

OSBORNE OVERCOMES GADE VALLEY VIADUCT TRACKING CHALLENGE WITH BLACKLINE'S CONNECTED SAFETY SOLUTION

ABOUT GADE VALLEY VIADUCT

A multi-span composite viaduct carrying the M25 between Junctions 20 and 21 near King's Langley. The 450m long viaduct is composed of twin decks, each formed from four open topped steel box girders with an in-situ cast concrete slab. Due to a lack of fatigue strength in the bottom flange over 50,000 strengthening components are required, each with an individual quality record.

CHALLENGES

- There was no GPS signal inside the structure and also GPS signal reflection outside the structure
- No GSM signal inside the structure
- Engineers/entrants were already carrying an amount of equipment including a gas monitor and radio
- No company intranet connectivity within structure
- ERT required quick access to entrant locations
- Existing budget did not allow for additional equipment

In 2017, Blackline Safety Europe Sales Manager, Mark Haylett, was asked by Osborne to provide options for a personnel tracking system within the Gade Valley Viaduct.

Contractors on the project were already using gas detectors and there was an emergency rescue team (ERT) on site with safe systems of work to ensure people were working where they were supposed to.

However, Osborne identified a potential issue which allowed workers to deviate from safe or designated areas.



After assessing the site, the potential of a "Leaky Feeder"-type system was discussed, also RFID and Bluetooth tracking systems, however the costs associated with these proved prohibitive, given that this issue had not been budgeted for in the initial planning stage. At this time Blackline Safety were also introducing G7 to the UK market.

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THE BLACKLINE SAFETY SOLUTION

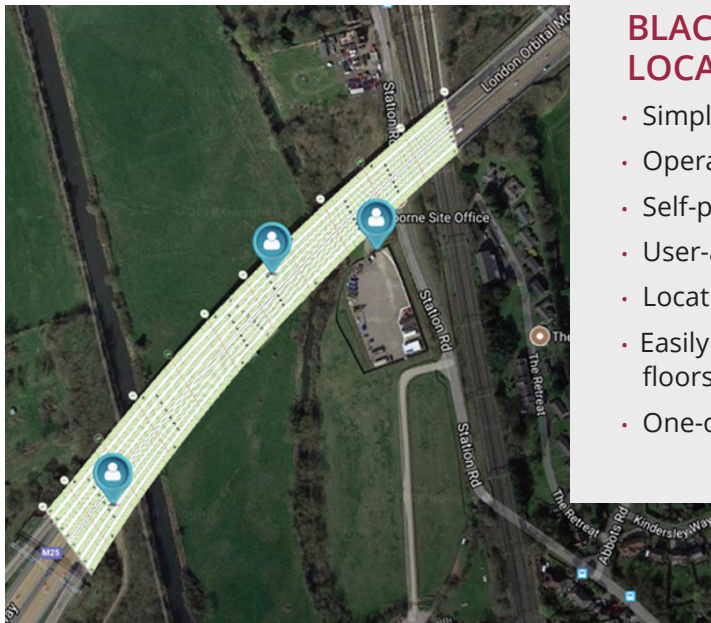
The lack of GPS signal was overcome with Blackline's Location Beacons, these gave Osborne and the ERT the ability to track personnel equipped with G7 devices within the structure.

The issue with the GSM signal was not anticipated in the first instance. Mark explained:

“Only being a few feet from the surface we would normally expect to see something, but the composition of the structure meant we had a faraday cage and no signal was getting in. To overcome this, we placed a signal repeater/booster within the structure which allowed us to project a GSM signal throughout the viaduct and enabled us to go to evaluation, proving the concept.”



Following a successful evaluation, the G7/Beacon system from Blackline Safety was deployed across the site. Users were already carrying rented 4-gas detectors, so Osborne were able to utilise the rental budget to swap the previous devices for G7s providing increased safety to the teams.



BLACKLINE'S WIRELESS, SELF-POWERED LOCATION BEACON

- Simple installation – no cabling required
- Operates independently of site infrastructure
- Self-powered with 5-year battery life
- User-adjustable range
- Location precision down to 5 metres
- Easily distinguish between rooms and floors of a building
- One-off purchase



FUTURE-PROOF

The successful trial allowed us to prove that G7 can pinpoint an employee/contractor location to an individual span within the structure as well as outside the structure. The units also provided full 4-gas detection abilities as well as man-down alarm, personal alarm triggering and a messaging service.

Blackline Safety's G7c uses integrated 3G/2G connectivity to wirelessly link your team to real people, while automating data analytics and compliance reporting. Should a gas leak, injury or health event occur, G7c confidently accounts for everyone's wellbeing and whereabouts in real-time. The exclusive customisable modular design, with the ability to expand functionality with a range of plug-and-play cartridges and a range of gas sensors.

All equipment currently being used is fully moveable/scalable to any other Osborne project, devices can be used stand alone for drivers and/or workers on the M25. Beacons etc. could be used in other areas where work is being carried out such as the Dartford Tunnel - there are no restrictions on where and how it can be used.

CONTACT US

Contact Blackline Safety to learn more about G7c lone worker monitoring technology, cloud-hosted software & location technology.

BLACKLINE SAFETY CAN HELP. LEARN HOW →



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