

# ACI World AIRPORT DEVELOPMENT NEWS

A service provided by ACI World in cooperation with Momberger Airport Information [www.mombergerairport.info](http://www.mombergerairport.info)  
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## Focus on South-East Asia

### MALAYSIA

**The Government will study feasible financing options by year end 2018 to upgrade the primary and secondary airports infrastructure throughout the country, said Transport Minister Anthony Loke Siew Fook.** The Pakatan Harapan (PH) administration is in the midst of thoroughly studying various options available to undertake airport expansion. "As everyone knows, we are in a very tight financial situation. Our yearly development budget is very limited. Every airport needs expansion. It will definitely cost the Government a lot of money to upgrade or development airports," he said at a press conference after the ground-breaking ceremony of a dedicated processing centre (security, immigration and customs) for departing crews at KLIA2. Loke said it is not practical to continue to be dependent on the Government for development expenditures as the administration is currently grappling with more than MYR 1 trillion in debts and liabilities. "However, infrastructure projects must go on. We will look into ways to work on this plan. We will answer it when the Government decides its ways forward," he said.

Because Kuala Lumpur International Airport (KLIA) has a balanced mix of local and foreign carriers offering both full-service and low-cost flights, it is in a viable position to become a strong hub almost without outside financial assistance. "KLIA was primed to take advantage of this growth, backed by its strong airline connectivity and extensive route offerings to more than 130 direct destinations, coupled with its geographical advantage in the Asia Pacific region," Loke said. He added that air transport was a driver of global trade and e-commerce helping to generate economic growth not only with direct benefits but also in indirect benefits. This includes the aviation sector's procurement of goods and services from other businesses, induced benefits such as wage payments to staff, as well as tourism benefits. "For Malaysia, the impact of the aviation sector is estimated at USD 1.97 billion (MYR 8.13 billion) in direct benefits, USD 2.59 billion (MYR 10.69 billion) in indirect benefits, USD 369 million (MYR 1.5 billion) in induced benefits, and USD 6.30 billion (MYR 26 billion) in tourism benefits, The aviation sector in Malaysia generates about 3.3% of the Malaysia's gross domestic product creating over 460,000 jobs. Meanwhile, the business press has reported that former Malaysia Airports Holdings Bhd (MAHB) Managing Director Datuk Badlisham Ghazali said the airport operator was still in discussion with the Government over the expansion of the main terminal at KLIA. The details have yet to be ironed out, especially on the exact capital expenditure (capex) and who would bear the cost. "KLIA terminal expansion is something we look forward to discussing with the Government. KLIA has the fastest growth and it requires expansion as it is now over its 30 million passengers per year capacity," he said. Currently all airport expansion programmes are funded by MAHB, except at the main KLIA terminal where the airport operator is currently discussing with the Government. "Our regulator, the Malaysian Aviation Commission (Mavcom), has come out with a mechanism called Regulated Asset Base (RAB), which would eventually help MAHB to have more predictability on when, how, and who to pay as well as the returns

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on the investment to be made on the expansion of the terminal," Badlisham said. Under the RAB framework, MAHB's return on invested capital (ROIC) must not exceed its weighted average cost of capital (WACC). With the main terminal KLIA expansion, MAHB expects to add capacity up to 65% or 20 million passengers, thus enabling it to handle 50 million passengers over the next three years.

**Malaysia Airports Holdings Bhd plans to double Kuala Lumpur International Airport's capacity as it seeks a bigger slice of the 2.1 billion more passengers expected in Asia-Pacific in the next two decades.** The company is looking to raise the capacity to 150 million, from the current 75 million, in the next 10 to 20 years, Raja Azmi Raja Nazuddin, Chief Financial Officer of Malaysia Airports, said in an interview. The main terminal could reach full capacity in the next two years. "We have started studies on the optimization and expansion. The outcome will determine the configuration that we will have to take within a year or two," Raja Azmi said  
Kuala Lumpur joins Bangkok and Singapore in looking to expand airport capacity as routes in Asia-Pacific are set to be among the world's busiest, according to IATA. Malaysia's Tourism Board is targeting foreign visitor arrivals of 36 million by 2020, a 39% increase from 2017. Malaysia Airports sees passenger traffic across the airports it manages rising 6.3% in 2018 as it banks on easier visa approvals for visitors from China and India. The company is also looking to Haj pilgrimages for more traffic and is co-operating with Malaysia Airlines, which provides chartered flights for the annual gathering. Improving services is a focus for the company, whose ranking in the Airport Service Quality survey fell to the 12th rank in 2017, from ninth the previous year. In 2018, Malaysia Airports is seeking to be back among the top 10. As part of its five-year plan to diversify earnings, the company set up an international unit that will focus on managing or buying stakes in airports in the Middle East and Asia.

