



Published Every 2 Months By The
General Authority of Civil Aviation, Kingdom of Saudi Arabia

CIVIL AVIATION

Issue 83, July 2014, Ramadan 1435



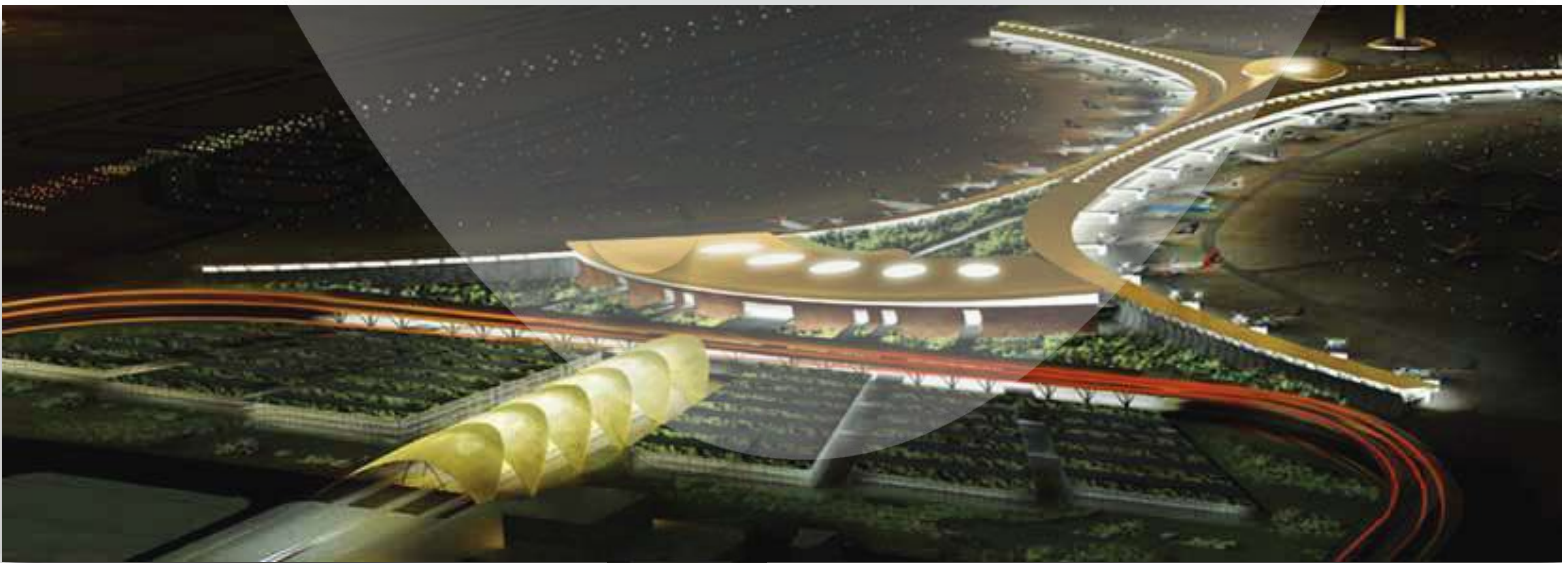
The King Empowers Saudia Board of Directors
to Appoint and Acquit its Director General



Realizing Baggage Handling Automation



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The Economics of Airports



Dr. Faisal H. Al-Sugair

VP, General Authority
of Civil Aviation

ACI Director General, Angela Gittens, delivered a speech last May in front of 300 representatives from the different countries of the world previewing prevailing economic conditions among the world's airports.

“Despite the fact that our industry is vulnerable to the worldwide business cycle, the overall demand for air transport shows resilience” Angela Gittens said in her opening speech. She added further: “while ACI is optimistic about aviation’s growth potential in 2014, we must remember that the global economy remains in a vulnerable state”.

A more comprehensive report supported by accurate statics on 683 airports accounting to 70% of the World’s air tra8c revealed that two thirds of these airports (67%) end up with net loss at the end of their fiscal year. Moreover, 80% of airports with less than one million passengers a year incur a net loss of 6% on average.

This last fact proves that number of passengers is an essential factor for the airport to cover its expenses. At the same time, it confirms that only 20% of the world’s airports contribute to drawing a rosy economic picture for the world’s airport industry. These successful airports are relatively big airports, i.e. their annual

number of passengers exceed 15 million passengers.

It is true that as the number of passengers becomes larger, the better is the economic activity in the area served by the airport even if the airport’s generated profits are limited. From this we can conclude that civil aviation industry doesn’t target the economic goal alone, even though it is one of its most influential factors (particularly with respect to expansion or improvement of its services, qualitatively and quantitatively). Other targeted goals relate to the human being’s welfare, comfort, and provision of a descent life.

Adopting such a noble goal doesn’t relieve airport managements from their responsibility for using all possible means to increase their resources and limit their expenditures especially unessential or unnecessary ones. In other words, economic profitability should always be one of their decision making primary factors.

Here in Saudi Arabia, supreme directives always emphasize that the noble goal behind constructing small airports in many smaller cities in the Kingdom is the welfare of people, both citizens and non-citizens, and not just the economic motive. On the other hand, GACA’s great challenge is to try to balance between airport revenues and expenditures so that airports shall not be a future burden on the government’s budget.

