

TRENCHLESS WORKS

THE ON-LINE NEWS AND INFORMATION SERVICE
FOR THE TRENCHLESS INDUSTRY.

MEDIA PARTNER OF THE UNITED KINGDOM
SOCIETY FOR TRENCHLESS TECHNOLOGY



AND SUPPORTING THE AIMS AND OBJECTIVES
OF THE INTERNATIONAL SOCIETY FOR
TRENCHLESS TECHNOLOGY (ISTT)

ISSUE 93

MAY 2014

SPONSORS LINKS

HAMMERHEAD ADDS FOUR NEW MOLES TO RANGE

Click for [link](#) to Story



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.

TORO and American Augers Directional Drills Auger Boring Equipment Tooling & Drill Rods



Drilling Fluids Recycling & Mixing Systems Moles & Bursters Digital Location Equipment

[T A Drilling](#)



[U MOLE](#)

Supplier for hire or sale of: Vac Ex, Mole & Rammers, Bursting, Coil Trailers, SBU's and Accessories



[Hammerhead](#)

Hammerhead piercing, bursting & ramming products are used by contractors worldwide to install or replace fibre, communication, water, sewer and gas lines with minimal disruption to landscapes, structures and traffic flow.



[CIPP GLOBAL](#)

Providing independent pipe renovation services including: International Training, Hire, Consultancy and a Global Skills Network

[ER TECHNICAL SERVICES](#)



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](#)

ONLINE PIPE REPLACEMENT [click here](#)

ASSET MANAGEMENT & SURVEY [click here](#)

SUPPORT EQUIPMENT AND ACCESSORIES [click here](#)

EVENTS AND MEETINGS [click here](#)



For the latest
NEWS [click here](#)

CURRENT ISSUE CONTENTS

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



ARTICLES BY NEWS/TECHNOLOGY SUBSECTION	PAGE
---	-------------

INDUSTRY, COMPANY AND INSTITUTION NEWS	
TRACTO-TECHNIK Offers New Trenchless Solutions At IFAT link	3
ER Systems Open Day link	4
Ham Sewer project takes UKSTT Large Renovation Award 2013 link	5
More Herrenknecht TBMs For China link	5
PIPE JACKING, MICROTUNNELLING, TUNNELLING & AUGER BORING	
Guided Boring Completes Multiple Crossings Beneath The Úslava River link	6
Robbins Trio Make Multiple Breakthroughs In Malaysia link	8
IMPACT HAMMER TECHNOLOGIES	
HammerHead Adds Four New Moles To Range link	10
PIPELINE REHABILITATION	
Refurbishing Liverpool's Wastewater Treatment Works link	12
ONLINE PIPE REPLACEMENT	
Pipe Burst Application Good News For Wessex Water link	15
ASSET MANAGEMENT AND SURVEY	
Taking Pipe Inspection Systems Off-Road For Pipeview link	16
Introducing Opera DUO to the UK link	18
SUPPORT EQUIPMENT, ACCESSORIES & SERVICES	
HammerHead to distribute Picote Cutting systems link	19
UKSTT NEWSLETTER	
UKSTT News link	20
EVENTS	
Educational Programme Takes Shape For No-Dig Live 2014 link	23
International No-Dig Madrid 2014 link	24
EVENTS DIARY link	28

SPONSORS LINKS



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.

TORO and American Augers Directional Drills Auger Boring Equipment Tooling & Drill Rods



Drilling Fluids
Recycling & Mixing Systems
Moles & Bursters
Digital Location Equipment

[T A Drilling](#)



U Mole
Trenchless & Vacuum Specialists

[U MOLE](#)

Supplier for hire or sale of:
Vac Ex, Mole & Rammers,
Bursting, Coil Trailers, SBUs and Accessories



HAMMERHEAD
TRENCHLESS EQUIPMENT

[Hammerhead](#)

Hammerhead piercing, bursting & ramming products are used by contractors worldwide to install or replace fibre, communication, water, sewer and gas lines with minimal disruption to landscapes, structures and traffic flow.



CIPP GLOBAL
GLOBAL SKILLS NETWORK

Providing independent pipe renovation services including:
International Training, Hire, Consultancy and a Global Skills Network

[ER TECHNICAL SERVICES](#)



**To submit editorial for Trenchless Works Issue 94
please email copy and pictures to:
ian@nodigmedia.co.uk by 10 June, 2014**

For TW Sponsorship and advertising rates click [here](#)

INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



TRACTO-TECHNIK OFFERS NEW TRENCHLESS SOLUTIONS AT IFAT

The IFAT exhibition in Munich has turned out to be very satisfactory for TRACTO-TECHNIK. The trade visitors were especially interested in the TT boring systems for the renewal/rehabilitation of pipelines. These include the pipe bursting technology with its numerous application variants for pipe renewal as well as auger boring technology for the new installation of pipes out of manholes. It was also news to many visitors that the GRUNDOMAT soil displacement hammer can be used for renewing property service connections. But, the centre of attention was the new TT-PipeREDUCER. The TT pipe reduction method means a PE pipe string with reduced diameter can 'close-fit' inside an old pipe whilst being pulled through the host pipe.



Application of the GRUNDOPIT Keyhole technology. The boring process is monitored using the walk-over technique. (Source: SWG Grenchen, Switzerland)

A further highlight was the GRUNDOPIT Keyhole technology. A keyhole is a small, circular construction pit that is dug out using a suction excavator with minimal surface disruption. For underground infrastructure work the fully automatic GRUNDOPIT K bore rig is mounted inside the keyhole. Property service connections of all kinds can then be established in a cost-efficient and environmentally sound manner. The keyhole itself can also be used for the inspection of pipelines and for repairing or renovating existing gas and water pipes. Network operators, customers and road authorities have recognised the benefits of keyhole technology by way of remarkable cost savings and significantly reduced installation times. The implementation of trenchless keyhole technology in practice was supported by the DVGW (German Association for Gas and Water) via a research project including pilot jobsites as well as a series of national and international expert lectures. The expected cost advantages compared to open trench methods have been proved at numerous test jobsites.

Currently TRACTO-TECHNIK provides a complete portfolio of machines and equipment for the renovation, renewal and new installation of supply and sewage pipelines from the main pipe up to the service connection in the house. Website: www.tracto-technik.com

SPONSORS LINKS

Click Name for website access



ONSITE/PERCO
No-Dig contractors for: Sewer installation, renovation & maintenance including CIPP, Structural, Infiltration & Connection linings; Patch repairs; CCTV pipe inspection and assessment; pipe cleaning, flow monitoring; Auger boring; HDD; Microtunnelling; Shaft Sinking; Headings; Lateral Cutting; Pipe Bursting; Sliplining & Consultancy



McElroy
McElroy Manufacturing is the leading manufacturer of polyethylene pipe fusion equipment and provider of customer-driven solutions to PE engineers and contractors worldwide.



Steve Vick International

Developing and marketing techniques for the repair, replacement and decommissioning of underground pipes, for over 30 years, including Pipe Coil Trailers, Pipe Handlers and Pipe Crackers.



AKKERMAN
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.



Innovators in Trenchless



GRUNDOMAT
Soil displacement hammers



GRUNDODRILL
HDD systems



GRUNDORAM
Steel pipe rammers



GRUNDOBURST
Static pipe bursting systems



GEODRILL
Geothermal bore rigs



GRUNDOPIT
Steerable bore rigs



TRACTO-TECHNIK GmbH & Co. KG · P.O. Box 4020 · D 57356 Lennestadt
Phone: +49 2723 808238 · Email: export@tracto-technik.de · www.tracto-technik.com

INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



ER SYSTEMS OPEN DAY

ER systems celebrated 15 years of supplying pipe rehabilitation materials and equipment by holding an open day for existing and new customers at its new wet out facility in Wakefield. The event was attended by companies such as Reline Europe, RS technic, Applied felts, Trelleborg, PICOTE, Quick lock, Flexseal, Flow Plant, Brawoliner and Minicam and proved to an innovative showcase of the best rehabilitation materials and associated equipment, it was also a great opportunity to see demonstrations and new equipment.

The Hog Roast went down extremely well with all who visited and the comments from those visiting generally agreed that this was a nice way to see the latest technology in a close-knit show with out too many distractions. Greg Guest from Minicam and Mark Preston from Flowplant commented on the amount of quality visitors and the success of the show. New customers who came realised that ER systems is expanding its portfolio and offering more services and equipment than ever before.

The event was also also a great opportunity to launch the company's new partnership with Reline Europe in UV cured liners and installation equipment. Firmino Barbosa Reline Europe's international sales manager was on hand to explain the features and benefits of UV lining and the equipment. He also highlighted the fact that Reline Europe will be holding a stock of the most popular sizes in the UK which will be seen as an added benefit to UK installers.

All-in-all the event turned into a great day for ER Systems and the team in supplying outstanding quality service and support for pipe rehabilitation materials and equipment. Website: www.drainagematerials.co.uk



Visitors at the ER Systems Open Day see a wide variety of pipeline rehabilitation options presented.

HAM SEWER PROJECT TAKES UKSTT LARGE RENOVATION AWARD 2013

UKDN Waterflow's Ham sewer project was named best of the best at the United Kingdom Society for Trenchless Technology (UKSTT) 2013 awards. UKDN Waterflow scooped the 'Large Renovation' award for the unique strengthening project, which saw Crossrail Tunnel Boring Machines passing within 500 mm of the Ham sewer, a major arterial pipe serving East London.

Providing water, wastewater, drainage and infrastructure solutions to homes and business throughout the country UKDN Waterflow was presented with the prestigious award for the HAM sewer project at the event held in Birmingham on 16 May 2014. The industry awards, now in their 20th year, were revealed by TV presenter and naturalist Chris Packham.

The UKSTT awards recognise the outstanding contributions made by

CELEBRATING 60 YEARS OF INNOVATION

In 1975, the first McElroy MegaMc[®] machines were introduced to the market to meet the growing demand of 36" pipe usage. Today, McElroy offers a complete line of MegaMc machines for pipe sizes from 8" IPS to 65" OD that are used around the world on the largest diameter jobsites. See the entire line of fusion machines, productivity accessories and quality assurance tools at www.mcelroy.com

McELROY

MegaMc and MW are registered trademarks of McElroy Manufacturing, Inc. All Rights Reserved.

