe this is what airlines want.”

FOR MORE
Download the white paper ‘Open platforms: the next inflight connectivity revolution’. Search ‘Next inflight connectivity revolution’ on www.sitaonair.aero
Passenger experience is principal driver for upgrading to connected aircraft:

- Improvements to passenger experience: 46%
- Maintenance and aircraft health monitoring: 15%
- Benefits for pilot job functions and workloads: 12%
- Improvements to cabin crew activity, such as tablet apps and credit card payments: 7%

Barriers to upgrading

Adding IFC to aircraft

46% is done via retrofits, which entails taking aircraft out of service.

Only 2% of IFC is being introduced during manufacture.

SITAONAIR - Breaking down the barriers:
- Open-system approach: compatibility issues eliminated
- Does not limit airline past or future technology choices

*The Future of In-Flight Connectivity - 2016 report by Valour Consultancy. All other statistics from the SITA Airline IT Trends Survey 2016.
WELCOME TO FIVE NEW MEMBERS

SO FAR IN 2017, FIVE NEW AIRLINES AND AIRPORTS HAVE JOINED SITA’S COMMUNITY OF AROUND 400 MEMBERS FOR THE AIR TRANSPORT INDUSTRY.

The new members:
- Malta International Airport
- Blue Air
- Comlux Aruba
- Hebei Airlines, and
- West Air

MALTA AIRPORT
One of the first of the new members in 2017 to be officially welcomed to SITA was Malta International Airport, with Dave Bakker, SITA President of Europe handing over a new member award to Malta Airport’s CEO Alan Borg.

“By becoming a SITA member, Malta International Airport has joined a community of some of the sharpest minds in the air transport industry today,” said Alan Borg.

EXCELLENCE
“This exposes us to best practices and cutting-edge emerging technologies; two factors that are propelling us in our pursuit of service excellence and a remarkable airport experience for all our guests,” he added.

“Within this community, we will also have the opportunity to steer SITA’s long-term focus to ensure it continues to deliver tangible benefits for every airport, airline and passenger.”

EXPANSION
Malta International Airport ended 2016 on a positive note with the company reaching an important 5 million passenger milestone, at the same time as unveiling an ambitious investment program which includes a €28m terminal expansion.

Last year SITA and Malta International Airport entered into a strategic partnership which is geared towards boosting the airport’s operational excellence and putting it at the forefront of technology in the aviation industry.

INNOVATION
The partnership will allow Malta International Airport to focus on strategic investment and innovation as SITA takes over the airport’s day-to-day information and communications technology (ICT) operations. The partnership will help improve ICT service levels, optimize airport operations and enhance the overall passenger experience.

SITA looks forward to continuing to work with Malta International Airport and the other new members, involving them in the discussion on how best to embrace technology and realize the SITA vision ‘to make air travel easier at every step’.

MEMBER MILESTONES
Earlier this year Canada's Air Transat celebrated its 30th anniversary as SITA member. SITA’s Joe Licitra and Natalie Laneve recently visited the Air Transat team at their office in Montreal where they had handed over an award to recognize the airline’s membership milestone.
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For us, innovation is about exploring new horizons. Thanks to our SITA Lab team, we’re researching, developing and trialing tomorrow’s solutions with the community. We’re constantly pioneering groundbreaking technology for passengers, airlines and airports. We’re restlessly inventive and continually inspired by the challenges of leading the community into a future where the possibilities are endless.

Explore more at: www.sita.aero/innovate