UK Trade
& Investment

UKTI Turkey Aviation Scoping Report

Purpose

This report provides UK companies with an introduction to the airport sector in Turkey. Preparation in advance included desk studies and research. This was followed by a series of in- market meetings, co-ordinated with a UK Trade & Investment (UKTI) aviation sector trade mission to visit key industry participants. This included meetings with industry officials, airport operating companies and leading contractors. Particular thanks are due to the UKTI teams locally, whose advice and expertise were invaluable in arranging visits and developing the report, and to the British Aviation Group Secretariat for its support in arranging the mission.

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2 Introduction

The Turkish market was identified as holding particular interest for UK companies involved in the aviation sector on the basis of:

- the scale and rate of growth of the this industry within Turkey and
- the potential for UK companies to work with Turkish partners (contractors and developers) in significant third markets.

The anticipated development of a new airport in Istanbul, which is expected to become one of the largest in the world, and involve investment of over €8.5bn, has increased interest in the Turkish market.

Many UK companies within the aviation sector have long-term working relationships with Turkish clients, and the capability of the UK supply chain is clearly recognised by Turkish buyers.

2.1 Economic Context

The population of Turkey at the end of 2011 was approximately 74 million [TurkStat], and growing at between 1-1.5 per cent per annum. GDP per capita in 2011 was US$10, 498 (US$17,499 by purchasing power parity), compared with a European Union average of US$34, 848 (US$32, 642 by purchasing power parity) [World Bank]. GDP growth over the last 10 years has significantly exceeded that of the European Union, as shown in Figure 1.

2.2 Air Transport in Turkey

The Turkish aviation industry has enjoyed a period of significant and sustained growth in air traffic movements and passenger numbers, at rates significantly ahead of those for GDP. Air transport growth rates are summarised in Table 1 and Figure 2.

Figure 1: GDP Growth: Source World Bank, Arup Analysis

	2009	2010	2011	2012 (Jan — Sep)
Annual passengers	85,209.136	102,711.805	117,347.580	100,753.013
% growth on previous year	7.3%	20.1%	14.2%	10.5% (YTD)
GDP growth	-4.8%	9.2%	8.5%	n/a

Table 1: Growth in Passenger Traffic. Source: Anna.aero from DHMI, World Bank, Arup Analysis

Figure 2: Growth in Air Traffic Movements. Source DHMI


© Punchstock

2.3 Industry Structure

Civil aviation within Turkey is administered primarily by the two following state Directorates which are affiliated to the Ministry of Transport, Maritime Affairs and Communications, under the overall framework of Law No. 2920 on Turkish Civil Aviation:

- Directorate General of Civil Aviation (DGCA), which is responsible for the regulation of safety and security
- Directorate General of State Airports Authority (DHMI), which is responsible for management of Turkish Airports, and for the regulation and control of Turkish Airspace

The majority of airports (See map on pages 8–9) within Turkey are operated by DHMI (45 in total), with two airports (Zonguldak-Çaycuma and Antalya-Gazipaşa) being operated privately, and one (Istanbul Sabiha Gökçen) being operated on behalf of the Ministry of Defence. Air navigation services at these three airports remain under the control of DHMI. A number of the DHMI airports are operated jointly with military authorities.

The geography of Turkey (distances and topography) means that air travel is considered to be of strategic importance – and the regional airports, particularly in the more remote parts of the country, fulfil a public- service role. The importance of aviation has long been recognised in the strategy of the Turkish Ministry of Transport, Maritime Affairs and Communications

- In 2003, the 'regional aviation project' set a goal that every "Turkish citizen must be able to take a plane at least once".
- The 2008-2013 strategic plan sought to make the country a regional air-transit centre, increasing traffic on domestic and international routes to 130 million by the end of 2013.

The Turkish government has made extensive and successful use of the Build-Operate-Transfer (BOT) model for development of terminal infrastructure at the country's larger airports since the mid 1990s. This model has been expanded more recently to include complete airport developments. The successful delivery of BOT projects within the domestic Turkish market has supported the establishment of Turkish contractors, most notably TAV, as leading regional players in airport development and operation.