## SINGAPORE

**In a bid to remain at the forefront of the competition, it is paramount that Changi Airport continues to expand ahead of demand, said Co-ordinating Minister of Infrastructure and Minister for Transport Khaw Boon Wan.** Speaking at the official opening of Changi's 225,000-m<sup>2</sup>, high-tech Terminal 4 in early August 2018, Mr Khaw said that one of Singapore's economic success factors lies in the ability to anticipate demand in areas such as aviation, maritime, and industrial development. He also highlighted the importance of making calculated and informed predictions in building ahead of demand, saying that it "requires strong judgement". The Transport Minister said that the aviation sector is unpredictable, subject to many disruptions, including oil prices and at times, unhelpful governmental interventions, adding that it may end up with white elephant" should these potential risks fail to be taken into account in the process of building new infrastructure. "We must be sensitive to potential disruptions and be ready to make strategic changes promptly when warranted," he elaborated. Touching on the construction of Terminal 5, which he dubbed as Singapore's second airport, he said that an estimated rise of 50 million passengers will be observed annually at Changi Airport when the terminal opens. This will result in an estimated 150 million passengers yearly, in comparison with the present capacity of 82 million passengers. Mr Khaw said: **"To manage the risk of disruptions, we are designing T5 in scalable modules and to build them in phases.** This is a practical approach to avoid over-investment and being caught wrong-footed should our projections turn awry." -- At approximately 1,000 hectares, Terminal 5 will take up land that is equivalent to the size of Tampines New Town, or more than twice the size of Singapore's Marina Bay.

**With the emergence of Dubai and Abu Dhabi as global transport hubs connecting east and west, Changi Airport has once again reinvented itself to entice travellers with a new USD 1.7 billion 'magical garden'.** The airport – voted the world's best for six years in a row - is already renowned for its pleasant human touches such as butterfly gardens, spas, cinemas, and rooftop pools. **Changi's latest endeavour, the 'Jewel', is marked to be a destination in its own right.** It will make Changi a world-class lifestyle destination that will be a technological statement for Singapore

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amidst intensifying competition in the global airport landscape. The sizeable joint venture between Changi Airport Group and CapitaLand is now marked for completion in early 2019.

Jewel Changi Airport Development Chief Executive Hung Jean told the press that Jewel would act as a strong tourism product and create a multi-dimensional lifestyle destination to enhance Singapore's appeal to travellers. "We are observing a trend where more and more travellers are spending less time in major cities and are instead, exploring less discovered destinations to gain meaningful experiences beyond leisurely vacations," Hung said. "This makes the role of air hubs even more important in their travel journeys as these savvy travellers prefer to book their own flights and choose the airports they wish to transfer to and transit in."

**Architect Moshe Safdie along with landscape architect Peter Walker & Partners are responsible for Singapore's latest landscaped urban sanctuary.** The unique mixed-use development, combining rainforest and retail, will span 134,000 m<sup>2</sup> and will be encased by a stunning glass-and-steel dome. "A key vision for Jewel Changi is to be a one-of-its-kind, multi-dimensional lifestyle destination that can enhance Singapore's appeal as a tourist destination and for travellers to choose Changi Airport as a stopover destination," Hung said. "The tourism mindshare that Jewel aims to capture will significantly augment Changi Airport's status as a leading international air hub, drawing international travellers to Changi Airport and Singapore."

In a nod to Singapore's reputation as a garden city, the development will boast a 40 m high indoor waterfall pouring 10,000 gallons per minute and a five-storey garden with 2,500 trees and 100,000 shrubs from countries such as Brazil, Australia, Thailand, and the United States. While the gardens will dominate the five higher floors, retail and airport facilities will take up five floors below ground level. Passengers will be greeted by some 300 boutiques, bars and restaurants across 90,000 m<sup>2</sup>, as well as a 130-room hotel. Sky nets, canopy mazes, foggy bowls, and discovery slides that have been specifically designed by world-renowned consultants, will act as inventive new attractions to entertain passengers in transit.