Accordingly, GACA will continue supporting this noble national attitude taking into consideration adopting best applicable practices in airport operation based on successful commercial standards as much as possible.

The King Empowers Saudia Board of Directors to Appoint and Acquit its Director General

His Highness Prince Fahd Bin Abdullah, President of the General Authority of Civil Aviation, expressed in a press statement issued in 17/06/2014, his deep regards and gratitude to King Abdullah Bin Abdul-Aziz, for approving the Council of Ministers Resolution empowering the Board of Directors of the Saudi Arabian Airlines to appoint and acquit the Airlines Director General. The board also decides on the DG salary and other financial benefits as well. In the old regulations this required issuance of a Royal Decree. His Highness explained that this resolution comes as



an effective step for boosting Saudia's exerted efforts in developing this sector in view of

the intensive competition taking place in the Air Transport Industry.

Madinah Governor inspects PMIA project

Madinah Governor Prince Faisal bin Salman reiterated the importance of completing expansion works on the Prince Muhammad bin Abdul-Aziz International Airport on time during his latest inspection visit to the project on 18th. May 2014, where he was briefed on the progress made thus far.

Prince Faisal also inspected a prototype model of the project and was keyed in pivotal aspects of the project by Muhammad Al-Fadel, the airport's general director. Al-Fadel said that 83% of construction has so far been completed. "The first phase of the project will be completed in early January 2015," he said. He added the airport would accommodate nearly eight million travelers annually once it operates. Madinah receives an estimated 11 million visitors

per year. Aviation traffic is slated to increase by 27% with the new expansion. "Upcoming phases include increasing airport capacity to 14 million passengers a year, while the third phase will see the premises accommodate almost 27 million people," he said. Prince Faisal bin Salman also discussed technical aspects of the project with engineers. The new airport is poised to drastically enhance the city's economy, increasing commercial trade to more than SR 400 million. The new airport also will accommodate major airliners, including Turkish Airlines, Flynas and Emirates Airlines. Madinah Airport is considered the third most important gateway to the Kingdom and the second most important airport during the Hajj and Umrah pilgrimage seasons.

Jeddah Governor inspects works at new KAIA project

On the 26th of May 2014 Jeddah Governor Prince Mishaal Bin Majed inspected the progress of work at the new King Abdul-Aziz International Airport project. New KAIA will start experimental operation next year.

More than 26,000 engineers and workers belonging to 100 companies are working round the clock to complete the first phase of the \$27 billion project before the end of the current year.

With the completion of the project, Prince Mishaal said: the airport with world-class facilities will be one of the largest airports in the Middle East and Asia, connecting the West and East.

“The airport will have the highly advanced facilities in terms of passenger lounges, air traffic control towers and support services. Its control tower, with a height of 136 meters, will be one of the tallest towers in the world,” he said adding that the project will generate jobs for thousands of Saudis.

He also drew attention to a number of projects being implemented in the Jeddah governorate, especially



the public transport project, including metro, which is aimed at reducing traffic congestion in Jeddah city.

Prince Mishal was accompanied by Dr. Faisal Al-Sugair, VP of GACA and other officials. Al-Sugair said the experimental operation of the new airport is expected to be completed within the first six months of 2015. “About 65% of the proj-

ect has been completed and the remaining works of the infrastructure projects and experimental operation of roads and flyovers at the airport are expected to complete within three months.”

The new expansion will increase the airport’s annual capacity to 30 million passengers in the first phase and 80 million in the final phase.

Construction of a New International Airport in Taif



GACA Board of Directors chaired by HH Prince Fahd Bin Abdullah approved the tendering the New Taif International Airport to the private sector on the (BTO) system basis. Contractual arrangements are now underway with international chance commission to help with the new airport tender documents' preparation and tendering. The New Airport will be designed in accordance with modern international standards

and concepts, and it will take into consideration the special facilities requirements to accommodate international pilgrims and Umrah passengers. Located only one hour away by car from Makkah, the New Airport will contribute to raising the standard of services rendered to the pilgrims and Umrah passengers besides accommodating their increasing numbers year after year. The construction of the project is expected to start

sometime next year.

It is noteworthy that GACA's new strategy includes building economically and operationally viable airport construction and expansion projects in major cities in addition to transforming regional airports to international ones with the aim of enhancing the economic development taking place in the kingdom's outstretched parts, and to meet future air traffic demand.

Master plan to be developed for expansion of Fujairah International

Abu Dhabi Airports has signed a Memorandum of co-operation (MOC) with Fujairah International Airport to develop a master plan to ensure delivery of an efficient and adequate expansion programme.

Operator of the Department of Civil Aviation for the Emirate of Fujairah, says the transformation project is being carried out to enhance the airport's facilities, which at present can handle two million passengers.

Through the MOC, Fujairah International will benefit from the expertise of Abu Dhabi Airports in planning, managing and supporting an airport expansion development.

The cooperation will see Abu Dhabi Airports assisting with the preparation of a list of proposed component projects that will form the expansion, and provide administrative assistance during construction.