SPONSORS LINKS

Click Name for website access



[ONSITE/PERCO](http://www.onsiteperco.com)

No-Dig contractors for: Sewer installation, renovation & maintenance including CIPP, Structural, Infiltration & Connection linings; Patch repairs; CCTV pipe inspection and assessment; pipe cleaning, flow monitoring; Auger boring; HDD; Microtunnelling; Shaft Sinking; Headings; Lateral Cutting; Pipe Bursting; Sliplining & Consultancy



[McElroy](http://www.mcelroy.com)

McElroy Manufacturing is the leading manufacturer of polyethylene pipe fusion equipment and provider of customer-driven solutions to PE engineers and contractors worldwide.



[Steve Vick International](http://www.stevickinternational.com)

Developing and marketing techniques for the repair, replacement and decommissioning of underground pipes, for over 30 years, including Pipe Coil Trailers, Pipe Handlers and Pipe Crackers.



[AKKERMAN](http://www.akkerman.com)

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.

INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



organisations and individuals to the promotion, use and development of Trenchless Technology in the previous calendar year. Assessment of every submission from the long list of entrants is undertaken by a panel of independent judges, carefully selected to be representative from a broad cross section of the relevant industries, who look to single out the most outstanding examples of excellence.



Inside the Ham Sewer during the rehabilitation works.

UKDN Waterflow's award for the Ham sewer project follows on from last year's success, when the company scooped the Small Renovation (for the Davies Street project), Large Renovation (for the Kensington Canal Sewer project) and Young Engineer of the Year (UKDN Waterflow's James Larkin) awards. UKDN Waterflow's rising star James Peden was runner up in the Young Engineer category this year.

Ham Sewer Duplex stainless steel pipe UKDN WaterflowThe complex 20-day project (with associated works spread over a number of months) saw a 50 m continuous duplex stainless steel structural design lining jacked into place within the Ham sewer and precision welded to standards normally associated with very high pressure pipelines. UKDN Waterflow worked with the Dragados Sisk Joint Venture (DSJV) and Thames Water on behalf of Crossrail on this project, with engineers Fairhurst providing consultancy support.

During works the sewer was diverted using six 300 mm diameter pumps accommodating a peak sewer flow of 800 l/sec to the nearby Wick sewer. A new weir and penstock valve blocked the flow, and three generators producing a massive 1.2 MW of power kept the pumping going around the clock.

Each of the 5 t sections was jacked into place along guide rails before being meticulously welded together to standard EN1011 and tested using ultra sonic NDT to EN5817 category C to ensure a 100% pass rate. Crossrail's two 7.1 m diameter Tunnel Boring Machines (TBMs) passed just 500 mm from the sewer, in what is believed to be the closest pass by a large diameter TBM to a major sewer for this type of work.

Sean Masterson, Infrastructure Solutions Managing Director commented: "The Large Renovation award for the Ham Sewer demonstrates the continued innovation, project management and capability within the UKDN Waterflow business, and I was delighted that project engineer James Peden was highlighted as a rising star in the Young Engineer category, reaffirming our ongoing commitment to nurture new talent within the industry."

Furthermore, Nick Harris, UKDN Waterflow's CEO summed up the success at the awards evening: "The award for the Ham sewer project demonstrates UKDN Waterflow's ability to provide best operational delivery, best service and best technical capability for water, wastewater, drainage and infrastructure projects across the whole country. It highlights the continued dedication and hard work of the talented teams and individuals that make up UKDN Waterflow." Website: www.ukdnwaterflow.co.uk

MORE HERRENKNECHT TBMS FOR CHINA

During the course of a visit to China by the German Minister of Economy and Energy, Sigmar Gabriel, a contract was signed on 23 April, 2014 in Kunshan (Jiangsu Province) for the delivery of two tunnel boring machines for a large multifunctional tunnel in Wuhan (Central China).

The 10 million metropolis of Wuhan is the most important transport hub in central China. By 2017 the metro network of three lines will be extended to seven, from the current 73 km to 215 km in length. The two Mixshields with an excavation diameter of 15.76 m, to be supplied by Herrenknecht, will cross under the Yangtze River in Wuhan and create a twin-bore double-decker tunnel. A three-lane road will run on the upper deck, with Metro line 7 below. The 2,590 m long tunnel alignment runs up to 39.5 m below the water surface in complex soil. On the one hand, a high water pressure of 5.3 bar must be dealt with, whilst in addition the tunnel runs through varying geological formations, in part completely sand and clay, partly a mixed geology with mudstone, conglomerates and sand.

With its size and multipurpose use the construction represents a major reference project for mechanised tunnelling worldwide. Website: www.herrenknecht.com

SPONSORS LINKS

Click Name for website access



[ONSITE/PERCO](#)

No-Dig contractors for: Sewer installation, renovation & maintenance including CIPP, Structural, Infiltration & Connection linings; Patch repairs; CCTV pipe inspection and assessment; pipe cleaning, flow monitoring; Auger boring; HDD; Microtunnelling; Shaft Sinking; Headings; Lateral Cutting; Pipe Bursting; Sliplining & Consultancy



[McElroy](#)

McElroy Manufacturing is the leading manufacturer of polyethylene pipe fusion equipment and provider of customer-driven solutions to PE engineers and contractors worldwide.



[Steve Vick International](#)

Developing and marketing techniques for the repair, replacement and decommissioning of underground pipes, for over 30 years, including Pipe Coil Trailers, Pipe Handlers and Pipe Crackers.



[AKKERMAN](#)

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.

PIPE JACKING, MICROTUNNELLING, TUNNELLING & AUGER BORING

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



GUIDED BORING SYSTEM COMPLETES MULTIPLE CROSSINGS BENEATH THE ÚSLAVA RIVER

As part of the Čistá Berounka – Stage II subproject B for EUROVIA CS and HOCHTIEF CZ, main contractor Subterra completed multiple bore crossings of the Úslava River at Plzen, in the Czech Republic, for the installation of additional sewer pipelines.

The project was to be completed in two phases, approximately 100 m (328 ft) apart on different sections of the river. Phase One consisted of two parallel bores with a 400 mm (14 in) wall-to-wall distance, each being 55 m (180 ft) in length. Ground investigations showed that the bore path for this section passed through several meters of slate formations with more sandy ground conditions being experienced directly under the river channel. Geological surveys and penetrating sonde surveys were completed on both sides of the river at the start and exit pit locations where the ground type was classified as Type 4-5, an average level of rock hardness. The ground investigation also showed that at one point, about 42 to 45 m (138 to 148 ft) into one bore path, there were quartzite stones equivalent to ground Type 5-7, a harder degree of rock formation.

Phase Two of the project was planned to operate from a pit 100 m (328 ft) downstream. The soil formation on the second phase was very different from that of the first phase. Whilst slate formations existed in the area, there was much more coarse sand and gravel along the proposed bore route.

To undertake the boring operations, M-Luft was brought in as the project contractor. After careful consideration of the options available M-Luft decided that for these shallow cover river crossings the Vermeer AXIS® laser guided boring system would provide the optimum machine capability, due to the tight accuracy requirements and the anticipated hard slate formations.

THE AXIS SYSTEM

The AXIS system consists of a drill rack operated from inside an underground pit or shaft, and a power supply that is set up on the ground surface above the pit powered by a container mounted 104.4 kW (140 hp) diesel engine. When a pipe is installed using the AXIS system, the process is typically completed in 90 to 120 m (295 to 394 ft) increments, although both shorter and longer bores have been completed.

For each increment, a pit is dug at both the start and end points of the bore. The drill rack is set up and operated from the launch pit, boring through to the receiving pit. The heart of the AXIS system is a hydraulically powered thrust-and-pullback carriage assembly and gearbox that pushes the drill casing forward and turns a cutter bit at the front end to excavate the soil.



The AXIS boring unit in the deep start shaft on the second part of the project.

SPONSORS LINKS

Click Name for website access



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.

TORO and American Augers Directional Drills Auger Boring Equipment Tooling & Drill Rods



Drilling Fluids Recycling & Mixing Systems Moles & Bursters Digital Location Equipment

[T A Drilling](#)



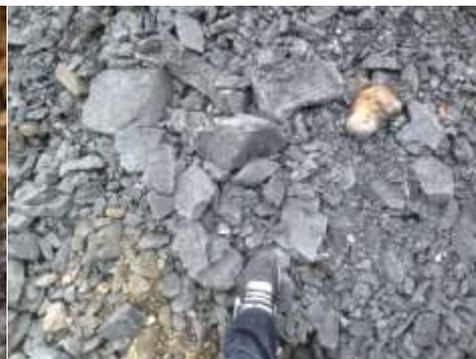
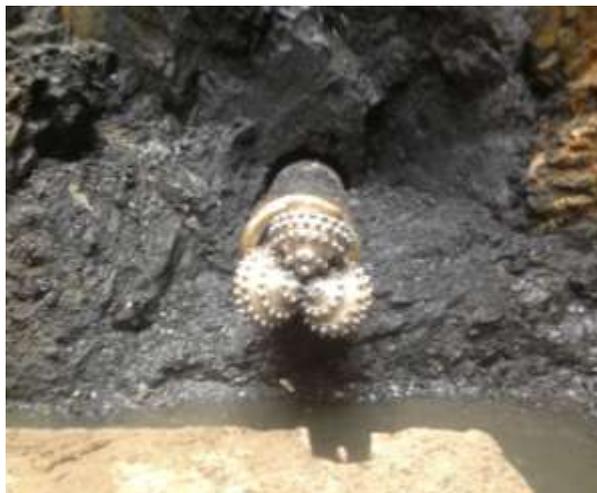
[U MOLE](#)

Supplier for hire or sale of: Vac Ex, Mole & Rammers, Bursting, Coil Trailers, SBUs and Accessories



[AKKERMAN](#)

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.



Left: The pilot boring head emerges on one of the drives. Above: The ground conditions through which the AXIS boring unit had to operate.

