At the same, SITA and HIA have come together to push the envelope of innovation with the aim of delivering a smoother, seamless journey at the airport.

The focus of an MoU is to advance HIA’s initiative between the two organizations to implement seamless identity management across all key passenger touch points using biometrics, eliminating the need to present travel documents at every step. Trials will also be held to evaluate the effectiveness of robots for passenger facilitation; blockchain technology for rapid and secure sharing of data across stakeholders; and the potential use of augmented and virtual reality for operational concepts.

Trials will also be held to evaluate the effectiveness of robots for passenger facilitation; blockchain technology for rapid and secure sharing of data across stakeholders; and the potential use of augmented and virtual reality for operational concepts. The formalization of this partnership follows the successful industry-first pilot of biometric exit checks in the airport, using SITA’s Smart Path™ technology. The lessons learnt at HIA have led to SITA optimizing the technology and subsequently implementing it with other major airports and airlines around the world.

We spoke to HIA Chief Operating Officer, Engr. Badr Mohammed Al Meer who explains what lay behind the recent signing of an Innovation MOU with SITA and what technology will shape the future of the industry.

Tell us a little more about the reasons for signing an innovation MOU with SITA?

HIA’s efforts towards innovation and its strategic alliances with key partners such as SITA, all contribute towards its ‘Smart Airport’ vision that was officially launched in May 2016 under the patronage of the Prime Minister and Interior Minister of the State of Qatar, H.E Sheikh Abdullah bin Nasser bin Khalifa Al Thani.

Our aim is to empower our passengers to experience a seamless journey at their own pace, all the while keeping them informed about what matters to them.

The use of biometrics as the only verification required at each passenger touch point along the airport journey will go a long way in improving the flow of passengers, providing a better travel experience as well as greater operational visibility for the stakeholders. SITA has already demonstrated high capability and agility in pioneering and optimizing biometric exit checks for the boarding process at HIA. We believe that such joint efforts will contribute to digital transformations across the air transport industry.

Would it be correct to say the MOU will not only look at exploring the immediate requirements of the airport but more disruptive technologies that could change the way passengers travel in future. Tell us more?

The current technologies used or being explored in airports worldwide have definitely started to transform the passengers’ journey across the key touch points of their travel experience. The main focus of this MoU is to advance the use of biometrics at HIA for seamless identity management across the terminal.

Ultimately, the use of biometrics will be integrated into self-service processes of check-in, baggage drop, security screening, and aircraft boarding for all travelers. The idea behind the use of biometrics is to enhance security while delivering smooth end-to-end travel using a single biometric token.

This MoU is the beginning of an exploration phase of new technologies aimed at designing a seamless and friction-free travel experience while ensuring the highest safety and security standards.

The next step for HIA is to commence new trials aimed at evaluating the effectiveness of robotics for passenger facilitation, and of blockchain technology for rapid and secure sharing of data across multiple stakeholders. We will also explore the potential use of augmented reality and virtual reality for operational concepts: some airlines are already using this technology for in-flight entertainment and we are interested in how the technology can be used on the ground.
The passenger is at the heart of everything we do and every investment we make. We thrive to strike the right balance between cutting-edge technology and a warm passenger-friendly experience. In line with our ‘Smart Airport’ vision, HIA’s strategic investment in new technologies is aimed at redefining the passenger experience as a whole and, ultimately, showcasing HIA’s global leadership in the use of smart technologies.

Opened only in 2014, Hamad International Airport is one of the most advanced airports in the region and globally. How do you ensure the facilities were future-proofed and what role did technology play?

HIA is indeed a very young airport, yet a very ambitious, modern and sophisticated one. The airport was launched when some of the most disruptive technologies were already well underway. As a consequence, HIA was strategically designed to naturally accommodate the advent of those new technologies allowing us to anticipate the impact of new technologies on airport facilities in order to make the right decisions at the right time.

Do you see the advantages of this innovation partnership with SITA eventually spilling out beyond this airport and benefiting the broader air transport community?

At the end of the day, all airports and airlines are interconnected globally; and affect and influence one another. Innovations implemented at early-adopter airports such as HIA definitely ensure that the followers do not have to go through the same learning curve, invest extensive time, and take on risks of failure associated with trialing and proving leading-edge technologies. However, as the airport transport community pushes leading non-traditional technology to transform the passenger experience, it is also incumbent upon us to collaborate in making our systems more robust in mitigating cyber security risks, especially as some recent highly disruptive system crashes in the industry have been alarming.

