

Case study 4: T5C Nodes, Heathrow, London, NG Bailey

Benefits

Time: substantial saving in site installation time

Sustainability: elimination of waste on site. Avoidance of disruption to the client

Cost: substantial increase in productivity on site

Client: BAA

The project



Having already installed off-site manufactured primary plant corridor modules and core service risers, at Heathrow's Terminal Five Concourse (T5C), BAA and Carillion knew at first hand what NG Bailey's off-site capability had to offer. As a result, NG Bailey's development team was approached about building 12 nodes to see if they could be produced cheaper and quicker, with the added advantage of being manufactured in a safer working environment – compared to a traditional on-site build.



Nodes are structures that connect departure lounges to aircraft, such as the new Airbus A380, to facilitate the quick and easy loading of up to 500 passengers through three separate aircraft doors. Measuring 10m wide by 10m high by 15m long and weighing a total of 90 tonnes once assembled on site, the sheer size and scale of a node presented a unique engineering challenge to the off-site team.

After weeks of careful planning and design, the team set about getting to grips with the detail, creating a prototype to identify, log and resolve issues. The nodes were created using a hybrid of off-site manufactured elements including a volumetric reception area, panelised wall sections and several modular components – including a plant room, lift shaft and stair unit. All of the components were manufactured at the NG Bailey off-site manufacturing facility in Bradford.

Transportation posed another challenge, taking three months of intensive logistical planning, including a trial run to ensure the convoys could clear all the motorway bridges. The nodes were delivered to Heathrow and each

Getting the message across



erected within a week, compared to a traditional on-site build that would have taken up to half a year to complete. Not only did this method of manufacture realise significant savings in terms of time, labour and waste on-site, it also presented a huge cost saving to the client through minimal disruption and downtime at the airport – testament to the “value add” that off-site manufacturing can bring.

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