PIPE JACKING, MICROTUNNELLING, TUNNELLING & AUGER BORING

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



The rack is seated on a levelling frame measuring 3.5 m (11.5 ft) long, 1.1 m (3.6 ft) wide and 1.5 m (4.9 ft) high. The thrust/pullback mechanism drives a 343 mm (13.5 in) diameter drill head mounted on a 2 m (78 in) drill casing. As the head goes further into the bore, additional 2 m (78 in) drill casings are inserted behind the lead unit to extend the bore. To better enable operators to bore through a wide variety of soil conditions, different drill bits are available.



The surface arrangements for the AXIS boring system.

A laser unit is securely mounted at the rear of the launch pit, and provides guidance for the system during the boring process; there is also a camera in the drill head that allows the operator to align a target with the laser.

The cylindrical drill casings include a central drive shaft that turns inside the unit, transmitting rotation and torque to the drill bit at the front. An external channel accommodates cables from the camera and lights inside the front of the drill head, so that the casings maintain a cylindrical external profile without the need to disconnect the cables and hoses every time a drill casing is added during the boring process.

The casing units also include two internal channels. The laser beam travels through the upper channel to a target at the head and also serves to move air forward through the shaft to the front so that debris can be vacuumed out and recovered through the lower channel back to the launch pit.

ÚSLAVA CROSSINGS

For the Úslava River crossings, the pilot bore used the standard AXIS drill head with a 13.75 in (343 mm) tricone bit mounted in the front to drill through the slate. For the reaming stage, a 16.75 in (425 mm) hole opener was used, consisting of six individual rock cutting rollers.

Penetro® drilling fluid was used during for project; supplied by Baroid IDP and mixed with water, this drilling fluid was used primarily to help lubricate the cuttings so that they did not stick to the steel during the return to the containment tank.

The project began on June 24, 2013, and was completed on July 2. The first bore section required just under 10 minutes per 2 m (78 in) long section of drill casing for each of the two pilot bores. The time taken on the reaming run/product pipe jacking stage was just under five minutes per 2 m (78 in) long section.

The most challenging aspect of the project was that the location of the launch pits was only accessible via a small dirt road. This required the boring and support equipment to be moved to the site piece-by-piece, which in turn meant considerable planning and coordination. Ultimately, this resulted in extra setup time, but proved to be worth the effort when the on-grade, clean bore was completed.

BORING BENEATH THE WATER TABLE

The second part of the project was due to be completed from a second launch pit, some 100 m (328 ft) from the first launch pit. However, due to the proximity of the water table, water began pouring into the launch pit from several directions, adding another challenge for the boring crew.



The new water table level was created largely due to re-routing, and the section of the river bed beneath which the bores were to run had been reinforced with a large stone bed; thus a foundation of sand and gravel was to be expected. After the equipment was moved into position in the new launch pit, the crew bored approximately

The rock cutting reaming head used to upsize the pilot bore. The clay sewer pipe was jacked into the bore behind the reamer.

SPONSORS LINKS

Click Name for website access



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.

TORO and American Augers Directional Drills Auger Boring Equipment Tooling & Drill Rods



Drilling Fluids Recycling & Mixing Systems Moles & Bursters Digital Location Equipment

[T A Drilling](#)



[U MOLE](#)

Supplier for hire or sale of: Vac Ex, Mole & Rammers, Bursting, Coil Trailers, SBUs and Accessories



[AKKERMAN](#)

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.

PIPE JACKING, MICROTUNNELLING, TUNNELLING & AUGER BORING

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



12 m (39 ft) into the ground. With the addition of every extra casing length, the ground water flow increased significantly, and this caused sand and gravel (up to 80 mm or approximately 3 in diameter) to be flushed through the casing into the launch pit. This meant that the crew had to incorporate open cut trenching to fully execute all bores on the second portion of the project.

“We are very satisfied with the results of the project in Plzen. The first river crossings completed with an AXIS boring system anywhere in the world was impressive, particularly given the limited ground cover on this project. It was unfortunate that the soil conditions for the second phase did not allow for the use of a trenchless method, but the gravel and sand mixture that close under the river bed requires a conventional method,” says Benny Melse, trenchless product specialist with Vermeer EMEA.

“For Transtechnik it was the first project with the AXIS system and this technology proved to be useful and cost effective for the installations undertaken, where accuracy and time were vital aspects of the project costs. The contractor and project owner both appreciated the ease of operation and setup of the machine that was presented by the AXIS system. Based on this project, more contractors are investigating the potential utilization of the AXIS system in Eastern Europe, and we believe that another project will soon be forthcoming,” says Pavel Drabek of Transtechnik (TTC), based in the Czech Republic.

After the experience at the Úslava River crossings, the contractor is investigating other interesting projects for the AXIS system. Website: www.vermeer.com



The shallow depth of the river crossings on part two of the project meant that high ground water flows were experienced which meant this part of the scheme had to be completed in open cut.

Inset: The parallel drives sit very close together.

ROBBINS TRIO MAKE MULTIPLE BREAKTHROUGHS IN MALAYSIA

Malaysia's capital Kuala Lumpur is a humid tropical metropolis with millions of inhabitants, but fresh water is still in demand. A new tunnel was commissioned by the Malaysian Ministry of Energy, Green Technology, and Water (KeTTHA), drawing water from the rainforest river Semantan and into the capital to address projected shortages for domestic and industrial use. In 2014, three 5.23 m (17.16 ft) diameter Robbins Main Beam TBMs successfully completed excavation of the Pahang Selangor Raw Water Tunnel, also the longest tunnel in Southeast Asia. The massive 44.6 km (27.7 miles) long tunnel passes through the Titiwangsa mountain range under cover as high as 1,246 m (4,087 ft) and below geothermal features including hot springs.



Three Robbins Main Beam TBMs completed excavation of Southeast Asia's longest tunnel in 2014.

Given the highly variable conditions including hard granite up to 200 MPa UCS, multiple fault zones, and quartz dykes, three separate TBM drives were proposed. Sections of NATM near the inlet and outlet portals were also utilised in sedimentary rock and granite. KeTTHA selected Shimizu Corporation and Nishimatsu Construction of Japan, along with local companies IJM Corp.

SPONSORS LINKS

Click Name for website access



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.

TORO and American Augers Directional Drills Auger Boring Equipment Tooling & Drill Rods



Drilling Fluids Recycling & Mixing Systems Moles & Bursters Digital Location Equipment

[T A Drilling](#)



[U MOLE](#)

Supplier for hire or sale of: Vac Ex, Mole & Rammers, Bursting, Coil Trailers, SBUs and Accessories



[AKKERMAN](#)

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.

PIPE JACKING, MICROTUNNELLING, TUNNELLING & AUGER BORING

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



and UEM Builders Bhd. (SNUI JV), as the contractor. The decision to use Robbins TBMs for the majority of tunnelling was a clear one for the JV: "The open-type Main Beam TBM is number one in the world. I have used other machines, but this design is simpler and easier to use, and more powerful." said Mr. Nakano, Deputy Project Manager for the SNUI JV.



Near-zero rebound shotcrete was successfully used as the primary means of ground support.

All TBMs recently completed tunnelling for this extensive project. The first TBM excavated 11.2 km (7.0 miles), and broke through in March 2013. The other two machines excavated 11.3 km (7.0 miles) and 12.0 km (7.5 miles) and met in the tunnel in mid-February 2014. "This is something we all look forward to in the tunnelling industry." said Robbins Field Service Manager, Andy Birch. "We get through all of the hard work and eventually we break through. It is a great feeling, and I am very happy for this joint venture and for Robbins."

The machines maintained excellent advance rates throughout the project despite many challenges including fault zones, variable rock conditions, high rock temperatures, and frequent electrical storms that required machine stoppage. Due to the hot springs, water ingress at temperatures up to 56°C (133°F) was recorded. Maximum rates of 49 m (161 ft) in one day, 198 m (650 ft) in one week, and 657 m (2,156 ft) in one month were nonetheless achieved; good rates that were at least partially attributed to the early installation of fibre mortar shotcrete as primary ground support. The near-zero rebound system, with its quick set time of 30 minutes, saved a significant amount of time compared to conventional ground support methods. Developed by Japan-based Denka and MCM, the project is the first time the material has been used outside of Japan and was able to successfully stabilise tunnel walls even in loose and collapsing ground.

High-tech design was also a factor in project accomplishment. To tackle the high cover and tough geology, all machines were equipped with custom back-loading cutterheads and durable large diameter cutters. The machines also had streamlined operator's cabs with touch screens and wireless operation, able to stream data to site offices and to a project website for worldwide analysis. Behind each machine, Robbins continuous conveyor systems moved muck efficiently from the machine face. Website: www.robbinstbm.com

SPONSORS LINKS

Click Name for website access



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.

TORO and American Augers Directional Drills Auger Boring Equipment Tooling & Drill Rods



Drilling Fluids Recycling & Mixing Systems Moles & Bursters Digital Location Equipment

[T A Drilling](#)



[U MOLE](#)

Supplier for hire or sale of: Vac Ex, Mole & Rammers, Bursting, Coil Trailers, SBUs and Accessories



[AKKERMAN](#)

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.

Underground Utility Works?



VIEW OUR PRODUCT RANGE

Consult the Trenchless Experts

Specialising In

- Vacuum & Suction
- Winches
- Molding
- New: Robotic Cutters



U Mole are the UK market leading provider of non-operated Suction & Vacuum systems for rental or sale. Established for over 25 years, U Mole provide a variety of trenchless or no-dig options to the construction, utility and utility contractor markets.

01767 677 503

info@umole.co.uk www.umole.co.uk



U Mole Trenchless Technology

IMPACT HAMMER TECHNOLOGIES

For General Information on Impact Hammer Technologies [click here](#)



HAMMERHEAD ADDS FOUR NEW MOLES TO RANGE



SPONSORS LINKS

Click Name for website access



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment

TORO and American Augers Directional Drills Auger Boring Equipment Tooling & Drill Rods



Drilling Fluids Recycling & Mixing Systems Moles & Bursters Digital Location Equipment

[T A Drilling](#)



[U MOLE](#)

Supplier for hire or sale of: Vac Ex, Mole & Rammers, Bursting, Coil Trailers, SBUs and Accessories



[Hammerhead](#)

Hammerhead piercing, bursting & ramming products are used by contractors worldwide to install or replace fibre, communication, water, sewer and gas lines with minimal disruption to landscapes, structures and traffic flow.