Hamad International Airport plays a crucial role in the industry due to its very strategic location, bridging the East and West sides of the world and, hence, positioning Qatar as a global hub for business and leisure travel. HIA’s plan to process more than 50 million passengers per annum in a few years is a strong incentive to stay ahead of the curve in terms of innovation and new technologies for a very smooth passenger journey.

What are the key trends and technologies that you see shaping the future of this industry?

Air transport security is paramount and will remain paramount for decades to come. As a consequence, new technologies providing solutions to increase air transport security will be on the rise. Biometrics screening and facial recognition scanning are taking over all airports in an effort to improve the security screening process and to reduce waiting time at airport terminals.

Artificial intelligence is the hot topic within the industry: AI has the potential to streamline the process of answering passengers’ simple and basic questions, allowing a better use of on-the-ground staff members who will be dedicated to tackling more complex issues.

With the rise of beacons, airports are very likely to start using this technology to provide better/customized services to passengers as they travel through the airport terminal. HIA has been pioneering the use of an iBeacon enabled mobile app since early 2015. Our priority is to provide an immersive experience to passengers who can stay connected while they travel through our airport. To that effect, we have developed our HIAQatar mobile app in-house and installed Bluetooth iBeacons across the terminal, guiding our passengers along their journey, providing real-time information about flight status, baggage claim, time and direction to boarding gates and food, beverage and retail offers from Qatar Duty Free.

As airlines and airports intensify their attempts to personalize the air travel journey, wearable technologies can provide radical improvements to a personalized experience for air passengers.

All these technologies have the potential to reshape airport customer experience in the coming years and to take us to the future, in addition to transforming the jobs created in the air transport industry. With 3.8 billion global air travelers in 2016, predicted to double to 7.2 billion passengers in the next 20 years, smart technologies will help the industry support this exponential growth.
The good news for passengers is that in 2017 airlines around the world have once again improved the rate of baggage delivery.

According to the SITA 2018 Baggage Report, last year the industry continued an improvement trend of more than a decade which has seen baggage mishandling drop by 70% since 2007. This tremendous improvement has been driven by process changes and the use of new technology.

The growth in passenger numbers globally continues to put considerable pressure on the industry’s baggage systems and processes and with the rise to more than 4 billion passengers in 2017, the airlines did well to reduce the rate of mishandled bags. In fact, at 5.57 per thousand passengers it was the lowest level ever recorded.

But despite the improvement, mishandled bags still cost the industry an estimated US$2.3 billion in 2017 and the focus in the industry remains firmly on further reducing the rate in the next few years.

One area that promises to deliver considerable cost savings is from airline investments in end-to-end bag tracking.

Peter Drummond, Director, Baggage Solutions, SITA, said: “Over the last decade, we have seen significant improvements in bag management as airlines have taken advantage of technology. Now with IATA’s drive for 100% bag tracking, technology adoption will rise further. End-to-end tracking produces data which reveals where improvements can be made in operational processes. While we won’t see a sudden change in 2018, it is a real turning point for the industry as airlines begin to unlock the value of the tracking data for the billions of bags they carry.”

In terms of IATA Resolution 753, every bag will be tracked at check-in, loading onto the aircraft, transfer and arrival. Tracking bags at each of these four points and sharing this data across all stakeholders will allow airports and airlines to identify where each bag is on its journey. It will also help identify bags likely to be mishandled enabling intervention to ensure they are on the right flight.

Peter Drummond said: “IATA’s resolution has brought a sharp focus on the potential for further improvements in accurate baggage handling rates. We at SITA have taken up the challenge and are helping our members and the wider industry quickly and effectively meet these new tracking requirements. Working with our industry partners, we have developed new economical infrastructure enhancements for SITA BagJourney.”

These include a choice of handheld devices for scanning or scanning arches that are quick to install. These are interfaced with SITA’s proven BagJourney solution, allowing the tracking data recorded at each point to be shared with the relevant airline, airport or ground handling agent.

“Each airline and airport has different needs so we have ensured that the various hardware options are easily integrated into our BagJourney solution for fast implementation. We have worked with various airlines to trial these solutions and ensure that they are robust and meet the needs of the airline and airport.”

PETER DRUMMOND
SITA’S DIRECTOR, BAGGAGE SOLUTIONS

The latest additions to the long list of BagJourney customers include Caribbean airline and SITA member Bahamasair, which trialed SITA’s handheld devices. The trial was such a success, that the units were rolled out to 24 airports across the airline’s network.

SITA MEMBERS

Bahamasair
Home City: Nassau
Member since: 1990

Middle Eastern Airlines
Home City: Beirut
Member since: 1956
With the introduction of AI-enabled baggage management it is important that the right data around baggage is shared effectively with the various stakeholders.

