





Air Traffic Control Rooms

Established in 1996, TEX ATC — part of TEX GROUP — is based in the UK and specialises in the design, manufacture and installation of air traffic control rooms (ATCR's) for both civilian and military applications worldwide. Clients include BAE Systems, Defence Infrastructure Organisation, Feka, Morgan Sindall, NATS and Thales. TEX ATC have been employed as consultants on more than 20 international projects including Manchester Airport (UK), Mina Mussafah Harbour, Abu Dhabi (UAE), Muscat International Airport (Oman), RAFO Thumrait (Oman) and Suvarnabhumi Bangkok International Airport (Thailand).

The majority of ATCR's are designed to meet client and project-specific requirements, however, TEX ATC also provide ATCR's such as the MV8 Series which is used by regional and international airports, and is the standard specification for the UK Ministry of Defence. The mid-sized MV8-50 offers a 360° field of view, has a floor area of 52.5 m² (565 ft²) and can accommodate up to 7 operator positions.

TEX ATC are also a leading supplier of replacement glass for existing ATCR's that require repair or upgrade to advanced glazing systems, with minimal scaffolding and minimal disruption. Other products and services include solar blinds and complete refurbishment.

Opposite: Muscat International Airport air traffic control tower under construction. The tower is 97.6 m (320 ft) high and the floor area of the VCR is 100 m² (1076 ft²).

Cover: Bangkok Airport's control tower holds the title of the world's tallest control tower.



A Proven Track Record

With over 20 years' experience, TEX ATC are world-class industry leaders. Their visual control room installations are to be found at numerous civilian and military airports including Afghanistan, Egypt, Isle of Man, Nigeria, Oman, Qatar, UK, UAE and Thailand. Special projects include radio frequency-blocking glazing for marine vessels and aircraft carrier flying control rooms.

“TEX ATC provided an excellent input to the design process, becoming a fully engaged ‘team’ member and continues to provide excellent customer service during the initial 12 months of operational service. TEX ATC has been retained to provide on-going support for items within their scope of supply.”

— Derek Brien, Head of Customer Solutions, NATS (Services) Ltd

TEX ATC Project Selection

- Aberdeen Airport, Scotland
- Abu Dhabi International Airport, UAE
- Al Dhafra Air Base, UAE
- Al Udeid Air Base, Qatar
- Bagram Airbase, Afghanistan
- Bristol International Airport, UK
- Cambridge International Airport, UK
- Camp Bastion, Afghanistan
- Isle of Man Airport, Isle of Man
- Liverpool John Lennon Airport, UK
- Mallam Aminu Kano International Airport, Nigeria
- Manchester Airport, UK
- Mina Mussafah Harbour Tower, Abu Dhabi, UAE
- Muscat International Airport, Oman
- Oman Aviation Academy
- Peace Vector 6, Fayed, Egypt
- RAF Coningsby, UK
- RAF Linton-on-Ouse, UK
- RAF Mildenhall, UK
- RAFO Thumrait, Oman
- RNAS Yeovilton, UK
- Suvarnabhumi Bangkok International Airport, Thailand

Innovation

Air traffic control rooms are individually designed according to client and project-specific requirements. TEX ATC's team of highly experienced technical consultants, designers and engineers develop all projects in-house. Innovative solutions, sound attenuating technology, high-spec materials and impeccable detailing result in exceptionally comfortable operating environments and iconic contemporary architecture.

TEX ATC are the leading experts in glass for visual control rooms. Laminated glass is designed to suit location and performance requirements such as solar gain control, heating, ultraviolet/infrared, blast/impact resistance and electromagnetic attenuation. Bespoke structural steelwork is designed and engineered to maximise field of view and line of sight. Standard ATCR models such as the TEX ATC MV8-50 are regularly updated to ensure they are not only regulatory policy compliant but also lead the way in terms of advanced glazing technology and operational performance.

TEX ATC undertake research and development for leading edge engineering consultancies. Projects include radio frequency-blocking glazing for both civilian and military applications and the flying control rooms (FLYCO) for the Royal Navy Queen Elizabeth Class Aircraft Carriers. In recognition for their contribution to technological advances in glazing for the maritime environment, TEX ATC were awarded the BAE Systems Bronze Design Award.

Top: The most testing requirement for the RAF Coningsby visual control room was a high sound attenuation value due to the resident RAF Typhoon aircraft twin afterburning design.

