

# ASIA-PACIFIC AIRPORTS

THE OFFICIAL MAGAZINE OF ACI ASIA-PACIFIC



## IN THE SPOTLIGHT: SUSTAINABLE DEVELOPMENT

Issue 1, 2022

- Airport profile: Doha's Hamad International Airport
- Special report: Resource management
- Plus: ACI Asia-Pacific, Regional & WBP news



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## VIEW FROM THE TOP

ACI Asia-Pacific director general, Stefano Baronci, reflects on a new joint initiative with the Asia Pacific Travel Retail Association, a successful trip to the Middle East and changes to the Regional Board.

It is fair to say that the first quarter of 2022 didn't quite turn out the way we had hoped or expected, with the Omicron variant having a particularly adverse impact on the aviation industry in Asia.

Indeed, the daily, record-breaking number of infections observed in many parts of Asia during the early weeks of the year also translated to travel restrictions backtracking and some borders closing again. The news cycle was further distracted by the war in Ukraine and the unfortunate plane crash in China.

At the time of writing, we are finally seeing glimmers of hope again with more countries in Asia announcing the progressive reopening of borders and relaxation of travel requirements to reconnect with other parts of the world.

However, we recognise much still needs to be done in order to truly reinvigorate travel across the region, and ACI Asia-Pacific continues to advocate and push forward our message on behalf of members.

### JOINING INITIATIVE WITH APTRA

To this end, ACI Asia-Pacific recently joined forces with Asia Pacific Travel Retail Association (APTRA) to launch a campaign urging for greater government support for the air travel industry.

The campaign included letters to the region's governments' health, tourism and trade and industry departments or authorities, followed by a [press release](#), primarily with a message urging governments to support air travel recovery and recommending a series of measures to address the issues preventing the recovery of the sector and regional economies as a whole.

This followed recent evidence from both APTRA and ACI Asia-Pacific indicating that Asia-Pacific's air travel industry is losing its competitiveness and significantly lagging behind other regions.

Data from ACI's latest economic impact assessment shows that, compared to the projected baseline, passenger traffic in Asia-Pacific reduced -63% in 2021, and is estimated to decrease -49% in 2022.

Similar performance is expected to be reported regarding airport revenues, with a loss of \$27 billion forecast in the region in 2022.

Furthermore, a recent survey of the region's airport operators indicated that significant operational challenges still need to be addressed to improve the passenger experience at airports.

The biggest issues reported a lack of internationally aligned digital health checks, predominant reliance on paper documents leading to onerous and time-consuming manual checks, obligation to be tested before departure and after arrival, as well as extra time required for manual processing of passengers (especially at arrival) and repeated manual document checking (especially at departure).

Now that more countries in Asia-Pacific are opening up to international traffic, there is an absolute need to properly assess the impact of health measures on passengers and to avoid excessive requirements.

Scientific and consolidated practices at international level provide ample justification for applying simpler measures at all airports, for vaccinated passengers, that would bring the region back to its leading position for air travel and tourism.

This requires adopting harmonised and simplified travel protocols and health credentials verification processes, which have become excessively complicated and scarcely predictable.

## ENHANCED ENGAGEMENT WITH MIDDLE EAST AIRPORT MEMBERS

As shared in my update in the last issue of the magazine, I embarked on an enhanced engagement tour with airport members in the Middle East during November and December. The visits started with our members in Bahrain and the UAE, namely Abu Dhabi, Dubai and Sharjah, generously hosted by the CEOs Mohamed Al Binfalal, Shareef Al Hashmi, Paul Griffith and Ali Salim al Midfa.

The final leg of the trip took us to Saudi Arabia. Graciously hosted by General Authority of Civil Aviation (GACA), the visit began on the heels of the ACI Asia-Pacific Regional Board's meeting in December (more on this later).

We were welcomed by the president of GACA, His Excellency Abdulaziz bin Abdullah Al-Duailej in Riyadh, Saudi Arabia, and Engr Suleiman Al Bassam, vice president of airports at GACA, who also serves as a special advisor on the ACI Asia-Pacific Regional Board.

The tour of various airports began with Dammam Airports Company, at King Fahd International Airport, as well as Al Ula International Airport, Jeddah International Airport, and NEOM.

Discussions circled around opportunities to strengthen co-operation and partnership with each other and others industry stakeholders. In all, the visit in Saudi Arabia was very productive. The aviation industry has much to look forward to.

## REGIONAL BOARD

As mentioned earlier, the ACI Asia-Pacific Regional Board convened in early December via video conference.

Besides hearing our guest, Tao Ma, regional director of ICAO Asia and Pacific share about the many initiatives and plans

affirming the close collaboration and co-operation between our two organisations, members also got to hear insights and stories from Akihiko Tamura, CEO of Narita International Airport Corporation, and Engr Suleiman Al Bassam of GACA on the Tokyo 2020 Olympic Games and implementation of the Tawakkalna Health Passport app, respectively.

The Regional Board meeting in December also signified the transition of our secretary treasurer, Sheikh Aimen bin Ahmed Al Hosni, CEO of Oman Airports Management Company, who was newly elected to become chair of the ACI World Governing Board in January.

We are proud that the World Governing Board is now chaired by one of our region's representatives and appreciate his continued support and engagement at regional level as one of the Board's special advisors.

## LOOKING AHEAD

Asia-Pacific and Middle East still has a way to go to catch up. The road to recovery will take place in multiple stages as seen in the recent, progressive reopening of borders. Nevertheless, ACI Asia-Pacific continues to focus on ensuring members' airport operations and public health measures implemented in accordance with ICAO Cart recommendations.

Besides the aforementioned joint-campaign with APTRA, due attention is also given to economic survival of the industry and safeguarding interests in the future, supporting members and advocating for state-support of the industry to the extent possible and risk-based approaches to travel protocols.

Whenever possible, we engage in dialogues with governments and policymakers on the coordinated reopening of the industry.

Airport operators and investors will inevitably reconsider priorities and reevaluate business models. Although ACI does not expect passenger traffic to return to pre-COVID-19 levels until 2024, Asia-Pacific and the Middle East are forecasted to be the two fastest growing regions with compound annual growth rate (CAGR) of 4.7% and 5.2% respectively until 2040.

As airports reinvent themselves and try to 'build back better', the three pillars of sustainability cannot be overlooked: Environment, Social and Corporate Governance (ESG).

Public and private finances are progressively more tied to sustainability ratings and climate actions. Balanced business models must incorporate all three aspects of sustainability to social and economic benefits.

We have also observed that despite financial challenges, airports are investing in touchless, self-service technologies to meet hygiene standards, restore passengers' confidence, and improve travel experience.

To all this, the future of the aviation industry remains promising and we look forward to more tangible progress in the recovery process. Ciao!

*Stefano*



# INDUSTRY NEWS



## CUSTOMER EXPERIENCE CHAMPIONS

Thirty two airports from Asia-Pacific and the Middle East have won 2021 Airport Service Quality (ASQ) Awards, which celebrate and showcase the world's best airports as voiced by travellers.

Twenty six awards were shared across eight 'Best by Size and Region' categories, and included Indonesia's Pattimura (AMQ) and Sultan Thaha Syaifuddin (DJB) airports sharing the Under 2mppa award for airports in the Asia-Pacific region.

Also in Asia-Pacific, India's Chandigarh Airport (IXC) finished equal first with Langkawi (LGK) in Malaysia and Indonesia's Jenderal Ahmad Yani (SRG) and Surakarta-Adi Soemarmo (SOC) airports in the 2-5mppa section.

Five airports shared the honours in the 5-15mppa category for Asia-Pacific – Cochin (COK) and Sardar Vallabhbhai Patel (AMD) in India and Sultan Aji Muhammad Sulaiman Sepinggan (BPN), Sultan Hasanuddin Makassar (UPG) and Yogyakarta (YIA) in Indonesia – while China's Haikou Meilan (HAK) and Shenyang Taoxian (SHE) airports once again shared the top spot with India's Hyderabad-Rajiv Gandhi International Airport (HYD) in the 15-25mppa category.

Beijing Daxing International Airport (PKX) beat off the challenge of all others to claim the award in the 25-40mppa category in Asia-Pacific, but it is was a totally different story in the Over 40mppa section for the region where an incredible nine airports – Beijing Capital (PEK), Delhi-Indira Gandhi (DEL), Guangzhou Baiyun (CAN), Kuala Lumpur (KUL), Mumbai-Chhatrapati Shivaji Maharaj (BOM), Shanghai Hongqiao (SHA), Shanghai Pudong

(PVG), Shenzhen Bao'an (SZX) and Singapore Changi (SIN) – couldn't be separated for top spot.

In the Middle East, Oman's Salalah Airport (SLL) was named Best Airport by Size in the Under 2mppa category and Sharjah International Airport (SHJ) denied Jordan's Queen Alia International Airport (AMM) a fourth successive triumph by pipping it to the post in the 5-15mppa category.

Salalah also received a 'Best Hygiene Measures by Region' award for the Middle East along with Medina's Prince Mohammed Bin Abdulaziz International Airport (MED) in Saudi Arabia.

A total of 10 airports in Asia-Pacific won Best Hygiene Measures by Region awards, which in addition to Best by Size and Region winners PEK, PKX, IXC, DJB and HAK included the Indonesian gateways of Depati Amir (PGK), Kualanamu (KNO), Sultan Syarif Kasim II (PKU), Supadio (PNK) and Jakarta's Soekarno-Hatta International Airport (CGK).

"As the industry recovers, continuing to listen and adapt to travellers will be absolutely crucial to strengthening airports' competitive advantage, non-aeronautical revenue, and ensuring the sustained recovery of the entire aviation ecosystem," said ACI World director general, Luis Felipe de Oliveira.

ACI World and ASQ partner Amadeus will be celebrating the 2021 ASQ winners at an awards ceremony at the ASQ Forum & ACI Customer Experience Global Summit in Krakow, Poland, in September.





## DXB EXPECTS TO RETAIN STATUS AS WORLD'S BUSIEST INTERNATIONAL AIRPORT

Although ACI has yet to release the official figures for 2021, Dubai International Airport (DXB) has confidently predicted that it has held on to its status as the world's busiest international airport for the eighth consecutive year after handling 29.1 million passengers in the calendar year.

Paul Griffiths, CEO of Dubai Airports, says 2021 was an eventful year which, despite the uncertainties of the global pandemic, saw DXB welcome a record number of new airlines and the Emirate finally host Expo 2020.

Describing DXB's performance in 2021 as nothing short of impressive, Griffiths said: "Despite unprecedented turmoil affecting millions of people all over the world, we overcame many serious obstacles to the operation of the world's largest international hub and provided smooth, comfortable and safe travel for millions of people travelling through DXB.

"This incredible performance by all of our staff and stakeholders was achieved in the face of abruptly changing travel regulations and concerns about new waves of infection. Despite these serious challenges to our ongoing success, we managed to exceed our own forecasts and continue to retain our crown as the world's busiest international airport.

"With the eagerly anticipated reopening of key markets such as Australasia and the further easing of travel regulations around the world, the outlook for 2022 is very promising and we are in an excellent position to continue to lead the world's air travel sector on the road to recovery."

