Atkins is the UK’s largest engineering and design consultancy and one of the world’s biggest global design firms. We have the depth and breadth of consultancy and operational expertise to respond to the most technically challenging and time critical infrastructure projects.

From cost and risk planning, feasibility studies and logistics to impact assessments and stakeholder engagement activity, we plan every aspect of our clients’ projects.

Atkins designs intellectual capital such as management systems and business processes. We also design physical structures such as office towers, schools, bridges and highways.

Our clients entrust us with the management of projects, people and issues – ensuring that deadlines are met, costs are controlled and success is delivered.
For over 50 years, Atkins has been helping to create world class airports.

Working with airport owners, airlines, governments, lenders and construction companies, we provide multidisciplinary expertise at every stage of a project, from strategic planning through to concept and detailed design.

We believe our main strength lies in a team of individuals with a proven track record of success in the airport sector. This experience, supported by Atkins’ full range of architectural, design and engineering services, allows us to pursue and achieve excellence.

Our success is built on an in-depth knowledge of a sector we’re passionate about; we enjoy nothing more than delivering intelligent, cost effective solutions which are appropriate in a carbon-conscious world.

This brochure gives a flavour of the diversity and breadth of our success in the aviation sector. We hope you enjoy learning more about Atkins and look forward to exploring how we can work together on future projects.

Thanks

Mike Pearson
Airport Development Director – Atkins
Today, nearly 200 million passengers safely arrive or depart from runways constructed from our designs.
Pier 6 will be the newest passenger facility at Gatwick for 20 years and encompasses an area as large as two football pitches. At almost 100m square, each façade is as long as St Paul's Cathedral is high.

Client: Gatwick Airport Limited
Location: UK
Atkins is helping Gatwick Airport to design its latest piece of infrastructure, which will allow it to introduce the latest generation of aircraft and significantly improve passenger experience.

Having been commissioned to validate options ahead of undertaking concept design for a major extension to Pier 6 at the North Terminal, Atkins is now carrying out multidisciplinary detailed design for what is Gatwick’s largest new build project for over 20 years.

The overall objective is to increase the level of pier service to 95% of annual passenger traffic and to provide a range of new stands that improve the long-haul capabilities by permitting Code F aircraft operations.

The new pier will also be fully flexible, capable of handling up to 24 short-haul aircraft if necessary and will be Gatwick’s first A380-capable pier.
At the start of the Olympic planning process in 2009, the DfT commissioned Atkins to be its key airport advisor, tasked with leading a number of airport and aviation assessments in preparation for dramatically increased air traffic during the Games.

Working in partnership with a number of key stakeholders, we produced:

- 2012 passenger and aircraft demand forecasts, leading to the production of a 2012 flight schedule for the whole of the South East of England
- An assessment of airport capacity in the South East of England and its ability to accommodate the normal peak summer traffic and the Olympic generated ‘overlay’ demand
- An investigation into demand for helicopter operations and locations of temporary helicopter landing sites
- Recommendations on how best to plan for and manage the unique aviation challenges associated with accommodating Heads of State and VIP delegations.
Our work helped the UK welcome 100,000 athletes, officials, VIPs, media and sponsors, as well as over 500,000 spectators and tourists during London 2012. The overwhelming success of the London Games was in no small part helped by the ease with which the world arrived into the UK by air.

Client: UK Department for Transport
Location: UK
Our control tower design features fibre optics which illuminate glazed crescents in an ascending sequence to mimic the rising crescent moon, a symbol of the Muslim faith.

Client: Saudi Binladin Group (SBG)
Location: Saudi Arabia
We are lead designer and programme manager for a new 30 million passenger-per-annum terminal at King Abdulaziz International Airport in Jeddah, Saudi Arabia.

Our role also covers associated buildings and infrastructure, including a new air traffic control complex and tower; taxiways; airside and landside road networks; and utilities networks and support buildings.
The airport terminal has been designed as a ‘two-in-one’ - meaning that for most of the year it operates as a conventional airport serving a typical range of passengers, but in the lead up to the Hajj, it is transformed into a much larger processing entity, coping with ever-increasing numbers of pilgrims.

Client: TAV
Location: Saudi Arabia
Atkins is behind the long-term masterplan for the new Medina Airport and has also developed designs for the terminal to facilitate the growth of domestic, international and Hajj traffic.

The scope of work, on a full multidisciplinary basis, included:

- Strategic briefing
- Masterplanning and phasing
- Runway, taxiway, apron and stand layout
- Terminal design and surface access planning
- Sustainability strategy

The terminal was designed for 18 million passengers per annum with expansion up to 30 million. The masterplan also made provision for the later development of a second terminal. Our designs also fit with Saudi Arabia’s desire to vastly improve the traveller experience as they make their pilgrimage.
We developed an option which allowed an increase in the number of more usable stands for easyJet, without impeding Gatwick Airport's wider growth aspirations.

