
Metal Theft

– A guide to securing your business



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Metal theft: the facts

According to an estimate from the Association of Chief Police Officers (ACPO), metal theft costs the UK economy £770 million every year. Metals are frequently stolen for their extrinsic value, with the culprits using the raw materials to generate new products, often through illegal sales. The Government is doing its best to crack down on this growing crime; in 2011, for example, the Home Office set up a task force, led by the British Transport Police, to tackle metal theft with the help of a £5 million boost from the Treasury.

More recently, Operation Tornado was launched in the North East of England by the British Transport Police and is now making its debut across the UK. This initiative is particularly focused on catching criminals who are illegally selling stolen materials. It requires participating dealers to accept sales only from those who present proper proof of identity and to keep detailed records, thus helping to prevent the movement of stolen metal. According to the British Transport Police, this identification scheme has been said to halve the amount of metal theft in the North East of England. However, metal theft is still rife across the UK and new cases are regularly appearing in the news. Rather than solely relying on the Government to put a stop to this crime, property owners can make a difference themselves, simply by implementing the proper security measures.



64,193

Metal theft costs the UK economy the equivalent of **64,193** Ford Fiestas every year!*

*Source: Calculation based on Ford price list 2012 - Ford Fiesta Style 5 door 1.6 (£11,995).

So who's at risk?

Some people may believe that metal theft is only a common occurrence in properties like construction sites, where different metals are likely to be in abundance. This is not the case. According to figures from the Local Government Association (LGA), metal theft is believed to have affected over 90% of UK councils and has presented itself in a number of ways. Churches are one main victim of metal theft, particularly their roofs, which tend to be made of valuable metals like lead.

In fact, historic constructions tend to be common victims of metal theft. In Lambeth, metal from a war memorial was stolen and in the Isle of Colonslay an inscribed bronze direction plate at a national monument was removed. Even grave markers at cemeteries have found themselves in the hands of thieves and these opportunists seem to keep finding new ways to source valuable metals at the expense of the public.

Railway lines, motor signs informing drivers of accidents or diversions, schools and sometimes even phone lines have been affected by thefts or attempted thefts, ultimately affecting people's day to day lives. In fact, according to the British Transport Police (BTP), it is believed that

metal theft currently costs railways an estimate of £16,000,000 a year, not to mention the endless disruptions and delays it causes to the public. In a more optimistic light, current initiatives in place have been producing positive results, with the BTP recently reporting that between April and October 2012, there have been 51% fewer railway cable thefts across the UK than in 2011.

Despite these significant reductions, it is still extremely important to implement effective security measures so that these figures might one day reach 100%. While being aware of the risks is generally very important, understanding the preventative measures available can help put a stop to this crime.

Some solutions

Many member companies belonging to the British Security Industry Association (BSIA) have been working to find new solutions to the problem, and have found success in doing so. So, what are some of the resolutions available?

Physical security equipment is one solution. Known as the 'back bone' of security for any premises, there are many products available. These can include security fencing, security doors, audio systems and locks.



Case study

SitexOrbis is one member that has provided physical security equipment to vacant properties, another target for metal theft.

Their success: One Vision Housing, a social housing provider in Liverpool, suffered repeated thefts of boilers from vacant properties, with this crime occurring at least twice a week. Understandably, this was coming at quite a cost to the company and left them feeling uneasy about leaving their properties empty. They wanted to find an affordable product that was trusted by local police. SitexOrbis provided this solution in the form of remotely monitored video alarms.

These alarms were an ideal solution as they are battery operated and therefore easily installable and portable. They provide a series of silently

captured ten second video images whenever motion is detected, sending an instant transmission to an Alarm Receiving Centre (ARC) where trained operators then make the decision as to whether police should be notified. This not only ensures the safekeeping of properties but is also beneficial to the police, as they are not called out for false alarms. Since their installation, boiler theft at the properties has fallen from twice a week to none with some arrests being made. One Vision has estimated that this also means a cost saving of £1 million for them over the next four years.

