

CASE STUDY

Automatic Selective Door Operation (ASDO) Project

LOCATION: London and the South West (Wessex Route)
CLIENT: Network Rail
DATE COMMISSIONED: December 2015



Introduction

Following Global Rail Construction's notable success in securing a Principal Contractors licence, its signalling division was invited to provide the most advantageous offer to fully manage a project on Network Rail's (NR) Wessex route. The scope of works included for planning, surveying, installing and commissioning of 509 No Hima-Sella Tracklink 3 beacons, including the careful recovery of the existing beacons for refurbishment and re-use, all under SMT conditions.

The system known as Automatic Selective Door Operation (ASDO), provides the train operator – in this case South West Trains – with technology that compares the length of the train with the length of the platform, sending a signal to the driver so that only the correct amount of doors on the platform side are opened.

With more people travelling by train, many train operators are increasing the number of carriages and whilst the infrastructure owners are also increasing platform capacity to afford the extended trains, there will be many stations that will not have sufficient platform length to allow all doors to open.

The principal function of this technology is contained within an electronic beacon installed at each station location, which is fitted to the track at a pre-determined datum point to the existing sleepers and is mounted within the mid-point between the rails known as the 4ft.

The beacon itself is a passive component that utilises radio frequencies and communicates with a beacon reader, which is fitted to the train and then this in turn decodes the data taken from the beacon.

Having provided a comprehensive offering Global Rail Construction were contracted by Network Rail in the Summer of 2014, to meet two key project milestones as part of a two-phased programme in October 2014 and December 2015.

The Deliverables

Global Rail Construction robustly planned and prepared a fully managed delivery and commissioning solution to achieve compliance with all relevant standards, which included:

- ① Preparation of a prioritised programme of works to meet NR's requirements
- ① A two-phased approach to meet two key project milestones
- ① A detailed hour by hour programme of installation and testing activities across multiple live sites
- ① Full track access planning
- ① Condition survey and reporting
- ① Daily progress reporting
- ① Full logistics management and co-ordination of new and refurbished beacons to support the programme priorities
- ① Installation of 509No Hima-Sella Tracklink 3 beacons
- ① Recovery, refurbishment and reprogramming of 200No existing beacons for re-introduction into the project
- ① Full test and commissioning including hand back

Challenges

The scheme required numerous planning considerations, however, the fast-track nature of Network Rail's programme schedule, requiring Global Rail Construction to phase their delivery works into two key milestones, provided the team with an interesting challenge.

Further identified within the scope were a number of Network Rail urgent sites, which necessitated the need for a prioritised approach to the project planning.

Providing even further challenges was the limited available track access provided for the project. This imparted significant difficulties for the initial surveys, the installation and final test and commissioning works.

Finally careful programming was also required to ensure that the recovered beacons were then carefully aligned and allocated to future installation requirements. With high importance placed on ensuring that these were carefully recovered and transported, fully refurbished and re-programmed to the correct specification and then re-collected and installed to meet the project timeframe.

Solutions

Global Rail Construction efficiently reviewed the scheme to provide the most cost-effective delivery solution and provided a robust set of track access requirements for each site location to enable effective co-ordination with the client and their planners.

This meticulous planning and attention to detail allowed Global Rail Construction to have full control of the delivery programme at all times and provide confidence and surety around their delivery.

This collaborative approach allowed Global Rail Construction to co-ordinate their works with their client and other outside parties and provided a joined up solution on each and every site location.

Having an in-house team of project managers and signalling engineers also provided the confidence to Network Rail that all eventualities would be covered.

By employing a system of hourly project planning and daily reporting, Global Rail Construction were able to demonstrate full control of the works and this open approach really helped to foster a great team ethic between all parties involved.

As a collaborative Principal Contractor, Global Rail Construction also has a mutually co-operative relationship with its supply chain and this provided and facilitated high quality and timely delivery of all requirements to meet the exacting specifications for these works.

These approaches and the energies of the in-house teams at Global Rail Construction enabled the business to deliver on time and to budget the first critical beacon sites in the first Phase of works in October 2014 and successfully deliver the remainder of the locations, meeting and achieving Phase two's target of December 2015.

The Benefits

Having to deliver project milestones and manage installation and testing at multiple locations concurrently was easily dealt with by Global Rail Construction. Having a large in-house signalling resource enabled solutions to be quickly formed, providing programme and cost surety.

The benefits of using a contractor that provides a fully managed railway solution also come to the fore. As a railway principal contractor, Global Rail Construction has a pedigree in providing a fully managed service in a live railway environment. This deep-rooted understanding of the networks requirements, the need for meticulous planning and collaborative co-ordination is where the business excels.

As an organisation, Global Rail Construction thrives on challenging projects and offers a design and build service. It has divisions in signalling, civil and structural engineering, E&P and building and is able to offer standalone turnkey solutions, or a full multi-disciplinary offering across all its divisions, providing a one-stop solution for railway infrastructure projects.

Global Rail Construction also have a strong pedigree in training our staff and look to the future with local apprenticeships and graduate schemes and are highly responsible in the communities that they serve.

Testimonial

Global Rail Construction provided a fully project managed service to install, test and commission all 509 No beacons.

Of particular note was their meticulous programming, which provided diligent progression of the works for sites where track access was limited.

In challenging circumstances the team showed professionalism throughout the works, providing high levels of collaboration, a quality service and delivering the works to meet the project completion date.

Robin Cooper
Network Rail
Programme Manager, Works Delivery, Wessex Route