**Jewel will include unique play attractions and a shopping and dining environment of world-class standards.** More than 200 retailers from local and international brands will set up shop in the Jewel. Its roof is comprised of 9,600 pieces of glass specially made in the United States, each weighing up to 300 kg and held together by 18,000 steel beams across 6,000 steel nodes. The installation has been a complex undertaking due to the fact that no single piece has the same dimensions and specifications. Construction workers have benefited from the use of QR code technology to ensure each unique piece of glass finds its correct position on the façade. The panels, made of triple low-E glass, have been designed with a 16-mm air gap to restrict noise from aircraft while also reducing heat. Unsurprisingly, one of the more critical engineering challenges has been to specify glass that prevents glare from affecting air traffic controllers in the adjoining control tower. An extensive study over two years allowed engineers to select glass best suited to the location and weather conditions.

**Jewel Changi will connect three of the airport's current four terminals** and will have five stories of retail, gardens and restaurants, as well as a hotel with a five-storey underground parking lot. "Jewel's unique location in the heart of Changi Airport adds to the complexity of construction as we are located in a 'live' airport environment and proper co-ordination has to be done to prevent disruption to airport operations," Hung said. "We also need to ensure that the existing airport buildings are not affected by the construction of Jewel. For example, the deep excavation for Jewel's five basement levels as well as the ramps leading to Jewel meant that the adjoining buildings needed to be closely monitored for any form of movement at all times. We also have to ensure that the airport's existing infrastructure, such as telecommunication cables, water pipes, and power lines, are not damaged during construction." Jewel will be connected directly to Terminal 1 and will be linked to Terminals 2 and 3 via air-conditioned bridges with travellators. A monorail train connecting two of the terminals will pass directly through the middle of the site.

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## INDONESIA

**Fourteen state-owned enterprises (SOEs) have signed investment agreements with a number of international corporations for infrastructure projects in Indonesia worth USD 13.5 billion.** The signing ceremony was held on the sidelines of the 2018 International Monetary Fund-World Bank (IMF-WB) Annual Meetings in Nusa Dua, Bali. SOEs Minister Rini Soemarno in her speech during the signing ceremony explained the investments agreed in the co-operation were in the form of strategic partnerships, project financing and alternative financing through stock markets. **The agreements cover the oil and gas sector, downstream mining businesses, tourism, airport construction, electricity, defence, toll road construction and the manufacturing industry,** the minister said.

Among the projects are a strategic partnership between PT GMF AeroAsia and AFI KLM E&M of France, a partnership between PT GMF AeroAsia and PT China Communications Construction Indonesia, and tourism destination development financing between the Indonesia Tourism Development Corporation (ITDC) and the Asian Infrastructure Investment Bank (AIIB). Other projects include a **strategic partnership in the airport industry between state-owned airport operator PT Angkasa Pura II and PT Danareksa Sekuritas** and a strategic partnership between PT Inalum and PT Aneka Tambang with Aluminum Corporation of China Ltd (Chalco). -- Attending the ceremony were Coordinating Economic Minister Darmin Nasution, Public Works and Housing Minister Basuki Hadimuljono and Bank Indonesia Governor Perry Warjiyo, among others.

**At the same meeting, the Minister of Transport Budi Karya Sumadi explained that the priority of transport infrastructure development focuses on three regions: North Sumatra, North Sulawesi, and Bali with a total investment of USD 15.1 billion.** In air transport, the infrastructure options offered to investors in North Sumatra include construction of Sibolga Airport, Silangit Airport, and the Aerotropolis area at Kualanamu Airport with an investment of USD 796 million. To improve connectivity to support tourism programmes and strengthen the logistics business in Bali, the Government plans to build rail and airport networks in North Bali including Ngurah Rai International Airport. "In Bali, we are planning the construction of a railway network with an investment of USD 1,747 million. We also plan the construction of North Bali Airport and Ngurah Rai International Airport with the required investment value of USD 3,668 million," the Minister said.