HammerHead has introduced four new tools to its pneumatic mole (earth piercing) range in two sizes.

HammerHead has introduced four new tools to its pneumatic impact mole (earth piercing) range. The new models come in two sizes, 100 mm (4 in) and 130 mm (5 1/8 in) diameter.

Both sizes are available in a Catamount reciprocating head model or a fixed, non-reciprocating head model. The new tools are ideal for any underground installation that requires minimal disruption to landscapes, buildings or traffic flow.

Each new pneumatic piercing tool comes with the Power Port® Reverse feature. The patented quarter-turn reverse design pneumatically locks into forward or reverse preventing accidental direction change during the bore. The patented Debris Free Tail Cone was also incorporated to eliminate the introduction of debris into the tool body increasing overall production and tool life.

“With the release of these four models, HammerHead has a complete line of quarter-turn reverse piercing tools with sizes ranging from 50 mm (2 in) to 130 mm (5 1/8 in) diameter.” said Will LaBlanc, HammerHead national sales and product manager.

The new Catamount piercing tools, along with the entire Catamount line, are designed for tough working conditions in a wide range of soil conditions. Engineered without mechanical springs, contractors enjoy more productivity with lower cost of replacement parts. They are also easy to service in the field due to HammerHead’s original tailbolt design. An industry-leading two-year warranty also offers peace of mind.

Additional Catamount features include exclusive Smart Head Technology to reduce tool swim and increase performance, a redesigned body housing providing better durability and tool life, and HammerHead’s original Clamped Rear Anvil that provides 200% more clamp load, the most secure assembly available. Composite wear rings also eliminate metal-to-metal contact, decreasing wear and sustaining performance levels. Made of a specially designed composite, these rings offer a low coefficient of friction and have a higher abrasion resistance. The Catamount piercing tools provide contractors with a single tool for a variety of ground conditions. Website: www.hammerheadtrenchless.com

Available in two sizes, the new tools are ideal for underground installation that requires minimal disruption to landscapes, buildings or traffic flow.





TOUGH. TRUSTED. TRENCHLESS.

STATIC PIPE BURSTING



FROM 38 TO 175 TON MACHINES

PNEUMATIC PIPE BURSTING



SYSTEMS FOR BURSTING PIPE UP TO 36"

PIPE RAMMING/HDD ASSIST



INSTALL STEEL CASINGS, RESCUE STUCK HDD BORES AND MORE!

LATERAL PIPE BURSTING



REPLACE 4 & 6" LATERALS

HYDROGUIDE® WINCHES



FOR BURSTING AND LINING APPLICATIONS

HammerHead, a leader in unique answers for underground utility installation and replacement since 1989. Genuine HammerHead Trenchless equipment is available only at your authorized dealer.



FIND YOUR LOCAL DEALER AT HAMMERHEADTRENCHLESS.COM OR CALL +1 262.567.8833.



MOLING | RAMMING | BURSTING | HDD ASSIST | WINCHES

PIPELINE REHABILITATION

For General Information on Pipeline Rehabilitation [click here](#)



REFURBISHING LIVERPOOL'S WASTEWATER TREATMENT WORKS

The latest name in specialist CIPP pipe lining, from ambient to UV cure systems, is iLine (part of the i-Group of companies), which offers a management and contracting team that can draw on a wealth of experience in the CIPP pipe lining industry. This team brings with it a fresh 'can do' attitude and an in-depth new approach that offers clients a level of confidence which is claimed to be previously unseen in the industry.



One of the wastewater pipes to be lined with the 2.2 m long patch liners.

On a recent project, Galliford, Costain and Atkins, which form the GCA Consortium working with United Utilities under the United Utilities Integrated Alliance (UIIA), undertook a major refurbishment of and extension to the Liverpool Waste Water Treatment Works (LWWTW). The new £200 million extension, which will keep the Mersey clean, is now half-way through its construction. When complete, the new plant at Wellington Dock will serve around 600,000 of Liverpool's population, taking away sewage and treating it to the highest standards, before returning it to the river.

The extension is part of some £3.6 billion being invested by United Utilities across the North West to improve water quality and the environment by 2015. By upgrading the existing works and constructing a sequential batch reactor (SBR), the treated water leaving the new plant will be cleaner and greener, helping the continuing rejuvenation of the River Mersey and ensuring it meets strict European standards for water quality.

The construction site, one of the biggest on Merseyside at the present time, is a hive of activity. At its peak around 350 people will be working on the project. The completed plant will be able to cope with 11,000 litres of wastewater per second.

Prior to the expansion project, within the plant the untreated wastewater entered via gravity flow at 17 meters deep where eight, 800 mm diameter direct-fed pumps transferred the flow into the treatment works near ground level.

The pumps were fed by an open channel that split into 8 sections of 800 mm diameter pipe to directly feed the existing pumps. Part of the overall project involved refurbishing the pumps and this also brought to light the feed pipework and a need to renovate this to extend the overall life of the plant and assist with the overall upgrade.

Basically, the existing cast in pipes were no longer in a sound condition, having been installed in the 1980's. Due to salinity levels and debris in the incoming sewer they were reaching the end of their life and starting to rupture.

REFURBISHMENT PLAN

The project team, by working together, achieved an excellent delivery performance in environmental and safety management on a complex scheme.

The existing pipes protruded from the face of a concrete wall by approximately 800 mm. It was believed these pipes were no longer structurally sound. So, the first task to be undertaken was to cut



back the existing pipe to the face of the concrete wall structure. It was then the intention to install a wall coupler which would bolt to the face of the wall. The wall coupler was to be encased in concrete. A new spool piece and valve would also be installed to marry up to the existing pump.

The programme was potentially to have iLine Technologies, come in as the specialist lining contractor to install a CIPP liner after the new coupler had been established.

Preparing one of the liners for insertion.

SPONSORS LINKS

Click Name for website access



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Ramblers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



ONSITE/PERCO
No-Dig contractors for: Sewer installation, renovation & maintenance including CIPP, Structural, Infiltration & Connection linings; Patch repairs; CCTV pipe inspection and assessment; pipe cleaning, flow monitoring; Auger boring; HDD; Microtunnelling; Shaft Sinking; Headings; Lateral Cutting; Pipe Bursting; Sliplining & Consultancy



[McElroy](#)

McElroy Manufacturing is the leading manufacturer of polyethylene pipe fusion equipment and provider of customer-driven solutions to PE engineers and contractors worldwide.



[Steve Vick International](#)

Developing and marketing techniques for the repair, replacement and decommissioning of underground pipes, for over 30 years, including Pipe Coil Trailers, Pipe Handlers and Pipe Crackers.



Providing independent pipe renovation services including: International Training, Hire, Consultancy and a Global Skills Network



PIPELINE REHABILITATION

For General Information on Pipeline Rehabilitation [click here](#)



SPONSORS LINKS

Click Name for website access



The patch liners during the installation process.

Whilst it was believed that the existing pipe internal diameter was circa 800 mm it was not possible to exactly determine the diameter because the pipe, being a live sewer, meant that iLine could not get to the inside of the pipe. This also meant the precise internal condition of the pipe was unknown.

The eight pipes in question were at the bottom of the channel which was 17 m below road level and there was no vehicle access to the bottom of the well. A further limitation was that access to the valve side of the pipe was only moderate, with only enough space for two people and small tools to be utilised.

Access to the other side of the pipe was 'technically' possible. However it was not great as this was the inlet channel from the main sewer and therefore came with a significant high risk factor, a requirement for confined space access and working etc.

The deep channel was constantly full feeding the 8 x 800 mm diameter pumps. Early involvement started between iLine Technologies and GCA in early June 2013, some 5 months before actual construction work took place.

This early involvement meant that protection system and rehabilitation systems could be planned and established to meet the following potential obstacles during the works which included:

- Flexibility to allow for possible changes in diameter during the construction phase
- A quick to install system given the tight time scale requirements during the construction works
- A structurally sound system that could withstand negative pressure which would occur during pump shut down or during back washing
- A 'one piece' system that would cover the complete length of the renovated pipeline
- An end sealant to prevent any tracking of water between the host pipe and renovation system

The benefits of early inclusion of all parties and stakeholders during the planning phase had many benefits to the project when it ultimately took place. These benefits included early establishment of a regular programme of management meetings that ensured all parties were fully 'up to speed'; short communication lines which meant that decisions were made swiftly; a 'one team' mentality that allowed for shared ideas and a high regard for safety was instilled in all those working at the site.

The early inclusion also meant that mock ups and samples of the proposed lining could be provided and trial installations could take place to ensure everyone was happy with what was proposed to be used by way of product.

THE WORK SITE

The project was located in the industrial area and old port of Liverpool and the works were located within the current construction site at LWWTW. The site benefited from a very significant Community Programme informing the population of Liverpool about progress and has Facebook and Twitter feeds so a constant information stream keeps interested locals aware of progress.

However the actual renovation work focused on a major element of customer care, as the 8 pumps lifted raw sewerage into the treatment works. So, any disruption to this pumping regime could have had a potentially detrimental effect on the majority of Liverpool's population. United Utilities, GCA and iLine had to be very mindful of this potential for disruption.

The works required 4 of the pumps to be decommissioned at a time during the renovation leaving only 4 working. As such, the works had to be planned to coincide with expected low flow times



[TT Group](#)

TRACTO-TECHNIK

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



[ONSITE/PERCO](#)

No-Dig contractors for: Sewer installation, renovation & maintenance including CIPP, Structural, Infiltration & Connection linings; Patch repairs; CCTV pipe inspection and assessment; pipe cleaning, flow monitoring; Auger boring; HDD; Microtunnelling; Shaft Sinking; Headings; Lateral Cutting; Pipe Bursting; Sliplining & Consultancy



[McElroy](#)

McElroy Manufacturing is the leading manufacturer of polyethylene pipe fusion equipment and provider of customer-driven solutions to PE engineers and contractors worldwide.



[Steve Vick International](#)

Developing and marketing techniques for the repair, replacement and decommissioning of underground pipes, for over 30 years, including Pipe Coil Trailers, Pipe Handlers and Pipe Crackers.