Distribution of Turkish Airports


TURKEY
TEKIRDAG
ISTANBUL
ATATURK HAVA LIMANI
ZONGULDAK
SAMSUN
TRABZON
GADA
SABIHA GÖKÇEN
AMASYA
TOKAT
KARS
ÇANAKKALA
BURSA
ERZICAN
ERZURUM
BALIKERSIR
BALIKERSIR
ESKISEHIR
SIVAS
AGRI
KORFEZ
ELACIG
MUS
VAN
USAK
NEVSEHIR
KAYSERI
MALATYA
SIIRT
IZMIR
DIYARBAKIR
KONYA
DENIZLI
KAHRAMANMARAS
ADIYAMAN
BATMAN
MILAS-BODRUM
SANLIURFA
MARDIN
ANTALYA
ADANA
GAZIANTEP
HATAY
GAZIPASA

3 Airline Activity

3.1 Turkish Airlines

In the last decade, Turkish Airlines (TK) has more than trebled in size to become one of the top 10 IATA member airlines by international passenger traffic. In 2011, it handled over 32 million passengers, and flew over 58 billion revenue passenger kilometres (rpk). This growth has been accompanied by a focus on passenger service that saw TK recognised as the 'Best Airline in Europe' by Skytrax in 2011 and 2012.

TK currently operates an expanding fleet, numbering 194 passenger and six cargo aircraft, as summarised in Table 2:

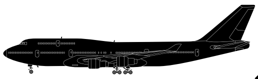


Table 2: Turkish Airlines Fleet, 2012. Source Turkish Airlines

Aircraft Type	Number in Fleet
A340-300	7
A330-200/300	18
A319/320-200/321-200	72
777-300ER	12
737-400/700/800/900	85
A310C / A330-200F	6

The ownership of Turkish Airlines is currently split between the public and private sector, with 49.12 per cent of shares held by the Turkish government and 50.88 per cent by private investors. The Turkish government is known to have been exploring options to sell further shares in the airline.

TK is a significant member of the Star Alliance, and there has been recent speculation about the development of a more strategic partnership between TK and Lufthansa. In 2012, TK was identified as a potential partner/investor in smaller members of the alliance (specifically Czech Airlines and LOT) – although it has subsequently confirmed that it is no longer considering either option.

3.2 Pegasus

Pegasus is a privately owned low-cost airline, with a main hub at Istanbul Sabiha Gökçen airport. It has seen rapid growth of domestic and international operations since the mid 2000s and now operates a fleet of some 40 737 aircraft serving 24 destinations in Turkey and 37 internationally.

3.3 Other Turkish Carriers

Other smaller home-based carriers operating in the Turkish market include (Table 3):

AndalouJet
Low-cost subsidiary of Turkish Airlines; fleet of c.18 narrow-body aircraft (mainly 737-700/800)

Sun Express
Subsidiary of Turkish Airlines and Lufthansa, providing charter and domestic operations

Atlas Airlines
Private airline operating on international and domestic routes with fleet of c.15 aircraft (A320 family)

Onur Air
Private airline operating on international and domestic routes with fleet of c.34 aircraft

