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CEO London Stansted Airport

“We are going to account for up to half the growth in London in the next 10 years”

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The next frontier: B2P (Business to People)

By Olivier Jankovec, Director General, ACI EUROPE

On a balmy Thursday evening last October, flying smoothly aboard a Eurowings jet, I was reflecting about the future direction of aviation – and how much it will need to change.

I was returning from the European Aviation Summit in Vienna, which had been organised by the Austrian Presidency of the EU. As usual, the event brought together the EU institutions, Member States’ representatives, the industry at large and unions. Colleagues, friends and many other familiar faces. The event was about charting the way forward for the EU Aviation Strategy, which is focused on developing air connectivity with external markets and facilitating aviation growth.

Yet, for the first time at such an event, social issues ended up taking central stage. Crew working conditions, “bogus self-employment & pay-to-fly models” and social dumping were discussed at length. Calis were made by States for a more ambitious European social agenda for aviation, in stark contrast with their reluctance to give more competence on these matters to the EU. Some may be tempted to see these discussions as only relating to the practices of a specific airline. That would be a mistake, because above and beyond these social issues, aviation growth somehow ended up being questioned. One Transport Minister talked about the need for aviation to be “less about quantity and more about quality”. Another high-level participant said pointedly that “aviation growth cannot continue unchecked”.

All this reflects the increasing societal pressures weighing on aviation (and all other sectors), calling for business to become more sustainable – and to contribute more to society. These pressures largely originate in the backlash against globalisation that erupted in the aftermath of the global financial and sovereign debt crises. Amplified by social media, digitalisation and citizen’s movements, they now largely define our new political context.

What are the implications for airports and more generally, for aviation?

Clearly, the usual way of doing CSR (Corporate Social Responsibility) is no longer good enough. If we want to secure our license to operate and (possibly) grow, we must lead a paradigm shift in sustainability. This requires rising up to the challenge of new & expanded social responsibilities – which we need to integrate within our own business goals. It is about reconsidering the type of value airports create and the way they create it.

For Europe’s airports, that means pushing forward the boundaries of our business transformation. Over time, airports have evolved from being B2B (Business to Business) to B2C (Business to Consumer) – they must now contemplate moving towards becoming also B2P (Business to People). This is the airport business’ next frontier.

Of course, there is no textbook on how to do this. Where do we start? What scope? Each airport operates in a different local environment – where demands and expectations from local communities can significantly vary. Yet, there are avenues that can be explored as a starting point. These include defining a social purpose as part of the corporate purpose, committing to strong values and ambitious environmental objectives, increasing the outreach and contributions to communities, leveraging the airport function as a local living space & multi-purpose facility and taking initiatives that allow the airport to be a cultural ambassador and become part of the local collective narrative.

For its part, ACI EUROPE has firmly committed to support and lead the airport industry in that direction. Last June, our Board mandated us to develop within a year a comprehensive sustainability strategy for the airport industry, including the definition of initial sustainability metrics. We have started working on this supported by a number of airport members – and we truly relish the challenge. Several European airports are already doing inspiring work in this regard and we are taking stock of those concepts and projects as part of this exercise.

ACI EUROPE also made clear at the Vienna Summit that the EU Aviation Strategy needs to place a greater focus on sustainable connectivity. The policy framework and its narrative should evolve to build on the industry’s commitments and initiatives and to further incentivise all actors. There is much work to be done together.

Looking at the top sustainability issue of Climate Change, the latest IPCC (Intergovernmental Panel on Climate Change) report is a stark reminder that we all need to act quickly, decisively and audaciously. It’s inspiring to see how high some airports are aiming. The goal set by AVINOR for all short-haul routes from its airports to be operated by electric-powered aircraft is a great example for others to follow – as is Heathrow Airport’s ‘Grand Innovation Prize’, which will reward the first airline operating an electric-hybrid commercial air service from the airport with £1 million waiver in landing fees.

In an industry as fascinating as ours, with many passionate hearts and talented minds, what other good ideas can our industry bring to the table? It’s time to find out.
Shannon Airport

New facial recognition system will speed up screening time at Shannon Airport, as it becomes the first airport outside of the Americas to have new biometric technology installed for US preclearance. This is good news for Shannon Airport transatlantic passengers as it speeds up their journey through the airport and allows them avail of shorter security screening times than at other airports. The new technology is a further boost to Shannon, which back in 2016 became the first airport in the world to operate a combined EU and US TSA checkpoint system, halving the time spent in security screening at other preclearance airports. The facial recognition technology essentially verifies passengers by matching them to the documents they are presenting.

Moscow Domodedovo Airport

Moscow Domodedovo Airport and Vanderlande finished the testing period of BAGSTORE – the automated system for early check-in baggage storage. It’s the first airport in Russia to use Vanderlande’s robotic automated complex for storage and baggage retrieval. The system consists of 7 racks with three-metre height each, resulting in 1,100 storage positions. Six robots move between them on special rails at a speed of 14 km/h to retrieve individual pieces of baggage from the storage and to put it back in the ABHS. Every baggage item is delivered on a TUBTRAX carrier – an individual carrier systems (ICS) that is designed to transport bags in carriers at high speeds over long distances. Bags loaded in carriers are transported smoothly and combine high capacity with faultless tracking.

Zagreb Airport

Zagreb Airport plans to handle five million travellers by 2026 and has begun work on upgrading its facilities, in order to enable the passenger terminal to reach its full capacity. The airport anticipates welcoming some 3.4 million passengers this year, which would result in an almost 10% increase on 2017. The airport’s concessionaire noted that it is in the process of adding a fourth baggage carousel and will open a further 15 check-in desks for a total of 45 this year. Although the €300 million terminal building has the capacity to handle five million travellers per year, the existing equipment is only suited for some 3.5 million passengers per year. The value of the ongoing upgrades inside the terminal are estimated to be worth €15 million.

London Gatwick Airport

The first flight fuelled with recycled carbon emissions landed at London Gatwick Airport. The new fuel technology captures and recycles carbon-rich industrial waste gases from steel mills into ethanol – gases that would otherwise go up the chimney into the atmosphere. Virgin Atlantic used LanzaTech’s innovative, sustainable aviation fuel in a commercial flight for the first time. The fuel was used in a Boeing-747 on a flight from Orlando to London Gatwick. Gatwick CEO Stewart Wingate welcomed the flight alongside Sir Richard Branson.
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Helsinki Airport

The one-of-a-kind cinema at Helsinki Airport is a cozy place to enjoy a film with some peace and quiet, away from all the airport’s hassle. Cinema in HEL comes with a few surprising twists. The film is a specially-commissioned short made in two continents, involving two directors, two actors and two producing partners: Finavia and Finnair. Two people are needed to watch a film. The two cinema seats are equipped with micro tactile switches: only when both seats are taken the lights dim and the movie starts. The walls are painted with what is known as Black 2.0, a paint that reflects almost no light. Despite the small environment, it gives a sense of almost infinitely large space. Cinema in HEL can be found at gate 33, it is open around the clock free of charge.

Málaga-Costa del Sol Airport

Aena will invest almost €50 million to renew the services provided to passengers and the infrastructure at Málaga-Costa del Sol Airport. During 2018, €21.3 million will be allocated and in 2019, a further €17.4 million. Taking advantage of the winter season, in which the airport receives less influx of passengers, different parts of the airport will be subject to renovation works to improve the air conditioning, fire systems, floors and the toilets. In addition, all the beacon lights of the taxiway running parallel to runway 13/31 – the oldest of the airport – will be replaced in order to facilitate the manoeuvres of aircraft, in conditions of low visibility.

Keflavik Airport

Icelandic airport operator Isavia has unveiled its plans to expand the use of Veovo’s passenger flow management solution throughout Keflavik International Airport. Initially implemented at check-in and security in 2016, the solution provides wait time and occupancy figures to help meet service-level agreements and alleviate overcrowding. In parallel, the airport also deployed Veovo’s Airport Management System for operational visibility to enhance resource management. With the extraordinary growth the airport has experienced in recent years, the two solutions, which consist of sensors and advanced deep learning algorithms, will provide a cohesive picture of how passengers move through and use the airport, enabling more informed operational and business decisions.

Brussels South Charleroi Airport

Brussels South Charleroi Airport (BSCA) and Telenet have announced the signing of a partnership so that the Internet of Things (IoT) can improve the passenger experience. The five-year collaboration aims to make Charleroi Airport a true “digital dome”. Its main objective is to optimise the operation of the airport and improve the passenger experience from home to the boarding gate, thanks to digital solutions such as smart parking, network optimisation Wi-Fi offered to the public and analysis of visitor location data. The partnership will initially focus on two solutions: analysis of passenger flows and a smart and connected parking system.

MÁLAGA-COSTA DEL SOL AIRPORT HANDLED ALMOST 1.9 MILLION PASSENGERS IN OCTOBER 2018 – UP BY +1.6% YEAR-ON-YEAR.

HEL SIN O AIRPORT WELCOMED 17.6 MILLION PASSENGERS BETWEEN JANUARY AND OCTOBER 2018 – UP BY +10.8% ON THE PREVIOUS YEAR.

KEFLAVIK INTERNATIONAL AIRPORT WELCOMED 6.7 MILLION PASSENGERS IN THE FIRST EIGHT MONTHS OF 2018, ACHIEVING +13.1% GROWTH YEAR-ON-YEAR.

BRUSSELS SOUTH CHARLE ROI AIRPORT WELCOMED 6.7 MILLION PASSENGERS IN THE FIRST EIGHT MONTHS OF 2018, ACHIEVING +10.8% GROWTH YEAR-ON-YEAR.

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+1.6%

+10.8%

+13.1%

+9%
43 million passengers approved!

“We are going to account for up to half the growth in London in the next 10 years”

An interview with Ken O’Toole, CEO London Stansted Airport. By Paul Hogan

airport Business met with Ken O’Toole less than 24 hours after London Stansted Airport’s successful planning application to Uttlesford District Council. The approval – for an increase in the number of permitted passengers from 35 million to 43 million – was matched by Stansted’s commitment not to increase the ceiling for movements above 274,000 flights. (This compares with 26 million passengers and 190,000 movements in 2017.)

Despite challenging arithmetic – the Planning Committee was evenly split with the chairman carrying the approval with a casting vote – O’Toole believes the local political support to be very significant: “The result says a lot about the quality of our community relations; this is recognition, both for Stansted’s role in the region’s economic growth, and the comprehensive package of community measures we have taken.” These “measures” are neatly summarised by O’Toole as:

- The doubling of a direct economic contribution to £2 billion (€2.3 billion)
- 5,000 extra on-site jobs
- The agreement not to seek an increase in the number of flights, combined with a smaller noise footprint.”

Five years after Manchester Airports Group (MAG) acquired Stansted for £1.5 billion (€1.7 billion), the approval means that the airport will be able to make best use of the capacity it is creating in its multi-faceted £600 million (€700 million) Stansted Transformation Programme. This includes the already-approved “centrepiece” £130 million (€150 million) Arrivals Terminal which will free up the existing building to become a departures-only complex, and boast a doubling of the current 10,000 square metre airside retail offer.

O’Toole says the developments will increase one-hour terminal capacity from 4,250 to 7,450 departing passengers per hour. “That’s a very big uplift in peak capacity, a big chunk added to the London market – and we need it – we’re the fastest-growing London airport by some considerable margin, and our estimates tell us we are going to account for up to half the forecast growth in London for the next 10 years – that’s why it was so important to get this positive decision to raise the cap.”

In terms of relevance and importance to both London (and to “the London-Cambridge Corridor”) O’Toole strongly affirms: “London Stansted will play an increasingly bigger part. That’s why we are investing heavily in our facilities, while not forgetting that our tradition has been built on providing good value to airlines – and passengers – we are very keen to keep that DNA strong and alive.”

25 “high-demand” long-haul destinations

With current growth exceeding 8% the airport should pass the 30 million threshold next year. But O’Toole, formerly Director of New Route Development for Ryanair (an airline which is reliably the
LONDON STANSTED AIRPORT

biggest annual launcher of new routes in the world also wants a lot more long-haul. The airport has published a list of 20 “high demand” new long-haul destinations (see table).

Unsurprisingly, the CEO takes a very hands-on role in the task of London Stansted’s aviation development: “We’re spending lots of time flying around the world talking to airlines. They are very aware of the capacity constraints around London. With our latest permission to grow, combined with the investments we are making, the opportunity to serve London and this region is very big indeed.”

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Brexit and duty free?
“I’d rather take open skies, any day!”

O’Toole says there are plans to make significant use of the Arrivals Terminal’s outdoor areas, which he envisages could become a “Kings Cross-St Pancras Station forecourt experience with a significant F&B and street food offer.” Despite the revenues that airports like London Stansted used to make from intra-European duty free before abolition in 1999, O’Toole, an Irish-national and native of Cork, makes no secret of the view: “We’re not counting on it! I would sooner have the seamless ease of connectivity that we have at the moment, rather than duty free. If, as a future compromise, staying in the single market for aviation meant we could not have duty free, then I would not have an issue with that.” Even the prospect of installing an ‘arrivals duty free’ store in the new Arrivals Terminal does not cause O’Toole any excitement. “I’d rather take access to open skies any day.”

The new Arrivals Terminal stands next to Norman Foster’s trademark 1991 London Stansted terminal, which will become a departures-only complex in 2020. The new £130 million (£150 million) terminal is the visual and experiential “centrepiece” of the five-year, £600 million (£700 million) Stansted Transformation Programme.
“We can see these routes just jumping out at us”

Besides fostering relationships with the airlines O’Toole says his team are also spending a great deal of time locally “getting underneath the travel patterns of the myriad of companies which operate in the London-Cambridge corridor. One big frustration we hear is that people are having to commit 2-3 hours to get around the M25 motorway to other airports – the cost and impact on productivity is just immense, so they keep telling us they want London Stansted to offer a network of long-haul routes that will connect them to their key countries – we can see these routes just jumping out at us.”

The course of route development for all airports (and airlines) is never even and the October failure of Primera Air – and loss of its newly-launched summer 2018 routes to Toronto, Washington, New York and Boston (using A321neo aircraft) was an undoubted disappointment. But the airport’s clear position is that the low cost airline’s collapse was due to external factors; furthermore: “Primera Air’s transatlantic routes were performing very well, particularly from the inbound end.”

Meanwhile, the launch of Emirates’ daily services in June 2018 have taken centre stage as the flag bearer of London Stansted’s long-haul ambitions. “Emirates is great for Stansted and similarly Stansted is proving good for Emirates too. Over time, we’re hopeful of further Emirates growth and confident that other additional airlines will add to our long-haul connectivity, creating a network of high-performing long-haul routes serving our very strong catchment area.”

Stansted Airport College: Creating the routes to new airport jobs

Stansted Airport College, the first on-site further education college on a UK airport, started teaching an initial intake of 300 students in September, offering a range of airport-vocational courses including aircraft and airport engineering, airfield operations, business studies, and hospitality and customer service. “With the planning permission agreed, 5,000 new jobs are being created on the airport campus, so Stansted Airport College will play a key role in providing a talent pipeline for both the airport, and 200 on-site employers. We’ll take our first graduates from the college into employment next year,” says O’Toole.

“I would absolutely love to see Stansted Airport College develop into a bigger, expanded campus, with an even wider range of airline partners and other companies in the region who have similar needs to us.”
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A pioneering connecting product in 2019

London Stansted is Ryanair’s largest base, as well as a substantial base for easyJet and Jet2, TUIfly and others. The European network of over 200 destinations is the most of any UK airport, and second only to Munich. But, unlike Munich, it does not have the advantages of a Lufthansa-type operator whose long-haul, including five-based A380s, is fed by seamless connections. But O’Toole says the airport has a connection plan.

O’Toole agrees: “a traditional transfer product will be difficult to put in place here with all the interline agreements required, in contrast, while the large scale self-connect activity that we have at this airport is great for the airlines, it’s not so great for the passengers who have to collect their own bags and re-check-in.”

However, O’Toole says the airport is close to cracking this: “Next year we’re planning to launch a product which takes all the benefits of self-connection, puts them together with a traditional transfer product, and then eliminates all the disadvantages, all the bad and inconvenient characteristics.”

