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SOCIETY FOR TRENCHLESS TECHNOLOGY



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ISSUE 115

MARCH 2016

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FOR INDIVIDUAL NEWS SECTIONS THIS ISSUE:

CONTENTS PAGE [click here](#)

INDUSTRY, COMPANY AND INSTITUTION [click here](#)

PIPE JACKING MICROTUNNELLING ETC [click here](#)

IMPACT HAMMER TECHNOLOGIES [click here](#)

PIPELINE REHABILITATION [click here](#)

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# CURRENT ISSUE CONTENTS

(A full index of previous articles is available online click [here](#))



ARTICLES BY NEWS/TECHNOLOGY SUBSECTION	PAGE
<b>INDUSTRY, COMPANY AND INSTITUTION NEWS</b>	
BKP And RSM Reach Agreement <a href="#">link</a>	3
Ditch Witch To Showcase At bauma 2016 <a href="#">link</a>	4
Work Together To Reap The Benefits Of BIM <a href="#">link</a>	5
Changes At The Top For Steve Vick International <a href="#">link</a>	7
MTS UK At Bauma 2016 <a href="#">link</a>	8
<b>PIPE JACKING, MICROTUNNELLING, TUNNELLING &amp; AUGER BORING</b>	
Robbins EPB Surmounts Chennai Metro Challenges <a href="#">link</a>	9
<b>IMPACT HAMMER TECHNOLOGIES</b>	
Ramming For Railroad Culvert Keeps The Trains Rolling <a href="#">link</a>	10
<b>PIPELINE REHABILITATION</b>	
Lessons Learned In Flint Michigan Could Help In The UK <a href="#">link</a>	12
Non-Circular GRP Profiles Rehabilitate Sewer In Northern Netherlands <a href="#">link</a>	13
<b>ONLINE PIPE REPLACEMENT</b>	
Innovative Pipe Bursting For Rescue Rod Of South Africa <a href="#">link</a>	15
<b>ASSET MANAGEMENT AND SURVEY</b>	
UK First For Wellington's Oneline Surveys <a href="#">link</a>	16
Intelligent Surveying - Planning The Future <a href="#">link</a>	18
<b>UKSTT NEWSLETTER</b>	
UKSTT News <a href="#">link</a>	20
UKSTT Other News & Events <a href="#">link</a>	20
UKSTT Member News <a href="#">link</a>	22
ISTT Affiliate Society News <a href="#">link</a>	23
<b>EVENTS DIARY</b> <a href="#">link</a>	28

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# INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



## BKP AND RSM REACH AGREEMENT

**B**KP Berolina Polyester GmbH & Co. KG is delighted to announce that a successful agreement has been reached between BKP and RSM, appointing RSM as the exclusive distributor for the Berolina-Liner system within the U.K. The final agreement was reached in late autumn last year.

Mr Borje Persson, Exports Manager for BKP, commented that this agreement will further BKP's objective of consolidating its position as a leading provider of UV Cured CIPP sewer pipe rehabilitation solutions to the U.K.

With BKP's emphasis on delivering quality solutions at a competitive price, Borje added that this new agreement with RSM will seek to exploit RSM's equally strong reputation in the U.K. market for excellent customer service, short lead times for delivery of its products and services and priority on delivering value for money to all its clients. Founded in 2003 by Richard Davis, RSM has grown rapidly over the last 10 years, both in size and recognition, within the U.K. as a key supplier of products, services and systems into the pipe rehabilitation sector. Through this new agreement with BKP, RSM will be able to offer its customers, initially in the U.K. as well as selected export markets, all the advantages of the Berolina Liner system has to offer, with the assurance of many years of successful installations across global markets.

BKP Berolina has, since 1997, been producing and distributing UV cured reinforced CIPP liners. To date approximately 2,500 km of its WRc approved liners, ranging from 150 mm to 1,600 mm (6 in to 63 in), have been successfully distributed and installed in 39 countries across all five continents, worldwide.

BKP looks forward to a strong, fruitful and long term distribution partnership with Mr Davis and RSM, fully supporting RSM's stated vision of 'doing what we do best, leading the way in our approach to the industry, and bringing new ideas and solutions to the table'. Website: [www.bkp-berolina.de](http://www.bkp-berolina.de)



*Left to right: RSM's Tom Waddoups (HO - Key Accounts) and Richard Davis (MD), BKP's Lars Quernheim (MD) and Borje Persson (Exports Manager).*

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Akkerman develops, manufactures and supports quality pipe jacking, tunnelling, microtunnelling and guided boring equipment for the accurate installation of underground infrastructure for an extensive range of diameters and geology.



In-house developer and manufacturer of lateral cutters, high-speed drain cleaning equipment, pipe coating systems, collapsed liner removal, root and scale removal tools.



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# INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



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## DITCH WITCH TO SHOWCASE AT BAUMA 2016

Ditch Witch®, a Charles Machine Works Company, will be showcasing innovative equipment designed to help global, underground construction operators be more productive and confident on the job at the 2016 bauma event. Customer-driven equipment will be on display in Ditch Witch Booth B3-412 at the international trade fair center in Munich, between April 11 and 17.

Ditch Witch equipment making its bauma debut includes the new line of walk-behind trenchers and the Ditch Witch-exclusive OptiCut™ digging system, both designed to maximize customer ROI and optimise jobsite production and performance. Also new to bauma, the Ditch Witch organisation will feature its cost-efficient MR90 mud-recycling system, which offers the fastest setup time on the market. Other equipment on display for the first time in the European market will be the construction-grade SK752 mini skid steer, RT125 Quad ride-on trencher, and MV800 mud vacuum excavator.

In addition to the equipment portfolio, the new comprehensive Ditch Witch Certified Training programme will be showcased. Building on decades of experience providing on-site and classroom-style training, this new training program now allows novice underground construction operators to train online, in a dealership or on a mobile device. Conference attendees will have the opportunity to test the programme's horizontal directional drill (HDD) training simulator first-hand in the Ditch Witch booth.

Also on display will be the Ditch Witch HDD Advisor™, an industry-first, Web-based, HDD tool designed to help operators simplify and streamline HDD tooling configuration.

The full Ditch Witch bauma line-up will include the following:

- HDDs, specifically the AT30, AT60, JT25 and JT9
- MV800 mud vacuum excavator and MR90 mud-recycling system
- Variety of trenchers, including the C- and CX-Series walk-behind trenchers, and RT45 and RT125 Quad ride-on trenchers
- SK752 and SK850 mini skid steers, and R300 Zahn® tool carrier
- Genuine Ditch Witch parts, including HDD tooling and digging system parts

Ditch Witch underground construction experts with years of expertise will be available to answer any questions and help underground construction professionals address any pressing needs in Booth B3-412. Website: [www.ditchwitch.com](http://www.ditchwitch.com)



*The Ditch Witch MR90 mud recycler unit.*

# INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



## Work Together To Reap The Benefits Of BIM

Utilities need to work together and share information to get the maximum benefit from Building Information Modelling (BIM), water industry data expert Andrew Cowell told delegates attending the British Water BIM Conference in March.

Mr Cowell, engineering director of MWH and chair of BIM4Water, said: "Collaboration as well as competition is essential in reaping the full benefits of the introduction of BIM – which allows information management of projects and assets. He told delegates that although there was a lot of useful discussion taking place there is still a great deal of work to be done.

British Water provides the secretariat for the group BIM4Water, which holds regular meetings to discuss the implementation of Building Information Modelling.



*Delegates learn about developments in Building Information Modelling at the recent British Water BIM Conference.*

## DIGITAL REVOLUTION

Andrew Cowell said: "There are a number of industry bodies that are developing the application of BIM. If we could collaborate to harness this effort to improve the efficiency of the water sector that would be a powerful development. The application of BIM is part of the digital revolution. With the awareness and desire to collaborate we can deliver greater efficiency, however to do this we will need leadership to set the vision and humility to work together across the many disparate initiatives that are currently underway. This is a significant change from our current thinking where we believe competition through procurement is the primary route to a more efficient industry."