Freebird
Private airline providing charter flights with c.7 aircraft

Table 3: Other Turkish Carriers. Source: airline websites

4

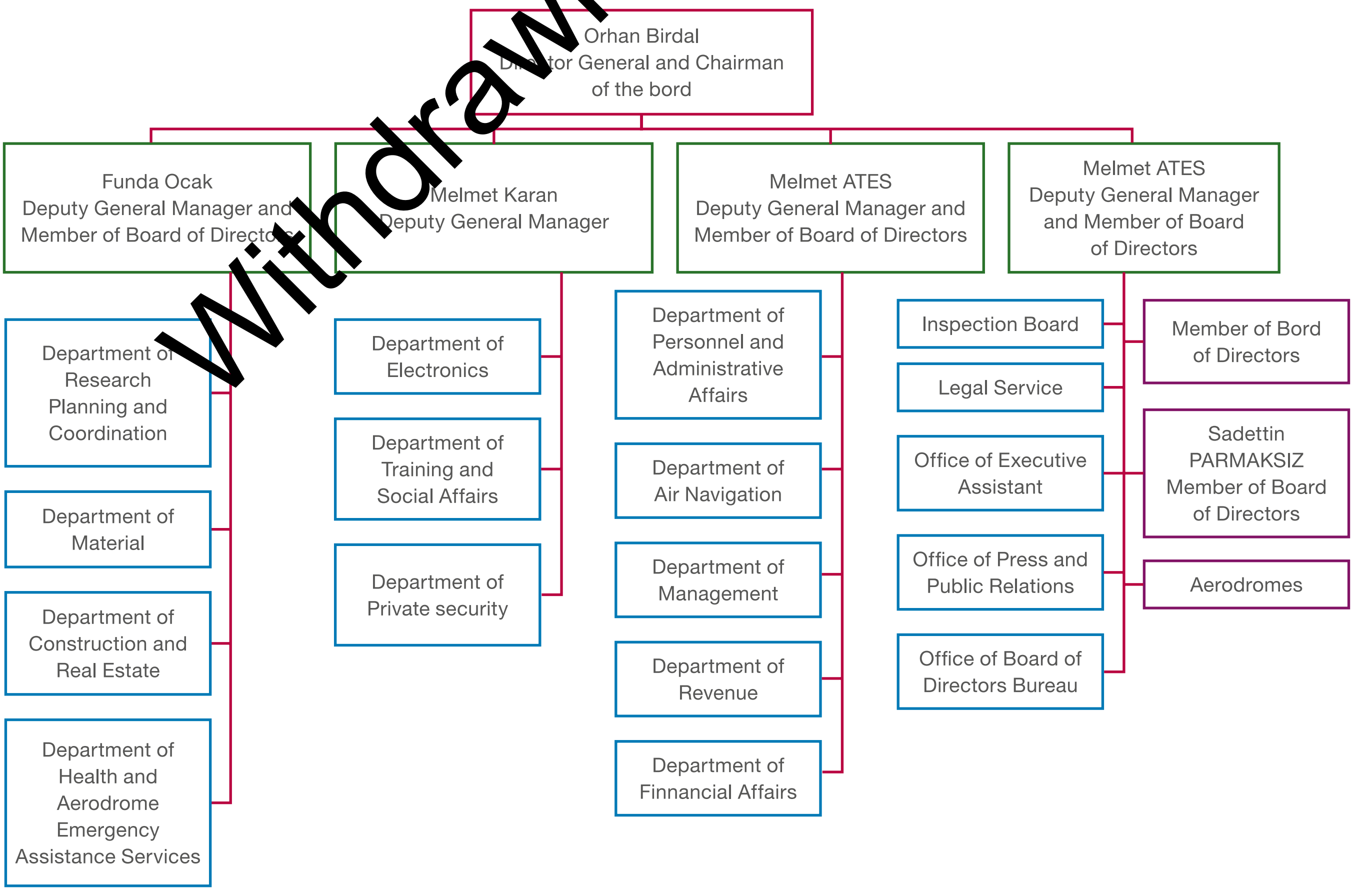
State Bodies

4.1 Directorate General of State Airports Authority

Turkey's Directorate General of State Airports Authority (DHMI) is a public body associated with the Ministry of Transport, Maritime Affairs and Communications. Its objectives are to provide air transport, manage aerodromes, provide ground services at airports and air traffic control services, install and set up air navigation systems and facilities and other related systems, and maintain them at the level required for modern aeronautics.

DHMI's stated mission is "to provide air navigation and airport operating services to international standards in the aviation sector, leaning on high quality, safe, human and environmentally sensitive, high-technology infrastructure and systems and a qualified labour force."