O’Toole says the new, and yet unnamed, London Stansted self-hubbing product will also display on the meta searches like Skyscanner and Kayak “and there’s nothing to say that it could not be available on the distribution channels of our airline partners – including on Ryanair – we’re very keen to see how we can align seamless distribution on airline websites.”

O’Toole keeps his cards close to his chest about how this is all being done technically – but he does say it will be done quite soon: “We are hoping to have this in the market early next year.”

Key role of “aircraft technology advancements”

With Stansted looking to grow to 43 million passengers, but not asking for a shift in the movements cap above 274,000, O’Toole still believes the airport possesses all the right strategies to avoid the airside becoming as famously busy as London Gatwick (currently 45mppa/286,000 movements). “We’re just shy of 200,000 movements and 30 million passengers at the moment, but all the analysis we have done on passengers per ATM, and the size of aircraft going forward, makes us confident that we can get to 43 million off 274,000 movements.”

Indeed, in its planning submissions the airport stressed “advancements in aircraft technology” were central to its capacity formula. “We already have the 737 MAX and A321neo squeezing 9-10 more people onto existing short-haul aircraft, and the 787s and now the A350s coming through. The 737 MAX has a 50% lower noise impact than the -800, while the 787 has the equivalent noise impact of an -800. The direction of these developments means we are able to commit to the cap, and simultaneously commit to a lower noise impact.”

But all these things considered – won’t London Stansted still be more slot congested? “Just look out of the window! This place was designed to accommodate the growth of Heathrow. In terms of integrity and ease of design, it has the most simple ramp and runway structure, we see that with taxiing times, and block times all being much lower than the other London airports. We are the most efficient operation for getting people away on time, and for the airlines that are hoping to operate here.”

The Transformation; the absence of “marble or gold plating”

The dividends of the Stansted Transformation Programme which facilitate this development are coming fast. The most visual and experiential change will be the new Arrivals Terminal: “We’re hoping to award the main construction contract before Christmas 2018, and then open for summer 2020. Then we’ll re-model the existing terminal into the dedicated Departures Terminal by summer 2021 – it’s a very quick programme, and there’s no marble or gold plating, it’s what all the customers want,” comments the CEO with a nod to the multiplying range of tail fins on the ramp below his office.

London Stansted’s Wishlist of 20 High Demand Long-Haul Destinations

- Hong Kong
- Beijing
- Los Angeles
- Bangkok
- San Francisco
- Mumbai
- Tokyo
- Johannesburg
- Montreal
- Seoul
- Chicago
- Shanghai
- Miami
- Kuwait
- Guangzhou
- Manila
- Singapore
- Vancouver
- Delhi
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Traffic growth in Europe over the past 6 years has been so strong as to question whether ours is a mature market. IGA’s new airport in Istanbul is emblematic of grand ambitions for future growth. Aircraft manufacturers order books are bulging for the years ahead. Between 2000 and 2020, China will have built 69 new airports – many of which will connect to European destinations. Joining the dots, it’s clear that more airport capacity will be needed. So, how can we live the contradiction of a Europe in which everyone wants to travel, but airlines want ever cheaper access to airports? By Michael Stanton-Geddes, Head of Economics & Competition, ACI EUROPE.

The cost of new capacity

Airports are expected to welcome 4.4 billion passengers in the year 2040 – a staggering number. That is double the traffic volume seen in 2017, a year during which many travellers already felt that airports, aircraft and skies were saturated. For the industry to meet this forecast, coordinated efforts are required to ensure that adequate equipment and infrastructure is built and financed.

While the European forecast may seem unattainable, the air transport industry has already delivered an increase of 31% in passenger numbers over the past 5 years; 2012-2017. Competition between airports is leading to new connections, and European airport connectivity has expanded by 25%. Airport passenger service quality improves annually. And during that same time period, for 5 consecutive years, headline airport charges levels in Europe actually decreased year on year, declining by -1.25% in real terms in 2018. More than 50 airports decreased or held constant their headline levels of aircraft charges.

There is more. That decrease in the level of published charges does not include the effect of incentives. Incentive payments and rebates further reduce the costs of infrastructure for airlines. According to ACI EUROPE’s survey, 98% of airports now offer an incentive scheme to airlines, an increase over past years. Airport operators offer incentives to any airline meeting criteria, with the aim to increase capacity utilisation, develop new routes or promote specific types of traffic. Incentives further reduce the actual cost of using the airport for airlines, so airports are able to use the incentives to compete for new aircraft and new routes.

Here lies the paradox. In this period of intensifying airport competition, passenger traffic growth, investment and airport efficiency, the topic of economic regulation has been raised again. In the European Union, the Airport Charges Directive entered into force only in 2011. Nonetheless, IATA and Airlines for Europe (A4E) have lobbied for the European Commission to revise the Airport Charges Directive, asking for “effective regulation”. Responding to stakeholder concerns, in December 2015, the European Commission’s Aviation Strategy committed to reviewing the Airport Charges Directive, and the European Commission followed with plans in 2017 to assess potential future policies.

An explanation for this paradox can be found in the principle of loss aversion as understood in behavioural economics. Building infrastructure to meet the demand forecast for 2040 will require infrastructure that can handle double today’s traffic. This will have a cost: here in Europe where users pay for the infrastructure, not governments or taxpayers. Consider the ongoing hand-wringing for public finance to address aging infrastructure in the USA.

Loss aversion is frequently summarised as “the loss looms larger than the gain”. Airlines care more about their supplier costs next quarter than about ensuring there is sufficient capacity to meet demand in 5 years and beyond. So, airlines may prefer to avoid small increases in landing charges, rather than realise the gain of an expanded airport offering

SEO Amsterdam Economics & Cranfield University’s analysis has provided key insights into the impact of airport congestion on air fares.
more capacity and higher quality service. Because airlines see the loss, they are blind to the gains from quality improvements. This reflects the challenges of airlines’ short term view, versus airports’ long term view.

The gains of investment are apparent as soon as the passenger steps foot in an airport that focuses on delivering quality and ensuring comfort. However, individual airlines will continue to seek to lower their supplier costs (avoid the loss) rather than focus on the gains. As suppliers, airports will continue to deliver optimal service to their airline customers and passengers while actively competing for new customers.

At this point, it is worth recalling that airport charges are a small part of an airline’s costs. Most passengers travel with airlines for whom airport charges represent 6% or less of their cost base. So an increase in airport charges is counted in cents per passenger, but because of current capacity constraints, airlines will always exert their pricing power irrespective of the level of airport charges.

Distracted by a debate on economic regulation and market power, the real risk is that we lose sight of the travellers needs for airports that offer capacity and comfort. The need for additional airport capacity in Europe to meet projected future demand is recognised by all – airports, passengers, national ministries of transport, EU institutions, even airlines. However, regulators need to remain aware of these risks and not heighten the risk assessment of investors through unnecessary efforts to change the regulatory framework.
Aviation is on a journey towards a healthy and sustainable future. Air travel is as popular as ever and the recent release of Airport Council International’s (ACI) World Airport Traffic Report indicated all regions around the world experienced growth and collectively saw a 7.5% increase in passenger numbers compared to the year prior. This growth trajectory has no signs of slowing down and new forms of transport are beginning to take shape, which is increasing the pressure on this century old industry to innovate and create. But like all successful journeys, an intended heading is necessary at the onset. ACI and the International Air Transport Association (IATA) have partnered to help set the course of this journey through industry collaboration and have created the New Experience Travel Technologies (NEXTT) initiative. Anyone who is passionate about creating a future vision of air transport is invited to engage in this journey and offer their insight and expertise. The intent of this article is to provide a better understanding of the current framework and ideas that have been driving NEXTT over the last year and a half.

NEXTT defined in today’s digital world

Holistically, NEXTT isn’t a project and won’t create a product to be deployed to the masses. It also isn’t a standard on its own or even a recommended practice to follow promising success. It is however an initiative, one that allows us to challenge the ways in which we operate today and to create a new journey framework meeting the demands of tomorrow. An initiative, by definition, is an introductory step or leading action, and in this case, it is leading us to acknowledge that the digital age is transforming our industry.

The growing air demand and evolving passenger expectations require new ways of using technologies and processes to enhance operations and the whole travel experience. This is why ACI and IATA launched NEXTT (New Experience Travel Technologies) – a joint initiative that explores all the elements that will likely transform the complete end-to-end journey. Stephen Saunders reports.

ACI and IATA partner to build the next generation of travel experience with NEXTT
and will have a major impact on our future. It is with this understanding the NEXTT conversation has started to form around three emerging themes: off-airport activities, advanced processing and interactive decision making.

Each of these themes has taken on a unique form across the world of aviation and is creating promising results, offering a glimpse into the future. Though these topics give us a great place to start, NEXTT is exploring much more and is embracing new and emerging technologies. Digital transformation seeks to find a seamless flow through the airport by integrating systems and services, including those provided by all partners, such as airlines, security, customs, concessions, ground handlers and air navigation service providers. Today’s technologies can enable airports to do something that was unimaginable just a few years ago - deliver personalised and individual service to millions of passengers. Consumer demands for great experiences enabled by digitalisation are forcing businesses in all sectors to re-evaluate their strategies and approach digital transformation in a new way and aviation is no different.

Emerging themes of NEXTT

As mentioned, NEXTT has seen three themes that continually drive discussion about reimagining the travel journey. The first, off-airport activities, is bringing the travel journey to the passenger by taking the physical airport campus and its accompanying processes into the communities and in some instances, the homes of passengers. Airports and airlines find value by addressing terminal capacity concerns and bringing added convenience and satisfaction to their mutual customer.

The second theme, advanced processing, is automating often hidden but critically important tasks of an airport operation. Examples include autonomous vehicles and robotics on the airfield and automated passenger identity management. Each of these helps maintain a safe space for all stakeholders to benefit from an efficient operation.

The last theme is interactive decision making and the ability for airports and airlines to be proactive instead of reactive. This vital process is linking everything together with trusted, real-time data throughout the journey. The use of predictive modelling and artificial intelligence will enable swifter real-time decisions using a wider array of data than could be performed by any human.

What’s next for NEXTT: How to engage

There are already many projects and initiatives underway at ACI, IATA and more broadly in the industry that are piloting or implementing these concepts. NEXTT brings together these findings into a single vision, ensuring that we are all steering in the same direction and can share innovations and findings between all aspects of the business, whether dealing with passengers, bags, cargo or the aircraft itself.

The desire to innovate within aviation is apparent and can be quickly measured by the level of interest in NEXTT across industry and non-industry experts. Over a thousand participants have joined our last three webinars that have provided a useful platform to further expand on the emerging themes and foster useful discussion. These webinars are part of an ongoing series and can be streamed on-demand or viewed live on their publication date. Additionally, workshops and innovation boot camps have all formed around the NEXTT desire to build the journey of the future. Join the conversation by showcasing how you are embracing the future by leveraging technology. NEXTT is actively seeking case studies and industry trials that are testing new ways to imagine the air transport experience. Let’s answer this question together, what does the future hold for air travel?

How ACI EUROPE is contributing to NEXTT

Within the framework of the ACI EUROPE Facilitation and Customer Services Committee, ACI EUROPE decided to create a Task Force on NEXTT in order to enable European airports to contribute to the NEXTT initiative. The first meeting of this Task Force will take place on 16 January at the ACI EUROPE offices in Brussels. If your airport wants to join this Task Force, please contact Federico Bonaudi, Facilitation, Parliamentary Affairs & Regional Airports Manager at ACI EUROPE (federico.bonaudi@aci-europe.org).

Join the discussion!

Twitter: #NEXTTjourney

LinkedIn: Search for the ‘New Experience Travel Technologies’ group

Stephen Saunders is Advisor NEXTT at ACI World
THAT’S WHY WE INTEGRATE OPERATIONAL SOLUTIONS TO BOOST AIRPORT PERFORMANCE.

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In October, the World Health Organisation (WHO) published the Environmental Noise Guidelines for the European Region, a document providing recommendations to policy-makers on how to reduce health risks related to noise exposure from various sources. For the first time, the WHO established source-specific guidelines, including the suggested limitation of average noise exposure from aircraft to $L_{den} 45$dB and night exposure to $L_{night} 40$dB. It also recommends changes to infrastructure, including opening and/or closure of runways and flight path rearrangements, to reach these values. The three recommendations are defined as “strong”, which means that they are considered applicable as policy in most situations. Report by ACI EUROPE’s Head of Environmental Strategy & Intermodality, Marina Bylinsky.

**WHO publishes new recommendations on noise, with potential implications for airport operators**

The publication of the WHO Guidelines is an occasion for the air transport sector to take stock of how aviation noise management has evolved over the past decades, what the outstanding challenges are and for us, at ACI EUROPE, to point out how European airports see the way forward.

We all know the good part of the story: aircraft have become quieter and quieter; the average noise footprint of an aircraft has decreased by 75% since the introduction of the first jet airliners. New operational procedures offer unprecedented flexibility to fly aircraft in ways that minimise the noise exposure of local communities. However, something seems to have gone wrong: in spite of decreasing noise exposure at many airports, an increasing number of residents feel annoyed about it. And complaints do not only come from residents living close to the airport. Opposition to airport operations and development is growing in many locations.

In recent years, this development has shed a completely new light on noise management. Airports are increasingly aware of the fact that managing noise is actually not just about… noise. Apart from the acoustic parameters, such as the noise created by an aircraft movement or the frequency of such events, an increasing body of research has identified how so-called “non-acoustic factors” have a strong impact on the way people perceive noise. After all, whether a sound is perceived as unwanted and disturbing and becomes noise, depends on many subjective variables. Noise at a low volume can be irritating and stressful. Equally, sound you love can be bad for your health, by damaging your hearing if played at too high a volume. Experts from within and beyond the airport industry are in the process of better understanding what non-acoustic factors are and how they can be addressed to minimise the annoyance people experience from overflying aircraft.

It is however already recognised that aspects such as the trust that residents have in the airport operator or authorities in general, and the quality of communication between them, are of key importance. A lack of trust and a negative attitude towards the airport can stem from the feeling of some residents that they are not benefitting from the positive impacts of the airport’s activities, and only experience its negative impacts. They perceive their situation as unfair. Hence the need for airports to not only reduce noise, but also proactively seek ways to bring more value to local communities, and involve them in identifying how this can be best achieved.

However, today we lack scientific knowledge to comprehensively assess quality of life around airports and identify the means for an airport operator to improve...
Aircraft have become quieter and quieter: the average noise footprint of an aircraft has decreased by 75% since the introduction of the first jet airliners. New operational procedures offer unprecedented flexibility to fly aircraft in ways that minimise the noise exposure of local communities.

Furthermore, the recommendations for aircraft noise are very strict – at most European airports, to reach the guideline values of Lden 45dB and Lnight 40dB, infrastructure changes would actually be insufficient. Instead, very severe limitations of air traffic, including a night flight ban, would potentially be required.

We do not question the need to protect citizens from health risks and recognise that certain levels of noise are undesirable and need to be avoided, regardless of the non-acoustic aspects of noise annoyance. We also welcome any research on noise and health and the work done by the WHO in this area. However, we believe that given the potential implications of the new guidelines on mobility and related services that our modern societies rely on, the discussion on their potential implementation needs to be considered in a broader context. We cannot talk about acceptable noise levels in isolation from the question of different pathways for the development of our societies as a whole.

In light of the growing emphasis of travel as part of ‘experiential living’ beloved of millennials, boomers and Generation Z, it is time for critical discussion on the growing mobility needs of our societies and the environmental impacts of transportation – a discussion that takes into account all the positive and negative impacts of mobility.

Noise related policy-making should not pre-judge the outcomes of such a comprehensive discussion.

A more detailed overview of the achievements and challenges of airport noise management, as well as our concerns with regard to the WHO Guidelines, is available in the ACI EUROPE Analysis Paper Addressing the Future of Aviation Noise.