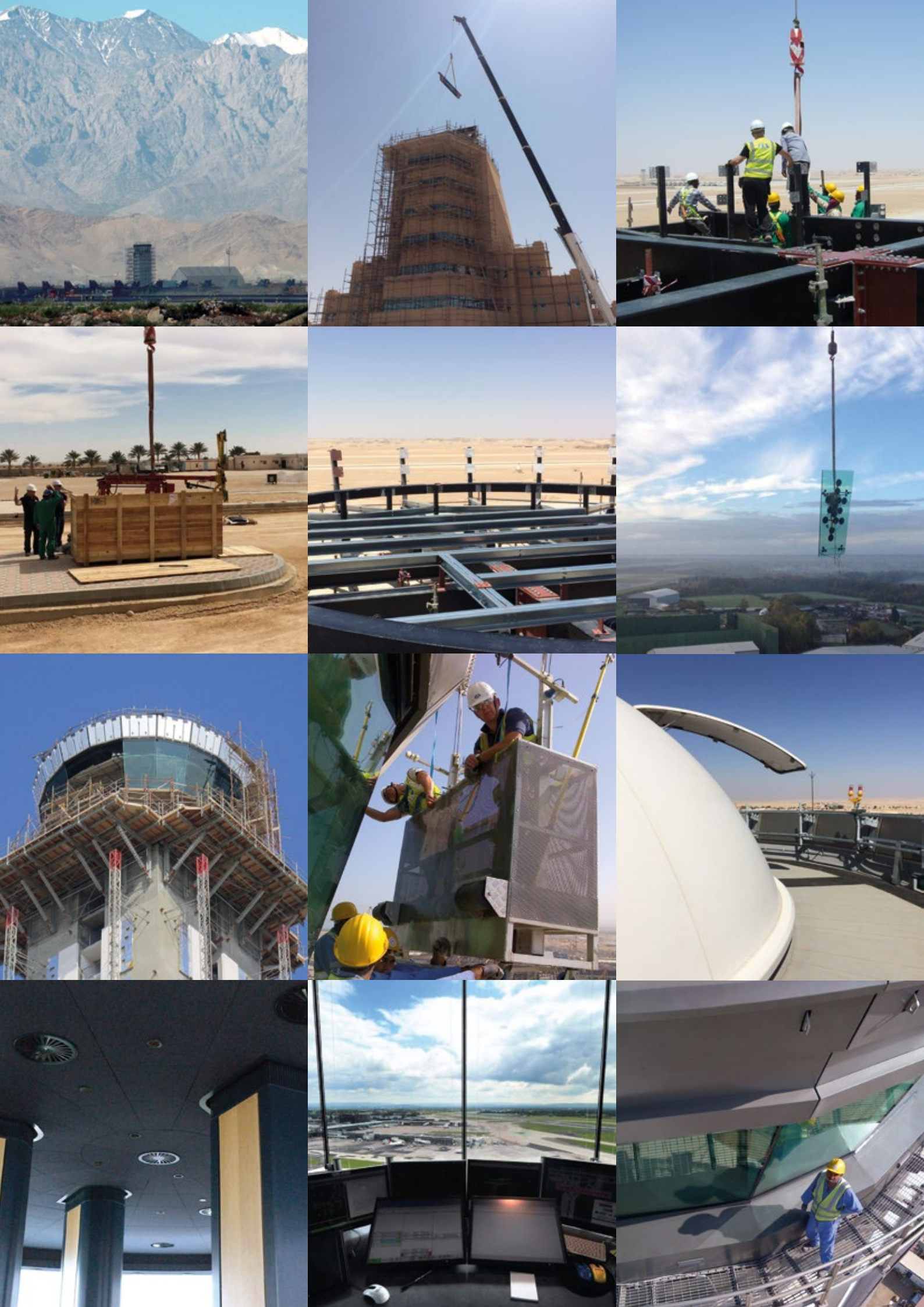
Centre left: TEX ATC laminated glass production. ATCR panels might be as large as 4 m (13 ft) high, 55 mm (2 in) thick and weigh in excess of 1200 kg (2645 lb).

Centre right: Following delivery of a feasibility study, Tex Special Projects designed, manufactured and installed the innovative flying control room (FLYCO) on the Royal Navy Queen Elizabeth Class Aircraft Carriers.

Below left: TEX ATC's team of highly experienced technical consultants, designers and engineers develop all projects in-house and produce a variety of CAD drawings and presentations.