• “Following these arrests, the word has
• obviously spread around the criminal
• network that we, in conjunction with
• the Police and SitexOrbis, are actively
• fighting boiler theft.”

• – Eric Wignall, Gas Manager at One Vision Housing

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Perimeter guards do not always have to be visible. In fact, some property owners could be apprehensive about this type of equipment as it may affect the image of the structure. This is especially true in historic buildings like churches.



Case study

Optex Europe is one member company that provides a solution to this specification, with their wireless virtual perimeters.

Their success: In Essex, two rural churches had lead stolen from their roofs, one of which had been a target numerous times and was facing replacement costs of £8000 each time. Many churches have had internal alarms installed, but this church in particular was keen to have their roof protected.

The detectors provided by Optex created a virtual perimeter that did not require any wires, which was particularly important to the church, as they did not want to install anything obtrusive. When an intruder crosses the perimeter, key holders are alerted and able to respond accordingly to the situation.

Optex detectors were also used at a recycling centre near Scunthorpe in order to protect plant machinery and diesel. The centre, 'Down to Earth,' specialises in recycling organic waste for use as soil conditioner for agriculture. Multiple detectors

have been installed at the site, and since then, with the exception of one case where youngsters were deterred by security officers, there have been no attempted break-ins.

- "We are extremely satisfied with the
- performance of the detectors and
- are in the process of expanding the
- system to include cameras."
- – Gary Millson, Director at Down to Earth

Another way to avoid false alarms set off by small animals or other disturbances is by installing motion detectors that rely on a certain amount of heat as a trigger.



Case study

GJD Manufacturing Limited is one member company that supplies this type of detection.

Their success: GJD partnered up with E-Bound, a designer and manufacturer of security equipment, to develop an electronic roof system that was developed as a way to deter thieves from stealing lead and copper from church roofs.

Since this co-development, over 350 of these systems have been installed on churches and heritage sites across the UK. This system is also wireless, and uses digital radio technology and passive infrared motion detectors to distinguish intruders. If heat is detected, an alarm will sound accompanied by blue strobe lights.

Alerts will then be sent to an ARC where action will be taken. The Diocese of Salisbury has praised these systems after metal theft decreased dramatically in Dorset, a hot spot for such crimes.



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CCTV can also be extremely effective in monitoring intrusions, particularly when integrated with alarm systems.



Case study

GB Security Group have developed a video verification intruder alarm system designed specifically for churches, which can be fitted to any vulnerable area of an infrastructure.

Their success: St Mary's Church in Whaplode wanted to take action against metal thieves in order to protect its lead roof. However, like many other churches, it did not want the historical value of the building to be compromised by the security system. GBSG provided the church with a solution – a system of nine completely wireless remote camera and detection units that they fitted to the church roof.

The detectors also incorporate a motion sensor, night vision digital cameras and infrared illuminators that light up when triggered to ensure that the video footage has sufficient lighting to capture the images. If the alarm is activated, the corresponding camera will record a ten second clip of whatever has caused the activation.

This is then transmitted via a mobile phone network to a monitoring station where

trained operators can react accordingly. The usage of a mobile phone network is also very helpful, as it does not require the installation of a telephone line, avoiding any installation damage to a building.

- “Due to an increase in enquiries from local churches requesting security measures and the resulting surveys carried out onsite, we developed the new system which offers many additional benefits including quick installation and no cabling as it is completely wireless and operates over the mobile phone network.”

- – Neil Jackson, GBSG Director



Case study

Cougar Monitoring is another BSIA member company, which has used CCTV and intruder alarms to fight metal theft.

Their success: CCTV monitoring operators at Cougar's 24 hours facility responded to an alarm activation at Dudley Safes in Dudley, West Midlands, after a thief used a skip lorry to ram the gates of the manufacturer in an attempt to steal a valuable skip full of metal worth £1,700.