Photo credit: Brussels Airport Company
Follow us to
Beauty and Opportunity
European Air Traffic Data for Brexit

UK airports
Share of EU-27 / Non-EU-27 passenger traffic (2017)

EU-27 airports
Share of UK / Non-UK passenger traffic (2017)

In 2017, UK airports represented 17.3% of EU28 passenger traffic:
288.9m pax at UK airports, 1,664.7m at EU28 airports.

Around 1 in 8 EU27 passengers travelled to or from the UK in 2017.

During the first half of 2018...

EU-27 countries with the highest % of air traffic to/from the UK (>17%)

EU-27 countries with the lowest % of air traffic to/from the UK

www.aci-europe.org
European Aviation Summit: Calling on EU to focus on sustainability & consumer interest

By Inês Rebelo

ACI EUROPE participated in the European Aviation Summit in Vienna on 3-4 October, organised by the Austrian Presidency of the EU. This event brought together EU Transport Ministers, EU institutions and stakeholders from the aviation sector to discuss the EU Aviation Strategy looking at the future challenges for the aviation industry.

It was also the occasion for Olivier Jankovec, Director General of ACI EUROPE to restate the airport industry’s support for the European Aviation Strategy and its focus on developing air connectivity through open skies agreements. He stressed the need to address the increasing airport capacity constraints in order to meet future demand. He also encouraged the EU to place a greater focus on sustainability & air travellers, so that aviation can serve wider social purposes beyond its economic benefits. Dr Yiannis Paraschis, CEO of Athens International Airport and Thomas Woldbye, CEO of Copenhagen Airport also participated in the event, respectively intervening in roundtables dealing with the internal market & social issues and digitalisation, new technology & ATM.

The key conclusions from Henrik Hololei, Director General for Mobility and Transport at the European Commission, were as follows:

- The focus of EU Aviation Policy must remain on serving the end user – the passenger.
- The top priority challenge for European aviation is capacity – both in the air and on the ground. The EU must enable the capacity necessary for aviation growth.
- Europe should remain in the driving seat in innovation – new solutions must be digital, scalable, flexible and integrated (interoperability).
- Sustainability is crucial. Aviation must support the objectives and deliverables of the Paris Agreement. CORSIA is a good step taken, but we need improved fuel efficiency and progress on alternatives & biofuels.
- Airline ownership & control rules, as well as slot allocation & usage rules, must be modernised.
- There must be continued progress in opening up access to external markets, along with conditions ensuring fair competition.
- There must be clear and common rules on social & consumer protection standards. The aviation industry should not weaken the highest social standards that Europe enjoys. We need to reinforce the social responsibility of the sector. This is primarily an issue of national competence, but where EU rules exist, they should be applied.
- The EU is the way forward. In today’s world, where many are tempted by retrenchment, aviation needs to show that true prosperity comes from collaboration and openness.
EVEN FLIGHT BEGINS AT THE AIRPORT.

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Airport Business is continuously adapting its infrastructure, processes and products to meet the evolving needs of its passengers. In 2017/18, the Passenger Experience department of Brussels Airport had a particular focus on how to improve the security operating model to avoid queuing and thus reduce stress. Thomas Sterken, Capacity Planning & Optimisation Manager at Brussels Airport Company, tells us the successful story.

**Optimising Brussels Airport security screening**

Brussels Airport has two security screening platforms, one for departing passengers in Connector and one for transfer passengers. The direct departures area has 25 automated tray return systems supplied, whereas the transfer area has 6 lanes of a more traditional, manual roller system.

In order to create a successful programme, the Brussels Airport team engaged a number of stakeholders: G4S (the outsourced security provider), Result (the leading consultancy in optimising security checkpoints & e-gates), Fabricom (Engineering partner to Brussels Airport), Vanderlande (Automatic Tray Return System supplier), and Scarabee (architects).

Applying the “Lean Six Sigma”

“As in many airports, looking at the available space, adding screening lanes is not a preferred option. Therefore, we investigated how we could improve our screening operating model through observations, data analyses, simulations, trials, and tests. When adding a new element, whether a machine, a person or a procedure, we evaluated its added qualitative and quantitative value,” Sterken explains.

At the transfer area, a series of carefully controlled and designed trials were introduced with Rapid-Flo™ and Rapid-Pak™ systems (Parallel loading and repack tables), both products of consultancy Brussels Airport has two security screening platforms, one for departing passengers in Connector and one for transfer passengers. The direct departures area has 25 automated tray return systems supplied, whereas the transfer area has 6 lanes of a more traditional, manual roller system.
Agency Result. Where infrastructure was changed, ergonomic studies were undertaken to ensure staff safety would not be compromised. Trial staff were briefed and coached in new ways of working and updated standard operating procedures to assist the officers.

In the Connector area, before starting trials, simulation models of architects Scarabee were used to understand possible bottlenecks in the Automatic Tray Return System and check the impact of possible changes. Diagnostic showed that by introducing ‘parallel loading’ at divestment and changing the operating model, the screening throughput (and efficiency) would increase along with the passenger experience.

A programme of staff training, coaching and auditing was implemented, led by a Brussels Airport team with all stakeholders contributing to the delivery. Over 800 staff were trained, coached and monitored in the new ways of working. The technical delivery was performed in 7 weeks and supported the delivery of the modified Automatic Tray Return System equipment and snagging.

95% passenger satisfaction!

“Our passengers loved our new approach! With more personnel to help them at the beginning and at the end of the screening lane, passengers’ perception of the queuing time and process efficiency increased by 10%, leading to a 95% satisfaction rate amongst our passengers,” Sterken is thrilled to say. “And also our staff embraced the changes well, thanks to our investment in training and coaching.”

Introducing passenger facilitators and support agents at the screening lanes, alongside parallel loading and multi-divestment also increased efficiency (passengers processed per officer) and throughput. The life expectancy of the infrastructure was extended with 3 to 5 years.

For more information, please contact Thomas Sterken, Brussels Airport Company (thomas.sterken@brusselsairport.be; +32 (0) 753 41 84).

Adapting the working model of 800 staff

“Already during trials, we took the time to train, coach and invest in staff, so we could learn from them. Team leaders were involved rather than trainers. Each trial phase was carefully monitored and data analysed against baseline levels,” Sterken states.

Following the success of the trials, multi-divestment was introduced at the transfer area screening platform, along-side an extended reclaim belt to give passengers more time to pack after screening. A new operating model was also adopted across the 25 search lanes at the Connector area: parallel loading, the introduction of a passenger facilitator at the beginning of the screening lane and a support agent at the back.
The aviation industry is a complex environment that is constantly evolving. Securitas Aviation develops security solutions by combining technology, aviation expertise and its human factor.

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The safe and secure integration of drones

Research and innovation is underway in SESAR to ensure that the increase of drone traffic in Europe’s skies can be managed safely, in particular in relation to commercial air transport, writes Florian Guillermet, Executive Director of the SESAR Joint Undertaking.

The rapid growth of the drone market presents many challenges for Europe’s airports. Drone intrusions at airports regularly hit the headlines and airports are taking measures in the short-term to mitigate these, from grounding aircraft when drones are detected to reducing speed of aircraft on approach in order to limit damage in the event of a collision. Drones can therefore have significant impact on the punctuality and the overall capacity of the airport. In the long-term, dealing with drones requires airports to look at systems that will help them to detect, survey, identify drone or enforce trajectories, as well as enable the geo-fencing of the airspace around the airport.

At the same time, these air vehicles could represent new future revenue streams by allowing larger drones transporting freight and maybe eventually passengers to land. This does mean having to rethink surface operations. They can also improve the efficiency of airport operations through the deployment, for example, of small drones asset inspection.

Research and development is underway in SESAR to enable airports, among other stakeholders, to reap the full benefits from drones while also protecting operations against drone intrusions. This is done in close collaboration with EASA within the framework of U-space, an initiative by the European Commission to ensure the safe and secure integration of drones across Europe. The aim of U-space is to put in place a set of new services relying on a high level of digitalisation and automation of functions and specific procedures designed to support safe, efficient and secure access to airspace for a large number of drones, with an initial look at very low-level (VLL) operations.

U-space

In this context, SESAR has launched a series of U-space projects addressing everything from the concept of operations for drone operations, critical communications, surveillance and tracking, and information management to aircraft systems, ground-based technologies, cyber-resilience and geo-fencing (see table).

Large-scale demonstrations are also taking place for the most mature U-space services and technologies for visual line of sight (VLOS) and beyond visual line of sight (BVLOS) drone flights. The scope covers operations in rural and urban areas, in the vicinity of airports, in uncontrolled and controlled airspace, and in mixed environments with manned aviation. Projects are, for example, examining how to handle VLL operations where general aviation, commercial aviation and drones share the airspace.

Interfacing with manned aviation

At the same time, SESAR members are investigating how best to integrate large drones into non-segregated airspace alongside commercial traffic, particularly in the approach segment of the airspace near airports. Recent tests took place in Malta, Italy and France with future generation civil cargo drone vehicles inserted into commercial manned traffic. The tests assessed how controllers managed the traffic mix and dealt with some of the specificities of large drones, such as the fact that they travel at a lower speed than conventional aircraft. The results of the exercises are helping the project partners capture the requirements in terms of air traffic control procedures and system support (specific phraseology and human machine interface support), access to relevant data (information related to specific missions and procedures), communication requirements (maximum acceptable latency values) and acceptability of contingency procedures. The tests will also help define suitable training for controllers.

Drones on the surface

Work is also ongoing to enable large drones access to the airport surface, examining their integration with manned aircraft and compliance with air traffic control requirements. These drones are subject to the same rules, procedures and appropriate performance requirements as any other airport user in order to ensure safe airport surface operations. They therefore must be able to interface with ground-based airport systems and demonstrate their ability to act and respond to air traffic control, and other surface users just like conventional manned aircraft also in case of unexpected events.

In this respect, SESAR research and development is focusing on drone “taxi-in” and “taxi-out” operations in both nominal and contingency situations (loss of command and control, loss of communication). We recently brought together air traffic controllers and remotely-control aircraft
systems pilot, with human factors, safety and drone experts. Based on their feedback, we will further detail the key safety and performance areas that should be addressed, and to define new operational requirements. Further testing is planned in 2019.

A holistic roadmap for drone integration

SESAR has set out a roadmap for the integration of drones, both large and small. This embeds not just the timeline for U-space for which the initial roll-out is expected in 2019, but it also outlines the steps to be taken to ensure a coordinated implementation of solutions to enable larger drones alongside commercial airspace. The roadmap will be included in the next edition of the European ATM Master Plan, to be published in 2019, supporting the development and delivery of the services and technologies needed to support safe and secure drone management in Europe.

www.sesarju.eu/uspace

DEMONSTRATING U-SPACE SERVICES IN AN AIRPORT ENVIRONMENT IN BELGIUM

Launched in October 2018, the 18-month SESAR VUTURA project will demonstrate a drone shuttle service between a local airport and a business park for package delivery (in both directions) that allows local business to quickly deliver goods to (and receive goods from) their customers worldwide. The demonstration will include drones from different manufacturers, which will be managed by two different U-space service providers and will have a procedural interface with air traffic control, since the drones fly close to the airport. Centralised flight planning, tracking, and monitoring, as well as dynamic geofencing, automated separation between drones and prioritisation are just some of the services and technologies that the project will demonstrate.

PROTECTING AIRPORTS FROM UNAUTHORISED DRONE TRAFFIC

Partners in the CLASS project are researching real-time tracking and the display of both cooperative and non-cooperative drones. As a first step, the CLASS project tested drone detection and tracking technologies during live demonstrations, which took place at the Deenethorpe airfield (UK) in October. The project performed 40 flights and six scenarios in total. The resulting system will provide the basis with which to develop U-space services tailored to end-users, including airports. Advanced services include tactical geo-fencing (where the drone pilot is warned automatically if he trespasses into an unauthorised zone), geo-caging (where the drone pilot is warned that he is leaving a pre-defined zone), conflict detection and resolution.

Meanwhile, partners in the GEOSAFE project are evaluating state-of-the-art geofencing solutions through an extensive flight-test campaign in Pourrières, Bordeaux, Montmagy and Valence in France. The test campaign will employ a number of commercially-available geofencing solutions to address drone behaviour in different situations. The campaign will also perform a technical assessment of the navigation system performance on the efficiency of geofencing.

SESAR U-SPACE PROJECTS

CONCEPT OF OPERATIONS

Concept of Operations for EuRopean UTM Systems (CORUS) aims to establish a concept of operations (COPs) for U-space. The project explores nominal situations for managing drone traffic in Europe and especially addresses drone operations in the vicinity of airfields and controlled airspace, and for transfer between controlled and non-controlled airspace.

DATALINK

Drone Critical Communications (DroCzom) aims to design a hybrid architecture that combines cellular and satellite networks. This solution would ensure reliable and safe operations for drones using U-space services.

DRONE INFORMATION MANAGEMENT

Information Management Portal to Enable the inTegration of Unmanned Systems (IMPETUS) explores how to develop a cloud-based server-less environment that can respond to multiple users with diverse business models, including integration with manned traffic management systems.

DRONE EUROPEAN AIM Study (DREAMS) is focused on solutions for drone aeronautical information management. Operational and technical aspects, environmental scenarios, technologies, safety and security impact are analysed in order to identify possible U-space data service providers (e.g. airspace structure, terrain, obstacles and weather) and required facilities.

GROUND-BASED TECHNOLOGY

Technological European Research for RPAS in ATM (TERRA) aims to define the performance requirements associated with U-space, and to identify the technologies (existing and new) which could meet these requirements. This covers interaction with manned aviation.

CLEAR AIR Situation for uas (CLASS) focuses on the tracking and surveillance service of U-space. It explores the combination of technologies in a way that data coming from the surveillance of both cooperative and non-cooperative vehicles are merged to enable conflict detection and resolution, and protection of restricted areas (such as airports).

HIGHER LEVELS OF AUTOMATION

Sense and avoid technology for small drones (PercEvite) aims to develop a sensor, communication, and processing suite to increase the level of drone automation in the detection of cooperative and non-cooperative obstacles on ground and flying.

AIRCRAFT SYSTEMS

Advanced Integrated RPAS Avionics Safety Suite (Airpass) will examine the range of technologies on-board the drone itself (i.e. detect and avoid systems for cooperative and non-cooperative traffic, autopilot systems and CNS systems, including safety mechanisms as geo-fencing) that are needed, or that need to be developed, in order to implement U-space operations.

SECURITY & CYBER-RESILIENCE

An Integrated Security Concept for Drone Operations (SECOPS) addresses resistance of drones against unlawful interference, protection of third parties and integration of geo-fencing technology. The project investigates technological options for both airborne and ground elements, considering legal, as well regulatory and social aspects.
Airports deploying key ATM technologies to enhance Europe’s air traffic network

Regular readers of this magazine will know that the SESAR Related Deployment Airport Grouping (SDAG), part of ACI EUROPE, has been playing a pivotal role in helping airports (members of ACI EUROPE) to deploy the technological solutions and procedures that are contributing to the modernisation of Europe’s air traffic management (ATM) system. To date SDAG has supported 20 European airports of different sizes, helping them to secure a total of €189.5m from CEF funding.

According to the European Commission’s Pilot Common Project (PCP), the deployment of ATM technologies is mandatory for 25 airports in Europe – those that have the greatest impact in the entire European air traffic network. This means that these airports have to deploy the necessary technologies that will ensure greater harmonisation and efficiency of Europe’s ATM system. However, beyond the PCP, any other airport in Europe, regardless of its size, can – and should – improve its ATM infrastructure as much as possible.

The deployment of ATM technologies naturally requires huge investments from airports. For this reason, airports of any size can apply for EU funding, more specifically the Connecting Europe Facility (CEF) funding, which was developed by the European Commission to support key investments in the European transport infrastructure. SDAG can support airports during the whole application process for funding, as an ACI EUROPE membership benefit. This is what SDAG has done with Groupe ADP and Fraport Slovenija, which have successfully been awarded CEF funding.