India retained its position as the top destination country for DXB in 2021, with passenger numbers exceeding 4.2 million, followed by Pakistan with 1.8 million, Saudi Arabia with 1.5 million and the United Kingdom with 1.2 million passengers. Other destination countries of note include the US (1.1 million passengers), Egypt (1.0 million) and Turkey (945,000).

DXB's top destination cities during 2021 were Istanbul with 916,000 passengers, Cairo (905,000), London (814,000) and New Delhi (791,000 passengers).

Current forecasts indicate that around 55.1 million passengers will pass through DXB in 2022, but Griffiths acknowledges that if current trends continue, that figure could be exceeded by a significant margin.

## PUNE SET TO OPEN NEW TERMINAL LATER THIS YEAR

The upgrade of Pune International Airport in India's Maharashtra state is gathering pace with its new multi-storey car park set to open shortly and a new terminal expected to be unveiled in second half of 2022.

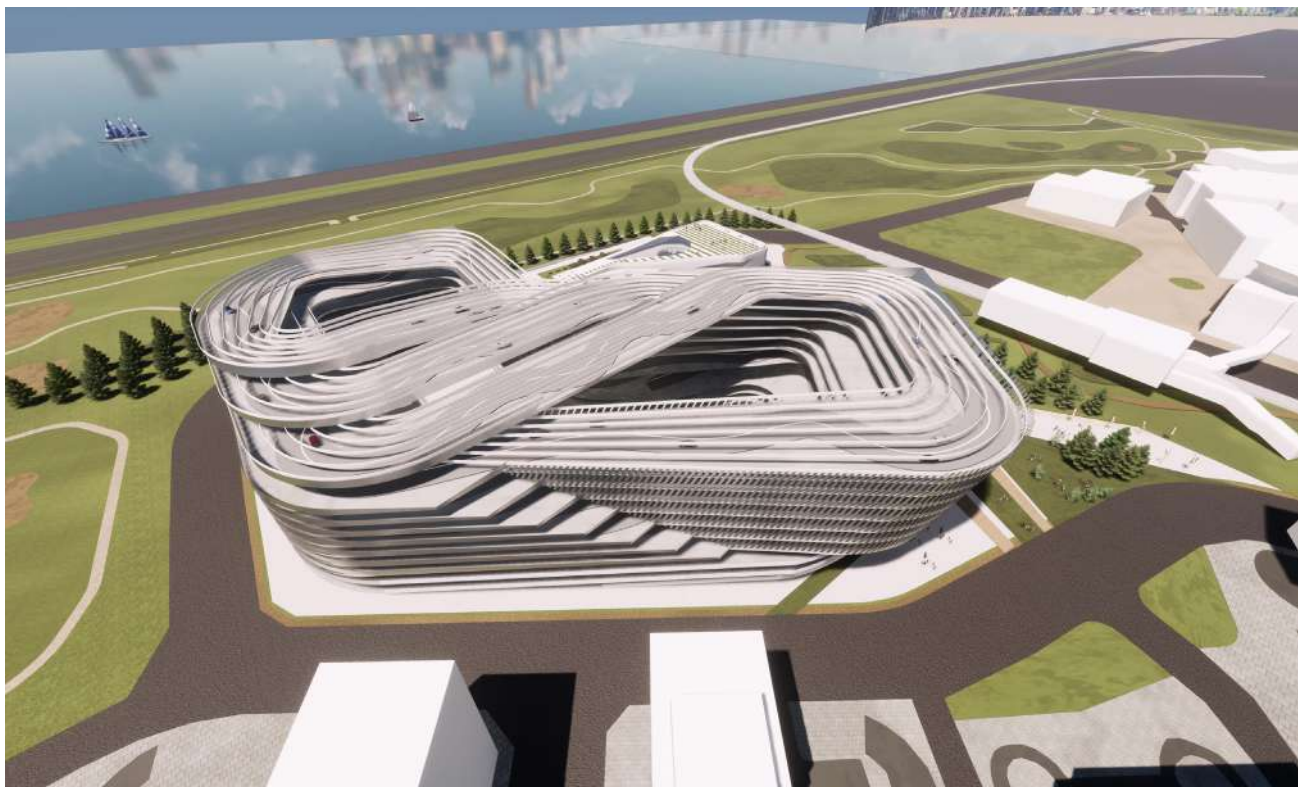
The new terminal is twice the size of the current facility and, according to the airport, will be equipped with five airbridges, advanced technologies and a fresh new duty free offering and retail/F&B outlets.

The new additions follow last year's renovation and extension of the airport's single runway, which at 3,250

metres long is now capable of handling widebody aircraft such as the A330 and B777, opening up the possibility of non-stop flights to Europe.

This may, in time, tempt Lufthansa to re-introduce its former Frankfurt-Pune service, which was operated by a narrowbody A319 aircraft due to the short length of the runway, and involved a refuelling stop in Baku, Azerbaijan.

According to *The Times of India*, in January 2022, the new terminal was 65% complete, with officials quoted as expecting it to be ready and operational by August 2022.



## INCHEON INTERNATIONAL AIRPORT CORPORATION DEMONSTRATES AMBITIONS

It appears as if the global pandemic has done little to dull the ambitions of Incheon International Airport Corporation (IIAC), which has unveiled plans for a new theme park and international museum at Incheon, and is set to play a key role in the operation and development of Batam Hang Nadim Airport in Indonesia.

Arguably the most ambitious of the projects are its plans to develop an ICT based innovative theme park called ‘Smart Racing Park’, which it believes will attract around one million visitors a year when it opens in 2025.

IIAC has signed an investment agreement with Paradise Segasammy Co Ltd and Monolith Incheon Park INC to build the theme park, which will be located on a 73,600sqm site in the International Business Complex 1 (IBC-1) that will be added during the second phase development of Paradise City.

According to IIAC, the Smart Racing Park will be a theme park that offers an advanced ICT based experience called ‘gravity racing’ as well as various other sports and game activities.

It notes that the main attraction, the gravity racing, is a sport entertainment where customers can drive at speeds of up to 40km/h in vehicles developed by Monolith INC. It adds that “what makes the experience even more special is the online game features, powered by augmented reality (AR) technology”.

IIAC’s president and CEO, Kyung-Wook Kim, said: “I expect the smart racing park will not only generate new air travel

demand, necessary for overcoming the current crisis, but also provide overseas and Korean tourists with the innovative entertainment only available at Incheon Airport.

“Incheon International Airport will transform itself into the art and culture hub, creating values that exceed the functionalities of an airport.”

In line with the ambition to transform itself into a culture hub, IIAC is exploring the possibility of opening a new world famous museum at the airport by 2024, and has launched a feasibility study into how best to accommodate a satellite site for a “recognised museum brand”.

It would become the airport’s second museum as it already hosts the impressive Museum of Korean Culture.

While outside of South Korea, IIAC has been awarded the concession to develop Batam Hang Nadim Airport in conjunction with partners, state-owned airport operator, PT Angkasa Pura 1, and engineering and construction company, PT Wijaya Karya.

In exchange for a 25-year concession to operate and develop the Indonesian airport, the consortium has agreed to invest around \$500 million on upgrading its existing passenger terminal, the construction of a new one and enhancing its cargo facilities to help create a logistics based ‘aerocity’.

The concession for the airport – which will be managed by newly established special purpose entity PT Bandara International Batam – is scheduled to begin in June 2022.



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## LOTS OF LOLLY AT SINGAPORE CHANGI

Sweet lovers will be unable to miss or resist the giant Chupa Chups lollipop currently on display in a fun new promotion at Singapore Changi Airport.

Measuring a whopping 11m x 4m and encased in a 14m x 14m Chupa Chups strawberry flavoured wrapper, the ginormous lollipop is proving a popular place for selfies.

Fans of the popular confectionery brand can also pose with other colourful Chupa Chups displays across Terminal 3 and redeem limited edition Chupa Chups merchandise when they spend money at Changi.

And there's a recreational side to the promotion, too, as kids can get creative and develop their interests in storytelling, magic, arts & crafts, robotics and technology

at seven unique workshops introduced at the airport as part of Changi's 'Sweetest treat' campaign, which runs from March 11 to May 3, 2022.

Phau Hui Hoon, Changi Airport Group's general manager for landside concessions, said: "We are constantly exploring new and fun ideas to bring joy and delight to our shoppers and airport lovers during the school holidays.

"With travel recovering, we're adding to the whole Changi experience by bringing more exciting activities to engage families and children during the school holidays and weekends. This collaboration with Chupa Chups will inject new flavour into Changi's retail offerings and experiences for an even sweeter time together at the airport."

## SAFETY MILESTONES FOR DELHI-NOIDA

Staff celebrate National Safety Day on the future site of Noida International Airport, the occasion coinciding with 200 injury-free days since construction began on Delhi's new gateway.

Developer and future operator, Yamuna International Airport Private Limited (YIAPL), recently signed an agreement with Airport Authority of India (AAI) for the provision of air navigation services at Delhi-Noida.

Airport CEO, Christoph Schnellmann, said: "The latest agreement with the Airport Authority of India is another milestone in our journey towards the development of Noida International Airport."





## ABU DHABI INTERNATIONAL AIRPORT CELEBRATES 40TH ANNIVERSARY

Abu Dhabi Airports started 2002 by celebrating the 40th anniversary of the official opening of Abu Dhabi International Airport (AUH).

During the early onset of the COVID-19 pandemic in 2020, AUH was among the first to introduce contactless gates and touchless elevators to complement its wide array of health and safety measures.

And technology will also be front-and-centre at the airport's new Midfield Terminal Building, which is now 97%

complete. The eagerly awaited new complex will be capable of accommodating up to 45mppa.

“As consumer confidence rebounds and traffic gradually recovers, we will continue to explore new technologies, products and ways of doing business that will drive improved sustainability and create industry-leading airport experiences. As proud as we are of our past achievements, we are equally excited about our bright future,” commented Abu Dhabi Airports CEO, Shareef Al Hashmi.

## DAA INTERNATIONAL AWARDED JEDDAH AIRPORT CONTRACT

Following what it described as a highly competitive tender process, daa International has been awarded a five-year management contract for King Abdulaziz International Airport (KAIA) in Jeddah, Saudi Arabia.

Working in partnership with JEDCO, daa International will manage and advise on operations and non-aeronautical revenue and facilities management at KAIA.

The international subsidiary of Irish airport operator, daa, has developed credibility and a strong presence in Saudi Arabia over the past five years by managing and operating Terminal 5 at Riyadh's King Khalid International Airport (KKIA) and, more recently,

been appointed airport operator of the country's future Red Sea Airport.

According to daa International, it will ultimately have 45 people based in Jeddah who will integrate seamlessly into the JEDCO team, creating a shared knowledge transfer culture and working together to develop KAIA into one of the worlds leading hub airports.

Nicholas Cole, chief executive of daa International, said: “Jeddah Airport forms one of the cornerstones of the Saudi Arabian 2030 aviation vision and is the international gateway to the holy cities of Mecca and Medina.”



# REGIONAL UPDATE

Head of communications and events, Jeannie Wong, rounds-up the latest news and developments from ACI Asia-Pacific.