The operators responded to the alarm activation and corresponding CCTV images by notifying the police, who arrived at the scene in less than five minutes and were able to block the thief's escape route with their patrol cars. The thief in question is currently awaiting sentencing for an array of charges.

- "We've used Cougar for our remote
- CCTV monitoring for a number of
- years now and have always been
- impressed by their efficiency and
- professionalism, but this incident really
- underlines their value to any business.
- We'd also like to say a big thank you
- to West Midlands Police, whose
- response time was superb."
- - Spokesperson for Dudley Safes



Another effective solution can be to mark your property with a forensic coding solution; this way stolen goods are rendered worthless with either their overt or covert markings. This also makes it easier for the police to identify stolen goods and return them to their rightful owners, subsequently allowing them to make criminal convictions with hard evidence.



When deciding upon a marking solution, however, it is important to be aware of the guidance available. Since much of the property that people mark is left outdoors – such as railway cables or lead piping – it is imperative that the forensic code is durable under multiple weather conditions. August 2012 saw the publication of a Publicly Available Specification (PAS) – PAS 820:2012 “Laboratory-identifiable forensic codes- Classification of performance when exposed to artificial weathering” which provides a method for assessing the performance of a forensic code and aims to overcome the difficulties that purchasers could encounter when considering the length of time a forensic code will continue to be identifiable.

The document was published by the British Standards Institution (BSI) and was commissioned and sponsored by BSIA member SmartWater Technology Limited.

BSIA members distribute a large proportion of the products in the UK that use forensic codes and with this in mind, the BSIA produced a short guide to assist potential readers of the PAS to understand the basics of the document and the relevance it may have to them. The PAS 820 is available to purchase on the BSI’s online shop, and the BSIA’s guide can be [downloaded free of charge here](#).

That being said, marking solutions have been extremely influential in the battle against metal theft.





Case study

SmartWater Technology Limited is one member company belonging to the Asset and Property Marking section of the BSIA, who have helped fight metal theft with their products.

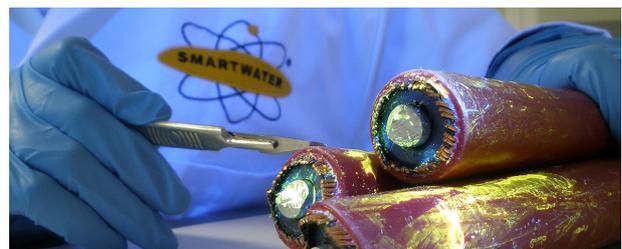
Their success: SmartWater has collaborated with various utility providers in order to drive down metal theft. One particular success has been within the railway sector, on the London to North West (LNW) mainline, where cable thefts have fallen by 21% over the last twelve months. This has also contributed to a 35% reduction in delay minutes along the route, which runs through major cities such as Birmingham, Liverpool and Manchester.

These statistics are a result of SmartWater forensic marking and its ongoing partnership with Network Rail, the British Transport Police, Train Operating Companies and law abiding scrap dealers. The trackside cable has been marked with a SmartWater chemical signature, identifiable by police whether it is found in the possession of thieves, or later on in scrap metal yards. A strategic approach was taken to this marking by identifying and tracking hotspot areas and deterring would-be metal thieves.

- “Cable thefts are directly responsible
- for a significant number of delays to
- our service, which has a knock-on
- effect of causing major disruptions
- to customers. Anything that helps to
- ensure our trains run on time is very
- welcome and so we are naturally
- delighted with these latest results”
- – Chris Gibb, Virgin Trains’ Chief Operating Officer

As well as serving as a successful deterrent to metal thieves, SmartWater solutions have helped lead to multiple arrests.

One notable feat was the arrest of a gang of four in Nuneaton, linked by SmartWater technology to multiple cable thefts. The men were sentenced for conspiracy to commit railway cable theft and admitted to more than 30 offences. They have been jailed for a combined 11 years between them.