Improving the efficiency of airside operations

1. The multi-stakeholder project lead by Groupe ADP receives €49m

Through the 2016 CEF call for Proposals, a joint project coordinated by Groupe ADP ‘enablers for airport surface movements related to safety nets’
SESAR RELATED DEPLOYMENT AIRPORT GROUPING

EASMSN has been awarded a total amount of €49m from CEF funding through the Innovation & Executive Networks Agency (INEA). This is an unprecedented project where 12 airport operators, 3 ANSPs and 1 airline decided to work together under the leadership of Groupe ADP to improve ATM performance in Europe through the modernisation and harmonisation of ATM systems that will enhance safety. Consequently, this joint application brings relevant benefits, contributing to the European Commission’s Single European Sky goal.

Key aspects enabled by Groupe ADP’s multi-stakeholder collaboration:
• Enhanced level of synchronisation
• Sharing best practices among all the participants
• Reduced fragmentation
• Enhanced cross-border connections, international, national and regional traffic

The project started in February 2017 and it is due to be fully implemented by December 2020. It is progressing well in line with what has been planned. The first results of this joint adventure are already visible. More specifically, Stansted Airport has successfully completed its part of the joint project aiming at equipping the airside vehicles that have access to the runway and operate in the manoeuvring area of London Stansted Airport with a vehicle transponder, to improve situational awareness, reduce the risk of runway incursions and contribute to the overall airport safety culture.

What will be the benefits of the project?
The project aims to reach the following goals per year:
Maintain and/or improve current target levels of safety
158,000 tonnes of CO₂
111 tonnes of NOx
50,000 tonnes of fuel burn
563,000 minutes of taxi
€25m of fuel

2. Fraport Slovenija receives €445,000
In 2015, Fraport Slovenija, operator and managing body of Ljubljana Airport, applied for CEF funding under category “Other Projects” with the project “Initial Airport Operation Plan (IAOP)”.

“The aim of this project is to improve the efficiency of airside operations by sharing real-time information data and consequently minimise airport congestion,” Jure Mežnašič, Advisor to the Management and Boštjan Rakovec, Head of Information Technology explain. Airport congestion represents a limiting factor for traffic growth and air connectivity, especially in peak hours while airlines constantly request speeding-up aircraft turnaround target times.

Can you let us know the main advantages of IAOP?
The deployment of IAOP will enable Ljubljana Airport to enhance the efficiency of airport operations and especially the turnaround process at the airport by involving all stakeholders. IAOP is based on real-time data exchange between the airport, air navigation services, airlines, ground handlers and other stakeholders to help them work together more efficiently and transparently. It will also allow for better operational decisions and it will be the basis for the future implementation of Airport-Collaborative Decision Making (A-CDM).

As a part of the global SESAR Deployment Programme, we think that the outcome of this project at a macro level has to be assessed as an important local contribution to the entire Network.

What will the final outputs be?
With the implementation of the IAOP, delays at Ljubljana Airport will be reduced up to 10%. This reduction will have a positive impact on all aviation stakeholders, including passengers. The impact will not only be quantitative, but we also expect it to bring some qualitative benefits, locally and network-wide, such as improved safety, better operational performance, higher stability of the network and, last but not least, a seamless passenger experience. Therefore, the airport operator will not be the only one taking advantage from IAOP: benefits will be extended to the whole network, allowing for better predictability for the Network Manager.

The project is scheduled to be fully deployed by the end of 2018 when all modules of the new software will become fully operational.

SDAG is pleased to provide support to these initiatives and to see how airports’ awareness of CEF funding is increasing from call to call. If your airport would like to know more, please contact SDAG on the following email addresses: barbora.smolikova@airportgrouping.org and luc.laveyne@aci-europe.org. You can visit the SDAG website (www.aci-europe.org/sdag.html).
Avinor electrifying Norway’s competitiveness and environmental innovation

Norway is a long and rugged country with almost 50 airports ranging from Oslo, its major, with 27.5 million passengers to the smallest with around 5,000. These serve a diverse landscape, from the urban vibe of Oslo to the Arctic life in Svalbard.

The national aim is to offer a high level of services with equal standards to citizens in all parts of the country, which is why Avinor operates 45 airports in a country with a population of just 5.5 million.

In 2018, these airports will welcome 54 million travellers, with Oslo as the national hub and the heart of Norwegian aviation.

“As a national hub, Oslo Airport also gives us great opportunities as an international hub,” explains Dag Falk-Petersen, CEO Avinor. “Passengers wanting to explore both our stunning capital Oslo and the rest of the spectacular country can fly to Oslo, stay a few nights and fly out to 44 other regional airports. In terms of international transfer, we also see a huge increase of passengers choosing to travel to the airport, stay a few nights in Oslo and then travel to their international destination. This is also an important reason why we are expanding our non-Schengen area.”

Avinor has seen steady growth at its airports in 2018, with a total traffic increase of 3% across the portfolio for the year-to-date, and the growth trend is expected to continue throughout 2019. This is being driven by increasing numbers of international travellers. Indeed, Avinor’s Travel Survey 2017 shows that increasing tourism, in particular, has driven growth in passenger numbers.

Developing Oslo into an international hub

Avinor Oslo Airport celebrated its 20th anniversary on 8 October, with passengers and employees invited to a variety of events at the airport throughout the day. “This included a vast media presence,” says Falk-Petersen. “I do believe the most important thing for us will be to continue the everyday effort to offer even better facilities for the airlines and passengers, and hopefully that will result in more direct routes to major and important markets. In the third quarter, we achieved our highest-ever score in the ACI ASQ customer survey, and that indicates that we are moving forward in the right direction.”

The opening of the new terminal in April 2017 was the biggest expansion in 20 years and effectively delivered a “new Oslo Airport”. Avinor is building on that with Expansion Non-Schengen East, which will help facilitate continued international growth. “Non-Schengen traffic volumes have been growing steadily and are expected to continue,” Falk-Petersen explains. “This project will result in a new extension of 30,000 sqm, including new gates suitable for larger aircraft and new commercial areas.”
The current capacity of the non-Schengen area is 5.5 million passengers a year, and after the expansion that will grow to 8 million. This will increase Norway’s competitiveness and provide considerable economic benefits.

Indeed, the air transport sector is vital to securing Norway’s continuing economic growth. “Air transport is the most important way to travel to and from rural areas in Norway, and all distances of more than 300km,” Falk-Petersen comments. “In terms of economic growth, a good example is cargo where Oslo is now playing a significant role as a hub. Fresh salmon from all over the country is transported via Oslo Airport to international markets with both cargo airlines and passenger airlines. The Chinese need for fresh seafood has resulted in new direct routes from Oslo, which is highly important for the future growth of Norwegian seafood export to China. Within a few years, we expect around 70,000 tonnes of seafood to be transported from Oslo Airport to China each year.”

Importantly, Hainan Airlines recently announced it will open a direct route between Beijing and Oslo in spring 2019. “It is, therefore, only natural that a large and recognised airline such as Hainan Airlines would want to open a direct connection to Oslo. With Hainan Airlines, onward connections are very good to the major city of Shanghai. There are also good connections to many other cities in China and Asia, which are interesting destinations for both Norwegian tourists and, not least, Norwegian businesses. Last year, Oslo Airport saw 36% growth in cargo flown. More than 90,000 tonnes of fresh Norwegian seafood were flown out.”

Falk-Petersen believes the Hainan Airlines service is just the beginning in terms of expansion of the Oslo long-haul network. “Avinor works continuously with airlines, Norwegian export businesses, and the travel industry to attract routes that meet their needs. Our aim is to develop Oslo Airport into an international hub, as well as getting more routes to airports across Norway.”

Other important new route announcements include a daily Wizz Air service between Budapest and Oslo. Work began on Expansion Non-Schengen East at Avinor Oslo Airport in October. The project will be completed in Q2 2022, adding 30,000sqm to the East Pier. Photo credit: Avinor / Nordic - Office of Architecture.
between Gdansk and Oslo, launching in April 2019; SunExpress (a joint venture of Lufthansa and Turkish Airlines) increasing frequency between Oslo and Izmir, as well as introducing new services from Oslo to Antalya and Konya in summer 2019; Ethiopian Airlines increasing frequency between Oslo and Addis Ababa to six times weekly, and launching a new twice-weekly Oslo-Asmara service in December 2018; and Loganair adding new routes from Edinburgh to Bergen and Stavanger in summer 2019.

“A global movement to electrify aviation”

Norway is a pioneer in environmental innovation, and Avinor is certainly progressive in its approach to sustainability. Indeed, four of its airports – Oslo, Trondheim Airport Værnes, Bergen, and Stavanger – are accredited at Level 3+ Neutrality of ACI’s Airport Carbon Accreditation, while Kristiansand Airport is accredited at Level 2 Reduction.

Avinor and aviation industry partners, including Widerøe and SAS, are working to help Norway become a world leader in electric aviation. It is a particular passion of Falk-Petersen, who, in June, took part in Norway’s first electric-powered flight alongside Norway’s Minister of Transport and Communications Ketil Solvik-Olsen.

“In addition to energy efficiency and sustainable bio jet fuels, electrification will play an important role in reducing the climate gas emissions from aviation,” says Falk-Petersen.

The goal is to make Norway the first country where electric aircraft have a significant share of the market, and to electrify all domestic flights by 2040. “For myself, I see it as an honour to be part of a global movement to electrify aviation, of course,” Falk-Petersen adds. “It was great to be personally involved in the first flight together with the Norwegian Minister of Transport and Communications. It was also great fun. We see this as the starting point of an industry development that I believe will come sooner than most people expect.”

This progressive approach extends beyond the environment. For example, Avinor has been using Virtual Reality training, both for the training of airport personnel in the terminal, and for the training of air traffic controllers and handling agents. “This gives us better and more effective training, in an increasingly competitive environment,” Falk-Petersen comments. “Avinor operates and develops a nationwide network of airports for the civil sector, and a combined air navigation service for the civil and military sectors. Our ambition is to continue this development, increasing efficiency, providing excellent customer service for the airlines, as well as providing travellers with an even better airport experience. Avinor aims to be world-class, introducing new technologies both in passenger service and in daily airport operations.”

“The most beautiful capital in the Nordic region”

Visitors at this year’s ACI Airport Exchange will experience one of Europe’s most vibrant capital cities and a hotbed of food, music and culture. They will also see first-hand the dynamic growth of Avinor Oslo Airport. The airport is also hosting the ACI EUROPE-SESAR workshop on integrating drone operations and services at airports on 26 November, immediately prior to ACI Airport Exchange.

Falk-Petersen and his team look forward to welcoming delegates from all around the world to this global event. “When visiting Oslo there are several things you must experience. If you are a self-proclaimed foodie, this is the city for you as our beautiful capital offers a wide range of great restaurants spread across the city. We also have very nice coffee houses, as Norwegians are the world’s top three coffee consuming nations. My best recommendation would be to visit the website of our partner Visit Oslo, which has many good suggestions for visitors to the most beautiful capital in the Nordic region.”
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Airports are a crucial factor in the aviation ecosystem. Booming air travel demand on the one hand and constraints on airport infrastructure growth on the other, have thrown up new challenges that airports, airlines and aircraft manufacturers must address together, such as increasing airport congestion that stifles airline network expansion. It is with this spirit that Airbus participates in ACI Airport Exchange 2018 and looks forward to an exciting exchange.

11 Airbus experts will present specialist analysis and solutions at the conference:

- David Dufrenois, VP Sales, Head of A220 Sales, Qatar and A380 Market Development
- Laurent Boisson, Deputy Head of Air Transport Affairs
- Fabrice Valentin, Head of Market Research and Forecast
- Andrew Armitstead, Fleet and Network Profitability Director, Market Consulting
- Fabrice Villaume, Head of Digital Growth & Innovation
- Frederic Sutter, Digital Transformation Leader
- Willy Pierre Dupont, Director Airport Operations & Chairman IIWG, ICACIA member to ICAO ADOP
- Peter Esteie, Head of Ground Operations
- Olivier Chauvet, Airside Operations Engineer
- Frederic Eychenne, Director Air Transport Affairs & Environmental Matters
- Sunny Guglani, A380 Product Marketing

The aircraft manufacturing giant will summarise its Global Market Forecast and traffic and fleet forecast with a focus on Europe. Airbus will also discuss balancing growing air traffic with increasing airport congestion, its view on airport congestion trends, new ICAO airport regulation and its benefits to airports, the future of ground handling, and airport digital solutions. There will be an interactive reveal of Airbus’ new application for airport demand & capacity modelling, plus a panel discussion between Airbus and a selection of airports on delivering a family of aircraft to meet market needs and sustainable air transport growth.

**Latest generation Airbus aircraft unlock new route opportunities**

In addition to Airbus and airport experts, the conference will also feature presentations from airlines, including A220-300 launch customer airBaltic, and Aer Lingus, which currently has a fleet focused on Airbus aircraft and is an early adopter of the A321LR.

Lander Dominguez, Director of Fleet Assets, Aer Lingus, is expected to explain the Aer Lingus “fleet investment plan” subtitled in new IAG investor materials as: “an accelerated North Atlantic fleet growth opportunity.” The Irish airline operates A320 and A330 family aircraft and expects to begin services with its first A321LRs in 2019. Aer Lingus has already stated that it expects this latest, long-range iteration of Airbus’ largest narrow-body aircraft to open up new city pair opportunities.

Wolfgang Reuss, Senior Vice President, Network Planning at airBaltic, will discuss what the airline’s decision to move to an all-A220-300 fleet could mean for airports. The Latvian carrier was the A220-300 launch customer and is currently the largest operator of this variant. It expects to have 14 A220-300s in its fleet by the end of 2018. In May, airBaltic announced a firm order for 30 A220-300s, with options for an additional 30 aircraft. This is in addition to its existing order for 20 A220-300s. Reuss is likely to cover how the A220’s performance might open up new route opportunities, and if its in-service noise and emission benefits have exceeded expectations.
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New Abu Dhabi Airports CEO: “Our vision is to become the world’s leading airports group”

Over the last few decades, the emirate of Abu Dhabi has undergone a significant transformation in economic growth. Abundance of oil and natural gas reserves have placed Abu Dhabi as a major competitor on the global stage. And while recognising the success of the oil sector, Abu Dhabi and the United Arab Emirates are also committed to diversifying the region’s economy with travel and tourism prioritised as key areas of activity for bolstering sustainable economic development.

Abu Dhabi Airports has, indeed, become one of the main pillars of the development of the national economy. Abu Dhabi Airport’s 2018 traffic reached 16.4 million passengers in September, with this number expected to grow to nearly 22 million by the end of the year.

To facilitate this development and growth, Abu Dhabi Airports has invested heavily in airport infrastructure in recent years. Projected to increase Abu Dhabi’s maximum capacity to over 50 million passengers per year, the Midfield Terminal Building (MTB) development is the centrepiece of this multi-billion dollar investment programme.

“These developments will enable a significant boost in economic contributions from the travel and tourism sector,” says Bryan Thompson, CEO Abu Dhabi Airports. “It is a truly transformational project, not only as an architectural landmark, but also from an operations perspective. It introduces new expanded capacity for the capital airport, allowing for more business and growth opportunities.”

Providing a safe, secure, seamless experience

Thompson joined Abu Dhabi Airports as Chief Executive Officer in August and brings more than 25 years of industry experience, having worked in various roles including operations, commercial, and property development. Most recently, Thompson served as the Senior Vice President Development at Dubai Airports. “This role now allows me to bring these experiences into one combination that will hopefully serve the future of the capital gateway,” he says.

Thompson and his team have adopted an approach largely centred on providing
a seamless passenger experience and smooth operations across all terminals.

“We seek to embody the renowned Arabian hospitality by providing the millions of passengers who travel through our five airports with a seamless experience, tailored to their individual needs, while ensuring that we maintain the highest standards in safe and secure operations.”

He adds: “Of course, at the same time, there has also been a focus on operational planning to increase efficiency and profitability, from preparations for the influx of travellers during our winter peak season, tailoring our duty free offering to attract our travellers, to developments at the Abu Dhabi Airport Free Zone.”

The airport is truly a global hub for business and tourism and the Midfield Terminal Building will provide significant opportunities for airlines. “We are continuously introducing new routes with both established markets such as India and Europe, as well as connections with new and emerging regions, and this is only set to increase with the introduction of the Midfield Terminal.”

