

London Overground Capacity Improvement Project (LOCIP)



CASE STUDY



Overview of Deliverables

Since opening in 2007, the reliable, high frequency services on the London Overground routes have proved to be very popular, and successful in greatly improving the accessibility and connectivity of the local communities, thus supporting the regeneration of inner London.

This project has been spurred by the increasing overcrowding of London's transport network. According to Transport for London, London Overground demand is due to rise by 40% by 2021 . This amounts to a rise in passenger numbers of 45 million between 2013 and 2021 . To facilitate this, capacity must increase accordingly.

To remedy the situation, it was decided that all Class 378 units would gain an extra carriage, thereby increasing capacity by 25%. However, with this comes the need for various infrastructure changes to depots and stabling, platforms, signalling and electrification.

Deliverables:

The project took the form of two phases. Phase 1 was to be substantially completed by April 2013, with Phase 2 commencing around this time.

Vertex has been employed to provide the Safety Engineering, Assurance, Compatibility and Product Acceptance support required for changes to fixed infrastructure and rolling stock.

The works impact RfL, Network Rail, London Underground and a high number of train and freight operations that use the same routes.

Our works had to meet a number of different assurance requirements for the parties' involved, covering the Common Safety Method, ROGS and business

specific needs. Our output was subject to assessment by AsBo/NoBo, Independent Competent Person and specific Safety Review Panels.

The product approval involved a Selective Door (SDO) and Correct Side (CSDE) system that is fitted to the rolling stock and to the lineside infrastructure.

Phase 1 deliverables included:

- Options assessment including system architecture
- ALARP assessment
- Risk assessment & hazard log
- Approvals plan
- SDO/CSDE rollout plan
- Stakeholder management
- Obtain Grip 1 to 3 approvals from the necessary parties
- Support the trial of the new equipment

Phase 2 deliverables include:

- Proof of maintenance report and maintainability FMECA
- SDO/CSDE verification & validation
- Operational instructions
- ROGS approval, GRIP 3 to 8
- SSV strategy
- Delivery of SSV for GRIP 3 to 8 LOCIP 5 car SDO/CSDE capacity
- ROGS closeout
- Generic safety case
- Application safety case
- Client agent service

Technical competencies applied in the delivery of the contract

- Technical knowledge of the proposed system in question, incorporating over 20 years' experience in project development and delivery and adhering to the Network Rail Project Management (GRIP) process.
- Optioneering of technical, operations, maintenance and whole life cost to develop the suite of feasible options and demonstration of acceptability to stakeholders' requirements.
- Systems Engineering- appreciating the impact of the proposed solution in terms of its whole-life implementation and how it could be deployed in a safe structured manner.

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- Project Management, Stakeholder liaison and influence, in order to drive the project forward on the agreed timescales whilst maintaining stakeholder confidence.
- Safety Engineering- both at a systems and sub-system level, risk assessment and Hazard Identification in accordance with CSM regulation 352/2009 (402/2103), ROGS (2011), EN50126.
- Programme Development.

Programme dates

Project duration is from Jan 2013 – present.

Resources utilised

Vertex utilised its team of Railway Systems and Safety Engineers and Project Managers for this project. Qualification held includes membership of the Institution of Railway Signalling Engineers, membership to the Association of Project Managers (MAMP), Project Management Professionals (PMP) and professional Chartership (C.Eng.).

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