Network Rail reported the cost of these thefts as amounting to £204,000 for repairs and compensation, along with 50 hours of delays and disruption to so many people. SmartWater’s solution was extremely vital in this case as no cables were actually found at any of the gang members’ properties. However, the cutting tools they had used to commit the robberies did have traces of SmartWater on them, linking them to several Network Rail sites and subsequently leading to their convictions.

- “This result sends a clear message to
- thieves who target our railway - we
- are on the case and will do everything
- in our power to catch you and bring
- you to justice.”
- – Jo Kaye, Network Rail’s Route Managing Director



As mentioned earlier, war memorials across the country have also fallen victim to metal theft. SmartWater has acknowledged this issue and has subsequently launched its In Memoriam 2014 project.

The SmartWater Foundation, in partnership with War Memorials Trust, has set up this national project in order to identify, record and protect Britain’s estimated 100,000 war memorials, to coincide with the upcoming centenary of the start of World War One in 2014. Thousands of custodians already dedicate much of their time to maintain monuments across the country, and In Memoriam 2014 will be asking volunteers to join in the effort to protect the history at risk.

• “In Memoriam 2014 offers a simple
• and free way for communities to
• protect their war memorials. It is
• stimulating a greater awareness and
• recognition of this unique aspect of
• our national heritage which will play a
• significant role in the next few years
• as the nation turns its attention to
• commemorating the centenary of
• World War One.”

• – Frances Moreton, Director of the War Memorials Trust

The SmartWater Foundation is donating enough SmartWater solution to mark every war memorial in the UK so that each sculpture and plaque may be assigned with its own state-of-the-art forensic signature, visible only under UV light. Anything marked with this solution can then be traced back to its rightful owner, and the thief linked back to the crime scene. Various notable figures, including David Cameron, Nick Clegg and Boris Johnson, have praised the campaign. Camilla, Duchess of Cornwall, is a patron of War Memorials Trust, and has also shown her support for the initiative by visiting the Royal Artillery Memorial at Hyde Park corner, where she marked it with SmartWater solution.





Case study

Selectamark, another member company belonging to the Asset and Property Marking section, also offers a variety of products that have been successfully used in the battle against metal theft.

Their success: **Selectamark** came up with some solutions to metal theft that can be implemented should a thief be successful. One such product is grease that can be painted on to areas of structures that are likely to be susceptible to theft. This grease is forensically coded and can successfully place criminals at the scene of a crime. If they have touched an area painted in grease their fingerprints will be left behind, and the grease also instantly transfers onto the hands and clothing of those who touch it, staying on the skin for up to two weeks.

• "The DNA forensic grease placed the suspect at the scene of the crime and as this case proves, it can lead to the prosecution of those who steal metal. We continue to deploy forensic grease to deter theft and burglary."

• - PC Reece Bigwood

Another Selectamark product has found success in Swansea, where the local council joined forces with the police and the Neighbourhood Watch to reduce metal theft in the city. Part of their battle involved the use of a tracer that authenticates the mark as a Selectamark product and identifies the registered owner of the equipment. This allows police to identify stolen property quickly and return it to the

owners. This tracer has also been used on portable variable signs by Mobile Traffic Solutions (MTS).

• "By marking our signs and batteries, we can deter thieves from targeting our signs and spare our customers any of the inconvenience that may be caused by such incidents."

• - Ian Borthwick at MTS.

A 'DNA dog' is another part of Selectamark's plans to stop metal theft. Jazz has been trained to locate Selecta markings on metals like copper, lead and aluminium. This is particularly useful in places like scrap yards where metal is piled high and locating stolen goods can be a lengthy process.



• "Jazz is a world-first. She has been trained to sniff out Selecta, which is a unique covert security marker being used by more than three quarters of UK Police forces to track down burglars, robbers and metal thieves and bring them to justice."

• - Mick Swindells, Home Office Police Dog Instructor



Case study

Another Asset and Property Marking member, **RedWeb Technology**, have been using one of their products to combat roadside metal thefts. According to the BBC earlier this year, over 950 drain covers were stolen in Birmingham in less than two years. This kind of theft poses a huge threat to all road users, including cyclists, motorists and pedestrians, leaving them vulnerable when on the roads, particularly in the dark.

