

Kuwait

Building for the Future

Kuwait has rebuilt itself after recovering from the 1990 Iraqi invasion and is now embarking on a major expansion of its only airport.

Luigi Vallero paid a visit to find out more, and to see how the plans measure up against the other mega-airports in the Gulf region.

Faced with constant traffic growth and the need to compete against the formidable airports in the Gulf region, notably in the UAE, Kuwait's Directorate General of Civil Aviation announced in October 2011, that a new 900 million Kuwaiti Dinar (\$3.2bn) terminal would be built at Kuwait International Airport (KWI).

Designed by Foster + Partners in association with Gulf Consult, the new terminal is planned for completion by 2016, increasing the airport's capacity to 13mppa in its first phase - sufficient for ten years if current growth rates are maintained - with the option of further expansions up to 25mppa and even 50mppa in a third and final phase.

The airport, the Arab nation's sole aerial gateway, is home to Kuwait Airways and Jazeera Airways. The complex also includes the Kuwait Air Force Al Mubarak Air Base.

History

Kuwait first encountered aviation in 1927-28 when, as a British protectorate, its first airfield was built in the Dasma area of Kuwait City. This was to give Imperial

▼ What Kuwait International Airport could look like if all expansion options are completed, raising capacity to 50mppa. (Foster + Partners)

Airways' Handley Page 42s an intermediate refuelling stop on their long and exhausting UK-India flights; they started to use the facility in 1932.

With the discovery of oil fields two years later, a new chapter opened for the country with the foundation of Kuwait Oil Company Limited (KOC). The likelihood of increased business travel to Kuwait led to plans to build a better airport, but the idea was suspended in 1939 with the outbreak of World War Two and only resumed in 1947-48 when KOC started to develop the new Al-Nugra (Al-Mayass) Airport in the Nuzha district.

The facility had a concrete terminal and a hangar, although the ticket offices were in Kuwait City. The airport operated in daylight hours and provided a marked improvement in service levels compared to those used by Imperial Airways.

The need for a local carrier was met in 1954 when the Kuwait National Airways Company Limited was founded with the support of the British Overseas Airways Corporation (BOAC). It became Kuwait Airways Corporation (KAC) a year later

after the Kuwait Government doubled its capital and took 50% of the shares.

In 1960 a group of Kuwaiti business magnates established Trans Arabia Airways, an independent airline flying four Douglas DC-6s. The following year - when Kuwait gained independence - the first phase of the current airport in Farwaniyah became operational. The new airport, built to cater for rising demand, had a modern passenger terminal, a 7,218ft (2,200m) asphalt runway, parking apron and control tower equipped to handle operations 24 hours a day.

In 1962 the Kuwait Government acquired full ownership of KAC, followed two years later by the acquisition of Trans Arabia which was absorbed into KAC.

In the meantime work continued at KWI to allow for growing traffic and the arrival of newer and larger jets. In 1965, Phase 2 of the airport development was completed with the opening of an 11,155ft (3,400m) concrete western runway and a new control tower. Kuwait Airways (as it had become known) introduced its first Boeing 707-320C in 1968 and ten years later acquired two 747-200s. ▶