Abu Dhabi Airports will provide guidance with a view to equip Fujairah International with the knowledge and know-how to deliver the expansion programme and manage third-party construction managers, design consultants, construction contractors and other aspects of the project.

H.E Ali Majed Al Mansoori, chairman of Abu Dhabi Airports, explains: "Abu Dhabi Airports is always eager to support any initiative that will further develop the aviation infrastructure in the UAE and the region.

"Today's partnership will capitalise on the know-how that the company holds to support our peers in enhancing their facilities and further accommodating their growing demand."

H.E Mohammed Abdulla Al Salami, chairman of the Department of Civil Aviation of the Emirate of Fujairah, says Abu Dhabi Airports has all the necessary expertise in planning and managing airport expansion programmes, which creates the 'perfect partnership'.

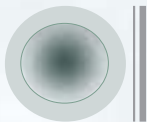
ANA to place record aircraft orders Japanese carrier to renew and expand fleet with new Boeing and Airbus jets

ANA has unveiled plans to renew its fleet with orders for 70 new aircraft. The Japanese carrier will spend a record JPY1.7 trillion (US\$16.6 billion) on a series of new single- and twin-aisle passenger aircraft from Airbus and Boeing.

To expand its long-haul international fleet, ANA has decided to purchase 20 Boeing 777-9X aircraft and

14 additional B787-9 Dreamliners. It will also buy six more B777-300ER aircraft, to support its expansion efforts while waiting for the delivery of the new B777-X9s, which are not expected to enter service until after 2020. The order with Airbus consists of 30 single-aisle jets – seven A320neo and 23 A321neo aircraft – which will replace ANA's existing B737-

500 and standard A320 aircraft. The A320neo is the new fuel-efficient version of the A320, which is expected to enter service in 2015. "The aircraft we have selected will enable us to modernise and expand our fleet further as we seek to become one of the world's leading airline groups," said Shinichiro Ito, president & CEO of ANA.



Realizing Baggage Handling Automation

With the exciting new prospect of fully-automated baggage handling, the world is intrigued - but will it be feasible for everyone yet?

Khadija Osman *

With the economic decline worldwide in 2008, the amount of passengers flowing through airports had reduced, and no one knew when flyers would number as high as they had before. Yet, just three years later, the aviation industry picked up, and the numbers of flyers increased - and increased again the following year and every year since 2011. With the incredible surge of travelers airports have been experiencing, baggage handling has become a pricey and complicated issue for most busy airports around the world. Automation in the baggage logistics industry has become a viable and even advantageous option, as mechanized systems have been slowly introduced at the most bustling airports around the world. So far, however, only one airport maintains a fully automated baggage handling system. But will it work for every airport?

In this modern, technological era, the majority of baggage handling remains surprisingly manual, with airports hiring huge groups of workers to grapple with the growing demand



for baggage assistants. And as with any manual-based industry, plenty of issues arise consistently at large airports, with bags being mishandled, misplaced, damaged, and even laborers suffering injuries from handling heavy loads. Automated baggage handling has been explored for an extended period of time now, and has finally been realized in its most efficient form as of yet at the airport in Karlsruhe, Germany. A German baggage automation company has developed the very first and only fully automated baggage handling system in the world. With the use of several specialty made machines, complete baggage automation

requires little to no human assistance, which cuts the cost of hiring several hundred laborers to manually handle bags at airports. This type of system has many advantages, but is not without its disadvantages.

The very first airport where the system was first installed and field-tested was the airport in Karlsruhe, Germany, and has since then been installed at Frankfurt International Airport as well. The method through which this robot-based system works begins with a bag analysis, where the system analyzes the bag, checking its shape, height and weight, and, optionally, its

barcode identification. This information is transferred to a load manager, which then determines the optimum loading position of the bag, taking into account also the destination of the flight it is assigned to, as well as the class its passenger has been assigned to. It then uses an industrial robot equipped with a handling tool to place the bag in the calculated position onto a ramp cart or ULD. There is also an off-loading automation system that uses mechanized gear to unload bags as well.

However, installing and maintaining a fully automated baggage handling system has many real disadvantages that should be taken into account prior to considering the system a viable option for any airport. At this point in time not every airport can afford an entirely automated system, and though this will probably change in the future, it would really work for airports with certain specifications. Airport proprietors would need to analyze their own specific baggage handling needs, as well as the difference in cost and efficiency between their current manual labor, and the possibility of partially to entirely mechanized baggage handling. The field of mechanized baggage logistics remains fairly new, and for a fully mechanized system operation can be extremely pricey, possibly even more expensive than supporting the extent of an airports' current luggage labor force. The airport would need to be large enough and busy enough that luggage keep mov-



ing at a steady flow at all times for the system to be economically feasible.

Additionally, the system would work out to be more cost-effective, as well as spatially advantageous, were the airport is planning to expand in the first place, so that the terminal would be built with the intention of including such a system and a particular space designated for it beforehand. The reason for this is that most busy airports that would be considering this system as an option have already exceeded the amount of space that they have available with the ever increasing amount of passengers and luggage moving through, and installing such equipment would be a dimensional challenge at this point, since a fully automated system would take up too much space. Partially automated baggage handling has become the trend in baggage handling at many

airports, and tends to be less expensive and take up less space, but the fully automated system would really only work for a few airports at this point in time.

