

Case study



Heathrow JEDI control tower
and matrix signage

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Who

We were selected by Dyer and Butler, Heathrow Airport Limited and British Airways to carry out work on this extensive operation critical project on the runways of Heathrow Terminal 5.



What

The project centred around the JEDI control tower, which we designed, constructed and commissioned. Related works included the design and installation of electrical and fibre infrastructure connecting the tower to taxiway matrix signage, which involved the creation of a number of bespoke electrical pits. The set-up was completed with the installation and commissioning of a new hi-tech weather station.

Why

This installation plays a major part in Heathrow Airport's winter resilience programme and is used to quickly and efficiently guide aircraft into available de-icing zones. This facilitates prompt and effective direction of resources and ensures aircraft are best able to function as closely to schedule as possible during adverse weather conditions.

Where and when

This work was carried out in phases over a 12 month period, airside at Heathrow's Eastern Ancillary Area (EAA). All work was carried out under normal operational runway conditions without any disruption to flights, crew or passengers.



The story

The JEDI system is a control station used for winter resilience to taxi aircraft in for de-icing. It uses mobile matrix signs towed and connected into bespoke 'power pits' designed and developed especially for the project to supply a fixed electrical and fibre-link connection from the control station within the tower. With the need for a reliable and significant power supply we created and installed a new sub-mains unit and feeder pillar to provide electrical power to the JEDI control tower, weather station and worker welfare unit.

The tower was constructed around the aged remains of a disused mini-tower, allowing us to introduce a degree of environmentally appropriate re-use and re-purposing of selected parts. Work on the tower, post-design, included complete electrical fit-out, design and installation of the furnishing, which of course take into consideration user comfort and ergonomics to ensure a safe operating environment. Our work also included the installation of HVAC systems, comprehensive structured fibre and data networks, and was rounded off by the installation of flooring and decoration.

Outside, as well as installing the new weather station, we took responsibility for the creation of a number of remote, bespoke "pop-up" pits for electrical and network infrastructure to connect the tower to the matrix signage we installed to direct pilots to the appropriate de-icing zones.



Outcome

For us, and all involved parties, this project had a very successful and satisfying outcome with all works being carried out to plan, on time and in budget. As a consequence of our work one of the most difficult times of year for Heathrow Airport and British Airways has been made a little easier. The weather warning system helps operatives to prepare the unit for action, effectively putting them "ahead of the game" when disruptive bad weather hits. Aircraft are now directed more swiftly to available de-icing facilities which means they, and their passengers, can be safely back in the air with minimal delays.



All home safe On time In budget Regulations met Satisfied client

Project data

Design and planning

- Produced a design that was approved by the client
- Outline proposals indicating space planning of the control centre and infrastructure arrangements utilising cable management throughout the tunnel conveniently located under the taxiway
- Fabricated and installed a bespoke control desk
- Engineered bespoke 'power pits' for electrical and comms fixed connection
- Fibre optic links from tower to 'power pits' with media convertors
- Fabricate Matrix signs to include A/C

Procurement

- Sourced specialist access equipment airside for high level access into tunnels

Implementation

- Testing, inspection and final commissioning carried out, snagged and completed on time

Outcome benefits

- Work completed on time and in budget
- New facility enables fast and effective direction of aircraft into available de-icing zones. This in turn aids prompt direction of winter resilience resources and ensures aircraft are best able to function as closely to schedule as possible during adverse weather conditions.

Your next project

We hope that this brief case study has shown you some of our skills, experience and client/results focussed approach. As you approach your next project requiring electrical, mechanical and related skills and resources we hope you will consider Freemantle as a key contractor.

When you involve us you effectively increase the size of your own workforce as we become a part of your team. Your objectives become our objectives and we'll work with you to make your project a success.

To discuss how that might work and the benefits and advantages we can bring please contact me, Richard Freemantle, to arrange a free, no obligation, informal chat where you can scope out what you need and I can tell you how we can help. You can reach me on 020 8564 8217 or e-mail me at richard@freemantle.co.uk

I look forward to hearing from you.

Regards

Richard Freemantle

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