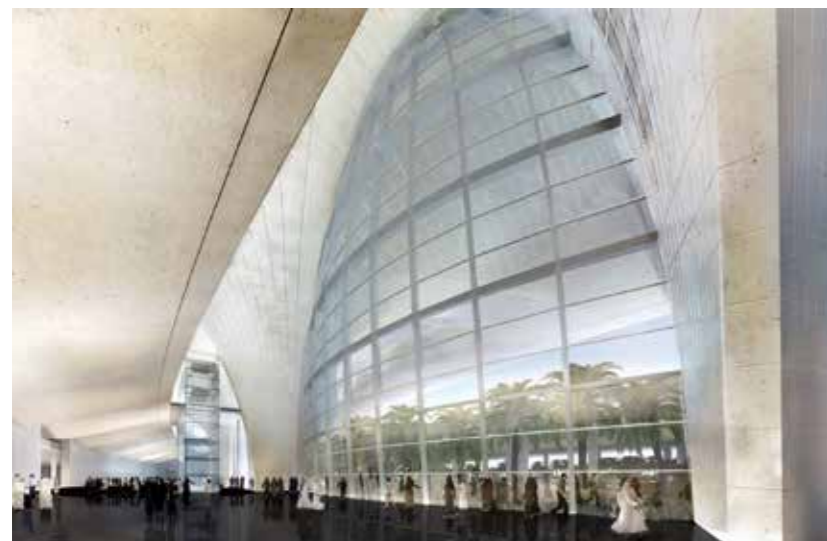


✎ Airport Statistics

ICAO Code: OKBK
 IATA Code: KWI
 Location: 29° 13.35' N, 47° 58.08' E
 Elevation: 206ft (63m)
 Runways: 15R/33L 11,155 x 148ft (3,400 x 45m)
 15L/33R 11,483 x 148ft (3,500 x 45m)
 Frequencies: ATIS: 126.225
 Tower: 118.3
 Ground: 121.7
 Approach: 121.3
 Website: www.dgca.gov.kw

There were further airport upgrades in 1980 when Kuwait's Directorate General of Civil Aviation (DGCA) enhanced facilities to cater for continuing growth. Terminal 2 opened that year, raising the annual passenger capacity to five million, along with a modern cargo facility. Navigation aids were upgraded with a new radar, ILS and communications systems. In 1986 a new 11,483ft (3,500m) eastern runway and a 197ft-tall (60m) ATC tower came into use and the now-ageing T1 had a major facelift.

The following year the Safir Airport Transit Hotel opened, offering the convenience of a four-star facility within the sterile area of the airport. Plans for other infrastructure changes came to a sudden halt in 1990 when Iraq invaded Kuwait. During the ensuing seven months the occupying forces looted and devastated the airport, causing more than 100 million KD (\$330m) of damage. When coalition forces liberated Kuwait on February 26, 1991, KWI reopened for limited



▲ The planned entrance to the new terminal. (Foster + Partners)

◀ Towering glass windows more than 150ft (45m) tall, and shaded from direct sunlight by the overhanging roof canopy, will line all sides of the three spokes of the new terminal. (Foster + Partners)

▼ Qatar Airways offers multiple departures to its hub in Doha.



services. Operations were back in full swing by December.

A new duty free shopping complex opened in 1994, and in 2000 Phase One of the Kuwait Airspace System Plan (KASP) began when new approach control and short-range radar system went live - along with a digital private automatic branch exchange (PABX) telephone system with an interface to a duplex radio system to provide improved communications. In 2001 the duty free complex expanded and work began on a commercial centre and car parking complex directly connected to the main terminal, which was completed two years later.

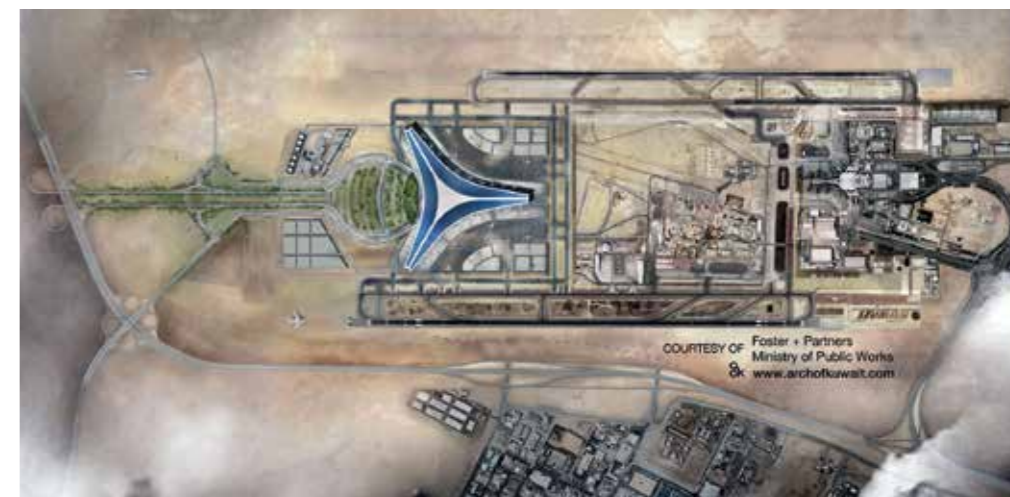
A new dawn for the nation broke in 2005 when the Kuwait Government's liberalisation of aviation services prompted the launch of the first local budget carrier, Jazeera Airways, which began flights to