At some point in the future the cost of installing and managing this type of system may reduce, and eventually most airports may have entirely robot-based baggage handling systems. And though right now it may be an advantageous investment to only the biggest, busiest airports, it is an exciting development and technological prospect that hints at yet more advancements to come.

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"The Future of Baggage Loading" Ground Handling International. December, 2013. 18, 20.

* *English Instructor, Aviation Researcher, Nevada, USA*

RADIO FREQUENCY SPECTRUM

A frequency spectrum is a method of classifying, by their commonly understood names, the discrete and unique elements of all electromagnetic occurrences in terms of the frequency of the radiated energy induced each second. Radio waves, television broadcasts, X-rays, microwaves, and infrared transmissions are all electromagnetic radiations whose essential attributes can be defined and identified by the frequency or amount of radiation each type produces.

Frequency is defined as the number of complete electromagnetic energy wave cycles that occur each second. The international unit of measurement used to describe one cycle is 1 hertz (Hz). Since each portion of the electromagnetic spectrum has a telltale frequency signature, it can be identified by means of a frequency spectrum analyzer that is capable of accurately measuring the wave cycles per second of the particular electromagnetic phenomenon under observation.

Each of the varied forms of electromagnetic energy occupies a designated place on the frequency spectrum. The electromagnetic continuum, as expressed in terms of the frequency or the intensity of radiation emitted by each distinct segment, ranges from 106 Hz up to 1025 Hz. Radio waves occupy the low end of the frequency spectrum whereas radioactive gamma rays occupy the high end. The frequency range encompassed by the electromagnetic spectrum



**Dr. Mohamed
Elfatih Eamin ***

is immense. Frequencies generated by radio transmissions and those produced by visible light vary by an order of magnitude of a million billion.

The frequency spectrum for radio transmissions is further classified into ranges of frequencies or "bands," both as a means for minimizing interference as well as for sharing bandwidth among multiple users. The International Telecommunications Union Agreement allocates certain ranges of radio transmission frequencies so as to minimize interference in the shortwave radio spectrum. The high frequency bands are allocated among international shortwave broadcasters, amateur radio operators, and marine radio communications.

Aviation Frequency spectrum

At most small airports that don't have control towers, the UNICOM frequency is used by the pilots to talk to each other, usually 122.700, 122.800, 122.900, 123.000 or 123.050. Airports with control towers usually have an assigned Unicom channel of 122.950. Most

airports large enough to have control towers have the following types of channels:

- 1- ATIS (Automatic Terminal Information Service): Weather, equipment failures, closed runways and taxiways, current operating runways, special notes, and NOTAM's.
- 2- Clearance Delivery: used by pilot to notify a controller of his flight intentions and to receive flight instructions and clearance for take-off.
- 3- Ground Control: to direct the pilot which taxiways to use to arrive at the correct runway.
- 4- Tower: The Tower Controller is responsible for the aircraft in the immediate area around the airport (Up to 3000 feet and 5 miles from the airport). Once the aircraft leaves the airspace of the airport, the pilot will be handed off to a controller at a TRACON (Terminal Radar Approach Control) or an (Air Traffic Control).
- 5- Approach Control (TRACON): Directs several lines of descending aircraft into one smooth flowing line as their courses take them closer to the destination airport.
- 6- Departure Control (TRACON): Routes aircraft immediately upon take-off via a preferential departure route (PDR) leading away from the departure airport as the aircraft ascends to the en route phase of flight.

* *Technical Advisor - GACA/ANS/SED/
COMMUNICATIONS*

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HOW TO CHOOSE A FLIGHT SCHOOL?

One of the perennial questions for potential students and their parents or sponsors is, “How to choose the best flight school?” Today, one must sort through the volume of information available and determine what is important or not, and even what is true or not

Here is my list of some of the most important factors along with an explanation of each factor and suggestions for how to research it.

FINANCIAL STABILITY:

Typically, flight schools will tell you how many years they have been in operation. You might also inquire how long the current ownership has been in place. Especially over the past 5 years, a number of schools have been acquired by hedge funds and other investment groups. Ask a potential flight school whether they own their own aircraft or lease them from others and whether they conduct their own maintenance. An over-reliance on leases or relying completely on another business for maintenance might indicate poor financial strength or could indicate that at future dates fewer aircraft might be available for training. Also check a flight school’s payment policy. School’s requiring payment of all expected fees at initial enrollment, especially those indi-



Patrick W. Murphy *

cating a discount as a reward for such payments, may be having financial or cash flow problems.

SAFETY:

You should ask any flight school that you are considering about how many accidents they have experienced. Any large flight school that has been in business for a reasonable period of time is likely to have an accident record. But a school having a large number of accidents and if those accidents indicate a trend such as mostly occurring during landings, may indicate a training problem. A school having accidents that include fatalities might also bear special attention. For accidents in the USA, a search of the NTSB accident database might be worthwhile but remember that flight schools may register their aircraft under a variety of different names so that search may require some time.