The airport is already further expanding its network with new daily flights from Cochin International Airport and Calicut International Airport with IndiGo. Moreover, the airport is investing heavily in terms of resources, planning and strategy for the airport city proposition through the Abu Dhabi Airports Free Zone (ADFZ). “This cluster has major expansion plans in its near future and we are excited to see the contributions it will generate to Abu Dhabi Airports and Abu Dhabi as a whole,” says Thompson.

**Future innovations**

With the MTB gearing towards completion, the airport is focusing on developing a digital strategy that will further enhance the traveller experience.

Thompson explains that Abu Dhabi Airports is looking into future innovations and ideas to ensure it introduces smart technologies that will surpass what it previously implemented at AUH in 2016 as smart travel solutions, and deliver an unforgettable experience to passengers.

“Our vision is to become the world’s leading airports group, and we are continuously working toward this goal through delivering excellence across customer service, operations and training through our Gulf Centre for Aviation Studies. Moving into 2019, our focus on the Midfield Terminal Building will naturally increase as we draw the operational readiness and testing phases to a close.”

Abu Dhabi Airports is investing heavily in terms of resources, planning and strategy for the airport city proposition through the Abu Dhabi Airports Free Zone (ADFZ), which is expected to bring major contributions to the emirate.
The grand opening of the new Istanbul Airport by Turkish President Recep Tayyip Erdoğan took place on 29 October – Turkish National Day, and the 95th anniversary of the founding of the Republic of Turkey. More than 5,000 guests gathered for the inaugural ceremony.

The first phase of the new airport was completed in 42 months and consists of the main terminal building, two runways, an air traffic control tower, and supporting buildings. "The Istanbul Airport, with its architecture, construction, operation and financing, is a project which is a source of pride for Turkey and sets an example to the world," President Erdoğan said.

Undertaking that Turkey, in particular, has always been an important strategic location, President Erdoğan stated: "Turkey, with Istanbul Airport going into service, has become the most important transit hub between north-south and east-west axes. The Istanbul Airport connects 60 countries and $20 trillion economies across the vast area it serves."

The new Istanbul Airport welcomed its first flights on 31 October, with Turkish Airlines beginning services to Ankara and Ercan (Turkish Republic of Northern Cyprus). Two further domestic links were introduced on 1 November and the airport's first international service to Baku in Azerbaijan commenced on 8 November. All five routes will be served daily until 31 December. The main transition of services from Atatürk to the new Istanbul Airport is due to start on 30 December and be completed on 31 December.

"While Istanbul Airport is the new home of Turkish Airlines' global hub, we have also received significant interest from other airlines on the possibilities of launching new routes and frequencies, especially because of the ease of access created by a dramatic increase in slots availability – within 16 months we'll have a third runway, doubling the airside capacity over the existing airport," said Kadri Samsunlu, CEO of İGA Airport Operation.

After the full end-year transfer of the Turkish Airlines hub, and all other airline services, Istanbul Airport will be capable of processing 90 million passengers, later rising to 200 million passengers, and upwards of 350 destinations. With the completion of all phases in 2025, Istanbul Airport will be a six-runway facility.
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INDUSTRY NEWS

HIA tapping into emerging technologies to optimise operational efficiency

Hamad International Airport (HIA) has experienced a substantial increase in passenger traffic this year. In Q3, the airport served a total of 9.68 million passengers, making it the busiest quarter of the year so far, with a 10.6% increase in passenger traffic year-on-year. Engr. Badr Al Meer, Chief Operating Officer, Hamad International Airport, says: “We expect to finish off the year with positive growth as we continue to accommodate an increasing number of passengers.”

To support this growth, HIA is accelerating its digital transformation plan, bringing the latest in technology and implementing innovative solutions under the ‘Smart Security’ and ‘Smart Airport’ programmes. HIA has successfully identified areas to optimise operational efficiency to deliver an enhanced airport experience through a customer-centric focus. The airport is currently in the final stages of an evolution programme that measures the security and operational benefits of the screening technology, utilising new ECAC-certified EDS (Explosive Detection Systems) algorithms. This would allow the airport to provide screening of cabin baggage without the need to remove electronic devices.

Moreover, the airport is currently initiating 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 are also tapping into a variety of new and emerging technologies as part of our Smart Airport programme,” says Al Meer. “Our Memorandum of Understanding (MoU) with SITA provides a key framework for us to trial robotics, blockchain, augmented reality (AR) and virtual reality (VR) technology solutions to further strengthen customer satisfaction.”

KONE creating a better people flow experience at OSL

As one of the global leaders in the elevator and escalator industry, KONE adds value to the lifecycle of any building, including the airport terminal. The company is exhibiting at this year’s ACI Airport Exchange, where it will introduce the KONE 24/7 Connected Services for airports, a service that offers customers new levels of safety, transparency and intelligence for maintenance services, and will showcase its vision on what tomorrow’s people flow will look like.

Joakim Modeen, Head of Service Business, KONE, says: “At KONE, we believe connectivity is an enabler to bring better services to our customers, our employees and especially our people in the field. At the end of the day, we want to bring more insight, data, and tools which ultimately meet our customers’ changing needs and help them succeed in their business challenges. For airports, obviously this means creating a better people flow experience for their passengers.”

KONE played an integral part in the development of the people flow in Avinor Oslo Airport, by integrating 69 different pieces of equipment in the new Oslo Airport, including elevators, escalators and autowalks.

Hamad Airport is a Gold Sponsor at this year’s ACI Airport Exchange in Oslo, where it will share its progress on the Smart Airport programme, as well as continuous improvement of passenger experience. “We look forward to this event, as an opportunity for key players in the airport and aviation sector to exchange insights and knowledge on latest trends, research and developments that benefit the industry as a whole,” Al Meer says.

KONE played an integral part in the development of the people flow in Avinor Oslo Airport, by integrating 69 different pieces of equipment in the new Oslo Airport, including elevators, escalators and autowalks.

Erik Johnson, Managing Director, KONE, adds: “There are certain elements which are vitally important to consider in airports in general, such as efficiency and safety, and Oslo was no exception, having the strictest requirements for environment and space efficiency as well.”

Johnson will take part in the Avinor and Oslo Terminal 2 Deep Dive Session, where he will discuss in-depth the expansion at Oslo Airport. He says: “We are here to celebrate the new Oslo Airport. We are proud to be part of this success story and that we have a great relationship with Avinor.”
It seems unquestionable that biometric self-service has become one of the great accomplishments of 21st century aviation. For airport operators, airlines and passengers it means a quantum leap in speed, security, comfort and efficiency. Biometrics allows for instant recognition procedures, either to proceed to the next journey stage, purchase a souvenir or to enter a lounge. It’s all about ease, intuitiveness, efficacy, fulfilment, empowerment.

The success of biometrics has been so overwhelming, that airports and airlines are designing their digital transformational strategies to take full advantage of biometric. Face recognition is the enabler of fully connected, passenger-centric ecosystems.

Extending its use to create a consistent, end-to-end experience is the newest trend in digital transformation. Individual moments powered by facial recognition are being prolonged to span the entire airport journey and harmonise the whole experience.

**Pioneering curb-to-gate journeys**

Remarkable all-biometric curb-to-gate strategies are being led by Bengaluru, Aruba, Sydney, Schiphol and Carrasco International Airports, in partnership with passenger experience expert Vision-Box. 4.0 passenger management technology is allowing the verification of identity data only once and establishing facial biometry as the unique identifier needed for all-stages clearance. Biometric human-centric touchpoints then engineer quick, on the move transactions, capturing and authenticating facial features as passengers progress in their journey. No need to present documents or stop at any clearance point. No juggling passport and boarding passes. No queues or wait lines.

**Seamless Travel Orchestration**

Kernel of the new experience, end-to-end orchestration platforms are successfully managing the entire airport journey. They provide the ability to define and monitor people’s flows, promote on-time flights, effective operations and risk anticipation and establish a privacy-protected informational network, which empowers travel stakeholders to excel in service delivery and offer passengers a frictionless journey.

These overarching platforms are powering the 4.0 future-proof airport digital transformation. Vision-Box developed Orchestra™ is the brain of passenger operations, controlling the complex airport 4.0 informational structure and integrating all IoT ready devices – such as common-use self-service kiosks, counters, baggage-drop, on-the-move biometric gateways or totems – into a fully connected network.

Orchestra™ is the only platform that prioritises the protection and privacy of travellers. As the only identity management platform Privacy by Design™ certified, it meets the demands and legal requirements of data privacy and security. Passengers are the owner of data. They approve specific transactions for predefined uses to authorise stakeholders, using face biometrics as the trigger. Passengers trust the system because they are in control.

**Next-gen human-to-machine interaction**

Seamless ecosystems potentiate the evolution of new self-service interaction models. New AI virtual assistants recognise passengers, guide them towards their gate, provide instructions, or announce retail offers based on their tastes. Mobile ID allows for the authentication of trusted virtual IDs securely stored on mobile devices. Mobile phones become your passport, both of which can stay in your pocket.

Above all, biometric-powered Seamless Airports are evolving ecosystems with a world of immersive experiences, rewarding relationships and trendy lifestyles to explore and promote.
AviAlliance Managing Directors Holger Linkweiler and Gerhard Schroeder talk to Marta Dimitrova about recent developments in the company’s diverse airports portfolio.

AviAlliance transforming airports into attractive centres of economy

In September 2018, Budapest Airport unveiled its brand-new €25 million passenger terminal Pier B. The 10,000sqm building is used to handle non-Schengen flights, including widebody aircraft flying intercontinental long-haul routes to North America, China and the Persian Gulf. The new facility was very much needed, as Budapest Airport has seen double-digit growth, often reaching 14-15% growth in passenger numbers in each of the last four years, with an even greater increase in non-Schengen traffic. This summer, 44 airlines offered direct flights from Budapest to 130 destinations, with a record-breaking 1.5 million passengers travelling through the airport in August.

Non-aviation business has become a key element in Düsseldorf’s development in recent years, accounting for around 45% of the airport’s total revenues. The centrepiece of this is the Airport City. The modern business park offers attractive conditions for successful business. Directly adjoining the airport’s terminal, the Airport City is now home to companies such as Verein Deutscher Ingenieure (VDI) and Porsche. The development of the 230,000sqm business park continues and a second extension phase is under consideration.

The economic crisis in Greece triggered a significant decline in the country’s GDP. However, Athens International Airport proved resilient by achieving a substantial passenger growth of more than 70% between 2013 and 2017. The airport handled a record 21.7 million passengers in 2017 and is experiencing dynamic growth in 2018. Overall, during the period January through October 2018, passenger traffic reached 21 million, achieving double-digit growth (+11.1%), with both domestic and international traffic exceeding the corresponding 2017 volumes by 5% and 14.2% respectively.

Hamburg Airport enjoyed a successful 2017 with annual passenger numbers up 8.6% to 17.6 million. With passenger numbers growing, a total investment of around €500 million will be made at the airport over the next years. Hamburg was the winner of this year’s ACI EUROPE Best Airport Award in the ‘10-25 million passengers category’, recognised for its innovative additional services to increase the passenger experience and its commitment to the environment.

In 2017, AviAlliance became shareholder in Aerostar Airport Holdings, which operates the airport of San Juan in Puerto Rico. Earlier this year, Aerostar Airport Holdings completed an investment of $6 million (£5.11m) in new facilities for the Federal Inspection Service (FIS) to be used by Customs and Border Protection in Terminal A. The new facility features 11 automated passport control units and inspection areas, and has a maximum capacity of 400 passengers per hour.

With global traveller numbers reaching new heights – exceeding four billion for the first time in 2017 – airports are undoubtedly catalysts for growth.

Established as one of the world’s leading airport investors and managers, AviAlliance recognises this potential and has built an attractive and balanced portfolio, currently holding shares in the airports of Athens, Budapest, Düsseldorf, Hamburg and San Juan.

“Our five airports have developed well in the first eight months of 2018,” says Gerhard Schroeder, Managing Director, AviAlliance. “The number of passengers using Athens, Budapest, Düsseldorf, Hamburg and San Juan airports between January and September this year was 67.6 million – an increase of 1.8% compared to the previous year. This is particularly impressive, especially against the background of the insolvency of Air Berlin and the severe hurricane that hit Puerto Rico.”

AviAlliance’s expertise is deployed in each new project, making airports around the world into attractive state-of-the-art centres of transportation and focal points of the economy.

“Airports which have not yet tapped their potential to the full, and thus offer substantial scope for development, are our main target,” adds Holger Linkweiler, Managing Director, AviAlliance. “We are focused on airports which we can support with our broad knowledge and thus add value.”
EXCELLENCE AS STANDARD

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HIAQatar
North Rhine-Westphalia is Germany’s economic powerhouse. Indeed, its 2017 GRP of €691 million makes it the world’s sixth most powerful metropolitan region. Cologne Bonn Airport is located right at the heart of this vibrant region, with a correspondingly large catchment area (17 million within 100km) and a strong economic environment. Being the home of express service providers UPS, FedEx and DHL means Cologne Bonn is also one of the most important logistics locations for companies in NRW, with the regional economy extremely export-oriented.

Recently-released figures show that Cologne Bonn is a key job generator in the region, with almost 15,000 people employed in 130 enterprises at the airport. Leading Cologne Bonn Airport’s continued development is Johan Vanneste, who took the helm as President & CEO in May, having previously been President & CEO of lux-Airport for the past four years. His positions prior to that include COO of Belgian cargo carrier TNT Airways, and CEO of VLM Airlines.

“The professional experience I have gained from working for airlines is, of course, very helpful in my new position as airport CEO,” Vanneste begins. “When you work for an airline, you have many aspects in common with the airports, such as handling or using the infrastructure. What does indeed change when you move to the airport is the perspective.”

The latest passenger numbers show 5% growth to 10 million in the first three quarters of 2018. Key growth drivers were Eurowings in terms of short and medium-haul destinations, and Ryanair, Condor and easyJet, which compensated for the deficit caused by the insolvency of both airberlin and Niki.

“In 2018, we will close with around 13 million passengers, which is an increase of 4% compared to the previous year,” Vanneste explains. “But the outlook is not too bright - the next year will be difficult. We are losing the Eurowings long-haul routes, and some other airlines are also reducing their capacities. In addition to this, there is currently a very high level of dynamism in the aviation industry. The bottom line is that we will have to reckon with a downward trend in passenger numbers in 2019.”

“A well-balanced mix of carriers”

Cologne Bonn’s geographical location between Frankfurt and Düsseldorf means it competes with two bigger airports. “However, we do have an extensive and attractive route network. We also have the advantage of very good connectivity and have ample capacity,” Vanneste notes.

Indeed, Cologne Bonn is strategically positioned as the leading low-cost airport in Germany and, significantly, in June it welcomed the return of easyJet after a two-year absence. easyJet operates 33 weekly flights from Cologne Bonn to Berlin Tegel.

Meanwhile, Ryanair recently announced it will launch a new service between Cologne Bonn and Bordeaux in April 2019, operating the route three times a week. “We do also need the established
reflecting the dynamism and diversity of people at the heart of the airport business

airlines, such as Lufthansa, Turkish Airlines, TAP Air Portugal, and now British Airways, which is starting up a route to London and will hopefully become a long-term partner," says Vanneste. "What we really need is a well-balanced mix of carriers."

In a highly symbolic development for Cologne Bonn, British Airways also returned in November after a 12-year hiatus, with a seasonal connection to London Gatwick, which is operated four times a week. "This is particularly important because, thanks to BA, we can also offer our passengers an attractive European and long-haul network out of Gatwick," Vanneste comments. "We are very proud to see British Airways returning to Cologne Bonn, and we hope this will be a long-term engagement."

In terms of maintaining competitiveness, Vanneste believes that in the future, process optimisation and passenger comfort will play an important role. "We want to establish ourselves as a 'Convenient Airport' that excels with short walking distances and fast processes. We are already on the right track, but we want to become even better and gain the competitive edge."

Digital innovation is also key. Unlimited free Wi-Fi is at the heart of Cologne Bonn’s digital strategy, and it is proactive across social media platforms including Facebook (140,000 ‘likes’) and Twitter (1,250 followers).