Dubai and Beirut. By 2008 passengers numbers had risen to almost 7.2mppa. Wataniya Airways offered an all-Business and First-Class-only product using Airbus A320s a few years later but it proved unsustainable and the carrier folded in 2011. The following year the General Aviation Terminal (or Sheikh Saad Terminal) opened.

Current infrastructure

The main terminal, vaguely shaped to look like an aircraft, was refurbished and expanded in 1999-2001 to raise capacity to 7mppa and provide more check-in space, 100 automated check-in kiosks, a new entrance, an improved baggage handling system, a multi-storey car park and a shopping mall.



▲ The airport layout once the new terminal is completed - at the opposite end from the current facilities. (Foster + Partners)

▼ The airside of the new terminal will include service roads and airbridges sheltered by a massive overhanging roof canopy. (Foster + Partners)

Floor area is 430,570sq ft (40,000m²) over three levels and a basement. There are ten airbridge-equipped gates, 40 remote stands and additional parking aprons for cargo, VIP and VVIP aircraft. There are two parallel runways, aligned 15/33. A cargo area is to the north-west of the passenger terminal.

Despite the various upgrades the terminal is showing its age and compares unfavourably with the latest steel and glass structures in Dubai and those under construction in Abu Dhabi.

Adjacent to the main terminal and linked with the departure and arrival halls is the impressive commercial centre, also known as the airport mall and the first of its kind in the Middle East when it opened in 2002/3,

covering 344,456sq ft (32,000m²). It features a wide range of shops, kiosks, food and beverage outlets spread over three levels, banks, money exchanges, ATMs, car rental companies, hotel reservations kiosks, a pharmacy, a full-service clinic, an insurance kiosk and a barbershop. Short- and long-term car parks provide space for 2,500 vehicles.