Providing independent pipe renovation services including: International Training, Hire, Consultancy and a Global Skills Network

[ER TECHNICAL SERVICES](#)



PIPELINE REHABILITATION

For General Information on Pipeline Rehabilitation [click here](#)

with constant monitoring to pick up any potential increase in flows.

After several rounds of meetings with all the stakeholders involved, iLine Technologies ultimately proposed the use of an epoxy resin impregnated, ambient cured liner which would be installed in one length of around 2.2 m long and 800 mm diameter. Such liners could be installed in all eight pump feeding pipes.

The material chosen met several requirements including:

- It met with extensive wear tests undertaken by independent accredited testing houses
- It offered a fully structural design which was able to withstand negative pressure
- One complete length could be installed with no joints along the installation length
- Site specific installation equipment could be manufactured for this work site
- It offered compatible end sealing epoxy

The use of epoxy liners is well-known but what made this project unique was the involvement of several external experts in pipeline renovation. This range of companies included:

- Trelleborg – the material supplier of resin and patches
- Trenchless Consultants – which assisted in the structural design work
- Sika Chemicals – which supplied the end sealant
- Exovia Testing – which provided final testing of the installed material

Prior to the final go ahead and work starting on site, a sample installation was undertaken on an unused section of what was believed to be a similar pipe to that being renovated. After installation and inspection, final approval for the works was granted.

In November 2013, four of the eight pumps were isolated to allow the rehabilitation work to proceed. In order to isolate the pipework the flow was diverted further upstream and warning systems put in place to constantly monitor flow levels. Once isolated, the pipes were accessed and cleaning was completed. Detailed measurements were then taken to confirm the pipes' suitability of the proposed system. Liners were assembled above ground and lowered the 17 m using electric hoists.

The installation equipment had been specifically designed and manufactured in Germany some four weeks earlier to enable programme dates to be met. Once in position the liners were ambient cured for some 8 hours each. To enable the programme date to be met 24 hour working was undertaken to ensure successful completion and the minimising of flood risk.

Once cured, the liners were sealed and testing was undertaken by Exovia prior to the flows being returned. This testing was expedited to gain initial results in just 24 hours. As all liners were installed correctly and the testing confirmed this the flows were returned. iLine left site for a period of 2 weeks before returning to install the other 4 liners in a similar process.

Perhaps it should be highlighted that a number of firsts were achieved on the project which has allowed others to benefit from the technology. These firsts included:

- Experience of large diameter and long length part-liners has helped innovate the rehabilitation and extension of life for existing pipework
- The innovative design process has allowed liners not normally associated with negative pressure environments to be used
- Bespoke solutions to a specific contract will help develop the envelope for other trenchless opportunities

Overall the project was complex and challenging but with all parties working together it demonstrated how innovative engineering solutions can overcome difficulties and deliver outstanding results. According to John Beech, Business Development Manager for iLine: "Whilst to many looking casually at this project it may appear to have been just a few short liner patches. In truth, this was something of a complex and challenging operation given the location, depth, size and length of the patches involved. The need to ensure the plant was kept operating whilst the renovation took place also added to the stress. Our team, working alongside and closely with the client teams and the various manufacturers and services involved, has achieved something with this project that few thought was actually possible. All those involved should all be very proud of such an accomplishment." Website: www.i-group.uk.com



Working at a depth of 17 m did not make access easy.



SPONSORS LINKS

Click Name for website access



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Ramblers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



[ONSITE/PERCO](#)

No-Dig contractors for: Sewer installation, renovation & maintenance including CIPP, Structural, Infiltration & Connection linings; Patch repairs; CCTV pipe inspection and assessment; pipe cleaning, flow monitoring; Auger boring; HDD; Microtunnelling; Shaft Sinking; Headings; Lateral Cutting; Pipe Bursting; Sliplining & Consultancy



[McElroy](#)

McElroy Manufacturing is the leading manufacturer of polyethylene pipe fusion equipment and provider of customer-driven solutions to PE engineers and contractors worldwide.



[Steve Vick International](#)

Developing and marketing techniques for the repair, replacement and decommissioning of underground pipes, for over 30 years, including Pipe Coil Trailers, Pipe Handlers and Pipe Crackers.



Providing independent pipe renovation services including: International Training, Hire, Consultancy and a Global Skills Network



ONLINE PIPE REPLACEMENT

For General Information on Bursting, Reaming, Cracking, Eating and Pulling [click here](#)



PIPE BURST APPLICATION GOOD NEWS FOR WESSEX WATER

Bedford-based TT-UK LTD recently collaborated with Wessex Water to solve a problem it had when replacing pipes for dirty water.

The obstacle the company faced was when working on sewer pipe replacements in a domestic setting with limited access. Traditional equipment was too large and cumbersome to negotiate narrow back alleyways of terraced properties.

Wessex Water used a GRUNDOBURST 400S to burst 150 mm (6 in) diameter pitch fibre sewer pipes, replacing them in 2 m lengths with 180 mm diameter screwed Demco PE pipe SDR11 gravity sewer pipe at a property in the village of Broughton Gifford, Wiltshire, which had no rear or side access.

The project route ran through the property owners back garden and into the neighbours back garden where the exit pit was excavated. The pipe bursting run of approximately 55 m, in soil conditions comprising sandy clay, was completed in a record time of only two and a half hours from start to finish. Wessex Water was extremely pleased with the results.

Prior to using the GRUNDOBURST 400S, traditional hand dig methods were utilised in nearly every case where space was confined. Situations like this had meant that in some cases out-buildings, garages and greenhouses were having to be dismantled or demolished and then re-assembled or re-built altogether; adding higher, unnecessary extra costs to the projects. The other problem faced by Wessex Water was that even if the units could negotiate the terrain, they were not able to work from a manhole due to the size and power of the equipment needed to do the job.

The GRUNDOBURST 400S can be easily dismantled, in under ten minutes into six smaller, more manageable sections. This means that dual application is possible with either manhole or larger pit launch. Placed in position, the rig is quickly and easily re-assembled either above or below ground and then lowered in to position using a lightweight portable lifting gantry.

Dependant on conditions, pipe sizes and installations lengths can range from ND50 to ND250 over up to approximately 100 m. Extension hoses can be laid down paths, alleyways and even through properties with the operational Bursting Rig located 100+ metres away.

Armed with the same power as its bigger brother the GRUNDOBURST 400G, the smaller modular 400S can use either 700 mm or 500 mm long QuickLock rods (500 mm ideal for limited space within a manhole) and still deploy 27 t of forward thrust and 40 t pullback. This makes it the ideal solution for pipe replacement in areas with restricted access.

After job completion the rig is quickly dismantled with the added benefit of easy clean, wash down of individual sections. Website: www.tt-uk.com



The GRUNDOBURST 400S being lowered in a manhole.



Left: A cutaway side view of the GRUNDOBURST 400S in a manhole.

Below Centre: A Top view of the unit installed in a manhole.

Below: The Patented Quicklock Rod System, 500 mm for 400S and 700 mm Rods. for 400G

SPONSORS LINKS



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment

TORO and American Augers Directional Drills Auger Boring Equipment Tooling & Drill Rods



Drilling Fluids Recycling & Mixing Systems Moles & Bursters Digital Location Equipment

[T A Drilling](#)



[U MOLE](#)

Supplier for hire or sale of: Vac Ex, Mole & Rammers, Bursting, Coil Trailers, SBUs and Accessories



[Hammerhead](#)

Hammerhead piercing, bursting & ramming products are used by contractors worldwide to install or replace fibre, communication, water, sewer and gas lines with minimal disruption to landscapes, structures and traffic flow.



[McElroy](#)

McElroy Manufacturing is the leading manufacturer of polyethylene pipe fusion equipment and provider of customer-driven solutions to PE engineers and contractors worldwide.

ASSET MANAGEMENT, MAPPING & SURVEY

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



TAKING PIPE INSPECTION SYSTEMS OFF-ROAD FOR PIPEVIEW

AM Industrial (UK) Ltd (AMI) recently undertook a special vehicle build for Farnborough-based pipeline inspection specialist Pipeview LLP.

Pipeview, established by Ryan Woods in 2010, operates a van-mounted AMI mainline CCTV system for pipeline inspection works in pipes between 100 and 1,000 mm diameter. The van has an on-board jetter unit for cleaning pipes of up to 300 mm diameter. Most recently the company has introduced both robotic cutting and smaller diameter lining to its portfolio by combining forces with an experienced local operator. For the future there are plans to expand the company's operations in these areas.

Pipeview's main clientele includes local authorities, commercial/industrial operations, the agricultural sector and utility companies, particularly those in the water sector. The company, whilst based in the southeast, undertakes projects across the UK and has also completed work on the Isle of Man. Pipeview also undertakes works on a sub contract at basis to larger drainage companies, particularly on larger survey contracts.



The AMI pipeline inspection systems loaded into the specially fitted-out Pipeview Land Rover Defender.

INCREASING DEMAND

Since 2010 the company has increased its workload considerably and of late this increase in demand has come from a need to undertake surveys in some quite inaccessible locations, in particular 'off-road' sites. To meet this demand Ryan Woods looked at the potential for building a full CCTV survey system into an off-road, 4x4 vehicle which, whilst being smaller than the average CCTV survey van, would have the capacity to reach remote and difficult access survey sites and yet still be able to carry all the necessary survey equipment and recording devices that are needed to complete a survey successfully to the high standards demanded by the modern pipeline industries.

The sorts of sites that have become increasingly part of the workload are those such as outfall surveys that require the vehicle to access for example beach front locations or to operate whilst parked in streams and on shallower river beds. The right choice of vehicle was therefore absolutely vital.

After looking at the options available, it was decided that the best unit for the range of jobs being undertaken was a Land Rover Defender 90 XS with a 3½ ton towing capability.

Further to this, Pipeview opted to install AMI survey equipment into the vehicle and AMI was also chosen to complete the vehicle fit out from scratch to ensure it could effectively and efficiently carry all the equipment necessary for the company's projects.

The Off-Road capability of the new Land Rover enables Pipeview to work on sites that would have previously been very difficult to access.



SPONSORS LINKS



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.