Their success: Birmingham City Council teamed up with public service provider Amey to tackle this growing issue. The partnership, which manages and maintains all of the city's roads, used a forensic identifier provided by RedWeb Technology to mark the covers across the city. The identifier grease leaves a permanent mark, visible under ultraviolet light, on anyone who touches it, such as thieves. Stolen covers can also be easily identified under UV light as the grease contains a unique molecular code, traceable for up to six months. The grease has Police Preferred Specification Status and has been approved by the Association of Chief Police Officers.

• “We are delighted to announce that to
• date this year we have recorded a 50
• per cent decrease in metal theft. The
• crime reduction project was based
• on raising the issue in public and
• covert identification of the gullies using
• RedWeb Technologies grease at hot
• spot locations.”

• – DS Phil Butler, Force CID and Force Crime Reduction
• Team at West Midland Police



Case study

Securing your properties with high-quality lock systems is another solution to protecting your metals. **Kaba**, another BSIA member company, provide access control solutions that can restrict unwanted intruders from entering and stealing from properties.

Their success: One of Kaba's clients is Nexus, a company which plans, promotes and provides public transport in Tyne and Wear, covering 60km and carrying over forty million passenger journeys each year. In order to protect the metro system, and the vast amount of metals at risk, Nexus use a Kaba-manufactured 'master key' system. This has proved itself to be a reliable source of security for almost three decades and allows for a large array of locking solutions such as perimeter fencing, trackside pedestrian gates and restricted access to the train controls on the metro cars.



- “We have been a user of Kaba
- systems for nearly thirty years and
- our infrastructure needs are very
- much dependent upon a reliable and
- adaptable system”

• – Rob Helm, Nexus

The hidden costs of metal theft

Metal theft can be extremely costly, not just for the replacement of materials but also for possible insurance costs. BSIA member, **Vacant Property Specialists (VPS)** offers advice on how to avoid these costs, warning that if the metal is insured, “further costs could be incurred following a claim, as a result of a rise in premiums or lower cover for the same cost, by increasing the excess limits.” This happened to an occupied commercial property in the midlands that were a repeated target for lead theft. Over a few months, their claim costs for repair and replacement came to over £60,000. A “five-fold claim excess’ was then proposed by the insurance company, increasing the excess limit from £5,000 to £25,000 for each claim.

Insurers, however, can be open to working with their clients to find a solution and in this case referred the property owners to VPS for a thorough risk assessment. VPS assessed the property and made recommendations as to the installation of new security measures including wireless alarms, external siren boxes and external visual sensors. Since the risk assessment, the property has experienced several alarm activations but no breaches or damages. The police were alerted to each activation, which resulted in some arrests. In other cases the sound of the siren proved to be a successful deterrent to criminals. This means that the owners have kept their property intact, the insurers have not had to receive more claims and VPS had provided a positive service.

“Although VPS is well known for helping to keep vacant properties safe and secure until they are reoccupied, we are seeing an increasing demand for the same services in highly vulnerable occupied properties too.”
– Simon Alderson, Commercial Director at VPS

VPS recently met with representatives of the Home Office, Association of Chief Police Officers, Institute of Materials, and the Church of England to discuss ways in which the property industry can protect its assets, particularly buildings and construction sites, from the escalating crime of metal theft. Some solutions debated included improved recyclability, new metal composites, traceability deterrents or the use of alternative materials. VPS will also be releasing new technology in the near future which features a power cable theft sensor, designed to detect when the current has been disrupted, helping to reduce metal theft instances within vacant properties.



Selecting a supplier

No matter what security measures you decide upon, whether it be physical security equipment, CCTV, property marking or access control, it is most important to choose a professional provider. BSIA members represent the very best of the private security industry and are inspected to high quality standards ensuring that they will provide a reputable service.



To find a security supplier near you, visit www.bsia.co.uk/find-a-local-security-company