The overall organisational structure of DHMI is shown in Figure 4 below:



DHMI Organisation. Source: DHMI

4.2 Directorate General of Civil Aviation

The authority, duties, responsibility and organisation of Turkey's Directorate General of Civil Aviation (DGCA) were set out in Turkish Law r no.5431 of 10 November 2005. The DGCA is a certified entity designated by the Ministry of Transport, Maritime Affairs and Communications and is the Turkish Regulatory Authority. Its regulatory remit includes:

- Flight standards
- Air transportation
- Air navigation
- Aerodromes
- Aviation security
- Strategy development

The overall organisational structure for the DGCA is shown in Figure 5 below:

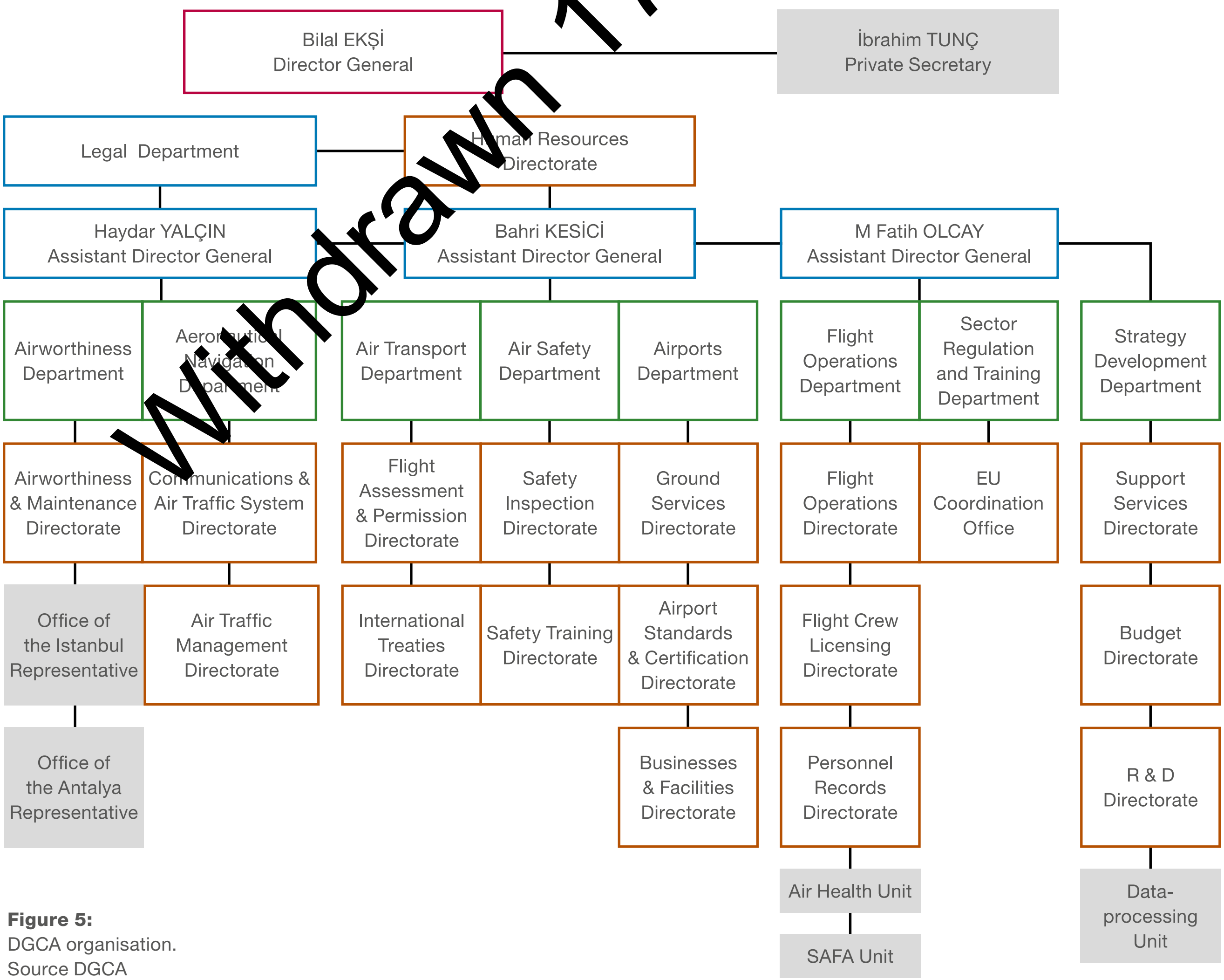


Figure 5:
DGCA organisation.
Source DGCA

5

Principal Airports

5.1 Istanbul Atatürk

Istanbul Atatürk is the largest airport in Turkey and is the home base for Turkish Airlines. The international terminal was developed under a BOT concession agreement by TAV, and returned to DHMI in 2005. TAV subsequently bid for and was awarded a separate concession to operate the airport until 2021.