[ONSITE/PERCO](#)

No-Dig contractors for: Sewer installation, renovation & maintenance including CIPP, Structural, Infiltration & Connection linings; Patch repairs; CCTV pipe inspection and assessment; pipe cleaning, flow monitoring; Auger boring; HDD; Microtunnelling; Shaft Sinking; Headings; Lateral Cutting; Pipe Bursting; Sliplining & Consultancy



[CIPP GLOBAL](#)

Providing independent pipe renovation services including: International Training, Hire, Consultancy and a Global Skills Network

[ER TECHNICAL SERVICES](#)



ASSET MANAGEMENT, MAPPING & SURVEY

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



SPONSORS LINKS



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.



[ONSITE/PERCO](#)

No-Dig contractors for: Sewer installation, renovation & maintenance including CIPP, Structural, Infiltration & Connection linings; Patch repairs; CCTV pipe inspection and assessment; pipe cleaning, flow monitoring; Auger boring; HDD; Microtunnelling; Shaft Sinking; Headings; Lateral Cutting; Pipe Bursting; Sliplining & Consultancy



[CIPP GLOBAL](#)
THE PIPE RENOVATION EXPERTS

Providing independent pipe renovation services including:
International Training, Hire, Consultancy and a Global Skills Network

[ER TECHNICAL SERVICES](#)



The full fit out included the installation of:

- Full insulation and ply-lined facing with a hard wearing chequered PVC coat
- A full bulkhead with a perspex window viewing through to the rest of the vehicle.
- A non-slip raised floor with pull out storage drawers positioned underneath for a clean and tidy operating area but also quick and easy access to equipment
- Low voltage Led interior work lights
- A 1,500 W pure sine wave inverter with 2 x 100 AH batteries
- An automatic split battery charger with a 240V shore power hook up
- Fitted Led roof and grill warning lights
- A raised air intake snorkel for working in locations where water might affect the vehicle performance
- Extra security in the form of deadlocks and a vehicle tracking system



The AM Industrial pipeline inspection systems off-loaded to work on site.

Once the vehicle interior was designed and completed, AMI undertook the manufacture of the CCTV and other survey equipment that was to be installed and used on the vehicle.

The on-board equipment was to comprise:

- Pipe inspection systems for pipes from 100 to 1,000 mm diameter pipes including an SP100 Pan & Rotate camera with an SP150 Midi crawler with a range of wheels and camera elevator
- A portable 'Tough Book' docking station control unit with a Panasonic 'Tough Book' which was pre-loaded with Wincan mobile CCTV reporting software
- A portable cable reel with 150 m of cable
- An SP50 Push rod coiler CCTV unit
- Facility for Sonar underwater pipe profiling to be utilised where water-filled pipes and borehole surveys were required

Once completed, the new Land Rover Defender was not liveried with Pipeview company logos etc. due to the regular requirement to operate on sub-contract to other companies.

Pipeview's contract with AMI for the fit-out required a very quick turn-round due to the already high existing demand for the vehicle. AMI was able to deliver this total turnkey solution within 4 weeks of the vehicle being 'free issued' to it by Pipeview.

According to Ryan Woods of Pipeview: "The changing nature of some of our business means that we need to be able to get off-road whilst still being able to undertake the widest range of survey options for various clients. We felt that our only real option was to bring in a 4x4 vehicle with all the 'bells and whistles' so that we could meet this expanding need." In relation to the pipe inspection equipment he continued by saying: "We have always been impressed by AMI's equipment and to have the fit-out completed at the same time meant that we could design the layout and fit of the equipment just where and how we wanted it. Now, whatever the survey, we can get to any location that a normal Land Rover can."



For AMI Arthur Jones, managing director, said: "We have always strived to give our clients what they need when they need it. Working closely with Ryan we have been able to complete a vehicle build that meets not only the widest possible survey requirements he may have but also with the Land Rover we have been able to give Pipeview a means of remote location access that is rarely found in the average survey contracting company."

Website: www.amindustrial.co.uk

The rear compartment of the Land Rover Defender prior to equipment fitting.

ASSET MANAGEMENT, MAPPING & SURVEY

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



INTRODUCING OPERA DUO TO THE UK

Drilline Products, a leading UK distributor of ground penetrating radar (GPR) systems, has made the first sale in the world of the new Opera DUO to MK Surveys, an existing customer with a thriving utility department.

With training and support from Drilline, MK Surveys, based in Milton Keynes, was an early adopter of the original award winning IDS Detector DUO. The 'world first' delivery has been repeated with the Opera DUO, the latest innovation for utility location and mapping by market leaders IDS.

Colin Tickle, Managing Director at Drilline said: "This new GPR system is designed and engineered for easier and faster collection of deep and shallow depth data, over all terrain. There is no need to perform calibrations or manual adjustments. It is an easy 'click and go' operation. The dual encoder system allows the operator to cover ground without losing distance measurements. The system integrates with GPS and an intuitive interface gives the operator the ability to export data to CAD and generate professional survey reports whilst on site."

Drilline Products has been active in the creation of a GPR Masterclass run by the University of Greenwich. The inaugural course, specifically designed for GPR operators, took place in April 2014 and future courses are due to run every month.

The acquisition of innovative GPR equipment on release has helped MK Surveys steadily expand its utility services and increase its staffing levels. A utility department which started with one surveyor and a single unit now employs eight, plus two trainees, with a fleet of Detector DUO GPR units that are in daily use.

David Rust, Director at MK Surveys commented: "With insight and advice from Drilline Products we were able to respond quickly to the increased demand for underground surveys that started around seven years ago. The relationship we have with our supplier has been key to our growth in this market. Drilline is uniquely placed to support the investment we make in new GPR equipment with the presentational material and training that helps us to win contracts." Website: www.drilline.com



At the system handover from left: Paolo Papeschi (IDS Georadar Division), Jill Ticke (Drilline), Colin Ticke (MD Drilline), Gordon Livie (Utility Survey Manager, MK Surveys), Dan Grigg (Operations Manager, MK Surveys), Stuart Dimond (Director, MK Surveys).

SPONSORS LINKS



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.



[ONSITE/PERCO](#)

No-Dig contractors for: Sewer installation, renovation & maintenance including CIPP, Structural, Infiltration & Connection linings; Patch repairs; CCTV pipe inspection and assessment; pipe cleaning, flow monitoring; Augerboring; HDD; Microtunnelling; Shaft Sinking; Headings; Lateral Cutting; Pipe Bursting; Sliplining & Consultancy



Providing independent pipe renovation services including: International Training, Hire, Consultancy and a Global Skills Network

[ER TECHNICAL SERVICES](#)



Promoting Trenchless Excellence

United Kingdom Society for Trenchless Technology
38 Holly Walk, Leamington Spa, Warwickshire CV32 4LY
T: 01926 330 935 E: admin@ukstt.org.uk

The UKSTT provides:

- City & Guilds Training
- Educational support to Universities
 - Lead generation
- Free promotional opportunities
 - Web Page
- Newsletter to approx 4500 recipients
- Networking and more

Join the trenchless revolution:
www.ukstt.org.uk

SUPPORT EQUIPMENT, ACCESSORIES & SERVICES

For General Information on Support Equipment & Accessories [click here](#)



HAMMERHEAD TO DISTRIBUTE PICOTE CUTTING SYSTEMS

HammerHead Trenchless Equipment has signed an agreement with Picote Cutting systems to become a new North American distributor, thereby adding new capabilities to HammerHead's existing lateral lining system offerings.

Ryan Boldan, HammerHead's lateral product manager, said: "Picote's award-winning pipe cutting and cleaning products can save our CIPP customers time and money while making CIPP lateral branch reinstatement much easier."

Customisable Picote Cutting System packages allow users to select the combination of Smart Cutter, Twister, Cyclone or Original Chain Flails, and Miller products they need for their typical jobs without requiring them to purchase the complete product line. A full range of Smart Cutter System products are available to clean pipe and reinstate branches for nominal pipe sizes of 50, 75, 100, 150 and 200 mm (2, 3, 4, 6 and 8 in) diameters.

Standard HammerHead Picote packages include Smart Cutter Starter Kits, Twisters, Cyclone chain flails, adaptors, bearing, steering axle, front drill heads, side grinding panels, hub disks and a set of hand tools precisely designed for reinstatement jobs.

Original Chain Flails: Boldan said Picote Original chain flails are an all-round general cleansing and grinding chain. Use of Original flails is more effective than water jetting methods. Made from stainless steel, these chains will not rust and can be used time and time again, providing a cost-effective solution. They are the first choice of many technicians.

Cyclone : Faster and stronger than regular grinding and cleansing chains, the Cyclone purges even the most problematic pipes. The centrifugal force centres the Cyclone inside the pipe preventing the chain from hitting against the side of the pipe when in use, making it safer than almost any other method. Boldan said: "The Cyclone is probably the most effective tool for clearing away roots and other hard materials like cast iron tuberculation quickly and easily without damaging the existing pipe. Teaming this chain with one of our Miller machines delivers an even more rapid result." The chain flails are powered either by a hand drill capable of 2,000 rpm or more, or by a Picote Milling Machine for greater torque and effectiveness.

Twister: After CIPP installation, Picote offers its Twister for opening branches at Y or T connections that have been temporarily obstructed in the installation of new lining. Since the Twister's integral rotary brushes centralise the Twister, its disk cutter is accurately positioned throughout the cutting process. This makes it safe for use even with CIPP rehabilitation of PVC, because there is no risk of Twister damaging the original piping. Boldan said: "With such low start-up costs and with its minimal maintenance and training requirements, the Twister can expand any contractor's market versatility, expanding their range of service to customers. What is more, it will help advance the use of lining in plastic pipes, a cost-effective solution that has lowest impact on customers. In residential situations, homeowners can usually stay right at home throughout the process."

Smart Cutter: Awarded the International Society for Trenchless Technology's 2012 Product of the Year, the Picote Smart Cutter is a CIPP installation's quality control system. The Smart Cutter follows up after the Twister, using its grinding panels to smooth openings to a quality finish. The Smart Cutter consists of a hub at the end of a flexible shaft that holds four flexible flap-like grinding panels to the sides. A variety of implement designs are available to attach to the hub's front face, which makes the Smart cutter effective for almost any reinstatement situation. The Smart Cutter is capable of navigating T or Y branches as well as multiple bends and angles greater than 90°s to open lateral connections in CIPP even faster than expensive robotics.