## BIM IN ACTION

Ninety delegates from the water industry, government bodies and academia attended the conference held at Aston Villa Football Club on 7 March, where speakers included representatives of industries which have already adopted BIM.

Simon Newton, Head of Engineering at London Underground, explained how using BIM allowed the transport network to anticipate increased demand, concentrate resources, improve efficiency and boost customer satisfaction.

Peter Vale, Engineering Information Manager at Thames Tideway Tunnel showed how BIM is being used to maximise the benefits of the £4.2 billion project.

Discussing practical applications within the water industry were Helen Samuels, Engineering Director of United Utilities, Adrian Goldspink, Business Analyst for Anglian Water and Paul Davison, Head of Water Capital Procurement for Northern Ireland Water.

Mark Enzer, Group Practice Manager, Mott MacDonald spoke of the potential of BIM to improve the management of ageing infrastructure. John Cox from Huber discussed how equipment

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# INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



manufacturers are getting ready to deliver product data.

David Hargreaves Technical Service Manager from MEPS explained how BIM is being used to ensure collaborative planning, while Paul Griffiths, Land & Property Manager of Ordnance Survey spoke about the future of digital mapping.

## OPEN STANDARDS

Conference Chairman Andrew Cowell said: "Building Information Modelling has huge potential to increase efficiency and customer service – however there is a need to share information and to consider adopting common and open industry standards.

Learning and collaboration will be important in realising the full benefits offered by implementing BIM in the water sector."

Marta Perez, Technical Manager of British Water said: "Events like this one help build understanding of BIM and supporting its implementation in the water industry. The introduction of BIM has the potential to allow the industry to work better, smarter and more efficiently. British Water is working to help bring clarity, consistency and homogeneity to manufacturers and service providers who face the need to make changes in order to move into a data-driven future."

## FUTURE EVENTS

British Water has a busy calendar of events throughout the year. Next up is an Innovation Exchange for suppliers wishing to work with Bristol Water, which takes place on 4 May 2016.

This is followed by SuDS in London, a collaborative event with Thames Estuary Partnership focused on sustainable drainage systems and the challenges faced by London planners and flood officers. This takes place on 27 May 2016. Website: [www.britishwater.co.uk](http://www.britishwater.co.uk)



*Graphic showing digital representation of Severn Trent Water's Frankly Lime Treatment Plant. Image courtesy of MWH.*

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**MARK DIMICHELE,**  
Owner, D & D Water & Sewer, Canton MI

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# INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



## CHANGES AT THE TOP FOR STEVE VICK INTERNATIONAL

Steve Vick International (SVI) is pleased to announce the appointment of Andy White as Financial Director and Katie Higgins as Sales and Marketing Director.

Since outgrowing previous premises and moving to Bradford on Avon in 2014, the company has continued to expand and show steady advancements in new sectors such as nuclear decommissioning, water, export and contract services.

To meet upturn in demand, the workforce has increased by over 20% in the last 2 years alone; which has contributed to the management restructure. The two new directorial appointments will help build on this momentum of expansion.

Over the past year, the company has seen huge growth in the usage of Live Mains Insertion (LMI) across all gas distribution networks (GDN). Further growth is expected as GDN's are starting to see the techniques primary benefits of reducing 'time off gas' and improving customer service.

Since its foundation in 1981, SVI has been at the forefront in developing innovative products and techniques for the trenchless repair, renovation and decommissioning of pipes. The business has continued to expand and develop and this year will celebrate its 35<sup>th</sup> year in business.

The company has won numerous accolades within these industries, most recently 'Company of the Year' at the EUA and IGEM Gas Industry Awards in 2015 and 'Best application of an innovative solution' at the Nuclear Decommissioning Authority (NDA) Supply Chain Awards.

## NEW APPOINTMENTS

Steve Vick International is delighted to announce the newly appointed Financial Director, Andy White, who joined the company in September 2015.

Andy will bring a wealth of experience to the role, having spent eighteen years in various financial positions in manufacturing and engineering companies, most recently as Head of Finance at a major international company where he spent the last twelve years.

In addition to his financial role and strategic input as a member of the board, Andy will be overseeing HR, IT and Commercial management.

After nearly 10 years of progressive roles within the company, Katie Higgins has been appointed as Sales and Marketing Director.

Previously Sales and Marketing Manager, Katie has built up an extensive knowledge of SVI products and specialist techniques used in the utilities sector. Most recently, the marketing department has launched a new user friendly website and modernised the companies branding. Katie has been instrumental in developing export business as well as overseeing the launch of new innovations, worldwide. As part of her new role, Katie will contribute towards company strategy and continue her work within business development as well as heading the sales and marketing department.

Following nearly 25 years of invaluable service as Joint Managing and Financial Director, Tony Day chose to retire in December 2015, but will continue to act as a Non-Executive Director. Having worked alongside Tony as Joint Managing Director for the past 5 years, Crock Harrison will now be solely responsible for the day to day management of the company, as Managing and Technical Director.

Having worked for the company for over three decades, Crock commented on the management restructure saying: "We welcome these two new additions to the board, which I am sure will help to continue our success both the UK business and growing export markets." Website:

[www.stevevick.com](http://www.stevevick.com)

*Two new appoints recently announced at Steve Vick International with Andy White becoming the new Financial Director and Katie Higgins taking up the role as Sales and Marketing Director.*



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# INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



## MTS UK AT BAUMA 2016

MTS Suction Systems UK Ltd, is pleased to be exhibiting Suction Excavation equipment at Bauma 2016 show, the world's largest construction exhibition. The show is in Munich between 11 and 16 April and MTS UK will be on stand FN.928/2 together MTS Mobile Tiefbau Saugsysteme GmbH, the German based manufacturer of the equipment.

As the UK subsidiary of MTS Mobile Tiefbau Saugsysteme GmbH, MTS UK will have two units on display at the show which highlight new developments within the MTS range.

These are the latest variant of the workhorse MTS DINO3 twin fan system mounted to a 26 tonne Scania 6x4 chassis together with a new City Dino unit which is a small footprint/high power system featuring the new MTS hydraulic power boom option.

Both machines will enter service after the show with UK based specialist Suction Excavation provider Pier UK Ltd. Pier is the UK's largest user of MTS equipment and is on the threshold of becoming Europe's largest user. The company is also currently believed to be Europe's largest exponent of the use of the small footprint City Dino Equipment.

MTS UK's Directors Russell Fairhurst, Frank Walther and Frank Gowdy will be on stand throughout the week and look forward to welcoming visitors from the UK and Ireland on to the stand at the show. Website: [www.mtssuctionsystems.co.uk](http://www.mtssuctionsystems.co.uk)



*The MTS Mobile Tiefbau Saugsysteme GmbH stand at the 2014 bauma event.*

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For General Information on Pipe Jacking, Microtunnelling & Auger Boring [click here](#)



## ROBBINS EPB SURMOUNTS CHENNAI METRO CHALLENGES

On 27 January, 2016, a Robbins mixed ground EPB broke through at Chennai Metro, finishing up a challenging second drive that saw the full gamut of difficult conditions. The 1,027 m long second drive for the machine was part of Lot UAA-01 on Line 1 of the city's metro, consisting of two parallel 1.0 km (0.6 mile) tunnels running from the Washermanpet area towards Chennai International Airport. Contractor Afcons Infrastructure Ltd. reflected on the breakthrough: "We are really proud of our executing team, who have maintained a high standard of quality. We did not record any water leakage or settlement at the surface, and we have demonstrated a high standard of safety in the tunnel during construction." said Mr. Gopal Dey, Sr. Manager for Afcons.