- Flight standards
- Air transportation
- Air navigation
- Aerodromes
- Aviation security
- Strategy development

The overall organisational structure for the DGCA is shown in Figure 5 below:

Operator	TAV
Concession until	03.01.2021
Passenger traffic (2011)	37, 452, 187
Potential future developments	None defined

Location

5.2 Antalya

Antalya Airport is the second-largest airport in Turkey, with its operation dominated by international tourist traffic. The two international terminals were developed under separate BOT concession agreements, and are now subject to a separate, unified, operating concession.

Operator
IC-Fraport

Concession until
31.12.2024

Passenger traffic (2011)
25, 113, 635

Potential future developments
None defined

Location

5.3 Istanbul Sabiha Gökçen

Istanbul's second airport, located in the Anatolian (eastern) part of the city, was developed under a concession agreement by ISG. Unlike the other major Turkish airports, the site is owned by the Turkish Ministry of Defence (SSM) rather than DHMI. A separate entity, HEAS, was established by SSM to act as the airport authority in 2001, and continues in this role alongside the concession.

Operator
ISG (Limak Holding-Turkey, GMR Infrastructure-India and Malaysia Airports Holdings Berhad)

Concession duration
22 years from 2008

Passenger traffic (2011) 12, 749, 230

Potential future developments
Development projects reflected in the master plan include:

- A second runway, taxiway upgrades and control tower. Preliminary design is complete, and infrastructure works are likely to be procured under a design and build contract via DHMI
- Potential development of satellite terminal building by concession company within the next five years, dependent on traffic growth and infrastructure provision

Location

5.4 Ankara Esenboğa

Operator
TAV Esenboğa Investment, Construction and Management Company

Concession until
21.05.2023

Design capacity
10 million passengers per annum

Passenger traffic (2011)
8,520,649

Potential future developments
None defined

Location


© Gregory Major / Flickr / Getty Images

5.5 Izmir Adnan Menderes

Operator
Izmir Adnan Menderes Airport International Terminal Construction Management and Investment

Concession period
10.01.2015 (international terminal)

Passenger traffic (2011)
8,542,811

Potential future developments
TAV Ege, a subsidiary of TAV Airports, is to develop a new domestic terminal at Izmir, and take over the running of the international terminal until 2032.

Location

5.6 Other Airports

Other existing Turkish airports handling over one million passengers per annum include:

Table 4: Turkish airports handling between 1mppa and 5mppa. Source: anna.aero

Airport	2011 passengers (000)
Dalaman	3,733
Bodrum	3,379
Adana	3,273
Trabazon	2,266
Diyarbakir	1,691
Gaziantep	1,310
Kayseri	1,165

Other airports currently under development under a BOT model include:

Table 5: Other Turkish BOT developments. Source: DHMI

Airport	**Concession company**	**Duration**	**Quoted investment**
Zafer	IC-Ictas	29 years, 11 months	€50m
Çukurova	Skyline Transportation and Trade Inc/Zonguldak Civil Aviation Industry and Trade Corporation	9 years, 10 months, 10 days	€357m

6

Airport Contractors/Developers

Turkey has a highly successful contracting sector, with a number of medium to large firms operating both in conventional construction and as partners in infrastructure PPP projects. Drawing on geographic, cultural and political links, major Turkish contractors are highly active in the wider region, including the Middle East, North and East Africa, Russia and the Central Asian republics.

Turkish contractors/developers with significant experience of or declared interest in the aviation sector and met as part of the preparation of this scoping report include:

6.1 TAV

TAV was originally established in 1997 by two Turkish contractors (Tepe and Akfen) in partnership with Vienna Airport to bid for the concession contract for the international terminal at Istanbul Atatürk. The TAV group has evolved to become a major international airport operator and contractor – with activities separated into two groupings, TAV Airports Holding (TAV Airports) and TAV Construction. TAV Airports Holding was presented for initial public offering in 2007, and is listed on the Istanbul Stock Exchange. In 2012, Aéroports de Paris acquired a minority shareholding in both TAV Airports and TAV Construction.