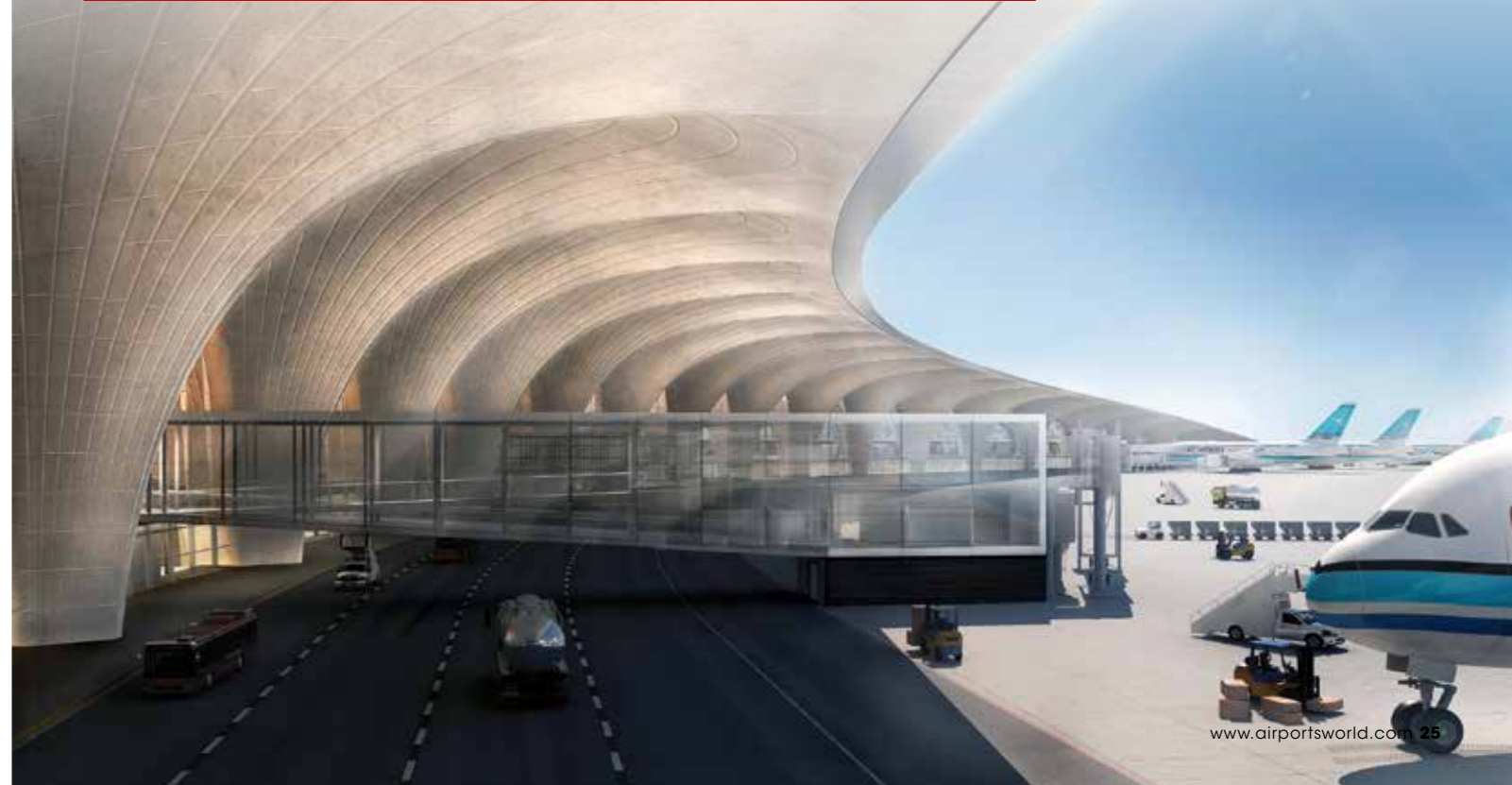
New executive lounges (Dasman and Pearl), opened by Kuwait Airways and National Aviation Services, cater for an ever-increasing number of premium passengers.

Under Kuwaiti air transport law, those with a connection of more than eight hours at KWI are entitled to free rooms at the Safir Airport Hotel, courtesy of the relevant air carrier.

The Sheikh Saad General Aviation Terminal, run by GA and FBO specialist Royal Aviation Company and built in 2008, covers 1,399,354sq ft (130,000m²) and incorporates a three-storey terminal, a hangar and an apron capable of accommodating up to 33 aircraft, some

✎ Traffic Statistics

Year	Commercial Aircraft	Non-Commercial Aircraft	Passengers	Freight (tonnes)
2008	61,512	26,408	7,226,345	180,090
2009	78,597	19,963	8,125,747	197,213
2010	79,350	14,927	8,332,857	208,295
2011	71,519	13,598	8,466,737	195,066
2012	75,588	9,979	8,877,883	181,413
Jan-Aug 2013	51,518	4,647	6,292,141	117,904





sheltered. It has a reception area, VIP and VVIP lounges, high-tech conference room, a prayer room, private offices and restaurants. In-house immigration and customs clearance, security checks, baggage screening and metal detector capabilities ensure efficient and secure passenger and baggage handling. Flight crew lounges, aviation information and flight catering services are also available. By the end of 2008 the Sheikh Saad Terminal had been modified to provide handling for the now-defunct Wataniya Airways. The airport's Director of Operations Management, Essam Al-Zamil, announced on May 20, 2013, that some scheduled flights would be moved here to reduce congestion in the main terminal. On September 15 flydubai moved its eight daily flights to the Sheikh Saad Terminal having increased its passenger numbers by 31% in 2012 - 84% of them travelling point-to-point.

Future strategy

To satisfy rising demand the DGCA unveiled a master plan in 2012, coinciding with the 85th anniversary of civil aviation in Kuwait. It includes a new second terminal, major runway extensions, two additional fire stations, the development of a cargo metropolis and a new DGCA headquarters complex. Phase 1 of the project will enable annual aircraft movements to rise from 450,000 to 650,000.