**State owned Angkasa Pura II, Indonesia's largest airport operator, is considering Karawang, a district 60 km east of Jakarta, as a potential site for the development of a new airport intended to complement Soekarno-Hatta International Airport.** Indonesia's busiest airport is in dire need of a supporting facility, as it is predicted to face a traffic of 100 million people a year by 2026. Today, it caters to about 61 million passengers. Soekarno-Hatta Airport is currently developing its fourth and final terminal, leaving no space for further development, said Agus Haryadi, Angkasa Pura II Corporate Secretary. "We only have the fourth quadrant of empty land left. If we use it for Terminal 4, then all 1,800 hectares will be occupied," he said. "Once it reaches its maximum passenger limit of 100 million people, we'd have run out of space. We need a new 'Soekarno-Hatta.'" For this reason, the company is examining locations for the new airport, one of which is Karawang. Its proximity to Soekarno-Hatta is appealing, but the way its airspace intersects with Soekarno-Hatta's requires further review, Agus said. In 2010, the Government was in discussions with the Japan International Co-operation Agency (JICA) for the Karawang airport development, but the plan was abandoned. When he took office, President Joko Widodo decided to prioritize Kertajati International Airport in Majalengka, West Java, which now complements Bandung's crowded 'Husein Sastranegara Airport'. Bayu Sutanto, the head of the Scheduled Flights Department at the Indonesian National Air Carriers Association (Inaca), said it was a lack of funding that hindered the Karawang Airport plans. "The government has previously proven unable to pursue this airport development, despite knowing about Soekarno-Hatta's strained capacity," he said. He also said that a feasibility study by JICA found no issues between the airspaces of Karawang and Soekarno-Hatta. According to flight analyst Alvin Lee, who supported AP II's development plan, wherever new airports are built, the possibility of future expansion must be considered even in the base design. "When designing a new airport, one must anticipate its development for the next 50-100 years. --

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Soekarno-Hatta was late in anticipating its growth in passengers as Indonesia is predicted to serve 120 million air passengers in 2018, 11% more than in 2017.

## VIETNAM

**Van Don International Airport in the north-eastern province of Quang Ninh is in the final stages of construction work as it prepares to receive its first flight in December 2018.** The project's management board expects to complete construction and technical installations by October. The first calibration flight landed safely at the airport on 11 July 2018. Construction on the airport started in 2015 with a total investment of VND 7.5 trillion (USD 330 million). It is the first airport in the country built with capital mobilized by local authorities and investor Sun Group. **The airport covers 288 hectares** and is the **first in Vietnam to operate under the build-operate-transfer (BOT) model.** It will have support facilities, a two-module terminal and functional areas. A cargo terminal is expected to be built by 2030 with a capacity of at least 51,000 tonnes. Under a March 2018 decision by the Ministry of Transport, Van Don will be an international airport, serving both civilian and military flights with a 3,600-m runway. The airport will have an annual capacity of between 2 million and 2.5 million passengers by 2020, which will increase to 5 million by 2030. As Van Don District is among the three special economic zones planned in the country, the airport is expected to boost the local economy, including tourism to the world heritage site at Ha Long Bay. -- In 2017, Quang Ninh province saw 9.87 million tourist arrivals, including 4.28 million foreigners, up 18% and 23% year-on-year, respectively.

**Vietnam's international and domestic aviation market is becoming one of the fastest growing in the world, driven by surging tourism and the country's strong economic performance.** Within the ASEAN region, it recorded the highest passenger growth rate in 2017, mainly due to international visitors - which saw a phenomenal growth of about 30%. Furthermore, this growth is by no means short-lived as by 2030, Vietnam is expected to have a staggering 280 million passengers per year. The growth in passenger demand presents boundless opportunities for Vietnam's aviation industry. It facilitates tourism - one of its core pillars for economic growth - and creates jobs for local people. Surging travel demand also presents significant growth opportunities for local carriers, while opening the country's doors to new investments and route expansion by foreign airlines - a presence that has already more than doubled over the past four years. This investment then leads to the transfer of important aviation-related skills, such as manufacturing and maintenance, to the local Vietnamese community. However, **the growing number of passengers is overcrowding Vietnam's airports.** For example, Tan Son Nhat International Airport in Ho Chi Minh City - the country's largest - is already stretched way beyond its 25 million designed capacity, catering to 36 million visitors in 2017. Recognizing this as a pressing issue, the Vietnamese Government is taking steps to develop and upgrade its airports, such as **adding two new terminals to Tan Son Nhat, which would eventually bring its capacity to 70 million by 2025.** Additionally, it is looking at building the greenfield Long Thanh International Airport to serve Ho Chi Minh City, which is projected to have a capacity of 100 million passengers. **While infrastructure like terminals and runways can be built or upgraded, there is one area of airport real estate that cannot be expanded: airspace.** Currently, there is a limited number of air traffic routes - including take-off and landing trajectories - available to, from, and within Vietnam. **As air traffic grows further, operational efficiency will likely decline, and the congestion impact can present additional safety risks** - unless the right air traffic management (ATM) technologies are put in place.