6.1.1 TAV Airports

TAV Airports currently operates concessions in:

Turkey
Istanbul Atatürk, Ankara Esenboğa, Izmir Adnan Menderes, Antalya Gazipaşa

Georgia
Tbilisi, Batumi

Tunisia
Enfidha-Hammamet, Monastir Habib Bourguiba

Former Yugoslav Republic of Macedonia
Skopje Alexander The Great, Ohrid St.Paul the Apostle

Saudi Arabia
Madinah

In addition, TAV Airports has significant stakes in a number of service companies operating in the airport market:

Havaş
Turkish ground-handling company

ATÜ
Duty Duty-free retailer operating in Turkey, Georgia, Tunisia, the former Yugoslav Republic of Macedonia and Latvia

BTA
Food and beverage service provider
TAV Operations Services Commercial and passenger services

TAV IT
Providing turnkey IT solutions, systems integration and in-house airport IT products

TAV Private Security
Providing security-screening services in Turkish airports under the supervision of Airport Police

6.1.2 TAV Construction

TAV Construction has a significant airport construction track record in Turkey and the wider region, both in conjunction with TAV Airports and as a stand alone contractor. TAV Construction is currently involved in over US$10bn-worth of airport related projects, and in 2011 was rated third in the world for airport construction by Engineering News-Record. Current works include:

- In conjunction with TAV Airports' concessions:
- Prince Mohammad Bin Adbulaziz International Airport, Madinah, Saudi Arabia
- Izmir Adnan Menderes Airport

Construction contracts, generally with partners include:

- Abu Dhabi International Airport, United Arab Emirates (midfield terminal),
- New Doha International Airport, Qatar
- Muscat International Airport Oman (infrastructure construction)
- King Abdul Aziz International Airport, Jeddah, Saudi Arabia (aircraft maintenance hangars)
- New Tripoli International Airport and New Sabha International Airport, Libya – on hold

6.2 Limak

Limak is a Turkish conglomerate operating in construction, infrastructure, cement and tourism – with a turnover of over US$2bn. A family-owned business established in 1976, Limak has had recent involvement in the aviation sector through PPP development projects in:

- Istanbul Sabiha Gökçen Airport – as described in greater detail above
- Pristina International Airport, Kosovo. This is a 20-year BOT concession, with an investment of some €130m, including a new terminal building, air traffic control tower, apron works and runway extension.

Limak's wider involvement in the infrastructure sector includes concessions for ports, power generation and energy distribution, while its construction work includes highways, rail, energy and industrial projects.

6.3 IC-Ictas

IC İÇTAŞ İNŞAAT (IC İÇTAŞ CONSTRUCTION) is the flagship company within IC İbrahim Çeçen Investment Holding A.Ş. It is involved in construction activities across industry sectors, including aviation, maritime, rail, bridges, energy, and industrial and commercial development. It operates as both a partner in BOT airport development, and as a contractor working for DHMI and other airport developers.

IC İÇTAŞ has significant experience within the aviation sector, both within Turkey and internationally, with notable examples including:

- Construction and operation of Antalya Airport through a combination of BOT concession contracts and commissions from DHMI, and Zafer International Airport, under a BOT concession contract
- Ordu-Giresun Airport, under contract from General Directorate of Infrastructure Development (DLH)
- International terminal at Izmir Adnan Menderes Airport as the contractor to a BOT concession
- Recent international airport construction experience includes:
- St Petersburg Pulkovo Airport, working as the contractor for the BOT concession on the development of a 15mppa terminal complex
- International terminal developments at Varna and Burgas in Bulgaria, working as the contractor for the BOT concession.

6.4 Enka İnşaat ve Sanayi A.Ş

Established in 1967, Enka is a leading Turkish construction company, with annual turnover of over US$5bn. It is primarily engaged within construction activities in Turkey, the Russian Federation, Kazakhstan, Europe and a number of other specific locations in the Middle East and Africa. Enka is also engaged as an investor and developer of real estate and as the operator of a retail network within Russia.