“We already have a lot to offer, such as automatic boarding pass control or the EasyPass for passport control. However, there is certainly more that we can still work on – from valet parking to the option of checking luggage in yourself, or automated boarding using face recognition. There is great potential in all of these areas."

Looking ahead, the top priority for Vanneste is improving the airport’s profitability. "In order to achieve this, we have to make the most of every opportunity. We will be continuing our strategy in passenger and cargo traffic while, at the same time, expanding our non-aviation business. We are setting up new businesses, building a new hotel, and we have a vision of creating an ‘Airport City’. These are very exciting projects for the future.”
To deliver a seamless passenger experience, collaboration between all stakeholders – airlines, airports, governments and industry suppliers – is essential. "Today’s airports are increasingly complex environments with increasing levels of regulation and security, and rapid growth," says Sergio Colella, SITA President Europe. "This is increasingly having a negative impact on the passenger, resulting in a bumpy journey across all the steps in the airport, from check-in to boarding. To drive new levels of efficiency, and in turn cost savings across the airport, the various players need to work together to drive a seamless process and experience for passengers."

Colella points out that technology is instrumental in bringing the various airlines, airports and control authorities closer together and to ensuring the travel experience becomes less onerous in future. "For example, with collaboration between all stakeholders – airlines, airports, governments and industry suppliers – identity management solutions, including biometric systems, could eliminate the need for multiple and manual checks across the journey. This creates a more seamless passenger experience, while helping airlines and airports across the world meet the variety of regulations from governments and border agencies."

One such example of successful collaboration between airlines, airports and governments, is the recent trial of SITA Smart Path™ at Orlando International Airport. Earlier this year, SITA worked with the airport authority, British Airways and US Customs and Border Protection to incorporate the US biometric departure check for British Airways’ customers.

SITA is a Platinum Sponsor at this year’s ACI Airport Exchange. Ahead of the event, Sergio Colella, SITA President Europe, spoke to Marta Dimitrova about the importance of collaborative innovation to fully unlock the potential of new technologies.

**Collaboration is key to delivering secure and easy travel**

“We developed a facepod where passengers merely step up to the camera without the need to present a passport or boarding card. Essentially your face becomes your passport. The beauty of this technology is that it combined a government and airline check into a single process.”

The system makes passenger boarding quicker and easier, while incorporating the new secure biometric exit checks. As a result, British Airways is boarding flights, of almost 240 customers, in around 15 minutes. Such was the success of this project, that Orlando Airport is deploying this solution to all international flights.

"Imagine, if every airline, airport and government embraced this technology, no matter which airport or airline you travel with, you are recognised and identified as a passenger simply by your face. This would be the real power of collaboration.”

SITA sees this collaboration extending beyond the passenger experience to supporting airports to better manage ever-growing passenger numbers. “We strongly believe that by working with our customer airlines and airports, we can find new, more robust solutions to industry problems.”

Take disruption. Every year disruption – from flight delays to weather-related problems – costs the air transport industry an estimated $25 billion (€22bn). 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.

“In 2017, SITA began working with a major Asian airport to find a solution that would provide better insight into aircraft arrival and departures. Key challenges facing the airport were that they had limited visibility of arrival traffic and high variability of landing times due to weather and congestion. Using machine learning and AI, and applying this to commonly available flight and weather data, we were able to predict with an accuracy of within 15 minutes for 80% of flights six hours before their arrival.”

Colella notes that this collaborative innovation has in part led to the development of a new SITA solution which will help airlines and airports around the world better predict disruption, benefiting the wider air transport industry.

“These two examples are a great demonstration of our collaborative approach to innovation,” he says. “We have shown that at SITA, we are able to bring together the various players in the industry, helping the airport sector become more efficient and in turn improve the experience for the passenger.”
HI-SCAN 6040 CTiX WITH EDS CB C3 APPROVAL
Drives security, efficiency and passenger experience
Smiths Detection is utilising deep learning and deploying it to create effective automated solutions to detect prohibited items. Deep learning is said to provide two key things: better object detection capabilities and reduced pressure on resources – allowing for improved efficiency. By Ross Falconer

“Deep learning will improve operations, customer experience and make infrastructure and people safer”

As air transport stakeholders embrace digital transformation, deep learning is set to become an important feature of future product design. Deep learning involves ‘teaching’ a computer to recognise patterns based on examples. It’s inspired by the structure and function of the human brain, which is made up of networked neurons. A neuron has multiple inputs (examples of what to identify) and a single output (an accurately detected object).

“Just like the human brain, the network must be trained,” explains Geert Heilmann, Software Engineer, Smiths Detection. “The simplest form of training is to provide examples: you let the network process data for which the result is already known and the individual weighting factors are determined so that the desired result is obtained. Many examples are put through this process and during training the network learns automatically to identify, or classify, different patterns or properties.”

Deep learning means Smiths Detection will be able to design products that will quickly and accurately detect objects within baggage and parcels.

Indeed, Smiths Detection now offers reliable and accurate lithium battery detection as an option on the HI-SCAN 100100V-2is and 100100T-2is scanners, with other conventional X-ray systems to follow. Existing installations can also be upgraded onsite. This is the first module from a series of smart and adaptable algorithms for the automatic detection of an ever-expanding list of dangerous, prohibited and contraband goods and substances.

Taking the deep learning approach, Smiths Detection is collaborating with customers to build a huge library of images from which the algorithms can ‘learn’ to detect many other items. “The lithium battery development follows IATA’s recommendations regarding Dangerous Goods and is aimed mainly at the air cargo sector,” explains Matt Clark, VP Technology, Smiths Detection. “It is designed to tackle the tangible threat posed by lithium batteries, which have the potential to ignite when airborne. In addition to extending this option to a full range of systems, we plan to expand these augmented detection capabilities to goods such as weapons, flammable liquids, currency and drugs.”

As it is particularly suitable for break-bulk cargo screening and is already popular with air freight handlers, the HI-SCAN 100100 series was first in line for the lithium battery option.

Better object detection, reduced pressure on resources

Deep learning will provide two key things: better object detection capabilities and reduced pressure on resources – allowing for improved efficiency. It will do this by more accurately identifying objects hidden within parcels or baggage, both by finding those objects that might otherwise be missed and reducing the number of false positives.

“Another advantage for the customer is that unlike a human operator, the software always performs at the same level and does not become fatigued,” says Heilmann. “Initially, weapon-detection software would be used to support the operator.”

With an appropriate amount of data available, the algorithms can also be easily adapted to customer-specific needs, for example the detection of agricultural items and food.

Heilmann adds that in combination with Smiths Detection’s certified explosives detection algorithm and the deep learning algorithm for prohibited items the checkpoint can be highly automated. “Overall, deep learning will improve operations, customer experience and make infrastructure and people safer.”
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YOUR FACE IS YOUR BOARDING PASS
Digital biometric ID management solution facilitating a seamless end-to-end passenger journey
Explore more at: www.sita.aero/smartpath
Denver International Airport (DEN) has begun construction on the $650 million (€560m) three-and-a-half-year renovation project of its Great Hall. The airport aims to create the “terminal of the future” with enhanced security and improved passenger experience.

As part of the ongoing renovation of DEN, the redesigned airline ticket counters in the Great Hall will be equipped with the world’s largest installation of self-service equipment. Materna’s solution, including 176 hybrid self-bag-drop units and 40 check-in kiosks, will be installed by 2020.

“The contract with Denver Airport is ‘a beacon project in the USA’ and an important milestone in Materna’s international activities,” says Dr Georg Oschmann, Executive Vice President, Head of the Mobility Business Line, Materna IPS.

Materna has already equipped airports in North America such as Toronto, Montreal, and Quebec, among other places, with its technology, and is focusing internationally on the markets in America and Asia. “It shows that Materna’s strategy worked out and investments in the American market were the right way,” Oschmann adds. “As self-bag-drop is just at the beginning in the US, there is a high potential for further installations. Denver will have the world’s largest installation of self-bag-drop units, and is seen as a breakthrough of this service. It is also the largest project in Materna’s history.”

Denver’s self-bag-drop solution comprises a classic agent counter combined with a self-bag-drop unit and scanner portal positioned over the conveyor to scan baggage tags. The scanner unit ensures safe baggage handling processes by only accepting baggage of the correct size and weight.

The hybrid solution is easy to customise and integrate. The kiosks are equipped with Materna’s CUSS platform, which all airlines can use. Indeed, some major airlines are already undergoing integration.

“This solution is ideal for either a typical self-bag-drop use or an agent service if required, which leads to the highest flexibility for the airport regarding opening times, passenger flows and peak times,” says Oschmann.

Virtual Reality (VR) services also played a key role in the Denver project. Materna offers customers the opportunity to create their individual VR terminal to illustrate how a certain solution will fit into the airport’s environment, and how to use the self-bag-drop units.

“Virtual Reality services also provided to DEN is a specially-designed unit consisting of a classic agent counter combined with a self-bag-drop touchpoint, scanner portal and conveyor belts.”

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“This means we develop a computer-generated simulation of a three-dimensional image or environment and create multiple situations by using a built-in configurator to place any objects in any airport,” Oschmann explains. “For DEN, we made a visualisation of Denver Airport and presented the self-bag-drop solutions, and the overall look and feel. Denver’s project managers could experience the process in Virtual Reality. That was an immense advantage for the entire proposal phase, as we saw challenges in the project ahead of time. The VR demo allows all parties to use, have input, and experience different scenarios. The system we use is Oculus Rift.”

The Great Hall check-in terminal, which is under the tents of the airport’s Jeppesen Terminal with its striking design, is DEN’s distinctive trademark. The goal of the renovation project is to keep up with the airport’s consistent growth (passenger numbers rose +4.3% to 43 million in the first eight months of 2018), thereby increasing capacity, safety and security, and improving passenger experience. The project will be completed in 2021.

Dr Georg Oschmann, Executive Vice President, Head of the Mobility Business Line, Materna IPS, is speaking at this year’s ACI Airport Exchange in a session focused on ‘Putting digital transformation at the heart of airport development’. He shared a preview of his thoughts with Ross Falconer.

World’s largest self-bag-drop installation in Denver helping deliver “terminal of the future”
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Pioneering airports are embracing digital transformation in their efforts to create a seamless travel experience. Common-use technologies, self-service boarding, and automated border clearance are just some of the areas in which innovation is being driven.

“The next step will be to connect the dots, step away from silos, and start building a completely passenger-centric ecosystem, which increases facilitation and security at the same time,” says Richard Camman, Business Innovation VP, Vision-Box.

He adds that the focus is on “accomplishing a comfortable, unfettered environment for the passenger, with no obstacles and, even better, without travel documents.”

At this year’s ACI Airport Exchange, Camman will describe how Vision-Box, together with some prime examples of passenger-centric modern airports, is implementing a biometric-based seamless passenger walkthrough journey designed to modernise the airport experience.

“This new technology will facilitate the entire traveller journey by increasing throughput and eliminating bottlenecks, while expanding terminal capacity within the existing footprint, thus generating substantial financial benefits at all levels of profit and loss dimensions,” he explains.

It is a human-centric approach which, in a modern, digitally-transformed world, is firmly focused on the needs of the traveller. The aim is to guarantee a hassle-free and frictionless process that does not jeopardise security.

“Building a completely passenger-centric ecosystem, which increases facilitation and security,” says Camman.

Richard Camman, Business Innovation VP, Vision-Box: “Our Seamless Airport 4.0 model automates security procedures in a way that significantly improves them for legitimate travellers, who account for the vast majority,” says Camman. “This new model is unleashing the potential use of paperless, secure and trusted credentials to authenticate and verify identities at different moments of our journey inside the airport, as we are exponentially in need to prove who we are to be entitled to receive a benefit in return. A trusted and value-based relationship must be established from the very first moment of the journey, in order to deliver a personalised and pleasant experience, as well as identifying early enough any possible risk. Seamless Flow does just that.”

Curb-to-gate biometric clearance

With the addition of paperless biometric boarding gates, Montevideo Carrasco International will become the first fully digital airport in Latin America with a curb-to-gate biometric clearance journey. This translates into a frictionless traveller flow, giving the airport additional flexibility over its operations management and passengers a seamless journey where presenting travel documents becomes unnecessary.

“The use of facial recognition to clear travellers throughout the digital ecosystem creates a seamless and obstacle-free journey, transforming Carrasco International Airport into a blueprint for the fully connected 4.0 digital airport,” Camman explains. “The sophistication of a hands-free journey inside the airport provides a modern, easier and much more enjoyable travel experience to the passenger. Carrasco is the first of over 50 airports operated by Corporacion America to adopt Seamless Flow. It will serve as role model to roll-out contactless journeys across Latin America, as well as Europe.”

Vision-Box is exhibiting at ACI Airport Exchange, where visitors will be able to learn more about its product line for passenger interaction points, specifically designed with modularity, connectivity and low footprint in mind. "Those interaction points are all connected to our common-use passenger flow management platform orchestra™, the brain of the 4.0 Seamless Airport," says Camman.

The company will also demonstrate VBot™, its new smart Internet of Things (IoT) facial biometrics capture device, which provides quick, non-intrusive, contactless and highly accurate facial recognition.

Camman explains that Vision-Box wants to show how a one-identity experience empowers individuals by eliminating travel documents while prioritising the protection and privacy of their information. “Additionally, it equips stakeholders with interactive decision-making, and real-time monitoring of the passenger journey, allowing for unprecedented usage of available information. That’s what the ‘Airport 4.0’ digital transformation is all about.”

The Digital Innovation Summit at this year’s ACI Airport Exchange will hear from Richard Camman, Business Innovation VP, Vision-Box, who will outline experiences of implementing a biometric-based seamless passenger walkthrough journey at some of the most innovative airports around the world. He shared a preview with Marta Dimitrova.
The leader in self bag drop

> 130,000 DAILY BAG DROPS  > 250,000 DAILY CHECK-INS  > 70 AIRPORTS  > 700 INSTALLATIONS

Materna installation@Toronto Pearson International Airport
it is impossible to name an industry which isn’t impacted in some way by the drive for sustainability. For the travel industry, its efficiency and ecological impact is an issue of significant importance which matters to governments, travel companies and travellers themselves.

Travel, like most sectors, has a number of areas where the sustainability of business practices and operations can be brought into question. This is an issue which will only grow in importance, as more regions and countries develop their tourism industry and increase the volume of passengers. It is important that all players within the industry are focused on reducing their carbon footprint, cutting waste and operating as efficiently as possible.

Sustainability within the airport environment

There are many areas where airports, specifically, can focus their energy when it comes to sustainability. However, the range of options available and the complexity of operations can be challenging and make it difficult to decide where to begin and what to prioritise.

At Amadeus, we believe that part of the answer lies with employing modern technology solutions, which have been proven to help airports reduce the energy they consume and therefore help airports to operate more sustainably.

The recent ‘Airport Digital Transformation: from operational performance to strategic opportunity’ report from Arthur D Little, commissioned by Amadeus, found that smart energy systems used to monitor and optimise energy consumed within the airport environment, while not a top priority up to now, were consistently flagged as an area in which airports see potential to do more.

However, this energy saving initiative can also be extended to less obvious areas. Airport professionals are, of course, aware of the complex infrastructure that exists within some airport environments today. Typical common-use systems, such as CUTE and CUPPS which used to process passengers and coordinate operations with airlines, require huge amounts of energy, maintenance and manpower in order to keep them running smoothly.

The servers that are kept within the airport alone require huge computing power and consume a vast amount of electricity. This in turn generates massive levels of heat and requires air conditioning systems in order to cool the server rooms – creating a constant drain of power.

Amadeus’ modern technology has the power to reduce the complexity, time and cost of these resources, by removing this inefficient physical infrastructure from the airport environment entirely.

Introducing ACUS

Amadeus Airport Common Use Service (ACUS) redefines common-use infrastructure at the airport. By moving passenger processing systems into a single, scalable industry platform that is hosted in Amadeus’ data centre, airports can say goodbye to physical desk space needed with traditional hardware, and instead benefit from energy efficient ‘thin-client’ workstations.

