

Manchester International Airport

Transformation project

Turnkey Solutions

Project PP03 – Case study

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Manchester Airport Transformation Project

Case Study - project PP03

Project Key Facts

Client Name | Galliford Try

Location | Manchester International Airport , UK.

Dates | 2018-2019

Total Project Cost | £6.0m

The Manchester Airport Transformation Programme (MAN-TP) was geared at modernising and transforming the customer service experience. The programme comprised of a series of enhancements that will provide customers and airline carriers, with facilities and services that are state-of-the-art. The initial main focus was with terminal 2 which on completion has doubled in size. On the airfield, work was carried out to maximise the potential of Manchester airports existing two runways, which have the total capacity to handle 55 million passengers per annum. The taxiway infrastructure was adapted to accommodate more of the largest aircraft now operating at the airport, and increase the efficiency of ground movements.

Huge challenges were identified that were associated with this ambitious project. One of which was to ensure the airport remained operational during the construction phases, and it was therefore vital that the main contractor select the right teams for these specialised works. Having completed many airfield lighting projects and also head of Stand (HoS) installations at Manchester, and other airports, atg airports inhouse experience of this type of installation, along with a deep understanding of the airport's requirements made them first choice for the main contractor.

Before any new works could commence, it was necessary for atg to decommission existing aircraft stands, and remove all redundant equipment including AVDGS, FEGP's, card readers, emergency fuel stop, and cable carriers. These enabling works, also included the diversion of electrical supplies and installation of new supplies that were required for the main project works to commence.



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The main project works could be categorised into different skill sets, and atg airports were able to rely on its inhouse team to complete all these different aspects:

Airfield Lighting

A new pier to be known as Pier 1, was constructed at Terminal 2, and a full turnkey solution for new aprons and taxiway routes surrounding the pier was implemented. This incorporated the supply and installation of new Airfield Ground Lighting (AGL) equipment, comprising of 400 LED taxiway centreline lights, and the associated transformers, primary and secondary connectors. New AGL primary and secondary circuits were routed through the pit and duct system, and terminated to the recently installed Constant Current Regulators (CCR's) that were located in a new substation. New LED information signs were strategically placed along the taxiway routes and apron areas, all helping to provide guidance to pilots and ground vehicles as to their current location and route to destination.

Individual Lamp Control and Monitoring (ILCMS) for the taxiway lighting was a requirement to assist with the routing of aircraft. The hardware necessary was also installed within the taxiway and apron infrastructure, and cabled back to the substation where it would interface with PLC cubicles and the existing atg airports AGL control system. Whilst working in collaboration with all project stakeholders (NATS/MAG/GT) ATG Airports provided the Functional design for the AGL Control System for incorporation of the new lamp control hardware into airfield layout and also the routing functionality.

To ensure there was minimal disruption to the airport operations during these works, the majority of the installation program was conducted during night time possessions.



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Substation and West Apron 6/A

To facilitate the new construction of Pier 1, the existing West Apron 5 substation had to be demolished and all the equipment and electrical supplies decommissioned. A new substation was then built, and as part of atg airports scope of works, a full fit out package of all services within the substation had to be supplied, installed and commissioned this included the following equipment:

- New 500kVa Standby Generator and attenuation with bulk fuel tank
- New UPS system
- Fire Alarm system
- Air Conditioning system
- Low voltage (LV) Panels
- Small Power and Lighting
- Door Access control
- BMS
- Low voltage (LV) Switchgear
- Installation of all new containment



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