



SMARTWATER



**PROTECTING THE
UK'S RAILWAYS
FROM CABLE THEFT**

www.smartwater.com





Executive summary:

SmartWater was contracted for an initial three year period (2010 – 2013) to reduce live cable thefts and delay minutes along Network Rail's London to North West (LNW) mainline.

Background

- Cable theft costs Network Rail and UK taxpayers up to £16m every year and is responsible for significant delays and disruptions to the network
- A lack of traceable evidence (the means to link cable thieves to the crime) has traditionally hampered the police's ability to arrest and prosecute. Criminals are all too aware of this, perpetuating the problem.

Methodology

- SmartWater's tried and tested strategy, known as The SmartWater Strategy™, was deployed to identify threats, target harden hotspot areas and influence both thieves and handlers of stolen goods
- This approach directly targeted the criminal fraternity, ranging from local petty thieves to highly organised gangs, positioning the LNW rail network as a risky and hostile place for them to operate.

Key results

54.7%: the reduction in live cable theft achieved by SmartWater, in partnership with Network Rail and British Transport Police on the LNW line (2010-13)

54.9%: the percentage of delayed minutes slashed on the LNW line (2010-13)

53: the number of arrests made on the LNW line as a result of SmartWater-related operations (2010-13).



Tackling the root of the problem:

The LNW line was being severely impacted by live cable theft in 2009, with overall minutes lost totalling 119,540.

In 2010 SmartWater was contracted for an initial three year period to target live cable thefts and minutes lost along the length of the line. SmartWater adopted an innovative approach that sought to:

- Provide traceability to live cable
- Heighten accountability amongst thieves
- Deliver criminal deterrence.

Turning the tables:

SmartWater and our partners, Network Rail and British Transport Police (BTP), identified that preventing live cable theft was intrinsically linked with the means to detect those responsible for its theft. Linking criminals to specific crime scenes allows for the circumstances of the crime, together with any resulting delays and repair costs, to be taken into account during sentencing. Heightening criminal accountability in this way ultimately influences their behaviour, creates fear in their mind and fuels deterrence. To aid this process the following steps were taken by SmartWater on behalf of Network Rail:

- Using Network Rail crime data, SmartWater analysts carried out a comprehensive risk assessment of the LNW line, identifying existing and emerging hotspots
- SmartWater's forensic marking technology was strategically applied to trackside cable within identified hotspot areas. Every kilometre of Network Rail cable received a different SmartWater forensic code – allowing stolen cable to be traced back to the nearest kilometre
- High visibility signage, alerting thieves to the presence of SmartWater, were strategically positioned alongside borders and entry points to the rail network.

Innovative tactics:

SmartWater, Network Rail and BTP collaborated on innovative tactics to influence criminal behaviour and maximise the impact of SmartWater as a deterrent, including:

- The deployment of covert cameras, to identify trespassers coming onto the rail network and provide real-time intelligence to our partners within BTP
- Regular visits to scrap yards to search for SmartWater marked metals, raise awareness and ultimately influence the buying behaviour of receivers, thereby making it more difficult for thieves to sell on SmartWater marked metals
- Equipping police stations with the necessary SmartWater detection equipment and providing training on the correct recovery procedures
- Localised advertising (leaflet drops) and utilisation of the media to heighten awareness
- Providing expert witness testimony to the criminal courts in pursuit of prosecutions.



Cutting cable theft:

As a result of this three year project, overall live cable thefts have been reduced by **54.7%** whilst delay minutes have been slashed by **54.9%**. Since the introduction of the Scrap Metal Dealers Act (2013), live cable thefts have been further reduced to **63.4%**, demonstrating that the Scrap Metal Dealers Act (2013) and SmartWater make a powerful combination. Furthermore, as a direct result of SmartWater operations on the LNW mainline, a total of 53 arrests were made in relation to attempted cable thefts on the route during the three year project.

The power of our convictions:

Demonstrating that SmartWater did not simply represent an empty threat was fundamental to generating a meaningful deterrent.

To achieve this it was necessary to secure the conviction of cable thieves and then maximise awareness of their conviction through the media. The most high profile example of this was in Nuneaton, where four men were arrested and ultimately convicted of conspiracy to steal cable from the railway infrastructure. George Brunozzi-Jones, Flame Redshaw, John Gowland and Dominic Wallis admitted to over 30 cable thefts from the rail network.

Though no stolen cable was ever recovered, traces of SmartWater that had been used to mark Network Rail cable were found on cutting tools, clothing and a vehicle belonging to the gang. These tiny fragments were sent for forensic analysis and ultimately linked the suspects to multiple crime scene. SmartWater scientists concluded that the traces of SmartWater had transferred from the marked Network Rail cable when it was cut by the thieves. The four men were sentenced to a combined 11 years in jail.



Testimonies

“OUR COLLABORATION WITH SMARTWATER HAS ENABLED US TO IDENTIFY CABLE THEFT RISKS AND TO RESPOND QUICKLY TO EMERGING TRENDS IN ORDER TO IMPLEMENT PROACTIVE MITIGATION PLANS, PARTICULARLY THROUGH TACTICAL DEPLOYMENTS. TOGETHER WE HAVE MANAGED TO PREVENT INCIDENTS AND TO SHUT DOWN ACTIVITY AT HOT-SPOT LOCATIONS, SPREADING THE DETERRENT MESSAGE THROUGH A VARIETY OF METHODS WHILST ALSO DELIVERING THE MOST EFFECTIVE WEAPON FOR CONVICTIONS – TRACEABILITY. DISRUPTION TO TRAIN SERVICES IN THE WEST MIDLANDS DUE TO CABLE THEFT IS REDUCING AND THAT IS GOOD NEWS FOR OUR OPERATORS AND OUR PASSENGERS.”

Liam Sumpster, Area Director, Network Rail

“CABLE THEFT IS A SERIOUS OFFENCE AND CAUSES TREMENDOUS DISRUPTION TO PASSENGERS AND GREAT COST TO NETWORK RAIL. THE WORK OF SMARTWATER AND BRITISH TRANSPORT POLICE IS ONE OF A NUMBER OF IMPORTANT METHODS WE ARE USING TO DEAL WITH CABLE THEFT. THIS ALSO INCLUDES BUILDING ON THE EFFECTIVE RECENT LOBBYING CARRIED OUT FOR LEGAL CHANGES REGARDING THE ACQUISITION AND DISPOSAL OF SCRAP METAL.”

Dyan Crowther, Route Managing Director, Network Rail

“THE LEVEL OF CO-OPERATION AND INTERACTION BETWEEN SMARTWATER, NETWORK RAIL AND BRITISH TRANSPORT POLICE WAS TAKEN TO ANOTHER LEVEL. NETWORK RAIL DOES A FANTASTIC JOB, AND I AM PLEASED WE WERE ABLE TO WORK SO CLOSELY WITH THEM TO HELP COMMUNITIES THAT ARE SERVICED BY THE LNW LINE. THE RESULTS SPEAK FOR THEMSELVES.”

Phil Cleary, Chief Executive, SmartWater