**ADP Ingénierie**, the engineering and consultancy arm of the French Groupe ADP, **has been awarded a contract in Vietnam to conduct a feasibility study for a new greenfield airport at Ho Chi Minh City, i.e. Long Thanh International Airport**, which will be the city's second airport and will handle 25 million passengers annually following the first stage of construction. The contract was awarded as part of an international public tender by Airports Corporation of Vietnam (AVC). The feasibility study will include a runway, a new passenger terminal, a control tower, and all support facilities. The process

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will last 14 months to allow final inspections and approvals by the Vietnamese National Assembly. Commissioning has been scheduled for 2025 to help combat the 20% increase in annual passenger numbers. Gratien Maire, CEO of ADP Ingénierie, said: "This appointment is largely due to the close relationship between our teams and the Vietnamese authorities. We would like to congratulate and honour their renewed trust in our airport expertise after our successful delivery of Tan Son Nhat. The Long Tanh project will greatly contribute to our development in Asia." -- In November 2017, ADP Ingénierie was contracted to undertake a capacity optimization assessment for the existing airport of Ho Chi Minh City, Tan Son Nhat International Airport. The resulting development scheme proposed by Groupe ADP was approved by the Vietnamese Prime Minister, Nguyen Xuan Phuc, in March 2018.

## LAOS

**The international terminal at the capital Vientiane can now accommodate as many as 2.3 million foreign travellers a year, roughly nine times the original terminal's capacity.** The expansion project doubled the size of the terminal to 25,000 m<sup>2</sup>. The Japanese construction company Hazama Ando, which managed the expansion at Wattay International Airport (VTE), officially handed the terminal over to the Lao Airports Authority on 9 August 2018. Also, on that day, the Japanese aviation services provider Jalux and trading house Toyota Tsusho agreed to a ten-year extension of their management of the international terminal in a joint venture with local concerns. Laos is keen to become a travel destination and the expanded terminal will play a key role. While the work was under way, Wattay International used a makeshift terminal to handle the growing numbers of tourists flying to Laos and then opened parts of the expanded terminal as the project progressed. The airport also tore down its aging domestic terminal and built a new two-storey structure with 7,000 m<sup>2</sup> of space. The projects have cost the equivalent of USD 87.4 million, with part of the amount covered by a yen loan backed by the Japanese government. -- The government of Laos expects the number of people arriving in the country on international flights to reach 1.51 million by 2023.

## CAMBODIA

**In the last 22 years, more than USD 3 billion has been invested in local air transport infrastructure, according to the latest report from the State Secretariat of Civil Aviation (SSCA).** From 1995 to 2017, the country's three international airports received USD 350 million in the form of infrastructure investment. Phnom Penh International got USD 125 million, while the airports in Siem Reap and Sihanoukville received USD 125 and USD 100 million, respectively. Each airfield paid USD 34 million for the installation of the aeronautical information service (AIS). Moreover, the report points out that three new international airports and two new customs, immigration and quarantine (CIQ) airports are currently under development in the Kingdom. The CIQ facilities mentioned in the report are an airport in Koh Kong now being renovated by Bangkok Airways with a capital of USD 43 million and an airport in Poi Pet that will cost USD 45 million.

**Siem Reap's new international airport is being built by China's Yunnan Investment Holdings with an investment of USD 880 million** some 30 miles outside Cambodia's tourist town of Siem Reap, where contractors have begun preparing a 1,700-acre site for a new international airport. Under an exclusive 55-year build, operate, and transfer (BOT) concession, the greenfield project, spearheaded by China's state-run Yunnan Investment Holdings, will materialize in three phases. During the first and second phase, the company plans to invest USD 500 million to build a 4E-class airport, which will allow for short- to medium-haul aircraft. It plans to allocate another USD 300 million for the third phase, with the possibility of expanding to 4F compliance, meaning the airport could accommodate long-haul aircraft. Refurbishment and extension of the existing airport were completed in 2016.

**The Dara Sakor International Airport in Koh Kong province is being developed by China's Tianjin Union Development Group with an investment capital of USD 350 million.** The new coastal airport is backed by a USD 350 million from China's Tianjin Union Development Group, the Dara Sakor International Airport forms the centrepiece of the firm's ambitious USD 3.8 billion tourism project that spreads across more than 100,000 acres.

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Finally, **Phnom Penh will soon be serviced by a new USD 1.5 billion airport, which will be built in Kandal province.** The project is a joint venture between the Overseas Cambodia Investment Corporation (OCIC) and SSCA. **The new airport will be used mostly for long-haul flights,** according to Sin Chansereyvutha, spokesman for the SSCA, who added that it will be similar in size to the airport in Siem Reap. "The new airport will accommodate big, long-haul aircraft," he said. "Phnom Penh's airport cannot be expanded anymore to accommodate larger aircraft, so this new facility will help us cope with growth." Thoun Sinan, Chairman of the local branch of the Pacific Asia Travel Association, said that, with the number of tourists already markedly on the rise, the new airport will play an important role in expanding the number of visitors to the Kingdom, particularly from Europe. "Our current airport can handle the volume of passengers that we have nowadays," he said. "However, we need a bigger airport for the projected increase in visitors in upcoming years."