*The Robbins TBM, for contractor Afcons Infrastructure Ltd., was launched on its initial drive in January 2012.*

The 6.65 m (21.8 ft) diameter Robbins EPB was designed to excavate granite, sand, silt, and clay with boulders up to 300 mm (12 in) diameter. The specialised design utilised a combination of 17 in (430 mm) diameter disc cutters as well as soft ground tools. Small grippers located around the circumference of the machine's shield allowed for cutterhead stabilisation in harder ground, while additionally reacting the forces needed to pull the cutterhead back from the face in difficult conditions.

The TBM was launched on its initial drive in January 2012 from a 28 m (92 ft) deep starting pit. Challenges began nearly from the outset. The TBM bored into mixed face conditions that contained varying strengths of granite, from weathered to hard granite of 150 MPa (21,700 psi) UCS. The unexpectedly hard rock caused high cutter consumption rates and slowed advance.

A crew of Robbins Field Service personnel and engineers assisted Afcons in remedying the problem. Robbins India provided a geologist who carried out face mapping for the whole of the first drive, in both hyperbaric and open mode conditions on a daily basis. The data not only assisted the crew in operating the TBM, but also provided a comprehensive geological record for the second drive. With the data gleaned from the geological investigation, Robbins was able to advise Afcons on the optimal operating parameters to get through the difficult conditions, including cutterhead RPM, thrust pressure, penetration rate, and cutterhead torque. The parameters also resulted in a reduced cutter consumption rate.

Contractor Afcons was pleased with the help received. "The Robbins Field Service team extended very good services to us, particularly in the mixed face and full face rock when they deployed their Geologist for face mapping. This helped us to understand the strata ahead of us, and based on this the TBM advance rate and operating parameters were decided." said Mr. V. Manivannan, Executive Vice President for Afcons.

The TBM was launched on its second tunnel in February 2015. Conditions were just as difficult as the first drive, but now the team approached it with experience. "We experienced very high water pressure in this alignment, as the water table in Chennai is just 1.5 m (5 ft) underground and the strata above the crown included silty sand, clay and weathered rock. It was very important for us to maintain the earth pressure to reduce the inflow of water, and to avoid any settlement on the surface with proper grouting." said Dey. Despite the challenges the TBM was able to complete a section below the Koovam River without any water flowing into the tunnel. The machine achieved up to 12.6 m (41 ft) in one day and 62 m (203 ft) in one week.

The TBM broke through into a receiving shaft, utilising a unique setup for the second time that had the machine emerging under water. "These were the first breakthroughs in India under wet conditions in the retrieval shaft, which is 30 m (98 ft) below the ground level. The retrieval shaft was filled with Bentonite slurry 10 m (33 ft) from the base slab in order to arrest water entry from outside the diaphragm wall." explained Manivannan.

The completed sections of tunnel will now be commissioned as part of Line 1, a 32.1 km (19.9 mile) long route in total with 14.3 km (8.9 mile) underground and a total of 17 stations. The south eastern Indian city of Chennai is a rapidly growing technological and industrial centre with a population of more than 8.2 million people and a high need for alternate means of transportation. Website: [www.robbinstbm.com](http://www.robbinstbm.com)

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# IMPACT HAMMER TECHNOLOGIES

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## RAMMING FOR RAILROAD CULVERT KEEPS THE TRAINS ROLLING

As an underground trenchless technique for installing and replacing culverts, the pipe ramming method is often the most efficient and economical. At times it may be the only feasible option. Such was the case in a southern Illinois railroad culvert installation in flooded ground conditions.

CN Rail Line contracted HURK Underground Technologies of Grinnell, Iowa, USA, to install two 180 ft (55 m) long, 60 in (1500 mm) diameter culverts using pipe ramming method beneath the railway in Cairo, Illinois. The culverts were designed to relieve an existing, partially collapsed, 48 in (1,200 mm) diameter steel culvert with reduced capacity.

Work began in November. From the start Hurk was faced with daunting obstacles. For one, the jobsite was in extremely wet ground conditions far from the access road.

HURK's Jason Pollock, director of ramming operations on this project, said this was the most difficult ram projects the company had performed, both due to the size and length of the ram as much as to complications from sub-zero temperatures, inundated ground conditions, and unexpected obstacles inside the railway substructure.

The new casing consisted of 30ft (9 m) lengths of 0.875 in (22 mm) smooth wall steel pipe for new culverts set 2 ft (0.61 m) apart from each other at an elevation 40 ft (12 m) below the rail bed.



*Pieces of pier - the crew repeatedly encountered buried obstacles during both 180 ft (55 m) rams which had to be removed manually each time before pipe ramming could continue.*

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### *The crew begins restoration of finished installation.*

Staging the equipment and setting up the access pits was the first problem to overcome. Both sides of the roadbed were wetland areas. Only a mile-long (1.6 km) drive across cropland that Pollock described as 'soupy' could be used to get to the installation site. To get to and from the site, HURK used its tracked equipment to pull the company's trucks across the field on most days.

The surface of the railroad bed was about 40 ft (12 m) above the culvert insertion point. This jobsite scenario, known as 'high fill' or 'deep cut', is difficult to survey. The spot chosen for the installation allowed HURK to stage its equipment just above water. The soggy ground conditions, however, presented another problem. Once pumping operations started, six 190 gal/hour pumps ran continuously in the working pit for four months through to project completion.

The excavation's size allowed HURK to install both culverts from a single working pit. Each section of casing required the crew to attach the hammer to it, ram the pipe into the berm at about a 2% grade, detach the hammer, weld on the next section of pipe, reattach the hammer and continue ramming. Two welders could complete the root weld and fill passes on the large-diameter pipe to industry specification usually in less than five hours. Ramming progressed at about 6 in/min (150 mm/min) whilst the hammer was operating.

So when the progress stopped at the 90 ft (27 m) mark ramming the fourth length of pipe and would budge no further, even after 30 minutes of hammering, Pollock suspected the pipe had met an immovable obstacle. Continued ramming might damage the pipe or hammer. The crew stopped pipe ramming operations to detach the hammer and auger out the spoils in the pipe.

The pipe diameter permitted the crew to physically enter it to inspect the obstacle, which they discovered was a 5 ft (1.5 m) wide tree stump perfectly aligned to block the 5 ft (1.5 m) diameter pipe. The crew cleared the stump away from the pipe path piece by piece using small, electric chain saws. Shortly after pipe ramming operations resumed, progress once again halted. The hammer was removed, the pipe was augered out, and the crew crawled inside to see what the new obstacle might be. This time it was a wooden pier, the first of many discovered every 10 to 20 ft (3 to 6 m) from that point on. The piers were remnants of a bridge or train trestle that predated the berm.

After installing the two culverts, the HURK crew back-grouted the failed 48 in (1,200 mm) diameter culvert, and restored the working pit and tracks from vehicle and equipment transportation.

The project was completed in February. Although the obstacles HURK encountered doubled the time it took to complete the installation project, Pollock said an open cut installation would still have cost the project owner many times over what the pipe ramming operation entailed. Additionally, open cutting would have required closing this section of the line to rail traffic, adding the expense of rerouting cargo and preventing revenue from this line for an extended period.

Furthermore, rail bed restoration after an open cut operation is vulnerable to settling and consequent subsidence over time, requiring future maintenance and additional cost to repair the berm and rail bed at a later date.