## SINGAPORE TO HOST 17TH ACI ASIA-PACIFIC REGIONAL ASSEMBLY

After a two year hiatus, ACI Asia-Pacific will hold its first in-person gathering since the start of the COVID-19 pandemic on May 18, 2022, when Changi Airport Group hosts the 17th ACI Asia-Pacific Regional Assembly in Singapore.

Although travel restrictions are gradually being relaxed across the region and borders start to reopen, differing national policies and local health protocols ensure that the general uncertainty about international travel remains and rules, of course, are subject to change. As a result, this year's regional annual gathering has been scaled down to a one-day event for invited members only. Priority is being given to Regular Airport members with voting rights, as well as the

Official Representatives of Affiliate, Associate and World Business Partner members.

To make maximum use of the one-day event, the Assembly will have an expanded agenda that includes regional updates and debates on a host of different issues. Members are also expected to confirm the appointment of new directors for the ACI Asia-Pacific Regional Board.

A Leaders' Forum and panels addressing decarbonisation and non-aeronautical concession agreements and revenue will form part of the expanded agenda.

The Assembly will be preceded by meetings of the ACI Asia-Pacific Regional Board on May 16 and 17, 2022.

## ENGAGEMENT OPPORTUNITIES IN THE REGION

ACI Asia-Pacific continued to fulfil its mandate as voice of the region's airports in late 2021 and Q1, 2022, hosting and speaking at various virtual meetings and events, representing members and advocating their priorities.

In late 2021, ACI Asia-Pacific's Regional Environment Committee members and other environmental sustainability experts from the region's airports convened for a webinar to exchange stories and update each other on their respective long-term carbon goals and activities.

This was one of the many follow-up and ongoing advocacy communications following ACI World and the five ACI regions' announcement of the Long-Term Carbon Goal (LTCG) for their member airports, as well as the joint declaration in October 2021 with other global air transport industry (airlines, airports, air traffic management, aircraft and engines manufacturers) to pursue the climate goal to Fly Net Zero by 2050.

The webinar was a timely session for the group of airport representatives to convene and share some accomplishments to date, including hearing from Delhi International Airport Limited and Narita International Airport Corporation about their respective journeys toward net zero carbon emissions.

And in February this year, [ACI Asia-Pacific](#) was invited to speak at InJourney's Internal Executive Meeting. Addressing an in-person and virtual audience in Indonesia, our director general, Stefano Baronci, gave an update on the state of the industry. He also shared other insights on aviation and the airport business in Asia-Pacific, and how these could be leveraged by the airports, aviation and tourism sectors in Indonesia.

The collaborative efforts through INJourney, a newly launched initiative, aims to bring the aviation and tourism ecosystems of Indonesia together, including ACI Asia-Pacific's members Angkasa Pura 2 and Angkasa Pura 1, among other tourism and hospitality stakeholders.





## DUBAI AIRPORTS JOINS ROYAL TASKFORCE TO STOP WILDLIFE TRAFFICKING

**ACI** is committed to developing a framework to fight wildlife trafficking and adopting and encouraging the adoption of a zero-tolerance policy regarding the illegal wildlife trade.

We are happy to see our airport member [Dubai Airports](#) demonstrate its dedication to combatting the illegal wildlife trade by signing a declaration at a special event with Prince William, The Duke of Cambridge and founder of [The Royal Foundation of The Duke and Duchess of Cambridge's](#) United for Wildlife, with His Highness Sheikh Ahmed bin Saeed Al Maktoum, chairman of Dubai Airports.

“Wildlife trafficking is a global problem that is among the world’s five most lucrative crimes,” said Dubai Airports CEO, Paul Griffiths.

“As the operator of the busiest international airport in the world, Dubai Airports shares in the global responsibility to help stop the illegal trade of wildlife.

“The Duke of Cambridge has long been a champion of the global fight to end the trade of illegal wildlife. With the signing of The Buckingham Palace Declaration, Dubai Airports pledges to join Prince William’s United for Wildlife Transport Taskforce that brings together conservation organisations, governments and global corporations in a collective effort to tackle this issue.

“Dubai is a strategic trade hub connecting all corners of the world. With Dubai Airports, DP World and Dubai Customs all joining this task force, we have the opportunity to play a significant role in the eradication of the illegal wildlife trade.”

Visit [https://lnkd.in/gw\\_pZm9R](https://lnkd.in/gw_pZm9R) to find out more about this fantastic new collaboration.

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\* WGB member

\*\*Regional Advisor on WGB



## AVIATION SECURITY REMAINS A TOP PRIORITY

Whilst ICAO designated 2021 as the Year of Security Culture, the priority given to aviation security does not stop there. It is an ongoing focus for ACI Asia-Pacific, which continues to represent members' interests at multiple forums across the globe.

In February, ACI Asia-Pacific was invited to an 'Aviation Security – Raising Security Awareness' webinar organised by the Japan Civil Aviation Bureau (JCAB) for the benefit of aviation stakeholders in Japan.

The platform provided an environment of sharing best practices for developing an effective security culture from the perspectives of security regulators, airlines and airports.

Participants included industry partners and institutions such as ICAO and IATA as well as the TSA's representatives for Japan/South Korea, Japanese airlines, airport operators, security service providers, security personnel and screeners from Japan.

During the webinar, ACI Asia-Pacific's manager for security and facilitation, Gary Leung, took the opportunity

to emphasise the importance and benefits of developing a strong security culture, as for now, people are still indispensable in aviation and cannot simply be replaced by technology.

In March, he again represented the ACI Asia-Pacific and its members, this time at the 10th Asia Pacific Aviation Security Heads of Regulators (HOR) meeting.

The annual meeting – co-organised by the Singapore Ministry of Transport (MOT) and Japan Ministry of Land, Infrastructure, Transport and Tourism (MLIT) – provides a platform for security professionals to discuss and share information on key global aviation security developments and emerging challenges.

The meeting also focused on the impact COVID has had on aviation security and the associated challenges in the recovery of air travel. More than 70 participants from State security regulators in the Asia-Pacific region and other industry associations attended the event.

## WARM WELCOME TO QINGDAO JIAODONG AND NEW WORLD BUSINESS PARTNERS

Qingdao International Airport Group Co Ltd, operator of Qingdao Jiaodong international Airport (TAO) in China, has become the latest Regular Airport member of ACI Asia-Pacific.

Located about 39 kilometres from the centre of Qingdao in the province of Shandong, TAO officially opened in August 2021 when it replaced Qingdao Liuting International Airport as the city's main gateway.

China has high hopes for TAO, which is expected to become an international hub for Northeast Asia, handling around 35 million passengers, 500,000 tonnes of cargo and 300,000 aircraft movements per annum by 2025.

TAO's membership means that ACI Asia-Pacific now has 127 members that between operate 612 airports in 49 countries and territories.

We are also delighted to announce that we have two new World Business Partners – IPP Travel Retail and

Mott MacDonald, which join as Regular and Affiliated members respectively.

Based in Vietnam, IPP Travel Retail states that its aim is to conquer the consumer goods and non-aviation services market at airports. Part of the IPP Group, in the last 20 years it has developed a chain of retail stores at Tan Son Nhat, Noi Bai, Da Nang and Phu Quoc international airports in Vietnam offering everything from fashion, F&B and souvenirs to advertising services.

Mott MacDonald is a multi-disciplinary, wholly employee-owned engineering design and professional services consultancy. It is also one of the world's most experienced aviation consultancies providing aviation advisory and engineering services to governments, civil aviation authorities, airport companies, equity investors and providers of debt finance.



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# GOALS GALORE

Hamad International Airport’s chief operating officer, Badr Mohammed Al Meer, tells Joe Bates more about the latest traffic trends, IT innovation and expansion plans of Qatar’s gateway to the world.

**DOHA’S ANNUAL THROUGHPUT SOARED FROM 12.3 MILLION PASSENGERS IN 2008 TO 38.7 MILLION IN 2019 MAKING IT ONE OF THE WORLD’S FASTEST GROWING AIRPORTS. WHAT DROVE THIS EXTRAORDINARY GROWTH?**

The remarkable transformation of Qatar’s economy and the development of its environment over the past few decades has proved the catalyst for growth. Indeed, Hamad International Airport was designed to support and sustain Qatar’s rapid development as a nation. This means that it must be capable of handling an exponential increase in Qatar’s capacity for the international movement of people, goods, capital, knowledge and technology. It is a vital element of Qatar’s National Vision 2030, which sets out the roadmap for a unique national transition from reliance on petrochemical revenues to a diverse, knowledge-based economy.

Tourism has also played – and continues to play – a major role in accelerating Qatar’s growth and has been identified as one of five priority sectors integral to diversifying Qatar’s

economy. In fact the growth in international tourism continues to outperform the global economy. According to UNWTO [the United Nations World Tourism Organization], global tourism reached an all-time high before the COVID-19 pandemic, with 1.5 billion international tourist arrivals in 2019. This marked a 4% increase on the previous year, confirming tourism as a leading and resilient economic sector. I mention this as the Middle East emerged as the fastest-growing region for international tourism arrivals in 2019, growing at almost double the global average (+8%).

**DOES THE AIRPORT’S GROWTH TRAJECTORY OVER THE LAST DECADE EXPLAIN WHY THE AIRPORT IS IN MIDST OF EXPANDING ITS FACILITIES?**

Yes, it does. The ongoing expansion of Hamad International Airport will increase its capacity to more than 60 million passengers per annum, and is ultimately an investment in Qatar’s future. It will cater to Qatar’s thriving economic diversification and growth and enable the airport to accommodate the success and growth of national flag carrier, Qatar Airways.



Although the last few years have been very much about adapting to meet the challenges posed by the pandemic, which for us meant being at the forefront of airport health and safety innovations, we never lost sight of our ambitious and long-term goals for the airport. As a result we have continued apace with our expansion programme for HIA [Hamad International Airport] and our pre-existing business continuity plan ensured that it would not have to be delayed or put on hold because of the COVID pandemic.

**CAN YOU TELL US A LITTLE MORE ABOUT THE MOST HIGH-PROFILE INFRASTRUCTURE PROJECTS PLANNED FOR THE NEXT PHASE OF THE AIRPORT'S DEVELOPMENT?**

Our philosophy is to always look to adapt and enhance our facilities to meet ever evolving passenger expectations. We know, for example, that passengers want to start their journey before they reach their destination and we cater to that by providing them with unique experiences throughout the terminal that are often beyond regular expectations.

This was taken into consideration in HIA's ongoing expansion project, which will enhance the multi-dimensional offerings of the five-star airport by integrating additional world-class art to its existing collection with a refreshing environment of lush greenery and contemporary retail and dining concepts among other leisure attractions and facilities under one expansive terminal.