These machines are best described as viewing terminals that allow agents to use a Passenger Services System (PSS), but they consume only 15% of the energy of an equivalent PC, in part because they have far fewer moving parts. In fact, Amadeus’ environmentally-friendly common-use platform is expected to help airports reduce their total CO2 emissions by up to 5,000 tonnes annually.

Consider this example: if 75% of the workstations at a 300-workstation airport switched to thin clients, the organisation would save the equivalent of 148 tonnes of carbon dioxide emissions over a five-year period. This amount of energy would allow a VW Golf TDI to circle the earth 27 times.

ACUS also has a clear benefit for airline stakeholders, who will need only one connection to Amadeus’ data centre to deploy their departure control system and Amadeus will connect to the ACUS-enabled airports where the airline operates. Airlines are also able to virtualise any other applications that their agents need to use in the airport environment by using Amadeus’ platform in the same fashion. This means that all passenger processing functions can be performed from a centralised private cloud and airports no longer need to manage the complexity of multiple connections and different software versions.

Of course, there are many areas which airports and the rest of the travel ecosystem could consider evolving, in order to reduce their energy usage and carbon footprint. However, by investing in cloud-based solutions, not only is energy saved but travel players also gain a host of benefits in terms of time, cost-savings and efficiency.

*IT makes sense to share: Making the case for the cloud in Common Use airport technology, 2014, Amadeus report
Unlock rapid profit growth with demand-based dynamic pricing.

In an increasingly disruptive mobility landscape, it’s your turn to pull ahead. IDeaS Car Park RMS is a cloud-based pricing, forecasting, and revenue management software solution that uses data and analytics to maximise parking revenue and improve traveller experience.
By Guy Barnes, Director Strategic Accounts, IDeaS Revenue Solutions

Parking the next big opportunity for airport profit growth

Airports seeking to unlock rapid profit growth need look no further than just outside the terminal entrance for the next big opportunity. Parking provides the highest EBITDA for airports with the potential for more sustained gains than other revenue streams. However, two contradictory outlooks for the airport parking industry have introduced some uncertainty: increased regulation and transportation options will lead to the demise of parking; and airline passenger numbers will double over the next decade, causing airport parking to grow in tandem.

Which is it, boom or bust? There won’t be any drastic, sudden changes, but with airline passengers forecasted to double to 14 billion worldwide by 2029, there undoubtedly remains a need for traveller parking, regardless of any disruptors. So, time to build more parking facilities? Not so fast. Airport commercial parking managers should first seek a more acute understanding of traveller demand via data analytics and find ways to optimise existing inventory.

Revenue management applies science to maximise revenues generated from a perishable product. With an increased focus on growing pre-book business mix and applying revenue management practices, trailblazing European airports have applied dynamic pricing to pre-booked parking for over a decade, with continued year-over-year revenue growth. Airports in Australia have more recently taken on these practices, and with the increasingly recognised opportunity, this trend is now emerging in North American airports.

Still, parking managers often fear that travellers won’t accept dynamic pricing and that the change would dilute their drive-up business. These doubts are understandable but ultimately unfounded. Returns from dynamic pricing far outstrip any impact on drive-up business, and history has shown that travellers will quickly adapt. Just look how fast Uber attained widespread adoption for something as ‘far-fetched’ as booking a taxi on your smartphone with prices that would ‘surge’. It’s time to overcome misplaced fears and make bold, smart decisions to be more competitive and grow profits faster.

By using data to understand traveller behaviour, parking managers can start to make more powerful decisions. However, there’s a lot of data to consider to accurately understand demand and determine the right price to put in the marketplace. This is where revenue management technology comes into play. Parking managers don’t need to hire a team of data scientists. Revenue management systems utilise machine learning and analytics engines to automate forecasting and pricing processes.

Despite any uncertainty, this is no time to procrastinate. Airports can expect a 10% increase in revenue within the first year of implementing a revenue management system and applying data-driven decisions. With advanced technology taking care of daily pricing decision-making and updates, airport parking managers can manage by exception, have more time to be strategic and grasp the next big opportunity, while simultaneously driving better revenue for their airport.

Avinor has partnered with IDeaS to optimise car park revenue. Avinor has partnered with IDeaS Revenue Solutions to optimise revenue growth for its 11 car parks and over 20,000 parking spaces at Oslo Airport. Customers will receive more dynamic pricing on Avinor’s pre-book solution, with prices regulated based on actual demand.

“In an increasingly complex ground transportation environment, we recognised that, while we have done a good job to date, investing in analytics to better understand and price the demand for our car park business would enable us to truly optimise our parking inventory,” says Amy-Caroline Løken, Category Manager, Avinor. “It would also create a better customer experience for the growing number of travellers looking to pre-book online.”

Guy Barnes, Director Strategic Accounts, IDeaS, adds: “One of the best ways airports can manage a correct pricing system is through applying automated revenue management to their parking assets. Moving from manual or less sophisticated pricing decision-making to a data-driven environment delivers significant revenue growth to an area that typically delivers the greatest EBITDA for airports.”
VALIS Engineering is exhibiting at this year’s ACI Airport Exchange, where its key focus will be on sharing technical insights into jet blast protection, noise reduction and engine testing. Vasco Velez Grilo, CEO VALIS Engineering, spoke to Ross Falconer.

Customised solutions for jet blast protection, noise reduction and engine testing

At this year’s ACI Airport Exchange, VALIS Engineering will present its latest projects and new products, such as its fibreglass Jet Blast Deflector. “We will also be available to discuss and assist visitors with technical insights into the issues pertaining to jet blast protection, noise reduction and engine testing, and explain how we customise each of our solutions to our clients’ needs,” says Vasco Velez Grilo, CEO VALIS Engineering. “Our main objective at the event will be to meet our customers and airport operators, as well as to discuss with them the main concerns regarding technical and long-term investment solutions. Our focus will be to demonstrate how our solutions can contribute to tackling the future challenges of ever-evolving airport infrastructure, and how they can be designed to adapt to the particularity of their airports.”

A new ground run-up enclosure, manufactured by VALIS Engineering, was recently installed at São Paulo’s Guarulhos International Airport. “The facility has been conceived to mitigate the noise impact of engine testing while preserving the exhaust fluid flow characteristics of aircraft engines up to class E, thereby reducing testing downtime,” Vasco Velez Grilo explains. “That is undoubtedly the main benefit, since test engines are normally restricted by certain time slots and the operational availability of taxiways in the airport. The sound barrier currently being installed will allow LATAM to perform engine run-ups of wide-body and narrow-body aircraft at any time of the day or night without having to wait for airport go-ahead, facilitating efficient maintenance operations.”

The main challenge with the project was the lead time, which had to take into account the transport constraints of shipment from Europe to Brazil. “Design, fabrication and shipment were all completed in under five months, allowing the client to start the construction works before the rain started,” Vasco Velez Grilo comments. “The production phase was handled with rigorous planning and optimised production, overcoming the lead time challenge.”

The run-up enclosure is made of a Jet Blast Deflector that is 50m in length and 9m high (450sqm) and a 1,540sqm Sound Barrier. The whole logistics of the project were organised so that the 20 containers were shipped in the order of assembly, allowing for both an efficient worksite management and shorter construction times.
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Robotic parking no longer a dream, but reality

The first outdoor airport car park managed by robots opened at Lyon Saint-Exupéry at the beginning of 2018, following the debut of the ‘Stan’ parking robot in an indoor car park at Paris-CDG in 2016. The automated robotic valet parking service provided by Stanley Robotics can move any vehicle and, it is claimed, can increase capacity in existing car parks by up to 50%, while revolutionising the user experience.

"Robotic parking is no more a dream for the future, it has already been delivering service to numerous public users this year at Lyon-Saint Exupéry Airport, where we first launched commercial operations," says Stéphane Evanno, co-founder & COO, Stanley Robotics.

Travellers drop off their cars, and collect them again, from dedicated cabins in the car park. Intelligent management software coordinates the robots, with the autonomous platform delicately handling the vehicle by the wheels, moving and parking it. The service is 100% electric, ensuring emission-free parking.

Evanno reports that over 95% of users are satisfied with the service, which has grown significantly from an initial 50 spaces. Lyon-Saint Exupéry Airport strongly supports the project, as does operator VINCI Airports, and together with Stanley Robotics they decided to grow the operation to the next level – 500 managed spaces.

"Feedback from travellers shows that what they value most is not having to spend time searching for a parking space, and also the fact that their car is secured during their absence – the area where robots operate and store the cars can’t be accessed by the public," Evanno comments. "My favourite statement given by a user though is simply ‘magical.’"

"Increasing speed and service level"

The claim is that the robotic valet parking system means car parks can accommodate 50% more vehicles. "Robots can park cars very closely to each other without risk of damaging them, and we also eliminate most of the aisles since cars are stored in large blocks – the keywords here are ‘block parking’," Evanno explains.

Stanley Robotics has worked extensively on the user experience and on all interfaces provided to the public, refining them to make the process intuitive for customers. "We had issues at the beginning, with people not understanding what they had to do," says Evanno. "Those issues disappeared over time after several iterations of the service, with refinements to signage, screens, road-markings, etc.”

Looking ahead, there are other projects in progress, and Evanno explains that the robotic valet parking service will be launched in the UK by mid-2019. "Regarding the technology, we are bringing it to full autonomy – meaning no operators – next year, and are always increasing the performance in terms of speed and service level."
PAVING THE (RUN)WAY TO MORE SUSTAINABLE AIR TRAVEL
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Nuctech is currently partnering with various airports in Europe, Asia and the Middle East to discuss trial programmes for Kylin – its latest solution for cabin baggage screening. Some of these have already been put into operation and will be tested step by step based on the concept of operations of European Civil Aviation Conference (ECAC) EDS CB Standard C2 and Standard C3.

Indeed, Kylin recently received Standard C2 approval by ECAC for checkpoint security. “With a far-reaching influence within and beyond Europe, the new approval might usher us into possible new purchase and deployment,” says Prof. Zhiqiang Chen, Chairman, President and Chief Executive Officer, Nuctech. “With the C2 approval, Kylin allows for electronics to be left in hand baggage. Less divestment means checkpoint throughput and passenger experience might be improved. In addition, by participating in the testing process, valuable knowledge and experience have been gathered. This process serves as a significant step for us to further go through the tests of Standard C3, the highest level available now.”

From its inception, Kylin was designed to meet the latest C3 approval, which will allow for electronics and liquids to be left inside hand baggage. “Kylin utilises dual energy X-ray combined with Computed Tomography to enable the highest level of molecule and density analysis,” Chen explains. “With the rich information available, Kylin achieves an unprecedented high level of precision in detection. Explosives and narcotics can be automatically detected, even when concealed inside electronic devices or mixed with liquids.”

A Standard C3 application has been filed for Kylin, with testing in progress. Nuctech expects positive results by early-2019.

Meanwhile, this June the Civil Aviation Administration of China (CAAC) published its first-ever industry standard for people screening technology. “It shows the commitment of CAAC to introduce best-in-class screening technologies to Chinese airports, where traditional metal detectors are still the norm,” Chen comments. After several rounds of rigorous testing, Nuctech’s millimetre wave body scanner – MW1000AA – has been approved by CAAC with the highest Type A standard. “It serves as a strong testimony for our superior detection capability, and an important ‘ticket’ to future sales in China,” says Chen. “Equipped with approvals from ECAC and CAAC, MW1000AA is well positioned to fully explore the rich opportunities in airports at home and abroad.”

Smarter machines

Nuctech utilises Artificial Intelligence and Machine Learning to help detect suspicious items automatically. The algorithm
can be configured into a small palm-sized box called WEKNOW. "It can be used as an add-on alongside traditional X-ray machines, or the most state-of-the-art CT scanners," Chen explains. "It greatly extends the capability of the scanners."

With simple plug and play, WEKNOW brings intelligence to security scanners, by providing automatic alerts to prohibited knives, guns, explosives hidden inside electronics or liquid bottles, power banks or fire crackers with a detection rate said to be 90-95%.

Nuctech is also pushing towards customised algorithm development, via its dedicated in-house R&D team. "Partnered with our global customers, we are confident the target list would be continuously expanding," says Chen. "In addition, the power of WEKNOW can also extend beyond alerting the threats. Intelligent diagnosis can be incorporated in the near future to realise scanner positioning, remote monitoring, system diagnosis, fault prevention, and predictive maintenance."

Indeed, Nuctech’s predictive maintenance algorithm is designed to help greatly improve system availability and keep equipment downtime at a minimum. "The status of each subsystem in the device is obtained in real time," Chen comments. "Real-time monitoring is realised through the analysis of the data."

Nuctech believes that real-time screening has significant potential for airports seeking higher throughput and better passenger experience. It has developed a new body scanner utilising non-ionizing Terahertz technology – the TH1800, allowing for real-time screening for concealed threats.

"The non-invasive, passive screening alleviates the anxieties associated with pat-downs, providing a safe, quick and reliable way to safeguard the travelling public," says Chen. "It can pinpoint suspicious metallic and non-metallic items from a distance of two to three metres. Hidden knives, guns, explosives and illicit drugs could be detected without the need to stop the traffic. With the real-time screening of people at range, a non-stop and carefree journey at the airport might be a reality in the near future."

Chen explains that, equipped with AI algorithms, the TH body scanner can automatically mark up concealed threats. Meanwhile, an audio or visual alarm could be triggered to alert operators to perform a targeted search.

"We hope our new innovation provides inspiration for global aviation authorities to further explore new ways to improve the passenger journey into the future."
Currently in serious expansion mode, SunExpress is a carrier that is on the move. To find out more about the operator’s recent and upcoming developments, Jonathan Ford spoke with Wilken Bellmann, Head of Network Planning and Scheduling, to discuss new routes, new aircraft and new focuses.

SunExpress planning to MAX-imise its network in more ways than one

Operating under a German and Turkish Air Operators Certificate (AOC), SunExpress is a carrier which is making big strides in the European aviation market. The carrier was founded in October 1989 as a subsidiary of two leading European carriers, Turkish Airlines and Lufthansa. Today, SunExpress carries around nine million passengers annually. With its 28 years of experience and thus the long-term commitment in the traffic between its home markets of Turkey and Germany, the airline has acquired the reputation of being the holiday specialist, even beyond Turkey.

The airline concentrates on three areas of business: international tourism, ethnic travel (including domestic Turkish flights to the most important cities within the Asian part of the country) and wet-lease. Besides scheduled flights, SunExpress relies on charter business and a close cooperation with renowned and individual smaller tour operators. Serving more than 60 cities in 20 countries with at least 1,200 weekly flights during peak summer, the destination portfolio of SunExpress offers a wide variety of non-stop frequencies between Europe and Turkey, Germany and holiday destinations within the Red Sea region, Greece, Bulgaria, Italy and the Canary Islands.

2018 and 2019 expansion

This year, SunExpress’ annual scheduled seat capacity rose by 52% versus the previous year, according to schedule data from OAG, with the airline having added many new routes this year. “My team has done a great job in further shaping the SunExpress network for both our German and Turkish AOCs this year, with continued focus on major airports across Europe combined with frequency increases on our leisure and VFR-driven routes to Turkey and other destinations in the Mediterranean,” says Wilken Bellmann, Head of Network Planning and Scheduling, SunExpress. “This summer we added almost 30 new O&Ds to our network, and for next summer we are eyeing a similar number of new routes.”

The airline will also see the arrival of its first 737 MAX 8s next year. “Deliveries will start in Q2 2019 and we will introduce the 737 MAX 8 to both our Turkish and German AOCs. We are currently evaluating some MAX-specific routes, but cannot comment until we have finalised our evaluation and have published the programme accordingly.”
SunExpress launched four new routes from Ankara, Antalya, Bodrum and Gaziantep to London Luton in June. SunExpress’ Head of Network Planning and Scheduling Wilken Bellmann and London Luton CCO Jonathan Pollard cut the ribbon which increased the airline’s summer flights at the UK airport from 80 last summer to 300 this summer season.