In contrast, Pollock said, using the pipe ramming method permitted rail services to continue unimpeded throughout the entire four month project. The ground conditions of the berm and the integrity of the overlying roadbed were never disturbed. They have not been subject to further settling. Website: [www.hammerheadtrenchless.com](http://www.hammerheadtrenchless.com)

# PIPELINE REHABILITATION

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## LESSONS LEARNED IN FLINT MICHIGAN COULD HELP IN THE UK

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*The three stages to a completed epoxy coating with left: the original pipe, centre: the cleaned pipe and right: the lined pipe.*

It is very rare to find the issue of pipe corrosion at the centre of a national and international news story, but that is exactly what has happened in Flint, Michigan, USA where a disastrous series of events has left 100,000 residents with an unsafe water supply. Residents of the city have relied on bottled water for drinking and washing after improperly treated river water corroded the city pipework, leading to unhealthy levels of lead contamination. A state of emergency was declared in December 2015 and, according to the city mayor, the residents of Flint faced a US\$1.5 billion repair bill including the cost of replacing every lead pipe still in use across the city.

Happily no city in the UK is facing a drinking water crisis. In fact the European standard for lead has been tightened and now stands at 10µg/l. According to the Drinking Water Inspectorate (DWI), in 2014, there were just 84 failures at the tighter standard (10µg/l) in England, with 70 of these confirmed as being due to customer-owned pipes and plumbing in older housing.

However, there are an estimated 10 million homes across 22 utilities which are connected to the mains network by lead supply pipes. There are lessons to be learned from the Flint, Michigan disaster, both about the dangers of underestimating corrosion, and about the new technologies emerging which can help fix the problem of lead supply pipes and household plumbing for good.

### CHEAPER REPAIRS

Aquam Corp recently opened the European headquarters of its pipeline infrastructure business in Manchester, UK. The company's portfolio includes a suite of versatile pipelining technologies which could slash the cost of repairing the pipework of Flint and offer a speedier return to secure supplies for the residents.

Aquam has written to the US Environment Protection Agency to explain how its subsidiary Nu Flow's blown-in epoxy system could be used as a safe, long-term solution to protect the residents of Flint from the risk of lead contamination.

Nu Line was originally developed by the US Navy for protecting pipework on board aircraft carriers and has been adapted by Nu Flow for use in domestic drinking water systems and can be installed at one-third (1/3) of the cost of replacing pipes. Soon to be introduced to the UK, this tried and tested technology has been approved in the US for use in drinking water applications for over 20 years.

Authorities in Flint have already changed the way they treat the river water, adding chemical phosphates, which will, over time, coat the interior of cast iron water pipes, preventing further corrosion. However, the city authorities are now facing increased public pressure to identify, rip-out and completely replace all the remaining lead pipework in the water system which serves Flint. The suggested alternative, which would cut costs dramatically, would make it impossible for lead from pipes to leach into the system and would not require the active management of a purely chemical approach. Interestingly, similar technology which is also part of Aquam's portfolio, is already offering a cheaper way for UK utilities to maintain customer protection from lead in drinking water.



*Pouring the epoxy resin during the coating process.*

# PIPELINE REHABILITATION

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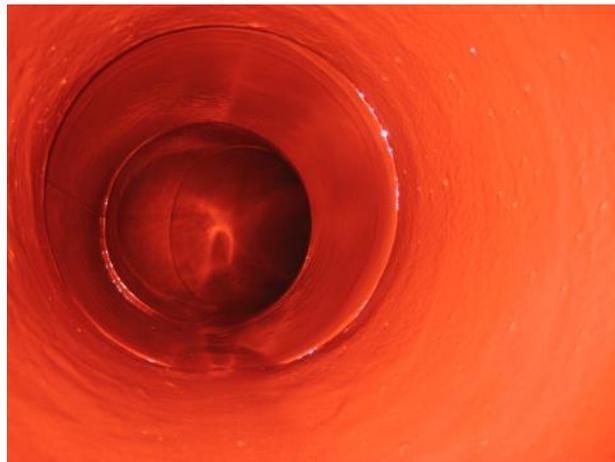


## EPOXY COATING

Aquam's Serline technology can be used on pipes of the smallest diameter, in the 10 to 300 mm range, so is suitable for customer-side supply pipes and even household plumbing. It has full Water Regulation Advisory Scheme (WRAS) and DWI approval.

Like Nu Line, the Serline process involves scouring the existing pipes to clear out corrosive deposits. Once the pipe is restored to its original diameter, a patented epoxy lining is blown through, which acts as a barrier between the metallic interior surface of the pipe and the water flow.

By using pipe lining technologies rather than a rip-out and replace, Aquam's specialist technologies make it possible to create a barrier between the drinking water and the existing lead pipework that completely prevents lead from leaching into the water system.



*Inside a pipe on completion of the lining process.*

## UK CONTRACT

Aquam has already been awarded a contract to reline lead supply pipes for 30,000 homes by a major UK utility using Serline technology, with negotiations underway with a number of other water suppliers and contractors.

Given the greater flexibility given to utilities in infrastructure investment decision-making in the current Asset Management Programme (AMP6), relining should prove a much more attractive option as water suppliers move to further reduce the lead content in potable water.

As the events in Michigan show, we ignore the possible consequences of corrosion and lead contamination at our peril, but new technologies could show a way through even the most challenging events. Website: [www.aquamcorp.com](http://www.aquamcorp.com)

## NON-CIRCULAR GRP PROFILES REHABILITATE SEWER IN NORTHERN NETHERLANDS

When in 2015, an old non-circular concrete sewer had to be rehabilitated in Groningen in the northern part of the Netherlands, HOBAS was able to provide a solution. In only three weeks and under challenging circumstances, the sewer pipeline was successfully renovated with egg-shaped GRP profiles.

Petrus Campersingel is a highly utilised road in the Dutch city of Groningen. It is used not only by cars but also by heavy traffic. This subjects the pipes and structures beneath the surface to particularly high loads. Amongst others services an old egg-shaped concrete sewer with a cross-section of 1,200/1,800 mm, which was found to be in need of renovation.

At first, the contractor considered rehabilitating the 277 m long sewer with a CIPP liner, but the corresponding safety factor revealed by the static calculation was too low. So GRP became the material of choice, and the contractor's reasons for using egg-shaped 1,000/1,500 mm HOBAS NC Profiles were manifold including: the fully customisable shape and dimensions, the resulting possibility to reduce the dimensions of the existing egg profile, the necessary strength to withstand groundwater pressures and traffic loads, and not least the products' long life expectancy.



*HOBAS egg-shaped profiles were able to provide a lining solution to rehabilitate a non-circular sewer pipe beneath Petrus Campersingel, a main route in Groningen in the northern Netherlands.*

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The construction works involved quite a few challenges. For example, road traffic access had to be maintained between 6 a.m. and 9 p.m., bicycle traffic was to be maintained around the clock. Furthermore, the soil next to the road was quite weak, and the existing shafts were basically inaccessible.

However, a good cooperation between all parties involved made it possible to tackle all challenges successfully.

The installation of the HOBAS NC Line Profiles was successfully undertaken from two access pits, one of them in the middle of the pipe route. After the installation of the first part of the pipeline, a GRP shaft with a temporary valve

was installed at this access point. The remaining NC profiles were then installed from the second access pit and the pipeline finished by connecting it to an existing concrete shaft.

During the installation, a visit to the project site was arranged by the city of Groningen together with HOBAS and the contractor BAM. Forty interested clients used the opportunity to experience at first hand how HOBAS NC Line Profiles are installed as a relining option.

The day was a great success and left the visitors positively impressed. Beginning of December 2015, the installation of the 277 m long pipeline was successfully finished after just three weeks work. The city of Groningen is very satisfied with the professional implementation of the project and the high quality of the new HOBAS NC Pipeline. Website: [www.hobas.com](http://www.hobas.com)



*The Groningen project created significant interest and during the works some 40 interested parties and potential users visited the site.*



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## INNOVATIVE PIPE BURSTING FOR RESCUE ROD OF SOUTH AFRICA

TT-UK has recently supplied Rescue Rod of Johannesburg, South Africa with the latest intelligent approach to pipe bursting equipment the GRUNDOBURST 400G system with the patented 'QuickLock' Rods. Rescue Rod specialises in drain, sewer and industrial pipeline surveying and cleaning services and continues to strengthen its core business by investing in the latest pipe bursting equipment from German manufacturer TRACTO-TECHNIK, via its sister company to TT-UK of Bedford, UK.