Inspiring positive emotions and taking the stress out of travel, HIA's expansion will introduce a 10,000 square

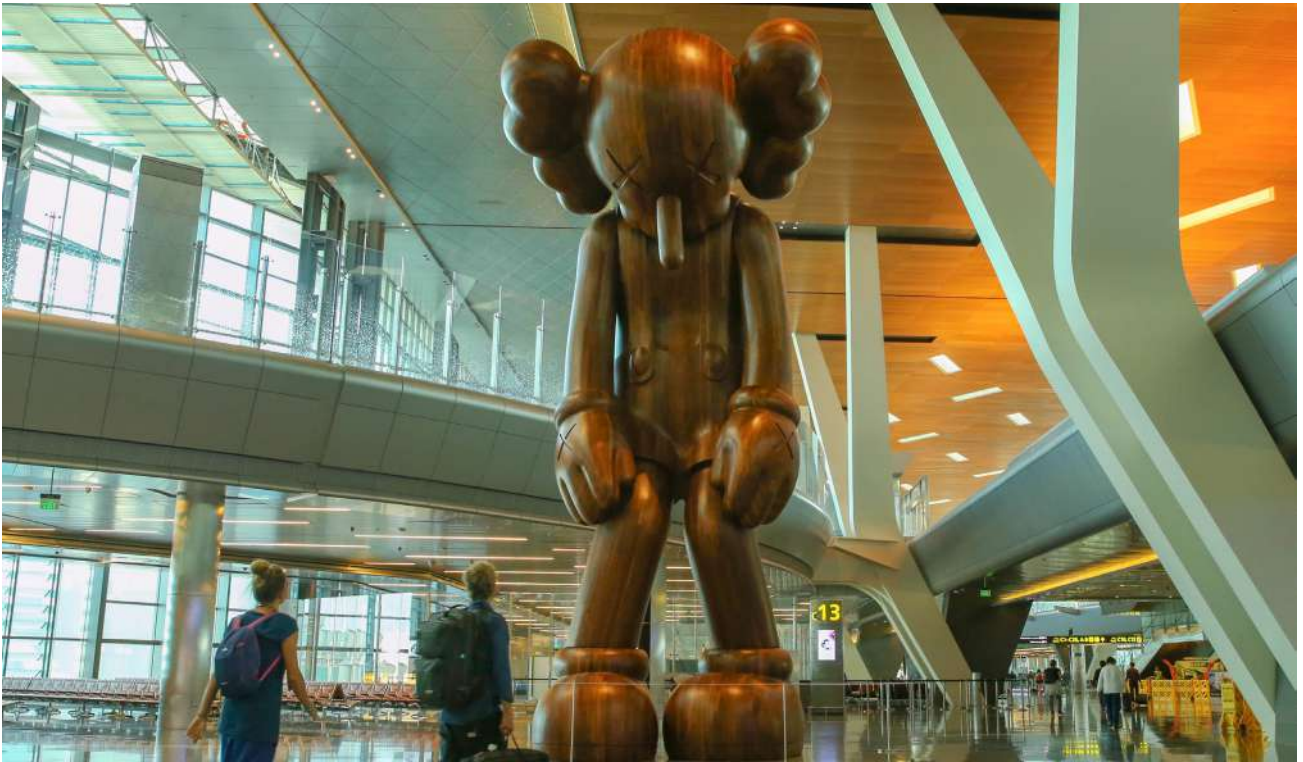
metre indoor tropical garden and 268 square metre water feature. The tropical garden will have trees sourced from sustainable forests around the world and the new design will allow trees and plants to acclimatise to the internal conditions and grow throughout the life of the airport. This will provide passengers with an opportunity to be part of a didactic experience to showcase the importance of environmental conservation.

HIA's expansion will also see the construction of a new cargo terminal that will increase its handling capacity to an estimated five million tonnes of freight per year. The expansion will also include the addition of 9,000 square metre Al Mourjan lounge, to complement the existing Al Mourjan lounge, which will have its own spas, gym, restaurants and business centres.

In addition, HIA and Qatar Duty Free are continuing to develop pioneering partnerships with leading luxury brands to bring travellers the world's best in airport retail, leisure, and attractions. Qatar Duty Free is not only working on renovating its main duty-free store but is also preparing to unveil new retail experiences at HIA in the coming years.

Phase A of the ongoing infrastructure development programme will raise the airport's capacity to 58 million passengers per annum ahead of the 2022 FIFA World Cup. Phase B, which will commence after the end-of-year tournament, will effectively equip the airport to handle more than 60m ppa.





**WILL SENSE OF PLACE PLAY A SIGNIFICANT ROLE WHEN IT COMES TO THE NEW FACILITIES?**

I believe that HIA already showcases the hallmarks of Qatar’s warm and welcoming hospitality and modern infrastructure, giving travellers a glimpse of what Qatar has to offer, and the new facilities will build on this.

The airport represents Qatar’s Arabian hospitality, where comfort and wellbeing are a priority. The airport’s architectural elements reflect Qatar’s own modern architecture, with its futuristic skyscrapers and incredible structures designed by world-renowned architects like I.M. Pei and Jean Nouvel lining up Qatar’s skyline. HIA also gives travellers a taste of Qatar’s world-class dining and retail experiences, the country’s fine art collection, luxurious relaxation facilities and Qatar’s public art programme which is prominently featured across the terminal.

Much like the country’s offerings, passengers at HIA are spoilt for choice with some of the world’s best contemporary offerings and innovative facilities, which are curated at the airport.

**IS THE SUSTAINABLE DEVELOPMENT OF YOUR FACILITIES HIGH ON THE AGENDA?**

Hamad doesn’t only strive to be the best airport in the world, but also the best airport for the world. HIA addresses its impact on the environment by taking steps towards minimising the consumption of natural resources, controlling its carbon emissions, and managing waste safely.

As one of the world’s leading airports, we are conscious of the need to be seen to be leading the industry towards a more sustainable future. This determination to pioneer change has ensured that HIA has operated in an

environmental sustainable way since opening in 2014 and recently showcased its commitment to the cause by pledging to improve carbon efficiency per traffic unit to 30% by 2030.

It should be noted that the airport has observed a steady downward trend in overall CO2 emissions and has been certified at Level 3 Optimisation status in ACI’s Airport Carbon Accreditation programme.

Upon completion of Phase A of the expansion programme, HIA is expected to become the first airport in the MENA region to achieve a 4-star Global Sustainability Assessment System (GSAS) rating, a performance-based system for rating green buildings and infrastructure.

The expanded terminal will also be a LEED Silver-certified building with innovative energy efficiency measures incorporated throughout the entire premises.

HIA is working with its supply chain on all the expansion projects to ensure that the equipment procured is contemporary and efficient for lifetime operational benefits.

In addition, HIA’s Oryx Airport Hotel has also successfully replaced all of its plastic water bottles with eco-friendly water containers as one of the many green initiatives implemented over the past two years in its efforts to achieve 100% eco-friendly operations.

I also believe that Hamad operates one of the region’s most effective water management systems as most water used at the airport is directed to our dedicated wastewater treatment plant, which returns the treated water for irrigating the airport’s landscape features. In 2018, the

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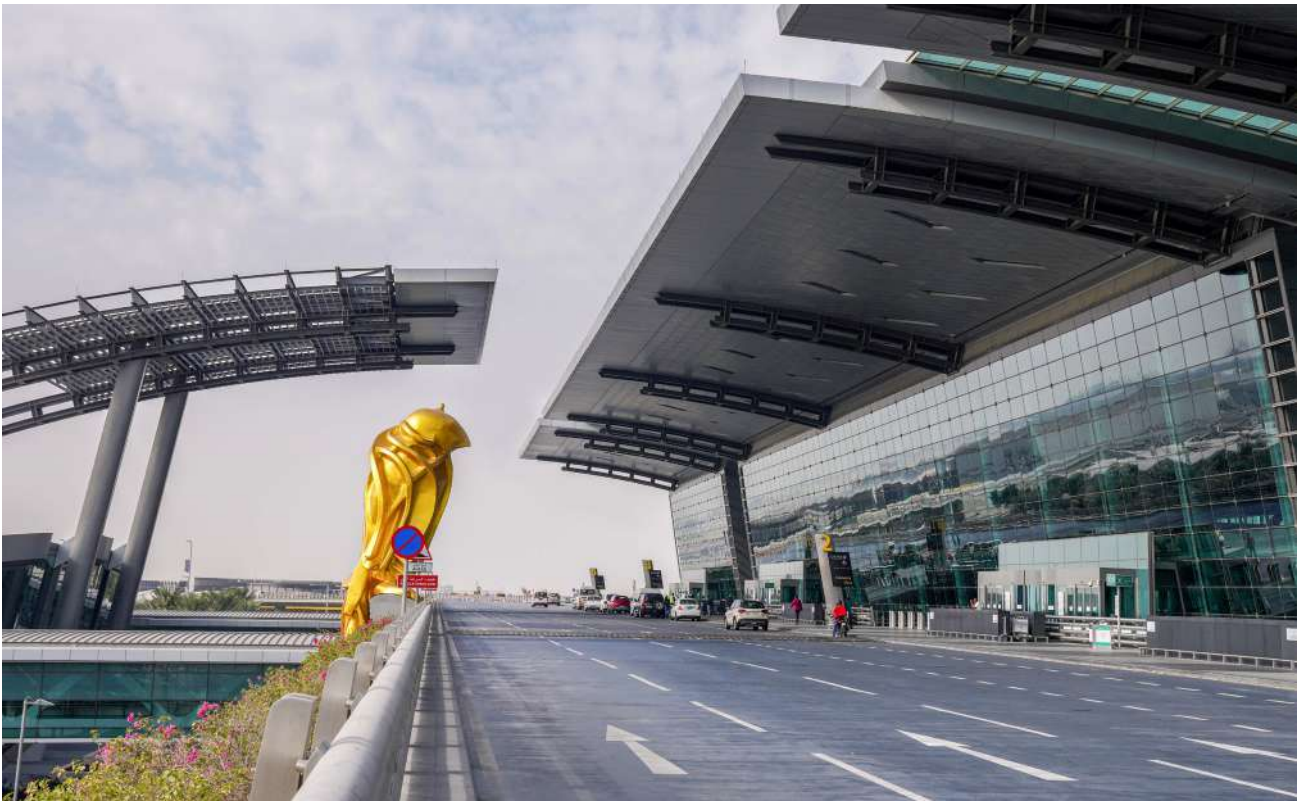
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plant was successful in recovering 93% of wastewater. Nevertheless, we continually review its systems to identify areas of improvement for long-term efficiency and sustainability.

**HOW SERIOUSLY DOES HAMAD INTERNATIONAL AIRPORT TAKE CUSTOMER SERVICE?**

HIA puts passengers at the heart of everything by implementing a strategy that prioritises a passenger-centric approach to its mission and vision. Whether it is in our everyday airport operations, expansion projects or preparing for the FIFA World Cup finals in Qatar later this year, we always consider how the experience benefits the passenger.

This approach means that whenever developing or launching new services or facilities, we always look at how they will enhance the airport experience. This is one of the reasons why at our airport Wi-Fi, quiet rooms, art exhibitions, activity nodes, play areas and family relaxation facilities are all complimentary to our passengers.

I am proud to say that HIA's customer service team is made up of a group of talented, passionate and caring individuals from around the world who are focused on providing exceptional customer service while aligning with the company's vision.

The team has identified four key pledges that they follow to ensure the delivery of top quality customer service to passengers. The pledges are to 'Deliver Quality', 'Work Together', 'Take Charge' and 'Genuinely Care'. They are accountable for getting things done and, most importantly, are empathetic to customers' needs. These goals are

ingrained into every member of the customer service team, and I believe that this approach has had a real impact on the wider organisation, with HIA regularly being recognised for having the 'Best Airport Staff' in the Middle East and the world in annual industry awards.