LOCATION, LOCATION!:

That is a saying used when buying real estate, but it certainly can apply to choosing a flight school as well. The number of days you can fly VFR will largely determine whether or not a student can finish on time. The best weather for flight training in the United States is located where the USA military established the majority of their flight schools during WWII: southeastern, south central and southwestern states. These states include Florida, Texas, Arizona, and California. An extra benefit of WWII is that the military turned over most of the training airports that they were using at the end of the war to local governments for civilian use. The State of Florida is particularly fortunate to have a large number of civilian airports, good year-round weather, and relatively low cost of living.

Location can also influence potential safety. Locations with potential safety hazards such as mountains, deserts, or even substantial bodies of water that require overflight during training might signal extra safety risks. Schools in extremely large cities can provide great training in complex airspace and communication, but may also signal additional safety risks due to congested practice areas, congested air-



ports, or extremely busy instrument approach arrival and departure paths.

QUALITY:

It is hard to assess the true quality of training at any flight school. If you get a chance to visit the school, ask the students, instructors, and even the pilot examiners whether the school delivers top quality training. Ask about the experience level of the flight instructors. Government approval may be another helpful sign of higher quality. In the USA, that would mean approval by the Federal Aviation Administration under Part 141.

Look to see whether a school is independently accredited by a regional association or has a contract to provide pilot training for a local college. Either one would be a possible indication not only of quality of training but also financial viability.

There are also a number of websites that provide receiving postings, both good and bad, about pilot schools; for a start, you might try these: www.jetcareers.com, pprune.com, or flightschoolreviewer.com. Or just try your luck with a google search by putting in the school's name and a search term like, "complaints." Be aware that a recent name change by the school might be an indication of an attempt to move away from negative comments on the internet under the old name.



COST:

Many students focus too much attention on finding the lowest cost flight training. There are often ways a school may use to make the price of training look particularly attractive: using minimum or unrealistic flight times, for instance. In the USA, it is also possible for a school to advertise attractive prices by placing two students in a single aircraft after they become private pilots. Though only one student is actually on the controls, there is a way for both to log this time under FAA rules. In some instances, schools may have students log 100 hours or more of flight time without being on the flight controls. This time is called safety pilot time or shared flight time. In most cases, though it lowers cost it also lowers the skill level of the student

at graduation. In countries following European rules, that flight time will also not be counted toward any ratings or pilot certificates attempted in those countries.

The type of aircraft flown at a particular pilot school can also influence cost. Generally, newer aircraft will cost more as will aircraft having the most modern glass cockpits. However, if you purchase the majority of your flight time in aircraft having traditional instruments and equipment, it would be a good investment to get some flight time in a glass cockpit airplane or even your instrument rating, especially if you plan a career as an airline pilot.

** Patrick W. Murphy is a pilot and flight instructor with over 10,000 hours of flight experience over the past 35 years.*

Top 30 World Airports Air traffic movements (2013)

Rank	Airport	Total Passengers	% Change
1	ATLANTA GA, US (ATL)	93923139	▼1.8
2	BEIJING, CN (PEK)	84230371	▲2.3
3	LONDON, GB (LHR)	72617240	▲3.6
4	TOKYO, JP (HND)	69314025	▲3.9
5	DUBAI, AE (DXB)	67867365	▲15.2
6	LOS ANGELES CA, US (LAX)	67360210	▲5.5
7	CHICAGO IL, US (ORD)	66664836	▲0.1
8	PARIS, FR (CDG)	62423284	▲1.7
9	DALLAS TX, US (DFW)	60771216	▲3.0
10	HONG KONG, HK (HKG)	60240715	▲6.8
11	JAKARTA, ID (CGK)	59825062	▲3.5
12	FRANKFURT, DE (FRA)	58235469	▲1.6
13	SINGAPORE, SG (SIN)	53988397	▲4.6
14	GUANGZHOU, CN (CAN)	53201766	▲9.4
15	AMSTERDAM, NL (AMS)	52965958	▲3.9
16	DENVER CO, US (DEN)	52671052	▼1.0
17	ISTANBUL, TR (IST)	52105096	▲12.4
18	BANGKOK, TH (BKK)	50812432	▼2.4
19	NEW YORK NY, US (JFK)	50483639	▲2.2
20	KUALA LUMPUR, MY (KUL)	48868794	▲20.8
21	SHANGHAI, CN (PVG)	47960524	▲6.2
22	SAN FRANCISCO CA, US (SFO)	45284117	▲2.0
23	CHARLOTTE NC, US (CLT)	43539427	▲5.1
24	LAS VEGAS NV, US (LAS)	42094045	▲1.4
25	INCHEON, KR (ICN)	42085123	▲5.8
26	MIAMI FL, US (MIA)	40791561	▲3.4
27	PHOENIX AZ, US (PHX)	40552297	▲0.4
28	HOUSTON TX, US (IAH)	40024276	▲0.5
29	MADRID, ES (MAD)	39709284	▼10.2
30	MUNICH, DE (MUC)	38725143	▲1.2

Total passengers enplaned and deplaned, passengers in transit counted once.