Client: easyJet
Location: UK
Strategic airport planning advice for easyJet

Studies, plans and sound advice

easyJet, the largest airline at Gatwick Airport, commissioned Atkins to help optimise its operations. We worked closely with easyJet to review their current activity which spans Gatwick’s North and South Terminals, as well as all six piers, with a view to optimising operations into a single terminal.

In addition to developing a number of strategic options that would increase airside capacity and maximise pier-served stands, we also undertook option assessments which encompassed airside planning, taxiway and stand design, and enabling works including relocation of existing operational facilities and access routes.

The optioneering study was followed by a commission to develop the preliminary design for the preferred option. This included an in-depth ground services survey for the airside reconfiguration followed by detailed stand designs.
Atkins has been co-located within London City’s operational project team since 2000, providing engineering and project management expertise vital to the airport’s expansion. In recent years, we have undertaken a range of major projects including:

**2010 - Apron reconfiguration**
A full multidisciplinary study to investigate the options available to re-provide Code C compatible pier-served stands in recognition of increasing aircraft sizes.

During the study, options to reconfigure the west apron, east apron and the jet centre were investigated, while additional options for a new terminal and a remote satellite were ruled out on cost, operational and planning grounds.

**2008 - Masterplan validation and implementation**
We reviewed the existing masterplan documentation and validated it against updated passenger forecasts and aircraft types to support new planning applications.

Our role also included the design of new and modified facilities, including new taxiways, and the design and delivery of three new stands. This work involved multidisciplinary engineering and architectural input into the relocation of an airport access road and new stands for the current aircraft fleet including pavement design, services relocation, drainage design, stand floodlighting and airfield markings.

**2008 - E190 & A318 stand reconfiguration**
Atkins helped London City accommodate larger Embraer and Airbus aircraft on the existing apron infrastructure. As aircraft servicing was a key aspect of the planning, in addition to positioning the aircraft onto the stand, we used Pathplanner software to track aircraft manoeuvres and ground servicing equipment.
Our long-term involvement with London City has allowed us to provide multidisciplinary services with an in-depth understanding of the current and future developments at the airport.

Client: London City Airport
Location: UK
Dubai International Airport

Be prepared...

We are helping to improve the existing infrastructure at Dubai International Airport to accommodate a doubling in both passenger and staff numbers over the next decade.

Having completed a number of airside and landside surface access studies, we were commissioned to create a holistic strategy for landside multi-modal transportation operations to address the anticipated future landside transport demand over the next 10 years, until operations transfer over to Dubai World Central airport in 2020.

This work involved maximising existing and committed transport infrastructure with a view to reducing capital expenditure on unnecessary infrastructure projects.

Using CAST – recognised as an excellent planning simulation tool by airports around the world – our planning specialists created a model for 2020, simulating future proposals for Dubai International, including the increase in stand numbers, additional concourses and airport facilities.

Client: Dubai Airports
Location: UAE
Following the success of our Passenger Authentication Scanning System (PASS) in Heathrow’s T5, the airport has recently introduced PASS2, an Atkins designed biometric verification system which protects T1’s common departure lounge.

The system integrates infrared facial recognition biometric technology to establish passenger identity, enhancing the passenger experience by ensuring easy passage whilst maintaining security.

Providing a logical separation of international and domestic passengers, PASS2 satisfies the UKBA’s security requirements as well as the high passenger throughput demanded by both BAA and its airline community.
PASS is deployed at the front line of airport and border security, assisting in deterring criminal/terrorist behaviour at one of the world’s busiest international airports, London Heathrow.

Client: BAA
Location: UK

**Check-in**
Link passenger to boarding pass, capturing biometric (if required) and validating supporting travel documents.

**Exit & Boarding**
Confirm identity at exit and at the aircraft boarding gate.

**Entry to Protected Zone**
Check identity of the passenger using biometric verification.
Atkins is providing services as radio systems integrator for Heathrow’s eastern campus and the new Terminal 2A and satellite 2B, due to open in 2014.

This work has involved project managing an in-depth survey of existing coverage, equipment and control system locations over the whole of the airport’s eastern campus.

This has facilitated design, installation and coverage improvements for both operational and public usage of Private Mobile Radio and cellular radio provision.

Our unique appreciation of the 24/7 operational and commercial factors influencing the technical operation of key airport systems has allowed us to develop a radio integration package that accommodates all scenarios in the planning and design processes.
By working closely with network operators and airline stakeholders, we have developed radio systems requirements which ensure all areas have the correct coverage.

Client: Heathrow Airport Limited
Location: UK
What we do

We employ over 17,000 professionals worldwide.
Masterplanning

Planning and forecasting are essential to the strategic development of any business. Our forecasting experts establish the needs and potential of airports, recognising economic, environmental and social requirements, in addition to the worldwide considerations of the aviation industry. We consider both short and long-term development horizons, refining our forecasts as plans progress and different business models emerge. Our masterplanners then define forms and structures in order to meet forecasts.

This can involve entirely new airports or extensions and enhancement of existing facilities.

We also develop land use plans for agreement with those controlling the strategic planning of an area, presenting a co-ordinated approach that will ensure that key investment decisions will optimise developments.