**WHAT ARE YOUR PROJECTIONS FOR PASSENGER AND CARGO VOLUMES FOR 2022 AND WHEN DO YOU EXPECT YOUR TRAFFIC LEVELS TO RETURN TO PRE-COVID LEVELS?**

Based on the surge in volumes we witnessed in 2021 compared to 2020, we are optimistic that passenger numbers are on the way to returning to pre-COVID levels. In 2021, we witnessed a 41.37% increase in the number of passengers at HIA compared to 2020, with a total of 17.7 million passengers passing through our facilities. Air cargo volumes also increased by 20.71% to 2.58 million tonnes, helped by the introduction of six new cargo destinations. The number of aircraft movements handled at Hamad International Airport also grew by 28.12% to 169,909 take-off and landings.

**DO YOU THINK THAT THE UPCOMING FOOTBALL WORLD CUP FINALS WILL HAVE A BIG IMPACT ON YOUR 2022 YEAR-END PASSENGER FIGURES AND IN RAISING THE PROFILE OF QATAR?**

The FIFA World Cup will benefit Qatar and the entire region by allowing us to showcase its wonders and capabilities to the world.

We expect to welcome 1.8 million visitors during the tournament, when operating company MATAR will make history by becoming the first airport operator to handle all air travellers to a football World Cup. HIA is working hand-in-



hand with the Supreme Committee for Delivery and Legacy to process up to 88,000 arrivals and 103,000 departures per day during the World Cup. Therefore, the world cup will certainly have an impact on our annual passenger figures.

The tournament will show the world the passion that exists for football in this region and the amazing fans and footballing talent the Middle East and Arab world boasts. Hamad International Airport, along with the whole country, is ready to create memorable experiences for football fans across the globe.

#### WHO ARE YOUR BIGGEST AIRLINES IN TERMS OF MARKET SHARE?

National flag carrier, Qatar Airways, is the biggest airline operator at HIA by quite some way. The next biggest are probably Indian carriers Indigo and Air India Express, which provide connecting services to a number of popular Indian destinations. Next come a handful of Middle Eastern carriers.

#### DOES THE IMPACT OF THE GLOBAL PANDEMIC CONTINUE TO AFFECT YOUR ROUTE NETWORK?

Many of our most popular routes are in a state of flux at the moment as air travel remains dependent on COVID-19 travel policies and restrictions around the world. Having said that, we actually welcomed seven new passenger routes last year – Abidjan (ABJ), Harare (HRE), Lusaka (LUN), Moscow (SVO), Odessa (ODS), Olongapo (SFS) and Seattle (SEA) – and one new airline partner, RwandAir.

For the record, Dhaka, Male, Dubai, Kathmandu and London were among the busiest departing destinations from Doha in 2021. The new destinations and airline means

that HIA is currently served by 35 carriers that between them operate flights to 160 destinations in 81 countries and territories around the world.

#### WHAT ARE YOUR AMBITIONS AND TARGETS FOR HIA THIS YEAR AND OVER THE NEXT FIVE TO 10 YEARS?

Our focus for 2022 and beyond is to maintain our leading position globally and provide a new standard for airports around the world. This will mean keeping the ongoing multi-phased expansion of Hamad International Airport on track as it will raise our capacity, enhance the customer experience and open doors to more airlines partners that want to offer flights to and from Qatar, increasing Qatar's global connectivity and network of destinations.

In terms of improving the airport experience, we will continue to provide passengers with a memorable travel experience through activations, events, art, culture, retail, and F&B experiences throughout the terminal. We are actively working on further developing the retail sector by bringing more world-renowned brands and exclusive products to the airport in partnership with Qatar Duty Free. New retail and dining concepts set to be unveiled in the coming years will include an alfresco experience for passengers.

We are, of course, also greatly looking forward to hosting the FIFA World Cup finals at the end of year where we are very aware that HIA will almost certainly provide visitors with their first and last impressions of Qatar. As we gear up for the tournament, our main priority is to reduce the wait times at every touchpoint across HIA through the use of cutting-edge technology and automation to ensure a seamless and convenient passenger experience without jeopardising security.





# LEADING BY EXAMPLE

Being one of the world’s most environment friendly and sustainable gateways is a top priority for Delhi’s Indira Gandhi International Airport, writes CEO, Videh Kumar Jaipuria.

Airports have always been in the spotlight when it comes to their impact on the environment and the steps taken by them to operate in a sustainable manner, and Delhi’s Indira Gandhi International Airport (DEL) is no exception.

Fortunately, Delhi International Airport Limited (DIAL) – the GMR Infrastructure-led consortium that manages and operates DEL – is 100% committed to being at the forefront of environmental protection and sustainable development.

Indeed, Delhi Airport has integrated sustainability into its operations and infrastructure and, over the years, has remained focused on upholding high service standards and operational excellence.

Today, Delhi Airport has become the benchmark for other airports to emulate, especially when it comes to sustainability. It is set to become a Net Zero Carbon Emission Airport by 2030, for example, way ahead of the IPCC’s 2050 target adopted by most major industries across the world.

The sustainability framework of Delhi Airport is focused on:

- Creating economic value
- Delivering service excellence
- Caring for the environment
- Improving quality of life.

As a result, DIAL strives to be a leader in environment sustainability management by adopting sustainable development practices, ‘green’ infrastructures and environmentally friendly initiatives.

In fact, after meticulously monitoring the global and national sustainability requirements and commitments for the airport business, we have incorporated them into our business strategy.

So, DIAL follows the United Nations’ Sustainable Development Goals (SDG 2030), ICAO’s environmental objectives, and all other relevant governmental initiatives designed to transform airports into a more sustainable and environment friendly business.

At Delhi Airport we have whole heartedly embraced ACI’s Airport Carbon Accreditation (ACA) programme, which is the only global framework for airports to manage and reduce carbon emissions.

I believe that Delhi Airport was one of the first gateways in the region to be accredited and, in 2016, this led to us becoming the first airport in the Asia-Pacific region to achieve Level 3+ ‘Neutrality’ status.

But we didn’t stop there and, in 2020, became the first in Asia-Pacific – and only the second in the world –



to achieve Level 4+ 'Transformation' status in the programme.

As I said earlier, we are now working towards the goal of becoming a net zero carbon emissions airport by 2030, and in line with this strategy DIAL has initiated a host of environmental sustainability initiatives to further lower Delhi Airport's carbon footprint.

These have included the use of a 'TaxiBot' to tow aircraft between gates and the apron/airfield, and improving operational efficiency through Airport Collaborative Decision Making (A-CDM).

The TaxiBot alone has helped us reduce our CO2 emissions by more than 1,154 tonnes since being adopted by Delhi Airport in May 2019, saving the airlines in excess of 365 tonnes of aviation turbine fuel (ATF) in the process.

A-CDM, of course, not only improves air traffic flows and capacity management at airports by reducing delays and improving the predictability of events, but it also helps to optimise the utilisation of resources.

On the airfield itself, I would like to note that we take every precaution to reduce contamination and emissions, particularly with regards to some of the safeguards built into Delhi Airport's massive 16 kilometre long fuel hydrant system to prevent soil contamination, water pollution and air emissions and support safe operations by reducing leakage, spillage and evaporation losses.

Elsewhere, we have installed Bridge Mounted Equipment (BME) in 78 airbridges in Terminal 3. The bridge-mounted equipment consists of a fixed electrical ground power unit

(FEGPU) and Pre-Conditioned Air (PCA) that effectively making noisy, CO2 polluting Auxiliary Power Units (APUs) redundant. We will be installing an additional 22 BMEs in Terminal 1 as a part of its development.

DIAL has also introduced electric bus services for transporting passenger around the airport site. Metro line trains provide fast, convenient and environmentally-friendly connections between all three terminals and, ultimately, New Delhi.

Another noteworthy strategy of DIAL is our commitment to building 'green' and resilient infrastructure at Delhi Airport. Terminal 3, for example, was the first LEED Gold certified terminal building in India under the 'New Construction' category and achieved Platinum rating from the Indian Green Building Council (IGBC) in 2016.

The United States Green Building Council (USGBC) followed suit in 2019 when Delhi Airport's iconic Terminal 3 became the first airport terminal in the world to receive its Platinum certification for Performance Excellence in Electricity Renewal (PEER).

We are now redeveloping Terminal 1 as per LEED standard, which we expect to be commissioned in 2023. The revamp will increase its capacity from 20 million to 40 million passengers per annum and integrate the Arrivals and Departures facilities under one roof.

Delhi Airport is also the first airport in the world to have adopted an ISO 50001:2018 certified Energy Management System. This system improves the energy performance of the organisation by making better use of the energy-intensive assets, and through these concerted efforts,





DIAL has reduced both fuel and electricity consumption over the years.

Our commitment to a green and clean environment was the motivation behind the installation of a 7.84MW solar power plant on the airport site.

DIAL has also signed a long-term power purchase agreement with a hydropower plant. The plant, expected to be commissioned by 2022-23, will supply the entire electricity need of the airport, ensuring a clean energy supply to Delhi Airport.

Sustainable water management is another key focus area of DIAL. As of today, DIAL has around 350 rainwater harvesting structures and this will increase significantly under the current airport expansion plans.

Indeed, DIAL has developed facilities to store 6.9 million litres of rainwater and is installing another 250+ water harvesting structures.

In addition, the 16.6 million litres of water per pay (MLD) zero liquid discharge sewage treatment plant of DIAL ensures that all sewage water is treated and reused for applications such as horticulture, toilet flushing and HVAC make up water.

DIAL has also initiated an organisation-wide 'waste to wealth' programme to enhance the sustainability of waste management in general.

To facilitate this programme, DIAL is currently in the process of developing an Integrated Solid Waste Management Centre (ISWMC) consisting of a material recovery facility and biogas plant on the airport site.

The plant is expected to be commissioned by the end of 2022 and will have an initial waste processing capacity of 12 tonnes per day.

In line with the Indian government's move to be a Single-Use Plastic Free Country by 2022 and our own commitments to protecting the ecosystem, Delhi became a single-use plastic free airport in 2019. India's CII-ITC Centre of Excellence for Sustainable Development recognised this achievement in February 2020 when we were officially certified as a Single-Use Plastic Free Airport (SUPFA).

DIAL's ever evolving efforts to protect the environment and ensure the sustainable development of Delhi's Indira Gandhi International Airport have also led to a number of other awards and accolades.

In addition to those mentioned above, sustainability accolades awarded to DIAL in the last five years have included:

- Winning a prestigious Green Airports Recognition award for Delhi Indira Gandhi International Airport from ACI-Asia Pacific for five years in a row between 2017 and 2021.
- DIAL being rated as a 'Climate Oriented' company under Climate Action Programme (CAP 2 Degree) by the Confederation of Indian Industries (CII) in both 2019 and 2020.
- Winning the National Award for Excellence in Energy Management from the Confederation of Indian Industry (CII) every year since 2018.
- Receiving a National Water Award 2019 from the Indian government.
- Being presented with a water conservation award from the Federation of Indian Chambers of Commerce & Industry (FICCI) in 2022.