Milling machines: For longer runs and for faster results, operators can power the Smart Cutter, Cyclone and Twister with one of Picote's three milling machine models. The Micro Miller is designed for 8.5 mm (1/3 in) flexible shaft or through special order, a 1/4 inch flexible shaft. It has a 12 m (40 ft) range. The Mini Miller is also designed for a 8.5 mm (1/3 in) shaft but has a 17 m (56 ft) range. The more versatile but heavier Midi Miller supplies torque up to 12 m (40 ft) through a 13 mm (1/2 in) cable, or with an adapter, a 8.5 mm (1/3 in) flexible shaft. For tougher jobs, the hydraulically powered Maxi Miller machine supplies the greatest torque for ranges up to 30 m (100 ft). Weighing 100 kg (220 lb), the Maxi Miller is mounted on wheels making it easy to manoeuvre and position during use. Website: www.hammerheadtrenchless.com



The award-winning Smart Cutter™ offers the latest in small connection rehabilitation in pipes from 32 mm to 200 mm (1¼ in to 8 in) diameter.

SPONSORS LINKS

Click Name for website access



[TT Group](#)

TT-Group: A leading manufacturer of Trenchless Technologies: Moles, Pipe Rammers, HDD, Pipe Replacement and Auger boring systems and NoDig-equipment



[VMT GmbH](#)

Supplier of TBM, Microtunnel, Pipe Jacking and Tunnel excavation Navigation & Guidance systems & Services.

TORO and American Augers Directional Drills Auger Boring Equipment Tooling & Drill Rods



Drilling Fluids Recycling & Mixing Systems Moles & Bursters Digital Location Equipment

[T A Drilling](#)



[U MOLE](#)

Supplier for hire or sale of: Vac Ex, Mole & Rammers, Bursting, Coil Trailers, SBU's and Accessories



[Hammerhead](#)

Hammerhead piercing, bursting & ramming products are used by contractors worldwide to install or replace fibre, communication, water, sewer and gas lines with minimal disruption to landscapes, structures and traffic flow.



[CIPP GLOBAL](#)

Providing independent pipe renovation services including: International Training, Hire, Consultancy and a Global Skills Network

[ER TECHNICAL SERVICES](#)



UKSTT NEWS

UKSTT Celebrates its 20th Awards Ceremony in Style

Annual Dinner Platinum Sponsors



O'CONNOR UTILITIES LTD.

Annual Dinner Gold Sponsors



Annual Dinner Silver Sponsors



The UKSTT celebrated its 20th Annual Dinner & Awards Ceremony in style at the Holiday Inn in Birmingham on 16 May, 2014. Over 180 guests enjoyed an excellent evening of celebration and networking. They were impressed by the best of the 24 award entries which were shortlisted into 7 categories.

The event was hosted for the 11th time by Chris Packham, the environmentalist, introduced by our Toastmaster as 'Naturalist of the Season and in fact The World'. Following the tradition that he started at his first Dinner in Blackpool Chris was again accompanied by 'guests' but this year they were a little more dangerous than usual. The North American Alligators were hatched last August. They are apex predators and sit top of the food chain. The males can grow up to 4.5 to 5.2 m (15-17 ft) in length and weigh between 450 to 1,000 kg. As an adult it has a very strong bite, up to 2,000lb/ft². They have been known to eat over 30 people and Chris stated they were the best way to get rid of a dead body as they will eat the bones as well.

While walking round the room Chris informed the audience that they are the only reptile that we know of that use tools. In the breeding season it will balance twigs on their nose and then snatch the birds as they try to take the twigs to use for their nests. These young alligators have stripes on but these will disappear as they grow into adults. The species has been unchanged in the last 68 million years, in fact since T-Rex was alive.

In a slight change to the format this year, each short-listed entry was presented on one slide by Chris Packham, while further information on the projects was presented during the meal. As a short interlude between main course and dessert, Dec Downey, one of the founding members of the UKSTT, gave a brief history of the Society which was formed in 1993 by the UK residents of the ISTT. The Society has been blessed with good leaders over the years. Dec also stated that the Trenchless Industry has one unique characteristic of being an industry where you are friends with your competitors. Amusing entertainment was provided by stand-up comedian, Paul Tonkinson.

The Chairman's Charity this year, in support of The Lighthouse Club, raised around £1,200. The winner of the iPod Nano, sponsored by Ashington Associates, was Stephen Taylor. In addition there was a Business Card drop for bottle of Moët Champagne. This was won by John Kelly.

Information on the short-listed entries for each category follows with the winners highlighted.

RENOVATION – LARGE (>£250K)

Sponsor: U Mole, a division of Vp plc

iLine & Morgan Sindall Gowerton WwTW Sea Outfall

The complex pipe rehabilitation in Gowerton WwTW Sea Outfall required a twin section of pipe over 3 km long to be rehabilitated. 2 km was located under extensive areas of intertidal sand/mud-flats. In 2012/13 Dŵr Cymru/Welsh Water rehabilitated parts of the outfall (cost £2.25 million) as part of its AMP5 works to upgrade existing wastewater infrastructure.

United Utilities Vyrnwy Large Diameter Trunk Mains Refurbishment

The Vyrnwy large diameter trunk mains refurbishment consists of scraping and lining two of three 39 in and 42 in diameter parallel mains between Oswestry and Liverpool. Phase 2 of the project entails the drawing approximately 35 km of 1,030 mm diameter SDR 51 PE liner in both urban and rural environments between New Cricket and Malpas.



UKDN Waterflow Ham Sewer — WINNER

A unique civil engineering project protected the strategically important Ham sewer in London's east end from Crossrail's two 7.1 m diameter Tunnelling Boring Machines (TBMs). The innovative project response from an alliance of partners led to the closest pass, at just 500 mm, by a large diameter TBM to a major sewer.

RENOVATION – SMALL (<£250K)

Sponsor: Wessex Water

iLine & GCA (UIIA) Liverpool WwTW

A major refurbishment and extension to Liverpool Waste Water Treatment Works has been undertaken. When complete, the new plant Part of the overall project involved refurbishing the pumps and this also brought to light the feeding pipework and a need to renovate this to extend the overall life of the plant and assist with the overall upgrade.

Lanes Group plc & Severn Trent Water - Lanes keeps Nottingham Tram Expansion on Track — WINNER

The expansion of Nottingham's tram network will have taken hundreds of contractors and many months by the time it is complete. It will also have cost around £570 million. But, the entire project could have been derailed, if Lanes had not pulled out all the stops to reinforce a 701 m sewer on University Boulevard.



Lanes Group plc & Severn Trent Water - Lanes uses UV for Lightening Fast Liner Cure

The final piece of the jigsaw in Severn Trent Water's £1.2 million DAP sewer rehab scheme in Scunthorpe was a 95 m long storm drain on a busy commuter route. Over to Lanes to come up with a super-fast solution to renovate this 1,050 mm diameter pipe using UV light technology.

NEW INSTALLATION

Sponsor: UKDN Waterflow

O'Connor Utilities Ltd - River Wyre 33 kV Twin Circuit Horizontal Directional Drills — WINNER

O'Connor Utilities was contracted by Electricity North West to Horizontally Directional Drill (HDD) two 33kV cable circuits a distance of 1,380 m across the River Wyre, minimising the environmental impact to the estuary SSSI. The operation successfully installed and energised the cables on time and budget, without accident or environmental incident.



SMALL SCHEME (<£100K)

Sponsor: Lanes Group plc

U Mole, a division of Vp plc and Manterfield Drilling - Sandwell Treatment Works Gas Line Replacement

Replacing a small diameter gas main with one more than three times the original diameter beneath a busy Dual Carriageway required the combination of multiple cable-pulling equipment types to complete a difficult, limited access project.

U Mole, a division of Vp plc & Pipeline Drillers - Kingsknowe Crescent Sewer Replacement — WINNER

Combining the capabilities of a 150 t pipe jacking rig and a 100 t pipe bursting unit enabled the replacement of an under-capacity 300 mm diameter sewer pipe with a new 600 mm diameter using the pipe eating technique in a very limited access and environmentally sensitive location.



PRODUCT INNOVATION

Sponsor: H50

CatSuvey's Group Ltd - Subsurface Tomographic Radar Equipment for Asset Mapping (STREAM-EM)

In 2013 CATSURVEYS purchased the STREAM-EM mobile GPR, allowing surveys to be completed in a fraction of the historical time and cost. On its own it is a great tool, however by combining the STREAM-EM data with the other specialist technologies on offer it has enabled us to create a unique intelligent deliverable pack that is the ultimate non-intrusive survey result, creating what the company calls 'Sustainable Surveying'.

Infotec - Gyrobotic Mapping Solutions for Critical Asset Mapping & Monitoring — WINNER

Using the most advanced above and below ground asset mapping and data capture platforms ever developed, Infotec is able to deliver unrivalled survey capability with the benefit of change recognition for the ultimate management of critical assets. Autonomous robotic systems with submersible capability enable surveys to be undertaken in difficult environments, increasing safety, performance and achieving success in situations previously regarded as impossible.



Picote UK Ltd - The Twister Range: Lateral Cutter & Collapsed Liner Removal Tools

The Twister is a unique lateral cutter for inside PVC, cast iron and clay pipes DN50-150. Powered by a hand drill or a Picote Milling Machine, the Twister can open connections quickly and easily. The new Twister Duo can also remove collapsed liner inside cast iron pipes.

INNOVATIVE SCHEME

Sponsor: O'Connor Utilities Ltd

CatSuey's Group Ltd - Liverpool2 Seaforth Proposed 33kV Cable Route

The Liverpool2Seaforth proposed 33 kV cable route scheme hit a design issue due to the unknown structure and utility congestion crossing a bridge. CATSURVEYS was commissioned by Walsh Civil Engineering Limited to use its mobile GPR, providing a vision of where to carry out intrusive works, letting the user make the best informed decision possible before breaking any ground. This helped in reducing risk, cost and time.

U Mole, a division Vp plc and Manterfield Drilling - Combining the strengths of multiple systems brings success for challenging large upsized gas pipe replacement. — WINNER

The strengths of two different cable-pulling systems combine to achieve a gas pipe replacement with a diameter upsized of over three times that of the original pipe in challenging access and difficult ground conditions.