Below right: The 24-sided structure for the RAFO Thumrait ATCR, Oman. The innovative cantilevered design shifts the post positions and allows for a fantastically wide, uninterrupted field of view.





Turnkey Solution

Delivering elegant, precision-engineered solutions, TEX ATC has built strong partnerships with clients, architects and suppliers, ensuring a fully integrated turnkey service, from concept to CAD drawings, and from manufacture to installation. TEX ATC's areas of expertise include the design and fabrication of visual control rooms including consultant services, glass replacement, refurbishment and solar blind installation. The main contractor would be responsible for supporting buildings/towers, building service systems and furnishings.

Structural steelwork, cladding and interior detailing are manufactured, test-assembled and quality controlled in the UK. TEX ATC designers work with worldwide leading glass manufacturers and retain the services of glazing experts with more than 25 years' experience. All components are manufactured and finished to the highest standards for maximum strength, longevity and aesthetics, and TEX ATC project managers oversee the complete control room installation.

Available for consultation, research and development, and large-scale tender proposals, TEX ATC have a proven track record of delivering logistically and technically challenging projects, on time and within budget. Design services are conducted in-house at the UK office, and clients are welcome to visit and discuss their requirements.

Opposite: TEX ATC deliver a fully integrated turnkey service that includes design, manufacture and installation of visual control rooms. TEX ATC are also available for refurbishment projects, glass replacement and solar blind installation.

Muscat International Airport, Oman

The new terminal and runway at Muscat International Airport, the largest airport in Oman, has a capacity of 12 million passengers per annum. This prestigious project is one of the largest that TEX ATC have completed; the tower is over 97 m (318 ft) high and there is 100 m² (1076 ft²) of floor space within the ATCR.

The structure is engineered to carry the load of a building maintenance unit running around the periphery of the control room roof and specifically designed to enable independent glass replacement should the situation ever arise. To demonstrate samples of the components being used, a full size mock-up was erected as part of the clients' specification.

The visual control room comprises 20 facets of TEX ATC Maxi-View laminated glass, providing the controllers with a 360° uninterrupted view. Each panel measures over 4 m (13 ft) high, is over 55 mm (2 in) thick and weighs in at over 1200 kg (2645 lb).

The ATCR has been designed to a high specification, meeting with a strict acoustic attenuation target (NR 25) whilst accommodating high extreme temperature variables and fulfilling the requirements to structurally comply within seismic zone 2A.

Opposite: The completed ATCR at Muscat International Airport, Oman.



Manchester Airport, UK

TEX ATC's construction of the state-of-the-art new control room at Manchester Airport began in the summer of 2012 and completed in early 2013. The impressive control room is the UK's second tallest after Heathrow Airport.

The control room was designed specifically to ensure that the controllers have the best possible view of both the runways and the airport complex. The visual control room offers an excellent panoramic field of view, allowing the controllers clear line of sight as far west as the mountains of Snowdonia and eastwards to the Pennines.

The key to the exceptional field of view is the use of TEX ATC's Maxi-View trapezoidal panes of glass. The bespoke design and technical specification of this glass allows our design team to produce a control room that is functional, practical and aesthetically pleasing.

"TEX ATC were employed by Morgan Sindall to design and install the visual control room of the new Manchester air traffic control tower during 2012-2013. TEX ATC worked closely with the project team to overcome many design and operational issues, and Tex staff were helpful and conducted themselves in a professional manner. Tex ultimately delivered a high quality end product on a complex and challenging project for all involved."

— Justin Kay, Project Manager, Morgan Sindall

Left: Glass installation at Manchester Airport ATCR, UK. TEX ATC are also the leading supplier of replacement glass for existing aircraft control tower rooms that require repair or upgrade to advanced glazing systems with minimal scaffolding and minimal disruption.

Suvarnabhumi Airport (Bangkok International Airport), Thailand

Distinguishable by its screw-like appearance and measuring 132 m (433 ft) high, Suvarnabhumi Airport's control tower holds the title of the world's tallest control tower. When the airport officially opened in September 2006, it also broke other world records. At 563,000 m² (6,060,081 ft²), the passenger terminal became the largest in the world and the airport also features the world's longest runway measuring 75.3 m (247 ft) wide and a staggering 4,000 m (13,123 ft) long.