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# ADAPT AND GROW

Sho Kataoka, manager of NAA's Airport Sustainability Office, explains why Tokyo Narita has introduced an even more focused and ambitious sustainability plan.

The global COVID-19 pandemic has led to extremely tough times for Narita International Airport, with significant suspension and reduction of passenger flights due to travel restrictions for the last two years.

In addition, the Tokyo 2020 Olympics were held in principle with no spectators in COVID-19, and it was difficult to take advantage of the opportunity.

There are, however, signs of recovery and Narita International Airport – supported by stakeholders – is beginning to see its traffic figures rise again as international services start to resume.

In fact, new services have been launched by ZIPAIR (Los Angeles), Aero Mongolia (Ulaanbaatar) and Bamboo Airways (Hanoi) since December 2021.

Indeed, with an eye on the future, we must steadily proceed with a series of projects designed to enhance the operational capabilities of the airport, the most high-profile of which is the construction of a new runway.

Our commitment to the sustainable development of Narita and being a good neighbour to local residents means that we will make every effort to obtain their understanding for the projects, and take measures to reduce our environmental impact, as we seek to successfully co-exist with them going forward.

At Narita International Airport, we have promoted various initiatives based on the following four pillars:

- Community environment initiatives
- Resource recycling initiatives

- Climate change initiatives
- Environment management.

For climate change in particular, more frequent and intense natural disasters globally ensure that reducing CO2 emissions is one of the most critical issues, and airports have responded to the challenge.

Thus, NAA released its 'Sustainable NRT 2050' in March 2021 to promote further climate change initiatives.

To realise a sustainable society and become one of the world leading airports, we have set medium to long-term goals that include a net-zero target, which is the first among airport operators in Japan, and counter measures to decrease CO2 emissions with stakeholders throughout the airport. Under the framework, we will successively conduct our environmental measures based on the above categories.

With stronger relationships with a wide variety of stakeholders, we strive to achieve our goals to become a sustainable airport which grows in an environmentally-friendly and ethical way.

Climate change in particular has been the focus of our efforts over many years to conserve energy through the introduction of renewable energy, LED lighting and energy management systems.

This has led to progress in sustainable and cumulative results such as a decrease in airport emissions of carbon dioxide per landing and takeoff cycle of around 16% over a four-year period from 2015.

However, today with statistics showing more frequent and increasingly severe natural disasters with global warming



as the perceived cause, climate change is an international issue, and reducing carbon emissions has become one of our most important goals requiring collaborated initiatives with speed at a global scale.

In conjunction with this, there is strong pressure on people to fly less, but because Japan is an island nation, we are basically limited to aviation as a means of travelling overseas. Unlike in Europe, for example, switching to rail as an alternative mode of transport is not an option for us.

For island nations, the aviation sector is a social infrastructure that must grow sustainably.

We believe that Sustainable NRT 2050 provides a brand new approach to reducing our environmental impact at Narita Airport, with mid-term targets for decarbonisation by fiscal year 2030 and long-term targets to be achieved by FY2050.

In particular, this is the first time in Japan that an airport operator has set Net Zero and numerical targets for the airport overall (50% reduction compared to FY2015).

Sustainable NRT 2050 sets out not only targets but also initiatives for reaching them. They include the 'Introduction of Advanced Technologies' to accelerate drastic carbon reduction; 'Next Actions' to engage employee awareness and induce changes in behaviour; and as a measure, we are steadily promoting 'Further Functional Enhancement', which includes the construction of a new runway while reducing the burden on the environment as much as possible.

In line with introducing renewable energy, we aim for Net Zero by 2050 with further new technologies such as energy switching to zero carbon fuels and conversion of buildings to net zero energy.

It is worth noting that while CO2 emissions from the NAA corporate group account for just 10% of the total emissions from entire Narita Airport site, we plan to configure the layout in our airport expansion plans to

reduce aircraft taxiing distances by 30%, thereby reducing carbon emissions from aircraft.

We are also working with stakeholders to develop a system for introducing sustainable aviation fuel (SAF) in the aircraft fuel facilities operated by NAA, and are holding discussions with the aim of achieving zero-carbonisation for ground services equipment (GSE) vehicles.

In addition to Sustainable NRT 2050, we have also launched our 'Plastic Smart' declaration, with the aim of working towards 100% sustainability for plastic items used in the restaurants and lounges operated by the NAA group by FY2025.

We have already completely switched over from plastic straws to paper straws in the restaurants and lounges we operate and some of those have introduced wooden straws made from selectively logged wood that support forest management for tree growth and protection from natural disasters.

And we are not just concentrating on things under our own control as we are stepping up our efforts to reduce plastic waste throughout the entire airport.

We also have plans to completely eliminate petroleum-derived Polyethylene terephthalate (PET) bottles in the vending machines at NAA and will reduce those in our in-house shops by 50%, thus presenting a lead model example to demonstrate and promote its wide usage throughout the airport.

Looking forward, we remain committed to building on our co-operation with our many stakeholders and providing them with an airport that is environment and community minded in its approach to the sustainable development of Narita International Airport.

For more information on our efforts to reduce environmental impact at Narita Airport, please see our Environmental Report. <https://www.naa.jp/en/environment/index.html>





# EVERYTHING COUNTS

Airport Authority Hong Kong is determined to take the lead in integrating carbon management, sustainable best practices and green design across the airport campus, writes general manager for sustainability, Peter Lee.

Climate change has become one of the most pressing global issues in recent years and there has been increasing public concern over the aviation sector's impact on global emissions, of which airports operations account for around 2% of these emissions.

Aligning with ACI's Long Term Carbon Goal of Net Zero Carbon by 2050, and responding to the Intergovernmental Panel on Climate Change (IPCC) call for all sectors to achieve net-zero carbon emissions by 2050, Airport Authority Hong Kong (AAHK), as the operator of Hong Kong International Airport (HKG), launched a new airport-wide Net Zero Carbon target late last year.

This commitment is one of the first for airports in Asia and demonstrates AAHK's aspiration to develop HKG into one of the world's greenest airports through a clear response to the United Nations' Paris Agreement.

Sustainability and environmental considerations are an integral part of AAHK's strategy for developing the airport. Indeed, it is committed to ensuring that environmental impacts are managed and, whenever possible, minimised at all stages of development projects through the implementation of its Green Design and Construction Strategy.

## AIRPORT-WIDE PLEDGE FOR NET ZERO CARBON BY 2050

In November 2021, AAHK launched its third carbon pledge since 2010, this time committing to a goal of Net Zero Carbon by 2050 at HKG, with a midpoint target of 55% reduction of absolute emissions by 2035 from a 2018 baseline.

As in previous pledges, AAHK has adopted an airport-wide approach and has jointly committed to Net Zero Carbon with 29 of its key aviation-related business partners which account for about 90% of the carbon footprint at HKG.

The long-term carbon target was set based on an 18-month study on a roadmap to net zero emissions by 2050. The study included comprehensive engagement with relevant operation and engineering departments, key business partners in the airport community and the power provider to develop a robust carbon model.

This model includes a carbon emissions projection, reduction pathways, target trajectory and a realistic midpoint target in 2035. A carbon management action plan was developed to outline key initiatives to achieve the target, including acceleration of the electrification of vehicles and equipment, piloting of low carbon fuels and implementation of innovative energy efficiency measures.

AAHK has been pursuing vehicle/equipment electrification and energy saving programmes to accelerate decarbonisation at HKG. Airfield vehicles and equipment have been replaced by electrified models since 2017, along with the expansion of the airport's electric charging network.

AAHK also pioneered an innovative ground services equipment (GSE) pooling scheme for ramp handling agents, with the aim of minimising emissions from apron traffic and speeding up GSE electrification.

With regard to energy saving, AAHK was one of the first organisations in Hong Kong to undertake a mass transition to LED lighting in the passenger terminal buildings and



airfield. AAHK has also implemented innovative energy management solutions such as developing a system to control the passenger terminal's air conditioning through accurate prediction based on big data.

All of these initiatives aim to reduce direct emissions at the airport and indirect emissions from the consumption of electricity and gas.

To support business partners in achieving the Net Zero Carbon target, a 'Business Partner Carbon Support Programme' has been designed, comprising a HK\$20 million fund to be launched by AAHK to support business partners in piloting new technologies in carbon reduction; a tailored capacity building programme to help impart essential skills and knowledge in carbon management; and a working group to encourage collaboration across the airport community.

### AAHK'S NEW GREEN AIRPORT DESIGN AND CONSTRUCTION STRATEGY

In addition to implementing its flagship carbon management programme, AAHK strives to adopt environmental best practices and innovative solutions in the design and construction of airport buildings and infrastructure.

AAHK has a proven track record of implementing best practices and innovations in construction projects. The T1 Midfield Concourse, for example, was certified with a Final Gold rating by the Hong Kong Green Building Council (HKGBC) under the BEAM Plus Scheme – a programme to assess sustainability of buildings via independent assessment.

HKG's Sky Bridge and the new office building of AAHK have also received provisional Gold BEAM ratings prior to commencement.

As part of the Three-runway System (3RS) project, the expanded Terminal 2 and T2 Concourse have already been certified with Provisional Platinum ratings, the highest accreditation under HKGBC's BEAM Plus while works are continuing.

AAHK has established a Green Airport Design Strategy to ensure priority is consistently and systematically accorded to environmental and green design elements as early as possible in project development, and that these elements are implemented in the actual works.

Green design features include the use of high energy-performance glazing, sustainable wall and roof materials, energy-efficient lighting and a high-efficiency chiller system, and optimised greenery that takes into account the need to control any increased risk of bird hazards, among others.

With the achievement obtained from the 3RS Green Airport Design Strategy, AAHK has taken a further step in July 2021 by launching an airport-wide Green Airport Design and Construction Strategy, which provides a consistent approach for embedding green design and sustainable construction considerations as early as possible in the project development process, in both its building and non-building infrastructure projects.

This approach – ideally adopted in the design stage – is currently in the pilot phase and extends to franchisees and other business partners at HKG to ensure that sustainable development is integrated across all development projects at the airport.