The 1,507,000sq ft (140,000m²) terminal, to be built to the south of the existing

structure, will have four levels and two airside hotels and is designed to resemble a trefoil or a three-point star. The three wings will protrude 1,790ft (600m) from its centre. A new access road will be built from the Seventh Ring Road to the south.

Each of the building's facades will span three-quarters of a mile (1.2km), extending from a dramatic 82ft-high (25m) central area, its single roof canopy punctuated by glazed openings which filter daylight while deflecting direct solar radiation. The canopy will extend to shade a generous entrance plaza and will be supported by tapering concrete columns - their shapes draw inspiration from the contrast between the solidity of the stone and movement of Kuwait's traditional dhow sailing boats.

The project is targeting LEED (Leadership in Energy and Environmental Design) 'Gold' level, and aiming to be the first passenger terminal in the world to attain this degree of environmental accreditation. The concrete structure helps to absorb heat and the roof incorporates a large expanse of photovoltaic panels to harvest solar energy.

A signature feature of the terminal will be the impressive landside approach from the south, with lush landscaped gardens and covered kerbside drop-off zones. Inside the building 120 check-in positions will keep queuing to a minimum while among the features planned are cascades of water surrounding the baggage reclaim area.

New aprons will cover an area of 890 acres (360ha) and 51 airbridge-equipped gates will initially be available, some with multiple

▲ Although the current facilities are over 30 years old, they still have a modern appearance.

◀ ▲ Duty free and refreshment options in the current terminals.

◀ ▼ The commercial centre, which is linked directly to the main passenger terminal, features a variety of retail options.

▼ Another view of the commercial centre.

arms to handle both decks of the A380. Runway upgrades include the reconstruction of the Runway 15R/33L, which will be extended to 15,666ft (4,775m) to ensure the airport is capable of handling Code F aircraft like the A380 without payload restrictions. New internal service roads, bridges and perimeter fences are also planned.

Under Phase 2 of the project, KWI's main runway, 15L/33R, will be extended to 13,123ft (4,000m) and construction will begin on a third, 15,026ft (4,580m) parallel runway on the west side of the airfield. This will be used primarily to serve a cargo city development and military transport movements.

Expansion of the royal and state guests' apron is also planned to enable it to handle up to 20 aircraft, ranging in size from the smallest business jets to an A380. A metro rail link is also due to be established connecting the airport to the Kuwait City downtown area.

Traffic development

The airport is currently served by more than 45 international carriers flying to 80-plus destinations. In 2012, KWI handled 8.87 million passengers, another consecutive record-breaking performance and a 4.9% increase over the previous year. In the first eight months of last year, 6.3 million passengers used the airport, suggesting final 2013 results should easily surpass those for 2012. Latest data is outperforming all forecasts, showing



average growth of around 4% per annum for passenger numbers and 2.5% for cargo.

A major driver for the traffic growth has been the Open Skies policy launched in 2006 and aimed at developing Kuwait into a commercial and business hub for the region. The policy has liberalised an air transport scene previously regulated by strict bilateral agreements.

In the medium term the main traffic growth areas are expected to be Europe and the USA, although the Indian sub-continent, thanks to its substantial expatriate community living in Kuwait, is expected to continue accounting for the lion's share. For outbound traffic, Southeast Asia is expected to be the area of most development.

Airlines

The evolution of the airline industry at KWI has been considerably slower than in other Gulf countries. For at least four decades Kuwait Airways was the only local carrier, but despite enjoying a good reputation among passengers, the 1991 Gulf War and other circumstances prevented it from developing the global networks or service standards of Emirates Airline, Etihad Airways or Qatar Airways. Even today Kuwait Airways continues to focus on point-to-point services, and 'fifth freedom rights', connecting Kuwait City with a selection of international destinations.