**Earlier in 2018, the Cambodian government approved plans for a USD 1.5 billion, 6,500-acre 4F-class airport,** some 18 miles south of the capital Phnom Penh. A joint venture between Cambodia's State Secretariat of Aviation (SSCA) and local conglomerate Overseas Cambodia Investment Corporation (OCIC), the project has drawn a reported USD 1.1 billion commitment from the state-run China Development Bank. Of the airport's total cost, USD 1.1 billion will come from loans from overseas banking institutions, while the OCIC will contribute USD 280 million. The remaining USD 120 million will come from public funds. Located in Takhmao in Kandal province, the airport will occupy 2,600 hectares of land. The new airport projects also signify the deepening of Sino-Cambodian diplomacy and are tied to the Lancang-Mekong projects and China's Belt and Road Initiative. China has become a critical source of policy bank finance and sovereign wealth funds for the development and maintenance of a number of airports in the country, as well as in Africa, Latin America, and the Caribbean.

Sinn Chanserey Vutha, SSCA's Deputy Director, said **there are 300 international and 50 local flights in the Kingdom every day; 46 airlines fly directly to the Kingdom, while 25 operate code-share flights. There are around 100 flights a day alone from China to Cambodia, with 12 Chinese** airlines operating 155 direct flights each week – 70 to Phnom Penh, 82 to Siem Reap and three to Sihanoukville. "The liberalization of the aviation sector has multiplied the number of routes, while reducing travel times and fares. It has boosted tourism, trade, investment, and job creation." Last year, the Kingdom's three international airports welcomed 8.78 million passengers, an increase of 15% year-on-year, according to Nuno Costa, Cambodia Airport's Marketing & Sales Director. -- There are seven local airlines: Cambodia Angkor Air, Sky Angkor Airlines, Bassaka Air, JC International Airlines, Lanmei Airlines, Small Planet Airlines, and Cambodia Bayon Airlines.

## Other Regions

### Turkey

**The Grand Opening of İstanbul New Airport took place as planned on 29 October 2018, the Turkish National Day, and the 95th anniversary of the founding of the Republic of Turkey.**

President Recep Tayyip Erdogan opened the airport, declaring completion of the first phase of construction a symbol of Turkey's strength and resilience - and a victory over forces, he said, that are trying to sabotage Turkey's economy. Erdogan ended years of speculation about the name of the new airport, saying that it will be named simply 'İstanbul Airport'. The current main international airport, Ataturk, will continue limited operations under that name, he said.

Offering upwards of 350 destinations when completed, the new gateway to Istanbul is already competitively positioned as one of the world's leading air transport hubs. It is also the first to be created in the 21st century, and therefore benefits from the best-available technologies, a hugely efficient passenger experience, and a complete blend of 'global and local' shopping and eating choices. Everything is contained in a single terminal which itself makes an important architectural contribution to the city of Istanbul. Besides its modern facilities, comforts, and unrivalled connectivity, İstanbul Airport has the capacity and security to keep growing, and growing in a sustainable way, far into the future.

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**From 18 to 20 June 2019, the New Airport Show Istanbul will celebrate the opening of the game-changing İstanbul Airport through an exhibition and high-calibre conference,** detailing how and why this hub has been built and defining its strategic role in global aviation. Jointly partnered by İGA and Turkish Airlines, The New Airport Show Istanbul will be co-located with Future Travel Experience EMEA at the downtown Istanbul Congress Centre (ICC) and is expected to attract 2,000+ international visitors and 150+ exhibitors.

İGA was founded on 7 October 2013 with the purpose of constructing and operating for 25 years the new Istanbul Airport, built over an area of 76.5 million m<sup>2</sup> to the north of Istanbul, in 35 km distance to the city centre. The construction will be carried out in four phases. The first phase was now finalized with the opening of two runways and a terminal with 90 million passenger capacity. When all phases are completed, the new airport will host about 100 airlines flying to more than 350 destinations with an annual passenger capacity up to 200 million.