### TOWARDS THE GREENEST AIRPORT

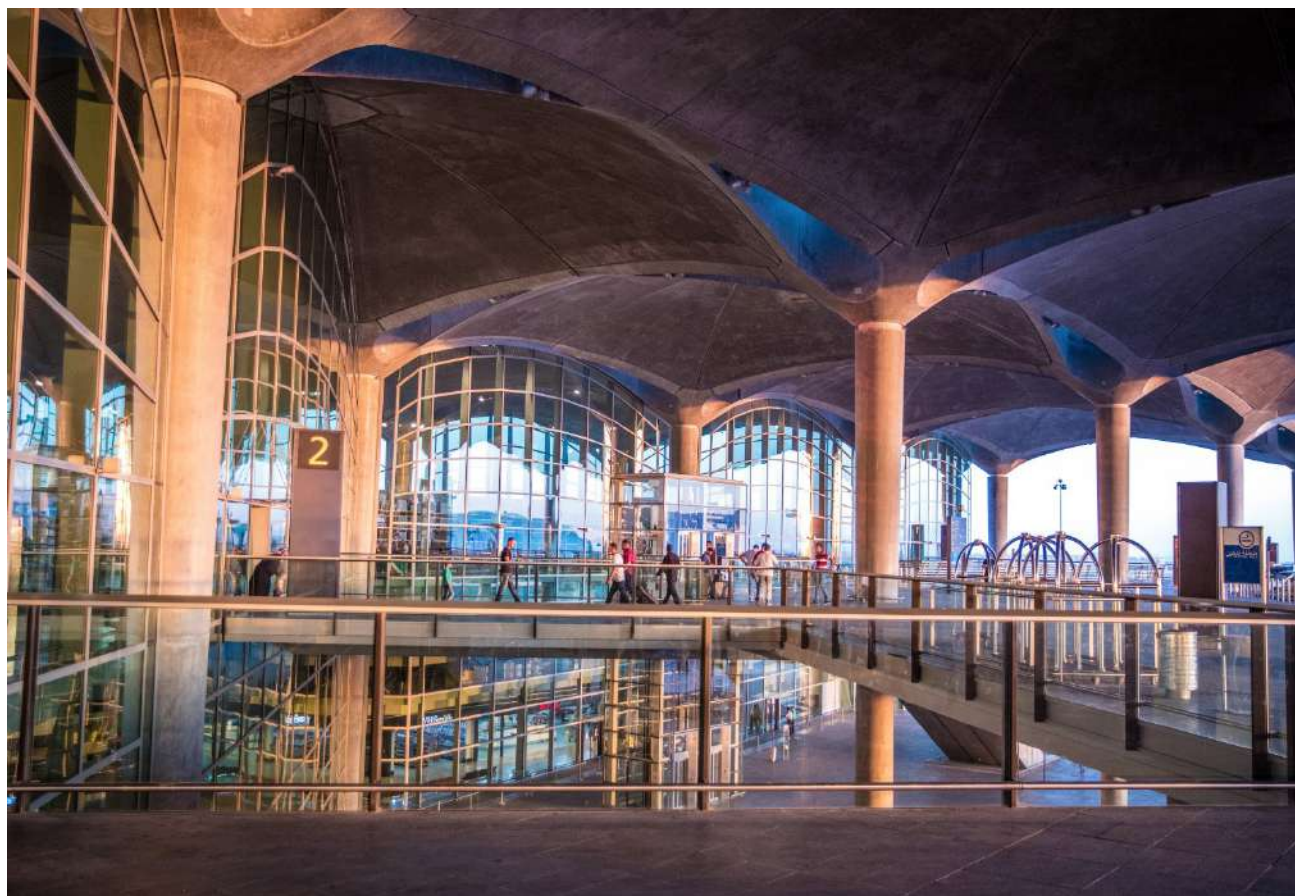
Against the backdrop of the changing and challenging economic, ecological, technological and social environment, our vision is to develop a robust culture of sustainability in every facet of our operations to drive sustainable growth at Hong Kong International Airport.

As a top priority, AAHK continues to work with the airport community to significantly reduce or eliminate carbon emissions altogether and contribute to worldwide efforts to limit global warming to 1.5°C in the years ahead.



# READ ALL ABOUT IT!

*Asia-Pacific Airports* magazine takes a closer look at a handful of the sustainability stories making headlines across the region in early 2022.



APA Issue 1, 2022

## QUEEN ALIA DEMONSTRATES GREEN CREDENTIALS

Despite another challenging year for the global air travel industry, Jordan's Queen Alia International Airport (AMM) says that it marked a number of significant milestones in 2021, one of which was renew its Level 3+ 'Neutrality' certification in ACI's Airport Carbon Accreditation (ACA) programme.

AMM operator, Airport International Group (AIG), believes that its actions reaffirmed its pledge to adhere to, if not exceed, minimum environmental regulatory requirements to reduce the gateway's environmental footprint.

Moving forward, AIG states that in accordance with the Paris Climate Agreement, it seeks to upgrade Queen Alia's ACA status to Level 4+ 'Transition' certification, while developing a roadmap for becoming a net-zero carbon airport in line with the airport industry's long-term carbon goal.

"Though last year was not without its challenges with the emergence of another coronavirus variant and fluctuating travel restrictions, I am incredibly proud of our steadfast team and grateful for our staunch partners who never fail to show up for Queen Alia and the people and businesses that heavily rely on it," enthused AIG CEO, Nicolas Claude.

"Despite the foreseeable future remaining somewhat uncertain, I am confident the the airport community will continue to rally together to shape an innovative, sustainable and safe airport for everyone passing through Jordan's gateway to the word."

A global partner of Groupe ADP, AIG has signed the 'Airports for Trust' charter, which sets out the shared ambition to build an even more sustainable and responsible airport industry with enhanced co-operation.

Under the agreement, the signatories emphasised their dedication towards the charter's four main ambitions. These include moving towards zero-environmental-impact operations and reaching carbon neutrality by 2030 – a feat already attained by Queen Alia through ACA.

The charter also promotes active participation in the aviation sector's environmental transition efforts; the integration of each airport into a local resource system; and the reduction of the environmental footprint of airport planning and development projects.



### PEER PLATINUM CERTIFICATION FOR BIAL

Bengaluru-Kempegowda operator, BIAL, has been awarded the prestigious Performance Excellence in Electricity Renewal (PEER) Platinum certification by India's Green Building Certification Inc (GBCI), becoming the first airport in the world to receive a record high score of 92/100 for its power infrastructure.

It says that it sought PEER certification to ensure that the airport's power system continues to support its sustainable development goals.

BIAL's managing director and CEO, Hari Marar, said: "We are proud to receive this recognition from GBCI for our relentless efforts in the energy conservation and energy resilience domain.

"As the operator of a world-class airport, we have undertaken a variety of steps to deploy onsite renewable energy generation systems and offsite renewable power procurement to meet our long-term goal of becoming Net Energy Neutral in 2020-21. Certification with PEER Platinum Rating will only motivate us to keep fast tracking our sustainability journey, even as we keep

enhancing our infrastructure to meet the ever-increasing air transportation needs of passengers."

The airport boasts its own 6.8MW onsite solar PV system that supports essential services during grid failure and long-term blackout and 100% of its energy mix comes from renewable energy.

Further to achieving permanent reductions in its energy demand and consumption, BIAL has implemented energy conservation programmes such as the replacement of all CFL (compact fluorescent lamp)/ halogen lights with LED fixtures, installed a PLC (Programmable Logic Controller) based Terminal Light Automation (TLA) system to monitor and minimise the energy consumption of terminal lights, and invested in a Chiller Plant Optimiser (CPO) solution for monitoring the operation and optimising the chiller plant performance under various load conditions.

These efforts have helped Bengaluru Kemegowda achieve energy savings of 14.7 million units (or kWh), cost savings of \$1.2 million, and reduced CO2 emissions by 46,000 tons annually.





**CHRISTCHURCH TO BOAST ‘WORLD LEADING’ RENEWABLE ENERGY PARK**

Christchurch Airport is committing 400 hectares of its Harewood campus to Kōwhai Park – a new platform for generating renewable energy at scale to enable businesses to transition away from fossil fuels.

The park will scale up over the next 30 years and Phase One will deliver a 220-hectare solar array capable of generating 150 megawatts of electricity (enough to power 30,000 homes, or around 20% of Christchurch’s current residential electricity use) on the airport campus.

It will support the future development of green fuel production for land and air transport, green data centres and green vertical farming.

Australian renewable energy fund, Solar Bay, is committing \$100 million to the development of Phase One.

Christchurch Airport’s chief executive, Malcolm Johns, says Kōwhai Park is part of the airport’s plan to become climate positive over the coming decade and to maintain its world leading position on sustainability.

“Over the past decade, our team has systematically decarbonised our business. We’ve reduced 85% of our direct emissions and we’re on track to be carbon zero well before the city’s goal of 2030 and New Zealand’s goal of 2050,” enthused Johns.

“We want to enable the rest of the economy to decarbonise at the fastest possible rate. That is what Kōwhai Park is about.” Johns insists that the green energy delivered by Kōwhai Park will help other businesses transition.

He noted: “As we decarbonise, demand on our renewable energy supply is expected to increase by 68%. Kōwhai Park will, over time, help meet that additional demand and provide a resilient supply of renewable energy Canterbury and New Zealand can rely on.

“It will also assist aviation to decarbonise and decouple from fossil fuels. In New Zealand we’re likely to see both electric and hydrogen-fuelled planes on our domestic routes over the next few decades. Kōwhai Park can support this transition at Christchurch.”

He is also quick to point out that Kōwhai Park is beyond just solar and is a platform of scale to enable multi-sector energy transition in Canterbury and nationally over many decades.

“The airport will be making available long-term leases at Kowhai Park to both large and small organisations looking for a site for a renewable energy generation, storage and green fuels,” added Johns.

“We will be making other land available for green data centres and green vertical farming operators to tap the renewable energy Kowhai Park will offer. If 400 hectares isn’t ultimately enough, we have options across the campus to double this footprint over time.”





## HYDERABAD WINS NATIONAL ENERGY CONSERVATION AWARD

Hyderabad's Rajiv Gandhi International Airport – which has won 'Gold' and 'Platinum' awards in ACI Asia-Pacific's Green Recognition programme in each of the last two years for its air quality management and water management initiatives respectively – has been awarded with a Certificate of Merit for its energy conservation efforts by India's Bureau of Energy Efficiency.

Pradeep Panicker, CEO of operator GMR Hyderabad International Airport Ltd (GHIAL), said: "We are honoured to receive this distinct recognition, which reaffirms our unwavering commitment to render the best use of the energy resources available.

"As a responsible corporate, GHIAL has always been at the forefront in exploring and implementing best-in-class energy-conservation solutions. We have rolled out many initiatives to actively reduce the carbon footprint. With the

growing severity of the climate crisis, this award puts more onus on us to move towards cleaner and greener technology for the future generations."

GHIAL's energy efficiency initiatives have included the commissioning of a second 5MW solar power plant, which means that it now has more than 30,000 solar panels spread over a 45-acre area that are capable of meeting 50% of the energy requirements of its terminal building.

Financially this is expected to save GHIAL up to \$120,000 a month in energy bills and reduce the airport's carbon footprint by about 2.8 million kilogrammes of carbon dioxide annually.

It is worth noting that Hyderabad International Airport is also a carbon neutral airport having gained Level 3 + 'Neutrality' status in ACI's Airport Carbon Accreditation (ACA) programme.





# SMART SOLUTION

Getting smart about rate-making and the management of existing infrastructure and resources can help airports recover from the global pandemic, writes Veovo’s marketing manager, Siobhan Boyle.

**A**s the aviation market moves into recovery, many airport operators are re-evaluating the value of long-term exclusive gate and terminal lease models.

Common use terminals, where airports manage gates and carriers share fixed resources, are proving a better return on infrastructure investment, as well as a more efficient way to manage operations – essential for an industry still suffering from a pandemic hangover.

With low-cost carriers willing to try new routes, common use also offers growth opportunities. Shared resources can handle new carriers much more flexibly and rapidly than dedicated resources. But sharing terminals or gates can raise new challenges for commercial, operational and financial teams – like how to set rates, best allocate resources to flights, and accurately bill for their use.