The Antalya Shuttle concept

The Antalya Shuttle concept by SunExpress is about offering a high frequency of services from key airports to the Turkish city during summer, with the shuttle programme having been heavily expanded in 2018. “The Antalya Shuttle concept is basically a high number of frequencies from our key airports during the summer season, including five flights per day from Düsseldorf to Antalya,” Bellmann explains. “We have similar setups in place on the Cologne Bonn to Antalya market, which operates four times per day, and on Hannover, Frankfurt and Vienna to Antalya. We also offer a similar concept at Izmir to Düsseldorf and Frankfurt, with both seeing up to three daily flights.”

Germany is currently the second-largest visitor market to Turkey, with Germans accounting for 11.21% of all foreign arrivals to Turkey during the first nine months of 2018.

Turkish comeback

Turkey has seen a resurgence in tourism in recent times, with this being a strength that SunExpress has capitalised on. “Turkish tourism in general has seen a great comeback with strong demand from all source markets to all of our destinations,” Bellmann comments.

According to statistics from the Republic of Turkey’s Ministry of Culture and Tourism, 32.41 million foreign visitors were recorded in 2017, with this total up 27.8% versus the levels experienced in 2016. This surge has continued into 2018, with data from the same source indicating that during the first nine months of 2018, just under 31.82 million foreign arrivals have been registered at Turkish customs, a 22.1% rise over the same nine-month period of 2017. Of these visitors, 75% arrived in Turkey via air. When asked about which markets have been performing well for SunExpress this year, Bellmann states: “It’s impossible to pick out a single route as a star performer, as the airline has been very happy with the development of the entire network from and to Turkey.”

SunExpress factbox

Current fleet: 64 737-800s

2017: 8.8 million passengers

Average load factor in 2017: 84%

Number of flights operated: 57,675
Airport cybersecurity, are we there yet?

As new technology emerges with the use of the Internet of Things (IoT) and others for automation, connectivity and information sharing, the cyber-threat adapts. From self-check-in kiosks and automated bag drop systems to access control to secure areas, ‘smart’ gates or simply available Wi-Fi for the general public, the automation of airport systems offers numerous advantages both for airport operators and the travelling public. However, it also comes with new vulnerabilities. The European Aviation Safety Agency (EASA) estimates that an average of 1,000 attacks occur per month on aviation systems, thus becoming a real threat to airport safety, security and reputation.

With airports considered critical infrastructure, national security can also be compromised by cyber-attacks. As Dr Maißen, the President of Germany’s BfV (Federal Office of the Protection of the Constitution), recently stated: “The national security in Germany is increasingly defined by the national cybersecurity situation.”

Cybersecurity risks evolve fast and the very nature of cyber-attacks, characterised by their low cost, makes them very affordable to terrorist and criminal organisations.

Understanding the threat

The US National Institute of Standards and Technology (NIST) categorises the cyber-threats to airports into political or military, commercial espionage, disruption, and cybercrime. For instance, as airports are symbolic, a cyber-attack could disrupt and critically damage public trust; organised crime networks and foreign governments may target sensitive documents such as airport planning, construction, budget and government documents; attackers may target networked systems to deny user access, corrupt data, or inflict damage; or other targets may include credit card information from parking services and baggage fees.

As a result, airport operators may face attempts to access physical security systems or access controls; disruptions on air bridge functions, air conditioning, heating, electrical systems, electronic signage, baggage systems, parking services, Wi-Fi networks or Distributed Denial of Service (DDoS) to make the airport’s online services unavailable. In addition, the implementation of networked screening equipment, such as Explosive Trace Detection (ETD) units and body scanners, very useful to the airport operator for statistics and process improvements, can also become targets for hacking attempts (imagine, for instance, hacked ETD equipment providing only ‘negative’ results to prevent a terrorist wearing a non-metallic explosive device being detected at the screening point). In essence, as the President of Germany’s Federal Office for Information Security (BSI), Mr Arne Schönbohm puts it: “Cyber-attacks have an immediate impact on the real world.”

At a governmental level, different agencies are taking proactive steps to promote awareness. The EU Agency for Network and Information Security (ENISA), for example, through Cyber Europe exercises conducts annual simulations of large-scale cybersecurity incidents. In the intelligence community, Germany’s BSI participates in pan-European cyber defence exercises; the UK Government has just published the Aviation Cyber Security Strategy; Munich Airport opened the Information Security Hub (ISH) and other agencies have developed awareness campaigns with cooperation programmes with the private sector – which nowadays own, lease or operate critical infrastructure – to provide threat intelligence and advice.

Being proactive, key to resilience

Even though cybersecurity is a relatively new risk, it is important to understand that airports’ CEOs and Directors will still be held accountable should a major cybersecurity breach occur, just as they would for a physical security incident. Ideally, cyber resilience would be built into the future innovations from their conception, but being proactive is key to avoid ‘nasty surprises’.

As an airport operator, a cybersecurity programme would involve having a clear understanding of your airport, and identifying your particular critical assets, risks and vulnerabilities by conducting a Cybersecurity Risk Assessment. Taking a proactive approach means that any airport operator ensures that cybersecurity is part of their security plan, describing how cybersecurity is managed within the airport and outlining the security controls in place. In addition, it should be included in incident response and business continuity plans. As the UK Government Communications Headquarters (GCHQ) says: “Put cybersecurity on the agenda before it becomes the agenda.”

By Javier Caldes-Casas, Airport Security Expert, Munich Airport International GmbH
While most air traffic users including airports are spending efforts in restricting drone activities near airports, some operators are researching new opportunities to make their lives easier by the usage of such new technologies. The airport operator of lux-Airport for example started the implementation of UAV-based pavement inspections, using the new technology to their advantage.

For publication in the AIP, the Pavement Classification Number (PCN) must be determined, which is conventionally done through a classical pavement evaluation, requiring multiple inspections and taking a lot of time. At lux-Airport, all aprons have been surveyed and assessed using a novel concept, taking advantage of a combination of proven, established methods and supplementing these with a drone-aided aerial survey and thus saving a lot of time and effort.

An unmanned aerial system equipped with a high-resolution digital camera

airsight deployed a team of two aeronautical engineers, trained to fly UAVs, to perform this aerial survey. They used an unmanned aerial system equipped with a high-resolution digital camera on around 50 individual flight segments with a duration of 10 to 12 minutes each. To warrant the safety of flight operations, the drone inspections took place in close coordination with authorities and air traffic control.

The camera photographed a total area of 430,000 sqm, which was then processed into orthophotos with a resolution of 3mm per pixel. During each flight segment, 300 to 500 raw images were captured for post-processing and, with the help of photogrammetry software, single image files were stitched into a rectified and undistorted overall image.

Based on the orthophotos, the engineers conducted a visual distress analysis to derive the paved surface condition and assess the damage percentage. Homogeneous (surface condition) areas were identified based on pre-defined distress categories. The visual inspection provided valuable input data for the remaining steps of the PCN determination and brought the airport operator time and cost savings.

Visual inspections can reduce the number of necessary core drillings

The project team evaluated the surface condition further by performing falling weight deflectometer tests on all aprons with a grand total of around 1,500 measurements. Based on the homogenous areas created by the visual inspections it was decided where to perform additional core drillings and laboratory tests to get an inside view of the pavement structure.

Considering the results from all campaigns, the PCN values were calculated for different life spans taking into account traffic forecasts, aircraft types and loads. Finally, airsight created a comprehensive overview of all aircraft stands, possible aircraft types and associated ACN and the local PCN value to enable the airport operator to optimise stand allocation and pavement life spans on his aprons.
Heathrow outlines plans for industry’s largest end-to-end biometrics roll out

Heathrow Airport has announced plans for a full-scale roll out of new biometrics services from summer 2019. The technology will streamline the passenger journey through Heathrow from check-in to take-off, and is expected to reduce the average passenger’s journey time through the airport by up to a third.

The biometric solution uses facial recognition technology at check-in, bag drops, security lanes and boarding gates to create a seamless experience for passengers. The £50 million (£57m) project is part of a wider programme of investment to streamline passenger journeys and once complete will mean that Heathrow will have the world’s largest deployment of biometric products in an airport.

The long-term aim of the technology will be for passengers to be able to walk through the airport without breaking their stride. Passengers have already been trialling new services in live operation throughout 2018 and feedback has been positive.

Heathrow has already begun using biometric e-gates in some stages of the passenger journey, including on entry to the UK at the border. The technology is also used for domestic journeys through the airport, but this will be the first time that Heathrow will use the technology at every stage of the departing passenger’s journey. The project also has the potential to allow for greater personalisation of passenger services, which is especially useful for passengers requiring additional assistance.

“As our passenger numbers continue to grow, we must look for innovative ways to make it easier and quicker for them to travel through Heathrow with choice, whilst keeping our airport secure,” Jonathan Coen, Customer Relations and Service Director, Heathrow Airport, said. “Biometrics are key to helping us do that and we are really excited about the biggest roll out of this equipment at any UK airport.”

New tool measures the gains of eezeetags’ self-tagging

This year, approximately 65 million travellers will use an eezeetag to self-tag their bag. Eezeetags now serves over 50 airports of all sizes worldwide, as well as traditional airlines and low-cost carriers. New customers include Bangalore Airport, Gimpo Airport, and Taoyuan Airport.

“We just prolonged our Lufthansa contract for another two years, and the airline is going to invest in extra self-service bag drop installations,” adds Borry Vrieling, founder and Managing Director, eezeetags. “Plus, extra self-service installations at Amsterdam Airport Schiphol are increasing demand for eezeetags.”

The growing number of passengers using the self-tagging solution means more data is becoming available, which Vrieling explains has been used to create a calculating model called the ‘eezeetags-o-meter’. The tool is based on data provided by eezeetags’ customer airports on their daily bag drop operations.

“The ‘eezeetags-o-meter’ measures the gains made by using eezeetags over a more standard tag with a liner,” says Vrieling. “We found that, on average, travellers are 20 seconds faster tagging a bag with eezeetags compared to a standard tag.”

The model is based on four rules:

- 20% of passengers will not be ‘self-service qualified’ for various reasons
- 80% of passengers can use self-service applications provided
- 65% of passengers drop a bag to be checked-in as hold baggage
- 20 seconds per passenger can be gained on the actual tagging process

“In the end, the calculations are easy to make, but the outcome is astonishing. What a difference only 20 seconds per passenger can make – it still amazes me,” Vrieling comments.

eezeetags has created a calculating model called the ‘eezeetags-o-meter’. The tool is based on data provided by eezeetags’ customer airports on their daily bag drop operations.
Brussels-Charleroi to adopt IoT in bid to become a true “digital dome”

Brussels South Charleroi Airport (BSCA) has announced a new strategic partnership with Telenet to enable the development of solutions based on the Internet of Things (IoT).

The five-year collaboration aims to make Brussels-Charleroi a true “digital dome”. Its main objective is to optimise the running of the airport and to improve the passenger experience from home to boarding gate, by utilising digital solutions such as smart parking, optimised Wi-Fi network, and the analysis of visitor location data. The partnership will also enrich the CRL Airport app, which was launched last June. The application is poised to become the heart of the passenger experience, and a source of essential data for the airport. “It’s important to us to facilitate the journey of people passing through our installations and now, thanks to Telenet, we can help them from their home to the plane,” said Jean-Jacques Cloquet, CEO Brussels South Charleroi Airport. “Becoming a connected airport was one of our priorities, and now we have the first stone that will allow us to build the BSCA digital dome, for a most pleasant passenger experience.”

Star Alliance trials virtual reality entertainment in CDG and FCO lounges

Guests in Star Alliance lounges at Paris-Charles de Gaulle (CDG) and Rome Fiumicino (FCO) airports can trial virtual reality (VR) entertainment up until the end of January 2019. Using headsets provided by Inflight VR, guests can enjoy fully immersive video content, including short films and documentaries, and experience exotic destinations in virtual reality. The devices also offer children’s content and specially created content to help travellers relax, such as guided meditation. “We are very pleased to see Star Alliance interested in offering its guests the benefit of virtual reality in their lounges,” said Moritz Engler, CEO Inflight VR. “This is a further demonstration of the versatility of our product, which can be similarly used in the air and on the ground.”

Following the three-month trial, Star Alliance will assess user feedback and consider whether to pursue a permanent deployment with Inflight VR.

Aberdeen Airport opens Changing Places facility

The latest phase of Aberdeen International Airport’s terminal transformation project is its new Changing Places facility. Located within the departures lounge, it aims to make travel a little easier for those who find travel challenging. Included within the Changing Places room is a height adjustable bench, electronic hoist, non-slip floor and privacy screens. The facility can be accessed without the need for a key, and is alarmed should any passengers require assistance.

The airport has been working with the community to improve accessibility and inclusiveness, and was given a ‘very good’ rating in the UK CAA’s most recent Accessibility Study. The airport also has its own Access Forum, a group made up of airport representatives and members of various disability organisations and charities. Vicky Cruickshanks, an ambassador of Euan’s Guide, a disabled access review website, was on hand to open the facility alongside Phionna McInnes from Me Too Magazine!, the Aberdeen-based charity for children with additional support needs and a member of the Access Forum. “This new changing facility will make a huge difference to those individuals and families with additional support needs when flying from Aberdeen,” said Fraser Bain, Airport Duty Manager. “We work closely with our Access Forum members to understand the key priorities and we always seek feedback regarding our services and facilities to continue to improve the passenger experience, of which Euan’s Guide is one example.”
In April 2018, US-based space technology startup Orion Span announced its plans to launch Aurora Station, the world’s first luxury space hotel. Nick Preston discusses the company’s space tourism plans, including the potential for partnerships with other travel industry stakeholders, with its founder and CEO Frank Bunger.

Orion Span takes steps towards a giant leap in space tourism

As travel experiences go, none can be more awe-inspiring or technically challenging than the prospect of crossing the final frontier. In April 2018, US-based space technology startup Orion Span announced its plans to launch Aurora Station, the world’s first luxury space hotel.

“Aurora Station will launch in late 2021, with the first guests going up in early 2022,” explains Frank Bunger, founder and CEO, Orion Span. “It will replicate an authentic astronaut experience, with added luxuries. While onboard, guests will take in breath-taking views from large windows located throughout the station. They will see 16 spectacular sunrises and sunsets each day, experience the northern and southern aurora, and will have the opportunity to soar over their hometowns from 200 miles above Earth. In addition, guests will take part in research experiments such as growing food while in orbit, partake in an immersive virtual reality experience on the holodeck, experience weightlessness, and stay in touch with their loved ones back home via high-speed wireless internet access that allows for video and live streaming. We will also offer top-notch space food for our guests.”

Orion Span believes that technologies it is developing for Aurora Station could have transferable benefits for more traditional travel experiences. “The holodeck, our virtual reality experience that we are developing for Aurora Station, is going to blow guests’ minds,” says Bunger. “This is something that could be enjoyed aboard a long flight, during a hotel stay, or even as a kiosk type of experience. From a spacecraft hardware point of view, we’ll be evaluating how we might license some of our space-ready technology.

For example, additive manufacturing of large structures has uses in many industries on Earth.”

Bunger also sees the potential for partnerships with other travel industry stakeholders. “We see strong overlap and potential partnership opportunities between our offering and those of airlines, airports, hotel groups, and travel agencies. There are many possibilities on how such a partnership might work, ranging from booking fees and frequent flyer miles usage, to how we accommodate our guests during training and arriving to launch, with first class airfares and five-star hotels.”

Overcoming technological challenges

Orion Span has inevitably faced challenges in its quest to make lower Earth orbit the next must-visit vacation hotspot. “The biggest challenge we’ve had to overcome to date is a technological one,” explains Bunger. “Developing some of the key technologies that enable us to cut costs by an order of magnitude over competitors has not been easy. We have been able to do it by unifying around the same vision: an orbital space hotel and eventual orbital communities.”

Bunger also has some advice for other startups looking to get into the transport and travel sector. “The travel and air transport industry are hard industries to break into as a startup. Even with highly differentiating technology such as ours, high upfront capital needs can scare away investors. The advice I would give is to find a path to market that needs as little capital as possible to prove that your business thesis is correct. Aside from setting both yourself and your business on the right path, this also reduces investors’ concerns.”
Future way of traveling:

Istanbul Airport

Meet one of the most technologically advanced airports in the world.