Rank	Airport	Total Cargo	% Change
1	HONG KONG, HK (HKG)	4173134	▲2.1
2	MEMPHIS TN, US (MEM)	4166448	▲2.9
3	SHANGHAI, CN (PVG)	2947587	▲0.7
4	INCHEON, KR (ICN)	2490974	▲2.3
5	DUBAI, AE (DXB)	2450196	▲5.6
6	ANCHORAGE AK, US (ANC)	2396611	▼2.6
7	LOUISVILLE KY, US (SDF)	2228368	▲1.9
8	FRANKFURT, DE (FRA)	2110144	▲2.3
9	TOKYO, JP (NRT)	2045970	▲2.7
10	MIAMI FL, US (MIA)	1951792	▲0.8
11	PARIS, FR (CDG)	1888616	▼2.3
12	SINGAPORE, SG (SIN)	1875412	▲0.8
13	BEIJING, CN (PEK)	1828638	▲0.2
14	LOS ANGELES CA, US (LAX)	1739379	▼1.8
15	AMSTERDAM, NL (AMS)	1583486	▲4.5
16	TAIPEI, TW (TPE)	1571088	▼0.9
17	LONDON, GB (LHR)	1518862	▼1.7
18	CHICAGO IL, US (ORD)	1504023	▲0.1
19	GUANGZHOU, CN (CAN)	1320068	▲5.3
20	NEW YORK NY, US (JFK)	1286679	▲0.5
21	BANGKOK, TH (BKK)	1233835	▼6.0
22	INDIANAPOLIS IN, US (IND)	978320	▲3.5
23	TOKYO, JP (HND)	963175	▲6.1
24	SHENZHEN, CN (SZX)	919701	▲6.5
25	DOHA, QA (DOH)	898978	▲7.0
26	LEIPZIG, DE (LEJ)	880722	▲3.1
27	ABU DHABI, AE (AUH)	728813	▲23.3
28	COLOGNE, DE (CGN)	721326	▼0.7
29	KUALA LUMPUR, MY (KUL)	706907	▲2.1
30	OSAKA, JP (KIX)	688606	▲2.9

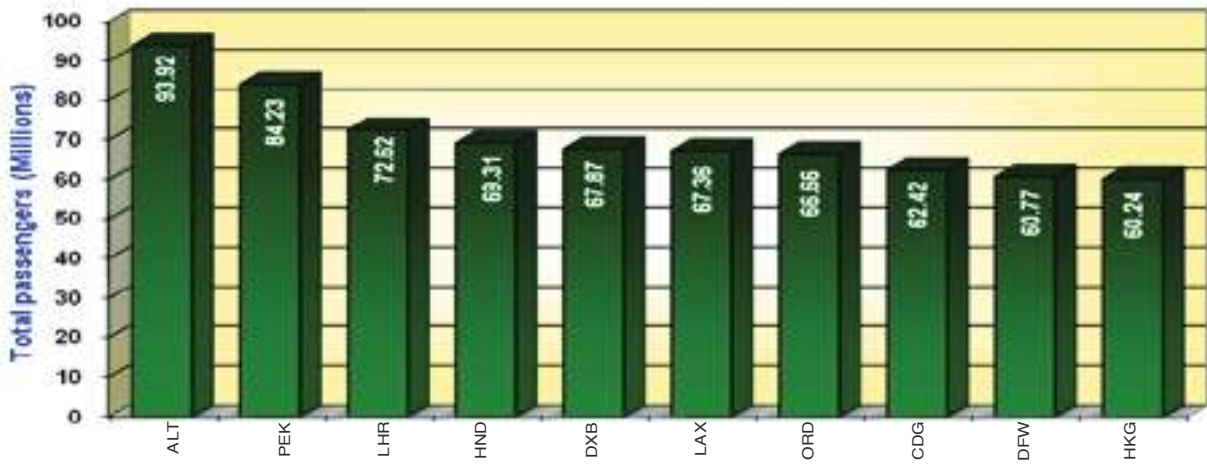
Total Cargo: loaded and unloaded (big) and mail in metric tons.

Rank	Airport	Total Movements	% Change
1	ATLANTA GA, US (ATL)	900362	▼2.7
2	CHICAGO IL, US (ORD)	874976	▲0.1
3	DALLAS TX, US (DFW)	677520	▲3.6
4	LOS ANGELES CA, US (LAX)	620275	▲3.1
5	DENVER CO, US (DEN)	577806	▼4.9
6	BEIJING, CN (PEK)	571628	▲2.7
7	CHARLOTTE NC, US (CLT)	553849	▲0.4
8	LAS VEGAS NV, US (LAS)	522277	▼0.3
9	HOUSTON TX, US (IAH)	504958	▼0.2
10	PARIS, FR (CDG)	475992	▼3.7
11	FRANKFURT, DE (FRA)	472931	▼1.3
12	LONDON, GB (LHR)	472349	▲0.2
13	AMSTERDAM, NL (AMS)	442220	▲1.7
14	PHOENIX AZ, US (PHX)	434571	▼2.6
15	MINNEAPOLIS MN, US (MSP)	430399	▲0.8