The GRUNDOBURST pipe bursting equipment was seen as a natural and innovative progression for its ever growing and successful business. By using advanced No-Dig methods to eliminate costly open cut excavations, the company is complimenting its already wide range of pipe cleaning and GRUNDODRILL HDD pipe installation services throughout South Africa.

Rescue Rod's additional purchase of this latest equipment was as a direct result of the company being awarded essential pipe renewal contracts by The Johannesburg Water Company. Rescue Rod's investment has been fully supported with comprehensive on-site training in February 2016 from TT-UK, to use the equipment cost effectively and safely.

After successfully completing 'live' on-site water main replacements in the area of Concorse Crescent, Lone Hill, additional steel pipe splitting tuition was also provided under controlled environment conditions within the workshop. This was in preparation for future brittle and non-brittle steel pipe renewal projects. Stuart Hawkins of Rescue Rod said: "Basically we are impressed with the speed of the operation due to the fact that the QuickLock rods are so easy to connect and release and there is no need for additional tools or struggling to loosen threaded rods. The telescopic docking system which enables the pulling of the pipe straight into the pit means there is no need to dig to release the tooling and pipe, so all in all a good, clean and safe operation!"

TT-UK's Roger Atherton added "With these positive results, Rescue Rod continues to look forward to the future as it is able to tackle any problem directly, whilst emphasising and focusing on eco-friendly solutions, with low environmental impact and less disruption to the existing infrastructure and community." Website: [www.tt-uk.com](http://www.tt-uk.com)

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## UK FIRST FOR WELLINGTON'S ONELINE SURVEYS

Ireland-based Underground Technical Services Ltd (UTS), the UK and Ireland dealer for Wiedemann enviro-tec, recently delivered a new Wiedemann recycler unit to Wellington-based Oneline Surveys Ltd in Somerset, UK. What is unique about the new unit for the UK is that it the first in the country to carry the Wiedemann SPUTNIK camera jetting system.

The new recycler, specially designed to Oneline's specifications, is based on the well-renowned Wiedemann SUPER 1000, one-tank sewer cleaning vehicle that is widely used across Europe. The Wiedemann SUPER 1000 delivered to Oneline was constructed at the Wiedemann site in Germany after careful and full consultation with Oneline's directors to fit precisely the function for which it is intended.

According to Mike Sheehy, managing director of UTS: "This is one of the most versatile recyclers on the market today with various configurations available. In this instance, the unit was specially fitted with the SPUTNIK system along with the full control and monitoring system that comes with it."

For Oneline Surveys Stuart Johnson, Managing Director said: "What makes the vehicle so versatile for us is that the addition of the SPUTNIK system to the new rig gives us the ability not only to complete the major high pressure pipeline cleaning operations that we have undertaken for a long time now, but we can also investigate and clean lateral connections that we come across during these operations."

This is the second SUPER 1000 unit purchased by Oneline, but the first with the addition of the SPUTNIK. Both recyclers are constructed on a Mercedes-Benz AROCS 480 HP chassis with an automatic gearbox and 6x2 rear steer with:

- A stainless steel tank with 9,000 litre sludge and 3,000 litre recycled water capacities.
- A fully automatic and continuous Wiedemann Recycling system.
- Emptying by tipping.
- A Wiedemann KW4000 Liquid Ring Vacuum Pump moving 4000 m<sup>3</sup>/hr (± 2,400 cfm) – an efficiency saving on this unit is that recycled water from the truck can be used in the vacuum pump rather than a fresh water supply being required.
- Suction hose reel with 20 m of 6 in (150 mm) diameter suction hose.
- A URACA Jetting pump providing 406 l/min at 175 Bar.
- Combined Suction and Jetting Boom with a large reel containing 240 m of 1¼ in (32 mm) diameter hose with automatic hose layering and meterage and a small reel containing 100 m of ½ in (12.5 mm) diameter hose with automatic hose layering. The Boom is telescopic and offers full 180o coverage around the rear of the truck.
- A Radio remote control with display screen.
- A Touch screen operation control panel with an integrated diagnostics system.
- A Winter operation option – to prevent pipes freezing.

- Other equipment including: An Automatic Greasing system; a Heated Clothes locker; hot and cold hand washing facility, Hose trays, sign and cone storage and storage cabinets; a Reversing camera and Lighting package and a Jetting Nozzle package.

*The Sputnik system is mounted on the rear of the vehicle. Left top: Stowed for transport. Left bottom: Extended for use. Right: Rotating the hose drum to steer the Sputnik head in the pipe.*



*The Wiedemann SUPER 1000 recycler unit delivered to Oneline Surveys in Wellington, UK.*



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The company also operates a Wiedemann Deep Suction Tanker with a 13,000 l sludge tank that is emptied by tipping, which utilises a Wiedemann KW3000 Liquid Ring Vacuum Pump that provides a flow of some 3,000 m<sup>3</sup>/hr (approximately 1,800 cfm) via its 30 m suction hose. The unit, which is based on a Scania 320 HP 6x2 rear steer chassis also offers a telescopic boom with full 180o coverage around rear of truck; a High Pressure system offering 75 l/min at 180 Bar; 100 m of ½ in (13 mm) diameter hose with automatic hose layering; Radio remote control with display screen; a winter operation mode, to prevent pipes freezing as well as other equipment.



*The Sputnik operators screen is also mounted to the rear of the vehicle.*

## SPUTNIK

The Wiedemann SPUTNIK nozzle system, also known as ‘The Flying Camera Nozzle’ is attached at the rear of the vehicle next to the main hose reel assembly. The unit is attached using a telescopic/travelling hose reel that allows the system to be operated independently of the main hoses reels whilst being adjacent to the recycling hose as and when needed.

The SPUTNIK system has its own control panel which allows operators to manoeuvre the Automatic Cable reel (with meter counter and 140 m of ¾ in (19 mm) diameter hose) to view, record, and add text etc. to the video during the cleaning/inspection operation.

The Jetting nozzle/High resolution camera module is constructed with Super bright LED lighting. This ‘flying’ nozzle utilises the cleaning jet, by varying pressure and direction (achieved by rotating the hose reel at the truck with a full 180o rotation capability), to clean and view the pipeline as well as ‘Steer’ the jetting head into lateral connections, even through multiple bends. This means that all operations within the main pipe and its laterals can be performed from one access point. The intuitive Steering function is controlled via the radio remote control unit used in operating the main vehicle. To aid this steering capacity the first 10 m of the jetting hose is a ½ in (12.5 mm) diameter section for flexibility.

The SPUTNIK system is also available with the SPUTNIK-FLOOR, a large floor cleaning nozzle with integrated camera. This nozzle is used in combination with the large hose reel for large pipe cleaning and desilting as well as viewing and recording the main pipe as it is cleaned.

UTS also offers various other nozzles and attachments for use with the SPUTNIK platform and further add-ons are currently under development such as remote office monitoring of operations to support trouble shooting and problem solving without the need to leave site.

For Oneline Surveys Stuart Johnson concluded: “The design and layout of the hoses and all systems on this truck are very safety orientated which is an absolute must for us. But even beyond that this unit will make our operations significantly more time and cost efficient at site, which has to be good for both ourselves and our clients as well as the public at large.”

For Wiedemann enviro-tec Marco Dammer, Managing Director said: “Using feedback from our customers that are currently operating SPUTNIK in various countries, we continue to develop new attachments for the SPUTNIK platform as we learn of different types of work that our customers would like to carry out with the system.”