It’s evident there’s no cookie-cutter approach to common use. Different airports require different rate structures and operating models.

Regardless, leading operators have a growing desire to capitalise on the opportunity of common use and reset their rate-making and airport gate management processes, leaning on automation, AI and smarter decision making to deliver the best outcomes for themselves and their airline customers.

Working with airports around the world, we’ve landed on these three key recommendations to help maximise resource and infrastructure usage:

## **1. CREATE BEST-FIT RATES FOR INFRASTRUCTURE, GROWTH AND CUSTOMER NEEDS**

A new market requires new rates. Airports are pushing for fair, flexible, yet creative tariffs that support the needs of all carriers (new and old) and help maximise the use of slots.

In North America, priority access is gaining ground as an efficient rate-making methodology for airports with high volume carriers. Although gates are now managed by the airport, airlines who are prepared to commit to a minimum traffic threshold can retain the benefits of location certainty.

And, there's a great degree of flexibility around how that threshold is set. Some airports use departing seat volume; others specify a minimum number of turns a day or a percentage of total deplaned passengers.

For those carriers falling below the threshold, it is often more cost-effective to share a gate. Airlines can pay an annual fee for access, giving them the confidence to establish and grow. Or, for those trying a new route, a fee per turn could be a preferable model.

In other regions, tariffs, discounts and rebates are frequently used to encourage route expansion or attract new carriers. A European airport, for example, used innovative rate-making and a rebate scheme to increase the number of scheduled airlines by 60% in four years. When capacity was tight, it adjusted its rates to encourage more off-peak traffic and remote gate usage.

## 2. EMBED OPERATING PROCEDURES AND OPTIMISE PLANNING

Where airports take control over gates, new rates have to be supported by clear operating protocols and a high degree of planning automation. Data, advanced analytics and smart decision support tools are key enablers.

Operators should define what data they need from airlines and when – from schedules to IATA B-type messaging. Third-party flight data from consolidators such as OAG and Cirium can also help support day-of-operation decisions when real-time airline movement data is unavailable.

Seasonal and daily resource planning tools are frequently used to automatically assign common use gates and other fixed resources to flights while accommodating SLAs, operating procedures and preferences.

And yet, while a highly-specific set of rules can be comprehensive, it is also static. So, when non-standard operations occur, such as weather-related disruption, manual decision-making tends to have to take over.

Forward-thinking airports are now extending their gate and resource management capabilities with advanced analytics to support more dynamic decision support and continual improvement. Machine learning and what-if scenario modelling are beginning to play a solid supporting role here, enabling deeper insights into historical performance and revealing opportunities to increase 'virtual capacity', resilience and on-time departures.

These could include recommendations to:

- Reduce buffers for flights with high adherence to OTD
- Balance peak-time remote stand use for aircraft with long layovers, with cost and availability of tows
- Group movement by the ground handler to accelerate peak-time turnaround.

Passenger comfort can also be prioritised by minimising transit time and reducing gate and pier crowding. Understanding the retail impact of gate allocations allows for resourcing decisions that increase passenger dwell time and spend during off-peak periods.

## 3. TURN USAGE DATA INTO REVENUE DOLLARS

Data is not only the lifeblood of efficient gate management. It's also critical for effective aeronautical revenue management.

Unfortunately for many airports, when it comes to collecting data around common use resource usage and applying that data to the billing process, it's not a streamlined process. Due to complex and fragile data integration, there is latency in data availability, a lack of granularity or simply an inability to handle charges beyond simple fixed fees. For those who are not equipped to do this, the result is money left on the table.

For example, a medium-sized airport that's unable to bill just \$10 worth of aircraft movement due to insufficient data or lack of billing flexibility could risk losing over \$2,000,000 in revenue per year.

Again, automation and analytics can have a significant impact. With tight integration between the gate management system and the billing engine, flight data and infrastructure usage can be captured in real-time.

Revenue managers can identify any information gaps early, and identify costs that are not always obvious, such as an extra 15 minutes on a stand, the use of multiple gates turning a turn or overnight parking.

Machine learning helps finance managers go deeper still, forecasting the impact of rates changes and daily operations on future aero-revenue streams, improving cash flow.

## FINAL THOUGHTS: IT'S TIME FOR A RETHINK AROUND REVENUE AND GATE MANAGEMENT

Shifting how airport resources are used requires a shift in how those resources are managed – and ultimately paid for.

Stepping up gate management and aeronautical billing capabilities means airports can create the best rate structures, embed operating procedures and optimise the planning decisions that maximise the full potential of their infrastructure.

It can drive growth, strengthen carrier relationships and lead to an improved passenger experience. It also gives them confidence in knowing every bit of usage is captured – and billed for.

With the right rates, better data and smarter decision support, airports can use what assets they have better and for longer. Costly expansion plans can wait.



# WBP NEWS

The latest news and views from ACI Asia-Pacific's World Business Partners.



## NEW PROCESSING TECHNOLOGY FOR NEPALESE GATEWAYS

The Civil Aviation Authority of Nepal has selected Collins Aerospace to provide passenger processing and baggage systems at Nepal's Tribhuvan (KTM), Gautam Buddha (BWA) and Pokhara (PKR) international airports.

According to Collins, its solutions will help the airports ease congestion; enable airlines to accelerate passenger processing and sort, route and handle baggage with higher accuracy; and streamline the passenger's experience with the ability to self check-in, tag and dispatch their own luggage.

The systems to be deployed include ARINC Multi-User System Environment (MUSE), ARINC SelfServ Common Use Self Service (CUSS) Kiosks, ARINC Self Service Bag Drop, ARINC BagLink and Baggage Reconciliation System.

KTM is located in Kathmandu, the capital city of Nepal, in Bagmati Province. It is Nepal's busiest airport in terms of passenger numbers and only international gateway. BWA is one of the oldest airports in Nepal after KTM, serving tourists who visit Lumbini for its Buddhist Heritage Tour, and PKR is the aerial gateway to the Himalayan and Annapurna regions in Nepal.

"Collins' airport solutions are customisable and scalable to fit both small and large airports, and we utilise onsite resources to optimally distribute passenger traffic to ensure that we don't have an area that is congested." said Rakan Khaled, the company's general manager for airport systems.

## WBP PROFILES



### KEISER PHILLIPS ASSOCIATES

**Location:** USA

**Type of business:** Consulting and Management

**Contact:** Thomas Phillips

**E:** airports@kpa.aero

**W:** www.kpa.aero

Keiser Phillips Associates (KPA) is a consultancy firm that specialises in international business development, marketing services, bilateral trade and investment affairs and market research. KPA Aviation is known for aviation demand forecasting, airports and airport-related facility planning and air cargo marketing issues.

### L&B WORLDWIDE AUSTRALIA

**Location:** Australia

**Type of business:** Equipment

**Contact:** Gary Gibb

**E:** ggibb@landrum-brown.com

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Landrum & Brown (L&B) is an internationally recognised aviation planning and consulting firm with over seventy years of service to the commercial aviation community. The technical capabilities of L&B are organised into four areas of expertise: airport facilities and operations planning; environmental planning; terminal planning; and financial planning and programme implementation. These specialised resources provide L&B with the ability to respond to large scale and technically challenging assignments that include forecasting, conceptual planning and design, financial feasibility, environmental approval and programme implementation.

### SMITHS DETECTION (ASIA PACIFIC)

**Location:** Singapore

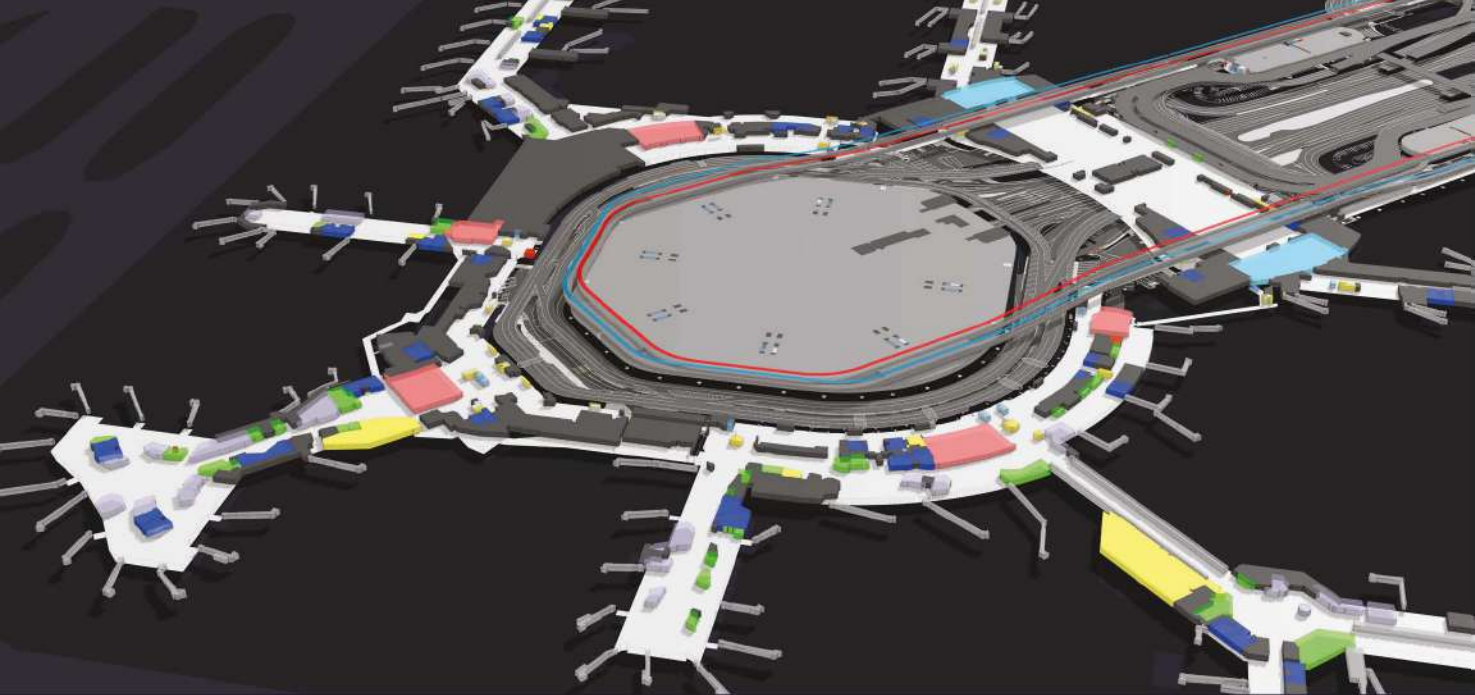
**Type of business:** Equipment

**Contact:** Fang Jing Zhi

**E:** jingzhi.fang@smithsdetection.com

**W:** www.smithsdetection.com

Smiths Detection, part of Smiths Group, is a global leader in threat detection and screening technologies for aviation, ports and borders, defence and urban security. Its experience and history across more than 40 years at the frontline, enables it to deliver the solutions needed to protect society from the threat and illegal passage of explosives, prohibited weapons, contraband, toxic chemicals and narcotics.



# GET BACK TO GREAT

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\*As per 2019 traffic levels