Enka's primary involvement in the aviation sector includes:

- The recently completed design and build contract for the development of Terminal 3 at Moscow Sheremetyevo Airport for Aeroflot – including the terminal building, 350,000m2 of apron works and associated support facilities.
- The Main Contract 3 for the development of the main terminal buildings of Muscat International Airport, working in partnership with Bechtel and Bahwan Engineering Company. The contract, awarded in February 2011, is due for completion in April 2014.

Other Turkish contractors who are understood to have potential interests in the aviation sector within Turkey and/or in third markets include:

- Sabancı
- Kolin
- Alarko
- Yapi Merkezi
- Varyap
- Polimeks

The contractors visited during the preparation of this report all recognise the quality, capability and diversity of the UK aviation supply base, and have established links with UK business for both services and products. Priorities in the selection of supply- chain partners include:

- Quality
- Speed of response, particularly on BOT contracts with exceptionally fast schedules
- Cost

The procurement of suppliers for conventional construction contracts, where particular specification requirements may apply and where overall selection is often cost dependent, is typically by tender to known suppliers. For BOT contracts, longer-term sourcing arrangements are sometimes in place, to take advantage of synergy in operations and maintenance.

7 Airport Development in Turkey

7.1 Build-Operate-Transfer Concessions

Since the mid 1990, major airport terminal developments in Turkey have generally been carried out using a BOT concession model, as previously noted. The design of these terminal developments has typically been based on the winning scheme from a design competition. The winning architect retains a level of involvement in both the implementation stage and in future expansions, based on the rights of the project author under Turkish Law. Some BOT concession teams have brought an experienced airport architect/designer into their team to work alongside the project author during the execution stage.

7.2 State Development Projects

Terminal development works at smaller regional airports, and airfield infrastructure development at the majority of airports, have been carried out under the control of DHMI. Design works are generally carried out by the General Directorate of Infrastructure Development (formerly General Directorate of Railways, Ports and Airports Construction), DLH.

7.3 Future Development Projects

Potential forthcoming airport development projects in Turkey include:

7.3.1 New Istanbul Airport

Turkey's most recent strategic infrastructure plan (2009-2013) recognised the need for a third Istanbul airport – which was generally expected to be delivered later this decade. Recent pronouncements from the Turkish Prime Minister and from the Ministry of Transport, Maritime Affairs and Communications have indicated that the procurement of the new airport is likely to start in early 2013, driven by traffic growth and shortage of capacity at Istanbul Atatürk. A site for the new airport has been located within the European part of Istanbul, co-ordinated with the road link to the forthcoming Third Bosphorous Bridge, as indicated in Figure 6 below. The Environmental Impact Assessment for this development was launched in November 2012.

From discussions with DHMI and local organisations, the common understanding of the project as follows:

- Procurement will take place via a BOT concession to include both terminals and infrastructure.
- The development is likely to be linked to a change of use for the existing Atatürk airport to a 'boutique' airport.
- The airport is likely to be designed with an ultimate capacity of 150 million passengers per annum, with a first phase in the order of 100 million.
- The estimated construction cost for the first phase, with a target schedule of three years, is approximately €8.5bn.
- The capital cost, increased from earlier estimates of €5bn, takes account of the extensive civil engineering works that will be required to prepare the site – including the filling of lakes and old mine workings and other ground improvements.

- The launch of the tender is subject to the approval of Turkey's Supreme Planning Council.
- It has been suggested that DHMI will guarantee a minimum of 320 million passengers over 25 years, with a further guarantee of passenger numbers in the early years of the concession.

There are likely to be significant opportunities for UK companies providing consultancy services to bidders during the tender stage, and for the wider supply chain with the successful bidder.

7.3.2 Expansion of Istanbul Sabiha Gökçen

In parallel with the planned development of a new Istanbul Airport, further expansion of Istanbul Sabiha Gökçen will be required to support continued traffic growth. The most immediate potential development will be the second runway, with associated airfield works and a new control tower. The preliminary design for this has already been completed, and it is expected that a design/design & build contract will be procured, via DHMI, in the near future.

Longer term (pre 2020), a new midfield satellite is likely to be required to meet demand. Procurement of this will be by the operating concession, but the process is not yet defined.

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