In closing Mike Sheehy commented: “We at UTS see this potentially as a ‘first of many’. The versatility of the recycler system, a facility that is increasingly being called for by clients with pipes to clean, and the addition of the SPUTNIK that enables lateral work to be completed from the same set up as main line cleaning, brings a level of efficiency to the industry that has not been seen before in the UK. Once contractors see just how this will improve their productivity there will be no going back.” Website: [www.utsltd.ie](http://www.utsltd.ie) To view a Video of Sputnik in operation visit: [www.youtube.com/watch?v=OC8FAZYrSH8&feature=youtu.be](http://www.youtube.com/watch?v=OC8FAZYrSH8&feature=youtu.be)



*A rear view of the recycler showing the hose reel assemblies.*



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## INTELLIGENT SURVEYING - PLANNING THE FUTURE

The port of Felixstowe reached a colossal milestone back in 2014 becoming the UK's largest shipping container port handling over 4 million containers in a single year.

Thriving economies from the Middle East and Asia are fuelling the need for continual growth in the UK's shipping industry, which has brought a necessity to expand the UK's port infrastructure to accommodate increased trade and the ever increasing size of the container ships.

Bigger, faster and more efficient ships coming from these trade routes, some of which are capable of carrying over 15,000 containers, has led to the essential upgrade to the Port of Felixstowe increasing its storage capacity and the depth of the berths of the port.

To support this continued growth and future proof the Port of Felixstowe as one of the world leaders in the shipping industry, work has recently been commissioned to construct a new £300 million International Container Port located at the neighbouring coast of Harwich, capable of storing an additional 54,000 containers with an additional rail terminal capacity for another 462,000 per year.

While not directly forming part of this major upgrade, UK Power Networks have been tasked with the installation of a number of new 33 kV cables that will help supply the new developments of the future. Although the routing of 33 kV cables is nothing out of the ordinary, the obstacles contractors faced on this project were anything but.

The proposed cable routes consisted of crossing both the Stour and Orwell Estuary collectively by means of Horizontal Direction Drill (HDD). With a distance of 1.5 km for each cable on some of the busiest shipping lanes and public rights of way found in the world this project required the support of a specialist company with a wealth of experience in HDD planning and design.

To aid in the planning, design and installation of this mammoth project, specialist utility survey consultancy CATSURVEYS was appointed to ensure the scheme's success and to make sure that this approach was not only viable structurally and financially but also safely.

As with any new project, its overall success will often be determined early on in the planning phase. Initially armed with just a 'Proposed' line on a drawing, understanding the geology and geography of the area both on and below ground level was paramount for the team before any design work could be started. Initial steps involved organising wayleave agreements with affected stakeholders and gaining the relevant development consents in order to be able to commence the works, with much of the land being of historic and natural importance, consultations with a variety of different organisation were needed to safeguard the local wildlife, habitats and archaeology that was as of yet unknown.

Once agreed CATSURVEYS carried out a combination of Underground Utility Detection and Topographic Surveys at the location of each of the Launch and Receive pits to ensure the suitability and viability of each location prior to investing time and resources into an option that may have already been flawed.

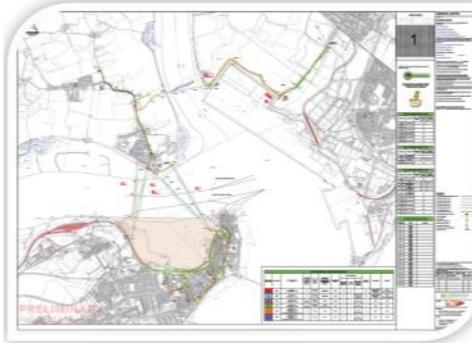
When confirmation of these positions was complete, work then began to compile factual information in order to produce each of the HDD profiles. Using a newly developed tracked mounted cable percussive drilling rig, a number of 40 m land boreholes were conducted at key positions around the launch and receive pits either side of the estuary to provide accurate geological and environmental information on ground make up and suitability for the future installations.

With the information gathered, the team were able to make required amendments and recommend solutions to the proposed cable route at an early stage before any installation had begun.

Chris Sugars, Project Manager for the project added: "Although this meant moving the position of the cable launch and receives pits on several occasions the decision to do this early on in the planning phase has reduced project time and expenditure."

With the relatively easy part of the project on land now complete, heads now turned to the

*Felixstowe, the UK's largest shipping container port handling over 4 million containers per year. Bottom the survey vessel used for the marine boreholes.*



*The port of Felixstowe survey.*

## SPONSORS LINKS

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# ASSET MANAGEMENT, MAPPING & SURVEY

For General Information on Asset Management, Mapping & Survey [click here](#)



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Geotechnical team to come up with an innovative method for surveying the yet uncharted Orwell & Stour estuary. Fraught with extreme dangers such as 4 m tidal effects, heavy marine traffic and frequent strong winds the team needed to find a solution that would enable them to undertake the required 30 m Marine Boreholes and Sonar Survey whilst ensuring safety for the team and the public when obtaining this critical data.

The solution ... A catamaran style vessel and a cable percussive drilling rig hoisted atop. This simple yet effective method enabled the team to maintain total control over the vessel and their rig at all times despite encountering some of the worst conditions the English weather could throw at them.

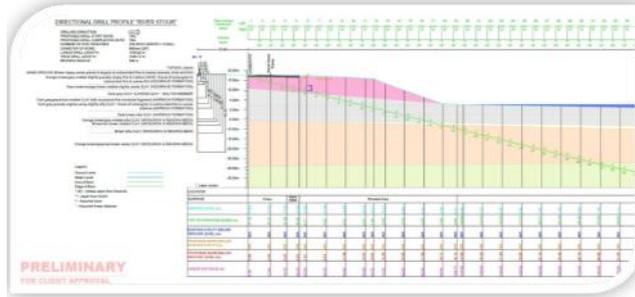
The data the team were able to collect helped understand the geology of this vast waterway in a way that was previously unimaginable.

Coupled with the latest Sonar survey technology available and CATSURVEYS was able to produce an accurate 3D model of what was effectively unknown, shedding light on the make-up of the sea bed and its depths.

When combined with the historical above ground data a 'clear path' can be determined for each cable and precise HDD profiles produced.

A planned approach to HDD design may not always provide you with the answers you want to hear however one thing that is for sure is that it will always provide you with the right answer, it is up to you as to how you act upon that information. "If you fail to plan you are planning to Fail" – Benjamin Franklin

To date the project has just entered the tendering phase for construction, with installation for the HDD cable routes either side of the estuary planned to start in early May 2016. Website: [www.cat-surveys.com](http://www.cat-surveys.com)



*Data collected from the land and marine bores enabled the HDD bore path to be calculated.*

# THE UKSTT NEEDS



Support the UKSTT - Join the Trenchless Army: [www.ukstt.org.uk](http://www.ukstt.org.uk)



UKSTT Camden House, Warwick Road,  
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T: 01926 513773 E: [admin@ukstt.org.uk](mailto:admin@ukstt.org.uk)



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Vibratory Ploughs.

## UKSTT NEWS

### UKSTT AWARDS AND GALA DINNER IN ASSOCIATION WITH WESTRADE

This year, in order to give the industry the celebration it rightly deserves, we are pleased to be able to announce the UKSTT Awards and Gala Dinner in Association with Westrade.

This event will fall in the middle of the No-Dig Live event on the Wednesday evening. It will be an exciting and unmissable evening, starting off with a Champagne reception and featuring great entertainment from the IT Girls, a live band and much much more. We believe the industry should make more noise about its achievements and through this event we hope to bring together the industry for a fantastic night highlighting the best of the best and establishing a focus point for the industry to build in the future.

This will be a chance to catch up with industry colleagues, to share ideas, anecdotes and stories from the past year, but most of all it will be a chance for the industry to kick off its shoes and have fun. Make sure you are there and get ready for the industry's biggest night out in the year.