Recognising the challenge of creating a structure that both fulfilled the client's aesthetic aspiration and a need for it to safely extend operators a clear field of view, TEX ATC were engaged by the client design team to assist in the design and development of the ATCR. Tex centred the design on the tower core, uniformly transferring the structural loads through 6 vertical central columns which permit a 360° cantilevered roof design.

The inboard locality of the columns allows air traffic controllers to be seated in an array to the exterior of the room achieving uninterrupted visibility to the airport extents and grouping in teams to support each runway operation. The column arrangement also supported the installation of the radome on the roof and the routing of engineering and avionic services not only from the VCR to the tower roof, but also directly down the core of the tower to any floor. Subsequently, the format of the tower enables the Facilities Management team to undertake tasks without interruption to air operations and other operations in the building.

Opposite: The tower at Suvarnabhumi is capable of handling 76 movements an hour.





RAFO Thumrait, Oman

The new visual control room at Thumrait airbase is a 15 m (49 ft) diameter, 24-sided structure, attired with a conical parapet and encompassing a gleaming roof dome. The design, colours and material selection give recognition to both local culture and architecture. The control room is a completely bespoke design created by TEX ATC to fulfill exacting specification requirements of the Royal Air Force of Oman and Ministry Of Defence Sultanate of Oman.

The high wind loading, seismic considerations and desert exposure posed additional design challenges to overcome in both project delivery and ongoing construction design management considerations. Careful selection of materials, finishes and surface treatment has achieved a robust and low maintenance VCR solution without compromising aesthetics or driving excessive project costs.

Being sited in a hot desert climate required integration with the building HVAC system. The properties of the glazing were a crucial part of UV reduction, glare reduction and thermal control of the glass using a bespoke TEX ATC Maxi-View glass lamination.

Left: The TEX ATC visual control room at Thumrait airbase in Oman.

MV8 Series Air Traffic Control Rooms

As well as bespoke visual control rooms, TEX ATC also provide standard regulatory policy compliant modules without the full cost of development. For example, the Tex MV8-50 can be tailored to various requirements and is used by regional and international airports. The MV8-50 has a floor area of approximately 50 m² (538 ft²) and can comfortably accommodate up to 7 operator positions. It is a factory pre-fabricated octagonal structure with each facet having a 15° outward inclination. With 8 slimline columns and a 3.1 m (10 ft 2 in) floor to ceiling aperture, the MV8-50 offers optimum field of view through 360°.

All external components of the MV8-30 (30 m²) and MV8-50 have been selected to be UV stable and resistant to aviation fuel and fume deposits. In the unlikely event of damage or replacement, key components can be sourced. To assist in the control of reflection, the internal finishes of standard models are appropriately angled and finished to ensure that they are not visible within the glazing. Acoustic ceilings are finished in matt black and all lighting and fittings are recessed to prevent any potential reflection.

Opposite: TEX ATC MV8-30 installed at the Oman Aviation Academy, Sohar, Oman. Completed in 2022.



TEX GROUP

BRITISH MANUFACTURING



BSP TEX LTD was founded in 1905 and is one of the world's premier manufacturers of hydraulic hammer and compaction equipment. Additional products include road maintenance and construction machinery, kiosks and trailers.



TEX PLASTICS LTD located in Barnstaple and Derby, provide plastic injection mouldings for numerous product sectors, and their services include design, development, prototyping, testing, tooling, production and assembly.



QK TEX LTD manufactures bespoke lightweight honeycomb-structured and composite panels for the retail and exhibition sector, and fabricates specialist furniture products for the leisure vehicle industry.



G&M EURO TEX LTD design and manufacture bespoke AC power generation equipment for marine, industrial and military applications worldwide, and refurbish and service large diesel engines for marine and land-based industries.



TEX ATC LTD are the world-renowned supplier of bespoke air traffic control rooms and glazing system solutions for military and civilian applications. Their modular MV8 Series air traffic control rooms are available in three sizes and as kits.



CAIGATE TEX ENERGY SOLUTIONS LIMITED provide hybrid energy and smart microgrid solutions. Renewable energy and Eco energy solutions are the heart and soul of our business. Products include PowerHub and SuperGen.



Our Location

TEX ATC, Unit 25, Claydon Business Park, Gipping Road, Great Blakenham, Ipswich, Suffolk, IP6 0NL, UK +44 (0)1473 830 144 info@tex-atc.co.uk www.tex-atc.co.uk

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