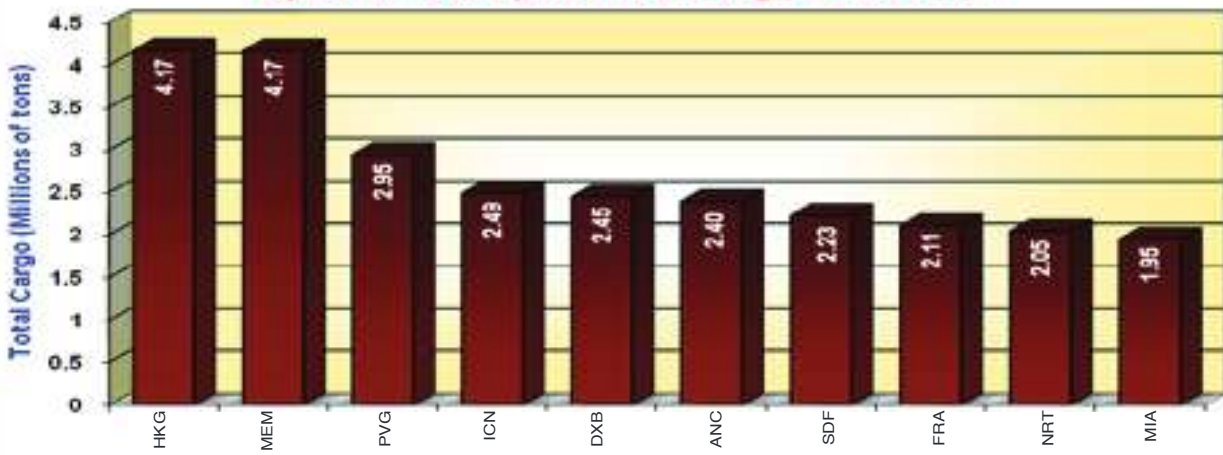
Total Movements: landing (big) and take-off in aircraft

Rank	Airport	Total Movements	% Change
16	TORONTO ON, CA (YYZ)	430386	▼0.6
17	PHILADELPHIA PA, US (PHL)	425614	▼3.5
18	SAN FRANCISCO CA, US (SFO)	423279	▲0.3
19	DETROIT MI, US (DTW)	422537	▼0.5
20	ISTANBUL, TR (IST)	412872	▲11.1
21	NEWARK NJ, US (EWR)	407280	▼1.1
22	NEW YORK NY, US (JFK)	403823	▲1.0
23	TOKYO, JP (HND)	403460	▲3.2
24	MIAMI FL, US (MIA)	399635	▲2.2
25	GUANGZHOU, CN (CAN)	397915	▲7.0
26	MEXICO CITY, MX (MEX)	397517	▲4.4
27	JAKARTA, ID (CGK)	397435	▲7.1
28	HONG KONG, HK (HKG)	387547	▲6.3
29	MUNICH, DE (MUC)	381804	▼2.9
30	SHANGHAI, CN (PVG)	375018	▲3.4

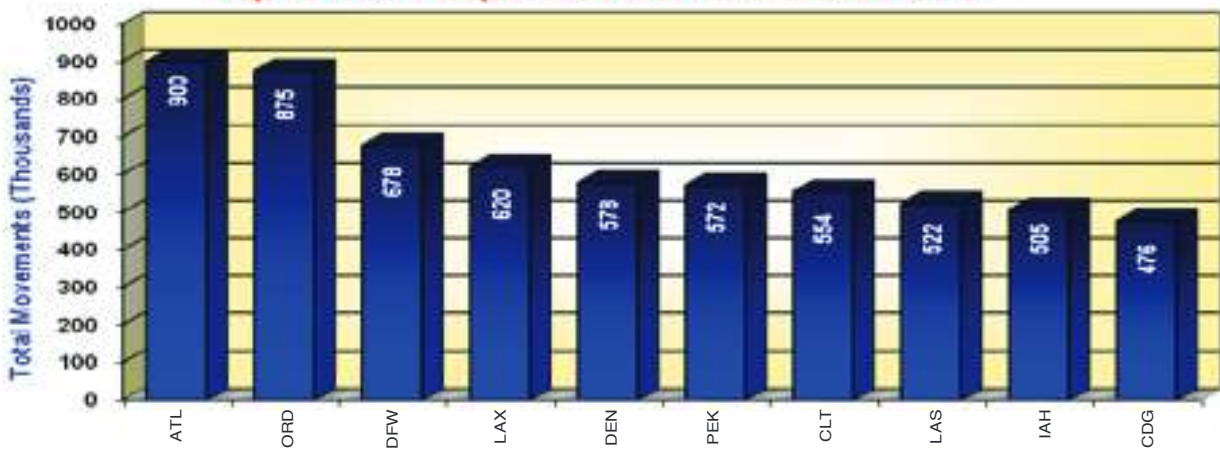
Top 10 World Airports Passenger Traffic 2013



Top 10 World Airports Total Cargo Traffic 2013



Top 10 World Airports Aircraft Movements 2013



Source: ACI

25 - 26 August

3rd Annual South East Asia Airport Expansion Summit
Hanoi, Vietnam
airportexpansionsummit.com/

27 - 28 August

AAAE Airport Credentialing and Access Control Conference
Boston, MA, USA
events.aaae.org/sites/140608/index.cfm

2 - 4 September

Airline Engineering & Maintenance: Asia Pacific
Singapore, Singapore
airlineengineering-asiapacific.com/