“One of the key elements we at SITA are focused on is ensuring we develop the most effective framework to share baggage data across the industry.”

Another long-time user of SITA’s baggage solutions, Middle Eastern Airlines (MEA) has also renewed its baggage contract to include BagJourney.

Adib Charif, Head of IT at MEA said: “SITA has been the recognized leader in bag tracking and tracing for more than 25 years with its systems in every major airport in the world. BagJourney is a great example of their constant development of solutions to meet with the changing needs of the industry.

While SITA’s current focus is helping the industry put the tracking points in place, Drummond points out that the real value lies in the data collected at these points.

“On any flight, baggage changes hands several times, from ground handler or airport, to the airline, potentially to another airline and then back to the airport or ground handler at the destination.

“Therefore, it is vital that there is clear communication and co-ordination between these parties to ensure that the bag arrives at the destination.

With the introduction of AI-enabled baggage management it is important that the right data around baggage is shared effectively with the various stakeholders.

“One of the key elements we at SITA are focused on is ensuring we develop the most effective framework to share baggage data across the industry.”

**Reasons for delayed bags in 2017**

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<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Delayed bags</td>
<td>78%</td>
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<tr>
<td>Lost/Stolen bags</td>
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<td>Damaged/Pilfered bags</td>
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<td>Transfer mishandling</td>
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<tr>
<td>Ticketing error/Bag switch/Security/Other</td>
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<tr>
<td>Loading error</td>
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<tr>
<td>Arrival mishandling</td>
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<tr>
<td>Airport/Customs/Weather/Space-weight restriction</td>
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<td>Failure to load</td>
<td>3%</td>
</tr>
<tr>
<td>Tagging error</td>
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**BAGGAGE TRACKING WEBINAR**

To provide more insight on the benefits of baggage tracking, SITA will be hosting a webinar titled “Tracking bag – a turning point in 2018” on June 19, 2018 from 5pm CET/11am EST.

The webinar will explore the latest trends in baggage tracking and industry IT practices in place for IATA’s Resolution 753, which comes into effect at the end of June 2018.

You will hear from:
- Peter Drummond, SITA’s Director, Baggage Solutions
- Andrew Price, IATA’s Global Head of Baggage Operations and
- Mark Matthews, Director Customer Planning Operations, American Airlines

More details on how to join or to download the webinar are available here: www.sita.aero/bagwebinar
The challenge of smoothly managing the disruption of flight delays has long weighed on airline and airport executives’ minds. How could you stare into a crystal ball and determine which flights would be delayed and by how long?

Flight delays and disruption costs the industry an estimated US$25 billion every year. The impact of this disruption was identified as one of the biggest challenges facing air transport today and an area where SITA could invest to help its members and the wider industry find a solution.

SITA Lab, SITA's research arm, in 2017 took up the challenge to build just such a crystal ball by predicting flights delays up to six hours in advance. Using commonly available data and machine learning, the SITA Lab successfully demonstrated that they could make such predictions with reasonable confidence.

The team began working with a major Asian airport that was seeking a solution that would provide better insight into aircraft arrival and departures. Key challenges facing the airport included limited visibility on arrival traffic and high variability of landing times due to weather and congestion.

This was having a dramatic impact on the airport’s ability to effectively manage everything from allocating runway slots and gates to providing the right resources needed for aircraft turnaround and personnel at security or immigration.

"When we approached the airport, they were excited by the possibility that we could provide predictions on flight arrivals. Over a six-month period, we used various sources of information such as weather, NOTAMs (notice to airmen), flight movements and other flight data to predict six hours ahead of time the expected arrival time,” says SITA Lab’s Thierry le Gall.

"Using sophisticated algorithms, we were able to provide an accurate prediction of within 15 minutes of the flight arrival for around 80% of flights six hours before touch down. Building on our successes, we are improving the prediction accuracies as well as extending the predictions up to 12 and 24 hours before gate arrival.

“The beauty of machine-learning is the more we can provide quality data and the more we learn from past predictions, the more accurate our predictions become.”

The benefits of this trial for air transport will be tremendous.

"We believe that providing more certainty to the fluid nature of flight movements – and the implementation of proactive planning of the industry’s resources in anticipation of this fluidity – will be a major step forward.”