During the summer of 2013 its ageing A300-600Rs, A310-300s, A320-200s, A340-200s and two 777-200s were connecting KWI with Abu Dhabi, Alexandria/Borg El Arab, Amman/Queen Alia, Bahrain, Bangkok/Suvarnabhumi, Beirut, Cairo, Chennai, Colombo/Bandaranaikhe, Dammam, Delhi,

▲ Gulf Air Airbus A320-214 A9C-AO (c/n 4860) makes its way to its stand after arriving from Manama, Bahrain.

▼ A model of the new terminal is on display in the current facility.

Dhaka, Doha, Dubai, Frankfurt, Geneva, Islamabad, Jakarta, Jeddah, Kochi, Kuala Lumpur, London/Heathrow, Madinah, Manila, Mumbai, Muscat, New York/JFK, Paris/Charles de Gaulle, Riyadh, Rome/Fiumicino, Sharm el-Sheikh, Sohag, Tehran/Imam Khomeini and Thiruvananthapuram - along with seasonal services to Istanbul-Sabiha Gökçen, Sarajevo and Vienna. The carrier's point-to-point focus means frequencies are usually limited and seldom more than daily.

Jazeera Airways currently flies A320s to Alexandria/Borg el Arab, Amman/Queen Alia, Assiut, Bahrain, Beirut, Cairo, Dubai World Central-AI Maktoum, Dubai International, Jeddah, Luxor, Mashhad, Najaf, Riyadh, and Sohag. Most of the carrier's destinations reflect the ethnicity of its passengers, Jazeera being very strong in the Egyptian market, which includes a large expatriate community living and working in Kuwait.

Profiting from the relative commercial weakness of Kuwait Airways, the other major Gulf carriers have developed frequent services from KWI, feeding into their hubs with multiple daily one-stop connections to destinations across all major continents. For example, Qatar Airways has up to seven daily departures to its Doha hub, Etihad Airways links with Abu Dhabi and Emirates Airline has A330 and 777 departures to Dubai.

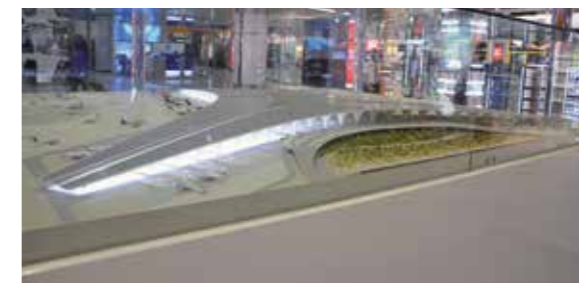
The large Dubai origin and destination market is also served by Emirates' low-cost arm, flydubai, which runs eight daily 737-800 round-trips from the Sheikh Saad GA terminal. Bahraini carrier Gulf Air flies the short leg to its Manama base while Oman Air links to its Muscat hub with a daily 737 service. Yemenia flies to both Mukalla

Airlines

- Air Arabia
- Air Arabia Egypt
- Air Cairo
- Air India
- Air India Express
- Ariana Afghan Airlines
- ATA Air
- Biman Bangladesh Airlines
- British Airways
- Bulgaria Air
- Bulgarian Air Charter
- EgyptAir
- Emirates Airline
- Ethiopian Airlines
- Etihad Airways
- flydubai
- Freebird Airlines
- Georgian Airways
- Gulf Air
- Iran Air
- Iran Aseman Airlines
- Iraqi Airways
- Jazeera Airways
- Jet Airways
- Jordan Aviation
- KLM
- Kuwait Airways
- Lufthansa
- Mahan Air
- Middle East Airlines
- Nas Air
- Nile Air
- Oman Air
- Pakistan International Airlines
- Qatar Airways
- Royal Jordanian
- Saudia
- Shaheen Air
- SriLankan Airlines
- Syrianair
- Tunis Air
- Turkish Airlines
- United Airlines
- Yemenia
- Zagros Airlines

Cargo Airlines

- Cargolux
- DHL Aviation
- Etihad Crystal Cargo
- Martinair-KLM
- TMA Cargo
- Turkish Airlines Cargo
- Qatar Airways Cargo





i New Terminal 2 Statistics

Initial capacity	13mppa (can be increased to 25 and optionally 50mppa)
Aircraft stands	Between 30 and 51 for the first phase
Roof span	197ft (60m)
Roof height (max)	128ft (39m)
Floor area	1,507,000sq ft (140,000m ²)
Levels	Five
Window bay width (each)	148ft (45m)
Hotels	Two
Check-in desks	120 (rising to 180 for 25mppa)
Baggage capacity	2,930 per hour (for 13mppa) 5,390 per hour (for 25mppa)
Baggage conveyor length	3.75 miles (6km)

and Sana'a.