The Gala Dinner will take place on Wednesday 21 September 2016 at The Marriott Hotel – The headquarter hotel for No-Dig Live 2016. Sponsorship opportunities are available – Please contact Paul Harwood at [pharwood@westrade.co.uk](mailto:pharwood@westrade.co.uk) or to book tickets or reserve a table, please contact Chantel Avis at [cavis@westrade.co.uk](mailto:cavis@westrade.co.uk)



### 2016 UKSTT AWARD ENTRIES - ITS NEVER TOO SOON TO SEND THEM IN!

The UKSTT Awards remain the only national awards celebrating the very best in Trenchless Technology in the UK. These awards offer contractors, manufacturers, engineers and young professionals the opportunity to showcase their work to the industry. There are 9 award categories with no restriction on the number of entries, allowing all businesses whatever their size or specialism to demonstrate their outstanding achievements.

New for 2016 is the 'Lifetime Achievement' Award recognising individual outstanding performances in the field of Trenchless Technology, and the 'Environment' Award recognising the reduced impact to the environment whilst using Trenchless techniques.

This year's independent judging panel will consist of contractors, clients and industry experts who are carefully selected to judge an award category to ensure there is no conflict of interest. All short-listed finalists and winners will be invited to attend the press stand the following day during No-Dig Live for a photo opportunity and will be featured in the UKSTT Newsletter, Drain Trader magazine and Trenchless Works.

The Young Engineer Award is awarded to the young engineer (<30 years) who can best demonstrate their contribution to the field of Trenchless Technology. The prize is a sponsorship of up to £2,000 which is used to fund travel and accommodation to any part of the world, to allow the winner to undertake further research into their chosen area of Trenchless Technology. A new Awards Entry form is currently being designed to allow easier online submissions. To find out more visit [www.ukstt.org.uk](http://www.ukstt.org.uk) or call Lynn Maclachlan on 01926 513773. All entries must be submitted by **1 July, 2016** to be eligible for inclusion in the Awards judging process.



### UKSTT UNIVERSITY OUTREACH CONTINUES

Friday 19 February saw the last of this year's UKSTT outreach lectures at Brunel University. A full day of pipeline engineering technical and awareness lectures, films, animations, and photos along with case study and tool box sessions kept the day moving along briskly as usual.

A few of the student survivors can be seen in the accompanying picture with guest lecturers John Derosa (Radius Pipe Systems) and Adrian Davis-Jordan (MWH) supported and co-ordinated for UKSTT by Peter Crouch (UKSTT Technical Secretary). As ever feedback was appreciative and positive.

Evina Katsou, the engineering co-ordination lecturer for Brunel wrote to thank the team stating: "I would like to thank you all for yesterday! The event was great and of high impact."



## OTHER NEWS & EVENTS

### NO-DIG Roadshow

I am pleased to advise you that, together with Westrade, UKSTT are holding a NO-DIG ROAD SHOW style event in Belfast on 8 March 2016. To register your attendance please contact Chantel Avis: [cavis@westrade.co.uk](mailto:cavis@westrade.co.uk)

### UTILITY STREET WORKS - NEW APPROACHES FOR CRITICAL INFRASTRUCTURE

Venue: Cavendish Conference Centre - Duchess Mews, London, W1G 9DT

UKSTT are supporting EUA's Utility Street Works seminar on the 16 March 2016. Website: [www.eua.org.uk/eua-events](http://www.eua.org.uk/eua-events)

### FLOOD EX

Held between 11 and 12 May 2016 at the Peterborough Arena, FLOOD EX is the trade event for flood defence and the water level management (WLM) sector looking at flood defence, prevention, mitigation and drainage. Website: [www.floodex.co.uk](http://www.floodex.co.uk)

# CIPP Lining Masterclass

**One day masterclass** comprehensively covering all aspects of CIPP lining including design, risk management and installation methodology. Additional aspects such as sectional and lateral CIPP will also be covered **plus much more!**

**CIPP  
Masterclass  
18th May  
2016  
BOOK NOW!**

Limited spaces available



**VENUE:**

**The National Motorcycle Museum**  
Coventry Road, Bickenhill, Solihull,  
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**DELEGATES: £150pp + VAT/person**  
10%Discount for UKSTT, FWA, PIG,  
NSA & EUA members.

**Full programme and list of speakers  
will be available shortly.**

**CPD points available on request.**

## MASTERCLASS

Following on from the success of last years Masterclass, UKSTT is holding another one-day conference covering 'Lining' on 18 May 2016.

Venue: Birmingham Motorcycle Museum, National Conference Centre, Coventry Road, Bickenhill, Solihull, West Midlands, B92 0EJ.

Fee: £150.00 pp (UKSTT members will benefit from a 10% discount) the cost includes a free visit to the motorcycle museum, lunch and refreshments.

For further information contact: Lynn Maclachlan: [admin@ukstt.org.uk](mailto:admin@ukstt.org.uk)

**NO-DIG LIVE 2016** - returns to Peterborough Arena, between 20 and 22 September 2016. Following the success of NO-DIG LIVE held in September 2014, the 13<sup>th</sup> biennial trenchless technology exhibition, outdoor demonstrations and seminars will return to Peterborough Arena, 20-22 September 2016. Website: [www.nodiglive.co.uk](http://www.nodiglive.co.uk)



## TOPIC OF THE MONTH

### Guided Auger Boring

Guided Auger Boring is an accurate method used to install a variety of pipe types and sizes, it is particularly favoured when a gradient is required, and therefore used mainly for the installation of gravity sewers where other trenchless solutions are not practical due to the gradient requirement. However other types of pipe can also be installed such as GRP, steel liners, or concrete/clay.

Auger Boring rigs need very little working area in which to work, and therefore have minimal impact on the public. This trenchless method can be very cost effective as opposed to traditional open cut works, where temporary works are required and possible road closures, and then reinstatement works. This combined with the accuracy of Guided Auger Boring makes it a very popular, proven trenchless solution throughout the industry.

The method used for Guided Auger Boring starts with a pilot bore driven to line, level and grade, accurate to +/-25mm over a 50 m bore length. A change over system is then put on with a thrust bearing followed by a cutting shoe, followed by a steel casing with an auger inside it. The spoil from the cutting of the ground continues down the flight of augers back to the working launch pit. This means the ground is fully supported at all times by the line of steel casings. When the cutting shoe is drilled through to the reception pit, the augers are retrieved back to the launch pit leaving just a line of steel in the ground. An adapter is then added to the steel casing which allows the pipe to be pushed in 1 m lengths. As each 1 m length of pipe is pushed, 1 m of steel casing is taken off in the reception pit until there is just pipe left in the ground at an accurate line, level and grade.

Auger boring machines include a PBA 40 which will install up to a maximum pipe outside diameter of 530 mm, a PBA 85V which will install up to a 630 mm pipe outside diameter or a PBA 155 which will install up to a 1,016 mm pipe outside diameter. (Copy provided by Trenchless Solutions Ltd., Barnsley, UK Website: [www.trenchlessolutions.co.uk](http://www.trenchlessolutions.co.uk))



## MEMBERS NEWS

### PMP ROPE ACCESS APPOINTMENT

Originally founded in 1983, PMP Utilities has over 30 years' experience of safe working in high risk confined spaces; providing bespoke engineering solutions and becoming renowned for its ability to generate new and innovative solutions to often complex and difficult, 'one-off' mechanical engineering problems.

To ensure that PMP continues to meet and exceed its clients' expectations the company have recently appointed Mark Ives as Head of PMP's rope access team.

The use of rope access methods improves the safety and speed with which the teams can get to or from difficult locations and then carry out their work, often with minimal impact on other operations and the nearby area. The combination of rope access, engineering and confined space work and rescue expertise, provides a single sourced solution; reducing both the interface a client has to manage and the risks associated with any project.

