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< Data & Monitoring

Viper Innovations

World Class Technology and Service: Digital Transformation of Lineside Assets

Do you want to transform your signalling power supplies system's safety, performance and efficiency or differentiate your bids from the competition?

Then the Viper Innovations CableGuardian system is here for you and delivering right now.

Viper is setting the pace in technology, service and delivery for the UK railway and has really shown the way to reduce project costs and provide a real alternative to achieving the performance, reliability, availability, maintainability and safety targets without the eye-watering project costs that usually come with it. In the operational arena, we've already made critical lineside safety improvements, saved tens of thousands of delay minutes and hundreds of thousands of pounds in direct benefits from the primary deployments of the system. We're spreading rapidly across the UK network and now it's time to spread the word.

Viper is a digital technology company specialising in the monitoring and improvement of electrical assets by developing innovative systems that turn data into information and insight, driving safety, performance and efficiency in your operational assets. We have diversified from oil and gas to rail after developing a very successful worldwide asset base in specialist systems for subsea cables and have worked in a dynamic partnership with our clients in UK rail over a number of years to develop, mould and deploy our ground-breaking technology to monitor the widest range of parameters available on lineside signalling power assets. This is giving users unparalleled insights across the lifecycle of a system – covering transformers, switchgear and cables in all their shapes and sizes, thereby allowing existing failure modes to be identified far earlier in the lifecycle and new failure modes to be recognised well before becoming a problem for the operational railway. In addition, we are driving the modernisation of working practices in partnership with those delivering the work to create even more business benefits from the technology by building the system into UK railway standards,

removing the need to go trackside for a number of power system maintenance activities.

CableGuardian, as a technology, system and service, improves asset performance by continuously monitoring a combined and wide range of parameters, including insulation resistance from the gigaOhms to Ohms scale, insulation capacitance, voltage, current and volt drop to provide a complete and holistic view of your lineside power asset 24/7. The system incorporates spread-spectrum time-domain reflectometry (SSTDR), which monitors live electrical systems to allow the location of conductor or connection degradation and damage to be pinpointed to either enable staff to act prior to complete failure, such as rodent damage, or to recover much more quickly post-incident from catastrophic damage such as cable theft.

In addition to the hardware, the system has a cloud-based data analysis and storage capability to enable the user to develop and characterise new asset insights. It contains mapping, graphing, and analysis tools to allow the user to compare and contrast the different parameters to gain new asset understanding and to build-in organisational learning for your specific assets – plus it has the ability to characterise and create alarm and event thresholds to enable the system to chase the user when action is required. The additional insights that can be gained from CableGuardian not only allow you to change your maintenance practices to build in long-term efficiency, predict and prevent failures and identify safety issues before they become a problem. You will now also be able
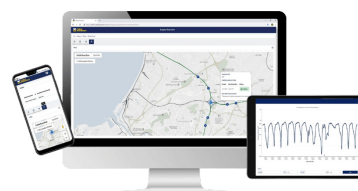

Watch our CableGuardian overview video

to manage your asset effectively across its entire lifecycle, moving to a true condition-based asset management regime that will save millions over the asset life.

The final piece in the jigsaw of enabling world-class asset management is the dedicated and proactive service Viper Innovation delivers – this is a real differentiator that bridges the gap from the deployment of effective technology to creation of business improvement, the much debated innovation chasm. We work proactively with you across the business, project and asset management lifecycle, from client concept development; bid support; project delivery management; Tier 1 project and supplier support; design house, installation, testing and commission contractor support; in-service transition and operations / maintenance support to overall

asset management support. This is to ensure that CableGuardian is integrated into your systems and business in the most advantageous and cost-effective way possible, supporting you from concept to in-service operation and beyond, helping you change your working practices, develop asset insights, benefit from shared experience with a wider user group and support your training, learning and development as you progress with your CableGuardian journey – squeezing every last ounce out of the asset.

If you want to make the move to true asset management, deliver world-class safety, performance and efficiency and make the move to digitally-modernised maintenance, Viper Innovations and CableGuardian is your one-stop-shop for all your lineside signalling power asset management needs.

CableGuardian - is the only Network Rail approved cable monitoring system that offers adherence to Tier 3, Tier 2 & Tier 1 of the Network Rail standard NR/L2/SIGELP/27725 - Insulation Monitoring and Fault Location Systems for use on Signalling Power Systems.

20,000+
Delay minutes avoided

PA05/06538
Network Rail Approved

JOIN THE
REVOLUTION
to improve *signalling resilience*

Proven Trackside Technology Since 2018: This advanced system has been proven in operation since August 2018, with multiple UK regions already benefiting from the technology and further installations scheduled across the network this year.
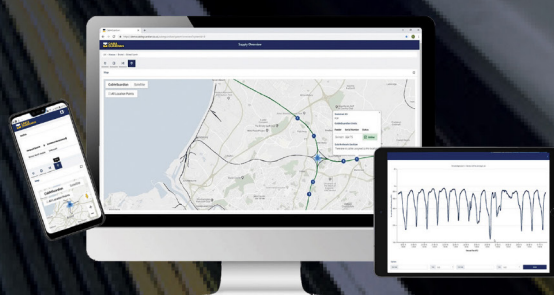
Key Benefits:
- Fewer boots on ballast fault finding and cable testing.
- Quickly and accurately locate cable faults and cable theft.
- User friendly web portal for fault diagnosis and location.
- Allows trending of insulation resistance and insulation capacitance at a cable section level.
- Technological alternative to the 5 yearly manual cable testing requirements.

CableGuardian helping passengers to arrive on time.

☑ Tier 3 Approved

☑ Tier 2 Approved

☑ Tier 1 Approved

Network Rail Approved, Product Certificate Number: PA05/06538

For more information or to book a demo, visit
www.viperinnovations.com/cableguardian

or speak to one of our experts on:
01275 78 78 78 or
enquiries@viperinnovations.com

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A VIPER INNOVATION

THE RAILWAY INDUSTRY INNOVATION AWARDS 2023 WINNER

IET AWARDS
The Institution of Engineering and Technology
INNOVATION WINNER 2018