SEBASTIEN FABRE
VP AIRPORTS, SITA

SITA LAB HAS SUCCESSFULLY DEMONSTRATED, USING MACHINE LEARNING, THAT IT IS ABLE TO PREDICT FLIGHT DELAYS UP TO SIX HOURS BEFORE THEIR EXPECTED ARRIVAL. THIS BREAKTHROUGH WILL HAVE A PROFOUND IMPACT ON PROVIDING MORE RESPONSIVE AIRPORT OPERATIONS AND WILL LIMIT THE IMPACT ON PASSENGERS.
The SITA Community Cyber Threat Center (CCTC) earlier this year began making new automated threat intelligence feeds available to SITA members. These feeds are a new service that provides valuable information that helps both airlines and airports identify potential threats to their systems, allowing them to trigger a timely response when needed.

“The feeds, providing indicators or compromise (IOC), are just one of the benefits we offer our SITA members through the Community Cyber Threat Center,” says Philippe-Emmanuel Maulion, Head of Corporate Information Security Office at SITA.

Members also have access to customized alerts that directly impact their businesses, threat intelligence advisories, a directory of fellow members, regular meetings where cyber experts can share best practice and a weekly news digest summing up the key stories and latest cyber activity impacting our industry.

Since becoming operational, the center has shared 114 alerts and 28 threat intelligence advisories with its 26 active members which includes airlines, airports and other service providers.

“Through the center we can bring the air transport industry together to address cyber threats, a common challenge that may already be affecting some of us and likely to impact others in the near future. By working together we can achieve more through collaboration and be better prepared to respond to the challenge placed upon us,” says Maulion.

The Community Cyber Threat Center was launched in 2017, following a collaborative design and development process, with the aim of fostering collaboration, facilitating direct engagement among its members, and a community-wide exchange of cyber threat intelligence via its sharing platform. In so doing members receive actionable information to help defend against the threats impacting the industry.

“The sharing of information on cyber threats, vulnerabilities and impacts, is now widely accepted as pivotal to the effective management of cyber risks. We continue to look at new ways to support our community and welcome any new members who would like to participate in and contribute to the center,” says Maulion.

GET INVOLVED
To find out more about how you can participate in the SITA Community Cyber Threat Center go to: https://www.sita.aero/about-us/working-for-the-community/industry-initiatives/cyber-threat-center or contact us at cyberthreatcenter@sita.aero
CELEBRATING MILESTONES AND NEW SITA MEMBERS

It has been a busy few months for SITA’s members with several anniversary milestones celebrated around the world. SITA also started the year by welcoming two new members to SITA.

In May this year, the SITA team visited Alaska Airlines at their offices in Seattle to present their 30th anniversary award. The airline was started in 1932 and has over the years grown to become one of the US’s biggest airlines. It has been an honor to share part of the journey with the airline.

SITA also started the year by welcoming two new members to our 400-strong base of airlines, airports and air transport organizations. Established in 2006, Hong Kong Airlines becomes SITA’s newest member.

In China, SITA made a recent visit to 9 Air to officially welcome the airline to the SITA membership family.

Looking forward, SITA will use the occasion of the SITA Annual General Assembly in Brussels in June 2018 – where all SITA Members gather once a year – to celebrate our members’ 50th and 60th anniversaries. This year the list of anniversaries includes some of the best known names in aviation including Austral Líneas Aéreas (50th), Martinair Holland (50th), Air New Zealand (60th), Austrian Airlines (60th), Kuwait Airways (60th) and LOT Polish Airlines (60th).

We at SITA extend a warm welcome to Hong Kong Airlines and 9 Air as our newest members and a hearty congratulations to all our members celebrating a major milestone.

Over the past few months, SITA have been looking at ways to deepen the engagement with the SITA Council in a more meaningful way and tap into the wealth of experience and knowledge available through the Council Representatives.

One of the ways we will be encouraging service excellence and innovation is through the launch of the 2018 SITA Council Awards this month. The awards present an opportunity for SITA Council Representatives to judge the best team initiative from SITA employees across two key areas of focus: Stepping up for the customer and Innovation.

When put before the SITA Council in December 2017, it was widely agreed that the awards would provide Council Representatives an opportunity to look a little deeper into SITA and understand how the business was changing to meet the air transport industry’s technology needs. Service excellence and innovation represent two key areas that will drive that evolution.

The awards were opened to employees in May this year and have already gained significant interest.

Jappe Blaauw, Chair of the SITA Council said: “We think this is a great initiative and an exciting collaborative step for the Council. It will closely engage our Representatives in SITA initiatives while motivating SITA teams to drive the changes needed across innovation and service. I believe that together this will enhance SITA’s value to the air transport community.”

The award submissions are expected to be put before the SITA Council later this year for the final round of judging, with the winners selected at the December 2018 Council Meeting in Paris.