The largest low-cost carrier in the area, Air Arabia, provides A320 services to Sharjah in the UAE and, via its Air Arabia Egypt subsidiary, to Alexandria/Borg el Arab. Flights to 'the Kingdom', as Saudi Arabia is usually referred to, are provided by Saudia to Jeddah, Madinah and Riyadh while Saudi budget carrier Nas Air offers cheaper options to Jeddah, Madinah and Taif. Iraqi connections have been reinstated by both Jazeera Airways and Iraqi Airways, with links to Baghdad and Najaf.

EgyptAir and Air Cairo operate flights from multiple Egyptian cities while Nile Air also serves Alexandria/Borg el Arab. Iran Air, Iran Aseman Airlines, Mahan Air, ATA Air and Zagros Airlines all provide connections from several Iranian cities. Afghanistan's Ariana Afghan Airlines has connections to its Kabul base while Georgian Airways offers a seasonal service to Batumi.

Other Middle East countries are represented by Royal Jordanian and Jordan Aviation, both flying to Amman/Queen Alia; Middle East Airlines operating to Beirut; Syrianair serving Damascus and Latakia; and Tunis Air flying from Tunis.

The large expatriate community from the Indian sub-continent is well served by carriers including Air India and Air India

Express while Pakistan International Airlines and Biman Bangladesh Airlines connect to Pakistan and Bangladesh respectively.

European carriers are represented by British Airways (London/Heathrow); Bulgaria Air and Bulgaria Air Charter (seasonal to Bourgas and Varna); Freebird Airlines (seasonal to Bursa); KLM (intermediate stop of its A330 Amsterdam to Dammam service); Lufthansa (Frankfurt); and Turkish Airlines (Istanbul/Atatürk and Sabiha Gökçen). Other international connections are provided by Ethiopian Airlines (Addis Ababa) and United Airlines (Washington/Dulles).



Cargo

Cargolux uses KWI as an intermediate stop for its 747Fs on routes from Luxembourg to Hanoi and Hong Kong/Chek Lap Kok and Martinair-KLM flies in from Amsterdam/Schiphol, Dubai World Central-Al Maktoum and Hong Kong/Chek Lap Kok. Turkish Airlines Cargo uses A310Fs and A330Fs to Dhaka and Istanbul/Ataturk and TMA Cargo has a Beirut A300F connection, continuing on to Dubai World Central-Al Maktoum. Qatar Airways Cargo and Etihad Crystal Cargo offer all-freighter connections to their Doha and Abu Dhabi hubs. In the package distribution market DHL Aviation feeds its regional hub in Bahrain, providing overnight 757F services linking with the rest of its comprehensive network.

Conclusions

Until recently KWI has been slow in developing, handing a huge advantage to its Gulf neighbours, notably Dubai, Abu Dhabi and Doha. But the situation is changing, with its established upward trend in traffic figures and the ambitious master plan set to revolutionise the passenger experience. The KWI of tomorrow promises to be a distinctly stronger regional competitor, providing the community it serves with a world-class airport. ✕

▲ Locally-based Jazeera Airways is described as a low-cost carrier but offers two classes on its aircraft, including Airbus A320-214 9K-CAG (c/n 3656). (AirTeamImages.com/Bailey)

▼ Kuwait Airways' A320-212 9K-ACA (c/n 181) – leased to the airline in December 1992 – taxis past the current terminal. The carrier has begun a fleet replacement programme with Memorandums of Understanding placed for 15 Airbus A320neos and ten A350-900s. (All photos author unless stated)