

# Viper Innovations gains Network Rail product approval for Cableguardian

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Viper Innovations is set to transform the way railway signals are monitored and faults are managed on the rail network with the introduction of its award-winning CableGuardian Cable Monitoring System. Following a five-year research and development programme and substantial investment, Viper Innovations is pleased to announce CableGuardian has successfully received product approval by Network Rail and is available for order across all Network Rail regions.

CableGuardian is a sophisticated cloud-hosted cable monitoring and fault diagnosis system designed to help prevent service affecting failures before they occur by delivering precise condition trending down to individual cable level and accurately pinpointing fault locations and instances of cable theft. This not only significantly reduces power down time on the line but reduces the time-consuming practice of manually walking the line to test for and locate cable faults. The technology operates continuously on live power networks providing critical cable and conductor condition information in real time, eliminating the need to power down the system for intrusive periodic testing. Furthermore, the Insulation Resistance and

Insulation Capacitance condition trends are graphically highlighted, providing valuable information to support a move to proactive, risk-based, maintenance.

It is the only Tier 1 cable monitoring system with full Network Rail product approval, for proactive monitoring, detection and location of both insulation and conductor faults on live signalling power systems as specified in Network Rail specification NR/L2/SIGELP/27725.

Edward Davies, Managing Director of Viper Innovations explains the 5-year research and development process behind transferring their subsea cable technology across to the rail sector and developing the new CableGuardian product ready for the market. “We began discussions with Network rail about the possibility of transferring and applying our subsea technology to the rail industry back in October 2015. At this time our cable monitoring technology was successfully embedded in the oil and gas sector, reducing operator’s downtime considerably as well as saving them vast amounts of money. We could see how applying this knowledge had the potential to help transform cable management in the rail sector as well.

“By January 2016, we had developed our first prototype and over the next four years we worked closely alongside Network Rail as we progressed CableGuardian. By running technology days with Network Rail and other clients, we gained useful feedback which ensured that CableGuardian covered all their needs. Finally, live trials were set up on two lines in 2018 to test and finesse the product and these were successfully completed in January 2020. Now the product has full approval we are delighted to be able to bring this to the market.”

Davies continues “Recent statistics from Network Rail show that 21% of all train delays in a 12-month period were related to cable faults, signalling system and power faults. These train delays add up to millions of minutes in passenger delays but more significant is the cost incurred to Network Rail in resolving these issues as well as not providing a great passenger experience. CableGuardian will help prevent service affecting failures before they occur by providing continuous monitoring of live signalling power supply systems, as well as providing a technological alternative to the 5 yearly manual cable testing requirements.”

CableGuardian monitors the condition of cables, conductors and other electrical system components within a power distribution network by dispersing multiple independent measurement units within principal and auxiliary power supply points and location cases. It provides monitoring at the level of detail required, down to the individual cable sections, breaking away from the traditional limitations of network and feeder level monitoring and is the only system that offers adherence to all three Tiers to the Network Rail Insulation Monitoring Device standard NR/L2/SIGELP/27725.

For more information, please see <https://www.viperinnovations.com/cableguardian/>

### **About Viper Innovations**

Viper Innovations Ltd was founded in 2007 and is headquartered in Portishead, UK, with an office in Aberdeen and an international sales network.

The company is recognised as one of the most innovative companies within the Oil & Gas subsea and rail

transportation sectors, winning the Queen's Award for Enterprise Innovation among other industry accolades.

The company's expertise lies in control systems support and helping customers maximise their electrical system capacity by giving real-time condition monitoring, fault detection, predicting failures, and in the case of the subsea applications, the reinstatement of electrical insulation, bringing fields back online.

Viper Innovations boasts a culture of continual innovation and growth investing 17% of its revenues directly in Research and Development (R&D).

With rapidly growing sales the company currently has products successfully installed in Brazil, Kazakhstan, Azerbaijan, Vietnam, USA, Australia, Indonesia, Norway, Equatorial Guinea and the Ivory Coast, to name a few.

*Photo credit: Viper Innovations*