## GREECE

**Fraport Greece has presented the future look of Thessaloniki's 'Makedonia' Airport (SKG) at a ground-breaking ceremony on the site of the new 34,000-m<sup>2</sup> passenger terminal, which is scheduled to open in the next two years.** Representatives of central and local government, political parties, professional bodies, associations, and other stakeholders from Thessaloniki and the greater Makedonia region, attended the future-oriented event. On behalf of Fraport Greece, the guests were greeted by Fraport's Executive Board Chairman Dr Stefan Schulte; Dimitris Copelouzos, the President of Copelouzos Group; Petros Souretis, Managing Director of Intrakat (the construction company tasked with the expansion programme); and Fraport Greece CEO Alexander Zinell.

Fraport Greece, a subsidiary of Fraport AG, is investing some EUR 100 million in creating a 'new era' at Greece's second-largest city. Along with the second terminal, this investment includes: refurbishing the existing terminal (total floor space of 24,000 m<sup>2</sup>), constructing a new fire station, and upgrading the waste-water biological treatment unit, as well as connecting it to the main city network. Other enhancements will increase operational capacity thanks to more check-in counters (up 47%), a doubling of the security lanes, additional baggage delivery belts (up 75%), and a 50% increase in the number of terminal gates. At the same time, major upgrade works taking place elsewhere at the airport include reconstructing the runway and apron areas and installing a modern baggage-handling and control system.

"Fraport is proud to present the new exciting vision of Thessaloniki Airport – our single largest infrastructure investment in Greece," says Dr Stefan Schulte. "The Thessaloniki region has an amazing heritage and a dynamic future, which requires an airport fit for the future. Step by step, we are improving procedures, operations, services, connectivity, and infrastructure. Our goal is to enhance the overall customer experience. We are highly committed. Together with our partners and stakeholders, we are meeting the challenge – not only in Thessaloniki, but also at the other regional airports."

Fraport Greece CEO Alexander Zinell stressed the importance of the project for Thessaloniki and the Makedonia region, as well as for the entire country: "Today marks the dawn of a new growth era for Greece. There is no better place to start a new chapter than at this historic city. Thessaloniki's newly emerging airport represents much more than the EUR 100 million construction project – out of Fraport Greece's total EUR 415 million infrastructure investment for all 14 regional airports. Quite simply, **our goal is to completely transform Thessaloniki Airport into a modern hub for the south-eastern Balkans.**" -- Fraport Greece's SKG development programme, which is expected to be completed in the first quarter of 2021, will significantly increase capacity for a modern gateway to the city of Thessaloniki and its wider region.

# ACI World AIRPORT DEVELOPMENT NEWS

A service provided by ACI World in cooperation with Momberger Airport Information [www.mombergerairport.info](http://www.mombergerairport.info)  
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## Green Airports

**The Airport Council International (ACI) has selected 'Adi Sumarmo Airport' in Solo, Central Java, Indonesia, as one of the pilot projects for the development of environmentally friendly airports in the world.** Airport operator PT Angkasa Pura-I Services and Marketing Director Devi W. Suradji remarked at the ACI Asia Pacific Office in Hong Kong that a team of ACI reviewed the airport at the end of August 2018 to make it an Airport Excellence (APEX) pilot project. ACI earlier only had standardized best practices through APEX in the area of security and safety. In 2018, ACI is compiling APEX for environmental programmes and selected Adi Sumarmo Airport as the first pilot project in the Asia Pacific and second in the world apart from an airport in Ecuador. "When the team from ACI visited Solo, we received consultations on what we have and have not implemented. The ACI also received input from the development of the Adi Sumarmo Airport," Suradji noted. Currently, Angkasa Pura-I is awaiting the complete results of recommendations from ACI for the development of the environmentally friendly airport. "The airport in Solo has been evaluated for seven days. We are waiting for recommendations from them," he added. According to Suradji, **the airport development effort to serve as an environmentally friendly infrastructure is becoming a major topic of the world aviation industry.** It is not easy to implement an environmentally friendly airport. One of the most basic aspects that necessitates attention is the use of aircraft fuel avtur that has a high carbon content. Angkasa Pura-I, which manages 13 airports in the central and eastern regions of Indonesia, also plans to apply environmentally friendly principles in the development of airports. Various authorities across the world are preparing solutions to deal with the adverse impacts of airport activities on the environment, such as high carbon emissions, noise pollution, garbage, and water. "The airport that looks clean is not necessarily environmentally friendly, while the airport that looks green is not necessarily sustainable," Suradji added. -- Solo's Adi Soemarmo Airport, which handled 3.2 million passengers in 2017, is being developed through a rail service to the airport, in order to become a tourist destination for local people.