Mark Ives, an IRATA Level III Rope Access Supervisor has over nine years' experience within the oil and gas industry, where safety is absolutely paramount. The continued monitoring to ensure a safe system of work is established and maintained, is mirrored within PMP's utility engineering works, evidenced through PMP's 15 year zero RIDDOR score.

Mark joins PMP's well established Rope Access Team, with responsibility for above and below ground engineering and rescue projects that require the use of ropes. Mark will also be able to advise clients on the benefit of using rope access techniques, across a variety of disciplines. If there any projects where you think rope access could be a requirement, please do get in touch.

Website: [www.pmp-utilities.co.uk](http://www.pmp-utilities.co.uk)



### DEEPEST EVER SHAFT SURVEYED WITH HIGH-TECH PANORAMO SI CAMERA

A Lanes Group team has carried out its deepest ever survey of a sewer ventilation shaft using the company's revolutionary Panoramo SI camera. It took less than an hour to complete a full inspection survey of the shaft on Brighton seafront which was 21.5 m deep and 900 mm wide.

The IBAK Panoramo SI camera, thought to be the only one of its kind in the UK, generated a 360° high resolution image and a pinpoint accurate three-dimensional scan of the inside of the shaft.

It was the deepest shaft that Lanes Group, one of the UK's leading independent drainage and asset maintenance solutions providers, has surveyed using the equipment to date.

The brick-lined shaft ventilated a 2.1 m diameter combined sewer under the A259 Marine Parade close to the centre of Brighton, in East Sussex.

Paul Purton, Surveying and Technical Manager for Cappagh Browne Utilities, which commissioned the work, said: "The survey went very well. Lanes Group's Panoramio SI camera did an impressive job, and solved a lot of problems for us. It allowed the survey to be carried out safely and quickly, and it provided us with excellent images and data to assess the condition of the shaft. Carrying out a confined-space entry was not feasible, because of health and safety considerations, and because the shaft was too deep and too narrow. As such, the Panoramio SI represented the optimum solution, both in terms of the results achieved and cost-effectiveness."

The Panoramio SI survey was carried out by Lanes Group CCTV drainage survey engineer Phil Wild and his assistant Kevin Hughes. Phil Wild said: "The Panoramio SI handled the task easily. It has 100 m of cable which allows us to use the equipment on manholes where access is difficult. Therefore, though this is the deepest shaft we have surveyed to date, the Panoramio SI could be used on even deeper ones. We can complete a survey in less than an hour. Most of that time is taken up configuring the software. For this project we were on site for just 90 minutes. The shaft was in the middle of a dual carriageway, but we were able to complete the work with no disruption to traffic. The only alternative for deep shafts like this would be a confined space entry, which takes significantly longer with a larger team."

Lanes Group's Panoramio SI can be used for surveying vertical chambers and shafts of 300 mm diameter and above. It has two high-definition, digital cameras fitted with distortion-free, wide-angle lenses which complete a 360° scan of structure interiors in seconds, with all data captured in one pass. Website: [www.lanesfordrains.co.uk](http://www.lanesfordrains.co.uk)



## ISTT AFFILIATED SOCIETY NEWS

### TRENCHLESS ASIA 2016

The 8<sup>th</sup> event in this series and for the first time will be held in Kuala Lumpur at the Convention Centre in May 2016. Further information can be found at [www.trenchlessasia.com](http://www.trenchlessasia.com)



**NO-DIG MOSCOW** is being held between 26 and 28 April 2016 at the Exhibition Center VDNH, Pavilion 75 - Moscow - Russia. For updated information please visit [www.nodig-moscow.ru](http://www.nodig-moscow.ru)



### ISTT'S 34<sup>TH</sup> INTERNATIONAL CONFERENCE & EXHIBITION - INTERNATIONAL NO-DIG BEIJING

Between 10 - 12 October 2016 at the National Agriculture Exhibition Centre, Beijing, China. Website: [www.westrade.co.uk](http://www.westrade.co.uk)



Don't forget! UKSTT members are entitled to access the services on the ISTT website including free downloads of technical papers and reports from the Technical Resource Centre TRC. Please contact [admin@ukstt.org.uk](mailto:admin@ukstt.org.uk) for your password.



# WHY UKSTT?

## Without members trenchless technology would be in a hole!

Supporting the UKSTT helps to promote trenchless technology to Local and National Government, enabling them to minimise utility disruption. The UKSTT also promotes advanced trenchless techniques to the Utility industry through education programmes, technical seminars and networking.

Join us now - call: 01926 513773 or email: [admin@ukstt.org.uk](mailto:admin@ukstt.org.uk)




Support the UKSTT - Join the trenchless revolution: [www.ukstt.org.uk](http://www.ukstt.org.uk)



# NO-DIG LIVE 2016



20-22 September 2016

Peterborough Arena, East of England Showground, Peterborough, PE2 6XE

The UK's only event dedicated to trenchless technology  
The thirteenth biennial trenchless technology exhibition,  
outdoor demonstrations and seminars.



[www.nodiglive.co.uk](http://www.nodiglive.co.uk)

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# Trenchless Romania

Conference & Exhibition

## Why dig

when there are trenchless solutions?

18 May  
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# INTERNATIONAL NO-DIG BEIJING 2016

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# EVENTS AND MEETINGS



## 2016

April 11-17

**Bauma 2016** - Munich, Germany

Details from: [www.bauma.de/en](http://www.bauma.de/en)

April 12-14

**No-Dig Poland 2016** - Kielce - Cedzyna, Poland

Details from: [www.nodigpoland.pl](http://www.nodigpoland.pl)

May 9-10

**Trenchless Asia 2016** - Kuala Lumpur, Malaysia.

Details from: [www.trenchlessasia.com](http://www.trenchlessasia.com)

May 11-12

**FLOODEx** - Peterborough, UK

Details from: [www.floodex.co.uk](http://www.floodex.co.uk)

May 18

**UKSTT MASTERCLASS** - Lining - Solihull, UK

Details from: [admin@ukstt.org.uk](mailto:admin@ukstt.org.uk)

May 18

**Trenchless Romania** - Bucharest, Romania

Details from: [www.trenchless-romania.com](http://www.trenchless-romania.com)

May 18-19

**Trenchless Technology Road Show** - Niagara Falls, Canada.

Details from: [www.catttrenchlessroadshow.ca](http://www.catttrenchlessroadshow.ca)

May 30-June 3

**IFAT** - Munich, Germany.

Details from: [www.ifat.de/en](http://www.ifat.de/en)

June 27-29

**Urban Water 2016** - Venice, Italy

Details from: [www.wessex.ac.uk/conferences/2016/urban-water-2016](http://www.wessex.ac.uk/conferences/2016/urban-water-2016)

August 20-21

**2016 International Symposium on Advances in Materials Science (IAMS 2016)** - Shanghai, China.

Details from: [www.iamsconf.org](http://www.iamsconf.org)

September 6-9

**Urban Underground Space & Tunnelling Asia Summit 2016** - Singapore.

Details from: [www.equip-global.com/urban-underground-space-and-tunnelling-asia-summit-2016](http://www.equip-global.com/urban-underground-space-and-tunnelling-asia-summit-2016)

September 20-22

**No Dig Live 2016** - Peterborough, UK

Details from: [www.nodiglive.co.uk](http://www.nodiglive.co.uk)

October 10-12

**International No-Dig Beijing** - Beijing, China.

Details from: [www.westrade.co.uk](http://www.westrade.co.uk)

## 2017

March 28-31

**Wasser Berlin International** - Berlin, Germany

Details from: [www.wasser-berlin.de/en/](http://www.wasser-berlin.de/en/)

December 6-7

**STUVA Expo 2017** - Stuttgart, Germany.

Details from: [www.stuva-expo.com](http://www.stuva-expo.com)

If you have an event, course or meeting scheduled and would like to add it to this listing please forward details to: [ian@nodigmedia.co.uk](mailto:ian@nodigmedia.co.uk)