

# Geo insight: Best practice through innovation in cabling



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## **Geo continues to demonstrate best practice network deployment techniques with development of sewer lining**

Geo, a leading provider of fibre optic networks for heavy data users, continues in the application of its research and development programme, to continue to improve the way its fibre optic network is deployed in London and around the UK.

As well as using established methods such as mole ploughing across rural areas - where equipment digs, lays and buries the subduct cable in one manoeuvre, Geo also adopts newer techniques to improve speed and efficiency.

"We currently use a variety of advanced techniques to ensure that we keep any street disruption to an absolute minimum," said Chris Armitstead, Infrastructure Planning Manager at Geo. "These include installing cables by floating them through the subduct using water, and directional drilling - the utilities version of keyhole surgery - which is a steerable trenchless method of installing underground pipes without disturbing the surface. We have seen many situations where 'special engineering difficulties' occur on a proposed route, presenting problems that require significant lateral thinking to overcome."

One of these was the Flintshire Bridge in North Wales, the largest asymmetrical cable bridge in Britain spanning nearly 1km. Local authorities, keen to preserve its aesthetic value, did not allow operators to lay cable across the structure, causing other operators to abandon their efforts. However, structural engineers at Geo's subsidiary company, Fibrespeed, evaluated the options and proposed a unique solution. A team of specialists abseiled down and were suspended in mid air whilst securing a Primary PVC duct to the underside of the bridge.

Directional drilling was the most effective method of delivering a network to a major media client beside Chiswick Park. Armitstead explains, "To connect to the customer's site we needed to get a cable across the congested Hogarth roundabout, crossing six lanes of traffic. A daunting task, we worked closely with the local

authorities and used Horizontal Directional Drilling techniques to not only to cross under the road, but to do it with no disruption to traffic or pedestrians. In fact, we were even able to meet our customer's very tight delivery deadlines of just 10 weeks."

Geo, known for running its network deep in London's sewers, is continuing to raise the bar. "When we developed the methods to house cables within a proven sub duct containment system in London's sewers, we researched and patented the clips that hold the network in place," continued Armitstead. "Our cables are clipped at shoulder height and not lying loose on the floor of the sewer, as is the case with regional providers that are trying a similar model with local sewer networks. We believe this provides far better security and ensures the sewer can perform its primary purpose uninhibited. We're now seeking to take our techniques a step further, through the current development of a sewer partial lining system, which will both further safeguard our cables, and also extend the lifetime of the sewer walls."

"We're not done there though," concludes Chris Smedley, Chief Executive at Geo. "We are continually exploring new ways of getting from the sewers directly into buildings without any surface disruption. London and other parts of the UK are already too congested with operators digging up the streets. Although the way in which we currently operate is far less disruptive than our peers, we continue to focus on reducing the impact we have and making sure that our fibre networks are the most secure, highest quality and long-term data infrastructure in the UK."