2 - 5 September

Air Cargo Development Forum
Zhengzhou, China
icao.int/Meetings/AirCargoDevelopmentForum-2014/Pages/default.aspx

Airfield Engineering and Asset Maintenance
Jakarta, Indonesia
airfieldengineering.com/

3 September

Business Aviation Forum
Moscow, Russia
events.ato.ru/eng/events/91/detail/

3 - 5 September

8th ALTA Aviation Law Americas Conference
Miami, FL, USA
alta.aero/aviationlaw/2014/

6 - 7 September

Annual Hood River Fly-In
Hood River, OR, USA
waaamuseum.org/

7 - 9 September

NASAO Annual Convention & Tradeshow
Providence, Rhode Island
nasao.org/Events.aspx

7 - 10 September

ACI-NA Annual Conference & Exhibition
Atlanta, GA, USA
annual.aci-na.org/

8 - 9 September

AAAE Airport Social Media Summit
San Diego, CA, USA
events.aaae.org/sites/140905/index.cfm

Ascend Aviation 2020 Finance Forum
Tokyo, Japan
rightglobalevents.com/Tokyo-FinanceForum2014

8 - 12 September

5th Pan American Aviation Safety Summit & the 7th Annual RASG-PA Meeting
Curacao, Curacao
alta.aero/safety/2014/home.php

ICAO Asia-Pacific Air Navigation Planning and Implementation Regional Group Meeting
Bangkok, Thailand
canso.org/cms/showpage.aspx?id=4868

9 - 10 September

Environment Seminar: Fuelling Aviation with Green Technology
Montréal, Canada
icao.int/Meetings/EnvironmentalWorkshops/Pages/Green-Technology.aspx

AACO Amadeus Steering Board Meeting
Cairo, Egypt
aaco.org/events.aspx?pageid=10

10 - 11 September

4th Annual Business Aircraft Europe Expo (BAE)
London, UK
miuevents.com/bae2014

10 - 12 September

10th Maintenance Cost Conference
Athens, Greece
iata.org/events/Pages/mcc-2014.aspx

11 - 12 September

AAAE Presentation Advantage Training Seminar
Alexandria, VA, USA
events.aaae.org/sites/140909/index.cfm

10th Annual Latin America Air Finance Conference
Rio de Janeiro, Brazil
euromoneyseminars.com

China Passenger Digital Communications & Engagement Summit
Shanghai, China
aviamatch.com/events/pdce2014/index.html

12 September

3rd Annual MBA: Mediterranean Business Aviation
Sliema, Malta
aeropodium.com/mba.html

13 - 16 September

ACPC Conference "The Spirit of Aviation"
Washington, DC, USA
acpc.com/

15 September

5th Annual Aviation Industry Suppliers Conference
Toulouse, France
speednews.com/aviation-industry-suppliers-conference-in-toulouse

Airline Passenger Experience Association & International Flight Services Association EXPO
Anaheim, CA, USA
ifsanet.com/Default.aspx?tabid=429

For over 20 years Arabasco has been the market leader in the Middle East for corporate aviation support service. Innovation and customer service have been key in Arabasco maintaining this position and Arabasco continues to grow its service portfolio.

- Arabasco provides premier FBO facilities at both King Abdulaziz International Airport – Jeddah, King Khalid International Airport – Riyadh and our new facility at Yanbu Airport
- Arabasco maintenance services include Repair Station approvals for the Saudi Arabian Presidency of Civil Aviation, the US Federal Aviation Authority and the Arabian Registry.
- Our highly qualified Engineering team have 2 or more industry qualifications PCA Mechanics certificate, FAA A & P certificate or ICAO Type II License.
- Recent addition to Arabasco services is our rapidly expanding aircraft management program where owners can relax in the knowledge that their high value asset is being well cared for.
- A new venture between Arabasco and Emirates National Oil Company (ENOC) in providing aviation fuel at Jeddah airport. The new company, United Gulf Aviation Fuel Company (UGAFCO), provides an efficient and competitive service to the aviation market.

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Whether you are a corporate, VIP, military or commercial aircraft operator – and wherever you operate from – talk to Arabasco about your requirements and we will provide a solution.

The new force in AVIATION



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لمزيد من المعلومات يرجى الاتصال على فريق التسويق والبيعتات على الأرقام التالية:



A joint venture between Emirates National Oil Company (ENOC) and Arabian Aircraft Services Company (ARABASCO) was established to supply fuel to all type of private, commercial and military Aircrafts at King Abdul Aziz International Airport (KAIA) the second busiest Airport in the Gulf.



UGAFCO has been operational at KAIA since August, 2004 and extending fueling services to many International and General aviation customers through its state of the arts equipments with latest the Quality/safety features such as digital pressure control module, electronic meters and electronic tickets printers. The Company thrust in operation is to ensure the compliance of best practices in the Industry are followed at KAIA, conforming to the best International safety/Quality standards.

UGAFCO is the technology trend setter at KAIA and the only Company having AVR 2000 fuel data management system installed on all its equipments. Both ENOC and ARABASCO, the joint venture partners of UGAFCO believe in the development of latest technology and best trained personnel to maintain the highest Customers Services Standards. UGAFCO is committed for operational excellence.

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