Additionally, we identify potential problems and opportunities by providing guidance on policy decisions, helping secure financial assistance, generating local community interest and support, and facilitating negotiations between airports and users.
As the focal point of any airport, the passenger terminal must be designed to accommodate a diverse array of user requirements. Whether taking into account the various flows of passengers and baggage or satisfying the needs of airlines or airport owners, the design needs to be inclusive, flexible and progressive.

Our approach involves the use of forecasting, data analysis, and strategic business and operations planning.

We co-ordinate a wide range of inputs including airspace capacity, air traffic control procedures, typical aircraft mix, runway, taxiway and apron capacity, land access and transport modal share, population catchment area and customer service expectations.

Thanks to the experience and expertise at our disposal, we’re then able to translate these planning issues into an airport passenger terminal design that satisfies all stakeholder requirements.
Atkins managed the construction of Los Angeles International Airport’s Terminal 3 in-line baggage security screening system.

Construction Management

The safe, successful completion of each project is always our highest priority. We assist clients in meeting identified targets by applying sound management techniques and adopting a collaborative approach.

Our construction management teams provide independent, impartial management and proactive leadership to ensure that our clients can focus on their core business objectives.

In short, our goal is to be your partner in quality construction.
We provided justification for the T5 Public Inquiry of the road scheme associated with Terminal 5 and the expanded Heathrow Airport.

**Surface access**

Without appropriate and adequate surface access routes for staff, passengers and goods, the efficient operation of an airport would be impossible. Indeed, as the demand for air transport increases and airports look to expand, surface access must be integrated into local, regional and national transport strategies.

From the conceptual planning stage, right through to commissioning and beyond, we work with airport owners to develop and implement surface strategies that satisfy the needs of passengers and airlines.
Security

Security within the aviation industry is not only of paramount importance but it's also an extremely high-profile issue. As one of the largest independent suppliers of aviation expertise, we work with clients across the world to implement systems and plans which help prevent harm to aircraft, passengers and crew.

Our expertise covers the following specialist areas:
- Security threat assessment and analysis
- Response measures
- Access control systems and centres
- Protective barriers and physical infrastructure
- CCTV, security lighting, communications
- PA Systems
- Security sensors, intruder detection and alarms
- Baggage and passenger screening systems
- Information and systems survey and security
- Terrorist risks to the built environment
- Personnel safety provision and training
Atkins is one of the largest and most successful environmental consultancies in the UK. By improving environmental management performance, risk and liability management and competitiveness, we help deliver savings and efficiencies in time, cost and resources. We advise on legislation and regulations as they apply to airports, produce air and water quality audits and use computer modelling to build 3D virtual model noise maps for airports. We also produce Environmental Impact Assessments (EIA) and Environmental Impact Statements (EIS) at the concept and detailed stages of airport developments.

Environmental management and sustainability studies

Our air quality team has worked with the Department for Transport Aviation Environment division on the South East Regional Airports Strategy; the UK Aviation White Paper; and the Project for Sustainable Development at Heathrow, including Adding Capacity at Heathrow.
Information and communication management

Airport management must have full monitoring, command and control capability for the multitude of systems and equipment required from normal operations to full-scale incident management. The IT data provided by systems can be analysed to ensure that investments are made in the correct areas to sustain and develop the airport. Other information can alert operators to when essential maintenance is required and thus prevent breakdowns occurring at sensitive times.

Our unrivalled understanding of airport IT allows us to resolve design and interface issues from specification to realisation of the most advanced control and communication systems.

Our airport systems integration experience includes:

- Baggage handling interface
- Management information
- Network management
- Airport CCTV and access control
- Airport operational database
- Flight information systems
- Public address
- Fire alarms and zoning
- Building management and SCADA
We have provided services directly to governments and international development agencies such as the EU Commission, the EIB, the EBRD and the World Bank.

**Technical due diligence**

Atkins is at the forefront of the UK’s PPP/PFI programme, and is involved in privately financed public sector projects throughout the world.

Whether acting as an equity provider, client adviser, a key member of bidding consortia or as an advisor to project funders, we are able to draw upon a unique breadth of PPP experience and design and construction expertise to provide added value and the right advice.
To be successful, an airport must be able to move aircraft, passengers, staff, baggage and cargo safely, efficiently and cost effectively. With this in mind, all infrastructure must be designed, operated and maintained to the highest possible standard.

Whether designing air traffic control towers, multi-storey car parks, AGL networks or bulk fuel storage facilities, our teams provide intelligent solutions that keep airports moving and passengers happy.

We also recognise that the design of runways, taxiways and aprons are just as crucial to an airport’s operational and commercial success – they require thought, precision and accuracy.

Thanks to a rich portfolio of work in the aviation sector, we have the experience and expertise to deliver all aspects of airport infrastructure, ensuring technical excellence every step of the way.
Atkins recognises that successful and compelling aviation design balances efficient, secure, and safe airport operations with excellent passenger and stakeholder accommodations, sustainability, and revenue generation.
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