**Indira Gandhi International Airport (DEL) in Delhi, India, has announced it will ban single-use plastic products at Indira Gandhi International Airport (IGIA), aiming to make it plastic-free by the end of 2019.** To eliminate single-use disposable plastics, the airport has launched a number of initiatives, including creating awareness, improving waste management systems and promoting the use of eco-friendly sustainable alternatives. The airport said that the initiative aligns with India's pledge to abolish all single-use plastic in the country by 2022. DEL will ensure that all the food and beverage items sold at the airport will be packed in bio-friendly packaging, and the airport operator will also mandate eco-friendly bags for retail shopping. Delhi International Airport CEO, Videh Jaipurjar, was quoted in the local press as saying: "DIAL is an environmentally responsible organisation. Over the years, it has taken many initiatives towards environment protection and sustainable development. Our objective is to make the Delhi airport free of single-use plastic, in line with the PM's vision. This would be another significant step towards achieving environmental sustainability at IGIA."

**Members of ACI World's Airport Carbon Accreditation (ACA) programme have saved nearly 350,000 t of CO<sub>2</sub> between them in the last 12 months.** Speaking at the Global Sustainable Aviation Summit in Geneva, Switzerland on 2 October 2018, Angela Gittens, director general, ACI World, commented: "Airports around the world recognise that climate resilience and climate action are two sides of the same challenge. With 48 new airports in the programme this past year, ACA has never seen such annual momentum. The 246 airports now accredited across the four levels of the programme welcomed 3.3 billion passengers last year which represents 44% of global passenger traffic." Gittens added that, from May 2017 to May 2018, accredited airports succeeded in collectively reducing CO<sub>2</sub> emissions under their direct control by 347,026 t.

According to the ACA programme, airports must consider the full extent of the emissions sources under their direct control if they are to reduce their carbon footprint. Investment in more energy efficient lighting and heating, switching to hybrid or electric ground vehicles, on-site renewables, energy

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management tools and employee behavioural change all have a part to play. This is further extended when airport operators engage other stakeholders with initiatives such as Airport-Collaborative Decision-Making (A-CDM), Continuous Descent Operations (CDO), and Time-Based Separation (TBS) for aircraft. Carbon neutral airports at Level 3+ of the programme have to provide evidence of undertaking all the actions required (mapping their emissions, reducing them and engaging others on the airport site), before investing in responsible carbon offsets. The 44 carbon neutral airports currently in the programme offset 672,000 t of CO<sub>2</sub> in residual emissions between May 2017 and May 2018.

**Airlines operating in Norway will have to use a minimum amount of lower-carbon fuels mixed with biofuel from 2020 under proposed new green aviation rules announced by the nation's climate and environment ministry.** The new rules would place a requirement on aviation fuel producers to ensure at least 0.5% of the fuel they sell in Norway each year consists of sustainable advanced biofuels made from waste and residues. Aviation fuel producers would then have the flexibility to choose precisely where, how and when they mix the biofuel, depending on the needs of their customers, as long as they meet the overall annual quota. The ministry cited estimates from the Danish Environmental Protection Agency that such a requirement could help reduce global greenhouse gas emissions by 14,000 t of CO<sub>2</sub> in the first year alone. The development of low-emission flight is seen as a crucial step towards delivering a net zero carbon global economy, and a raft of developers are working on potential solutions. Earlier this week, a Virgin Atlantic flight from Orlando to London Gatwick became the first commercial flight in the world undertaken in a plane fuelled by a percentage of waste-based biofuels, with the company hoping such fuels can deliver "dramatic" CO<sub>2</sub> cuts in future. However, the airline and biofuel developer LanzaTech urged the government to step up support for the nascent sector.

**Publisher's note:** The articles in this special report, compiled for **ACI World**, are edited samples from the biweekly **Momberger Airport Information** newsletter, published since 1973. The newsletter is an advertising-free, global airport news service that consists of 8 modules and allows subscribers to customize their own newsletter package. The items in this **ACI World** report represent only a small sample of the main module (Airport Development) of **Momberger Airport Information**. Additional modules that subscribers can select include: Airport Operations (OPS), Ground Support Equipment (GSE), Air Traffic Services (ATC), Consultant & Contractor (CON), Airport Information Technology (AIT) and Maintenance Base (MRO). An extensive Calendar of Events (CAL) is part of every subscription. For more information and to order an annual subscription, please visit [www.mombergerairport.info](http://www.mombergerairport.info)

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