U Mole, a division of Vp plc, Scottish Water and Pipeline Drillers

Combining the capabilities of a 150 t pipe jacking rig and a 100 t pipe bursting unit enabled the replacement of an under-capacity 300 mm diameter sewer pipe with a new 600 mm diameter using the pipe eating technique in a very limited access and environmentally sensitive location.

YOUNG ENGINEER

Sponsor: Wessex Water

Liam MacFarlane, Wessex Water - Holistic approach to infiltration and inflow exclusion — WINNER

The Environment Agency directive to water companies to reduce infiltration and inflow into sewers, was the catalyst for my appointment to head research which would identify and seal the most critical assets. Using different disciplines during the project identified business opportunities which will further allow us to reduce our Totex.



James Peden, UKDN Waterflow - Victoria Dock Road

As a 2013 graduate, James Peden has already developed an impressive track record of Trenchless Technology project success. As Lead Engineer on a number of high profile Crossrail projects, he has demonstrated outstanding:

- risk management
- systems thinking
- innovation in design
- maturity in project management beyond his years
- continuous improvement.



The UKSTT provides:

- City & Guilds Training
- Educational support to Universities
- Lead generation
- Free promotional opportunities
- Web Page
- Newsletter to approx 4500 recipients
- Networking and more.

UKSTT
Promoting Trenchless Excellence

United Kingdom Society for Trenchless Technology
38 Holly Walk, Leamington Spa, Warwickshire CV32 4LY
T: 01926 330 935 E: admin@ukstt.org.uk

Join the trenchless revolution: www.ukstt.org.uk

United Utilities, semicorp, nationalgrid, Sutton and East Surrey Water, H2O

EVENTS AND MEETINGS



EDUCATIONAL PROGRAMME TAKES SHAPE FOR NO-DIG LIVE 2014

Preliminary details of the meetings programme to be held at NO-DIG LIVE 2014 have been announced and will combine early morning Breakfast Briefings, along with a new programme of educational workshops.

New for 2014 is the UKSTT's programme of sessions under the theme of Interactive Introduction to Trenchless Technology. The daily programme will be held between 11.00 and 13.00 and will be themed on various topics including:

- Investigation and pipeline condition assessment
- New installation of cables and pipes
- Rehabilitation and relining



Breakfast Briefings at the NO-DIG LIVE 2012 event.

In addition, The Breakfast Briefings have become a popular feature of NO-DIG LIVE and provide visitors with an opportunity to listen to debates on the daily topics. These events commence with a welcome coffee and breakfast snack at 0800 and conclude when the exhibition opens at 1000.

Day one is organised by UKSTT and entitled Utility Mapping - the subsurface vision and will seek to answer questions on the accuracy of utility mapping, how standards should be used and whether utility mapping can reduce overall project costs. The seminar will be held in the context of PAS 128, due to be published by the BSI this summer and which will set new standards to help client organisations ensure that utility maps are fit for purpose.

The second day, hosted by the Pipeline Industries Guild (PIG), will feature presentations on Utilities and Pipelines for trenchless technology highlighting projects undertaken using various methods, including ice pigging.

Day three will focus on safety in streetworks under the theme New solutions for dense urban working. The speakers will debate the pressures of working in congested urban locations, due to the ever higher regulatory and legislative parameters facing utility companies, highway authorities and

SPONSORS LINKS

Click Name for website access



Westrade Group Ltd

[Westrade](#)

Westrade Group Ltd is an independent company specialising in trade exhibition and conference organisation. Events include the 'TRENCHLESS' and 'NO-DIG' series across Europe, the Middle East, Asia and Africa.

NO-DIG SOUTH AFRICA 2014

29-30 July 2014
CSIR Convention Centre
Pretoria, South Africa

SOUTH AFRICA'S PREMIER FORUM ON TRENCHLESS TECHNOLOGY

TRENCHLESS WORKS IN SOUTH AFRICA
New infrastructure installations as well as essential renovation of ageing underground services can mean huge disruption to the travelling public, particularly in the country's major conurbations.

NO-DIG SOUTH AFRICA is an exciting forum for the industry to come together to see the technology, debate the benefits, share knowledge and network with like minded industry colleagues.

EXHIBITION
See and evaluate a wide range of equipment and services, displayed by international exhibitors, which will truly demonstrate trenchless technology and its capabilities.

EDUCATIONAL FORUM
The two day conference programme will feature a new Trenchless Technology Masterclass presented by expert representatives of The International Society for Trenchless Technology (ISTT). Case study presentations will illustrate many successful projects in a range of geotechnical site conditions.

South African professional delegates will receive CPD points.

All enquiries to:
Email trenchless@westrade.co.uk
Tel: +44 (0) 845 094 8066

www.nodigsouthafrica.com

Organised by: In conjunction with: Organised by: Platinum sponsor: Sponsor: Media partners:

EVENTS AND MEETINGS



their contractors, resulting in a constant struggle to meet budgets, standards, deadlines, and environmental targets, whilst offering customers absolute satisfaction.

Entrance to NO-DIG LIVE 2014, including the programme of seminars and workshops is free of charge to all industry visitors. Pre-registration is required for all attendees wishing to attend the Breakfast Briefings and Interactive workshops. Online registration will be open in early June at the event website www.nodiglive.co.uk. Exhibitors who have not yet booked are encouraged to reserve their space without delay as stands are selling fast.



SPONSORS LINKS
Click Name for website access



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

Westrade Group Ltd is an independent company specialising in trade exhibition and conference organisation. Events include the 'TRENCHLESS' and 'NO-DIG' series across Europe, the Middle East, Asia and Africa.

INTERNATIONAL NO-DIG MADRID 2014

The ISTT's 32nd INTERNATIONAL NO-DIG 2014 Conference and Exhibition is on track to showcase the very best technologies in Madrid between 13 and 15 October this year.

Exhibition space sales are increasing daily, both from individual companies, as well as a number of country pavilions from Spain, Germany and China.

Countries represented by individual bookings already include UK, USA, Russia, Australia, Italy and Denmark.

More than 50 papers will be presented in the international Conference programme. In addition, there will be a number of papers presented in Spanish. Online registration will be open in early June at the website: www.nodigmadrid.com.

For up to date information on space availability and sponsorship opportunities, please contact Paul Harwood at Westrade Group Ltd.



United Kingdom Society for Trenchless Technology

UKSTT

Benefits Society... Society Benefits

- **Skill training** (City and Guilds approved training)
- **Promoting environmentally friendly solutions**
- **Educational programme** (university lectures etc)
- **Promotes awareness** (with government and clients)
- **Highlights and promotes innovation.**
- **Encourages excellence** (Awards dinner)
- **Technical support**
- **Various membership options** (Corporate, associate, student etc)
- **Website links** (Direct to your company)
- **Free promotional opportunities** (Circulated to 12,000 targeted electronic readers and 4,000 direct mail)
- **Lead generation** (enquiries and tenders worth millions of pounds circulated each year)
- **CPD qualifying technical events**
- **Direct links with clients** (Networking opportunities)
- **Newsletter**



Join the trenchless revolution: www.ukstt.org.uk



INTERNATIONAL NO-DIG MADRID

IFEMA Convention Centre 13-15 October 2014



THE SPOTLIGHT IS ON *Madrid* as it hosts 32nd International No-Dig 2014

World Class Exhibition

Companies from around the world will display the very latest trenchless technology products and services.

Country pavilions already booked by Spain/ Portugal, Germany and China.

World Class Conference

International experts will present an insight into many groundbreaking innovations being developed and available for the renovation and new installation of underground utilities.

International Networking

The ISTT annual Conference and Exhibition is a unique event where the industry comes together to network with like-minded people.

Be in Madrid, 13-15 October to meet the cream of the industry.

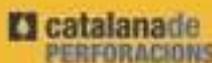
32nd International NO-DIG

Hosted by

Organised by



Platinum sponsors

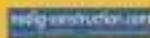
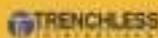


Bronze sponsors



Media partners

Supported by



watargas

For more information please visit the event website or contact the event organisers on:

T: +44 (0) 845 094 8066 E: trenchless@westrade.co.uk

www.nodigmadrid.com



2014
NO-DIG LIVE



16-18 September 2014

Peterborough Arena, East of England Showground, Peterborough UK

NO-DIG LIVE 2014



MAKE A DATE
IN YOUR
DIARY NOW

Online
registration
opens in April

The UK's only event dedicated
to trenchless technology

- Daily demonstrations of equipment in live working environment
- Free entrance to the exhibition
- Free attendance at Breakfast Briefings
- New programme of introductory trenchless seminars
- Free parking

Enquiries

E: trenchless@westrade.co.uk

T: 0845 094 8066

www.nodiglive.co.uk

Media partners



Organised by



In conjunction with



EVENTS AND MEETINGS



TRENCHLESS ASIA 2014

LOCATED AT SINGAPORE INTERNATIONAL WATER WEEK (SIWW)



Don't miss this highly educational exhibition

2-4 June 2014

Marina Bay Sands Convention Centre,
Singapore

SPONSORS LINKS

Click Name for website access



Westrade Group Ltd

[Westrade](#)

Westrade Group Ltd is an independent company specialising in trade exhibition and conference organisation. Events include the 'TRENCHLESS' and 'NO-DIG' series across Europe, the Middle East, Asia and Africa.



TRENCHLESS ASIA 2014 is the seventh event in this series and for the second time, will be held within Singapore International Water Week (SIWW).

SIWW attracted some 19,000 visitors from 104 countries in 2012, bringing together global leaders from the public and private sectors. SIWW is an all embracing water industry event and its audience will doubtless have a keen interest in attending the TRENCHLESS ASIA specialist area to expand their knowledge and view the latest technology and products available.

EXHIBITION ENTRANCE IS FREE - CLICK HERE TO REGISTER NOW

BOOK NOW

To ensure your participation in TRENCHLESS ASIA 2014 and to reserve priority space, contact Paul Harwood.

Email: pharwood@westrade.co.uk or call: +44 (0) 845 094 8066



www.trenchlessasia.com

Organised by



Located in



Supported by



Platinum Sponsor



Gold Sponsor



Media partners



EVENTS AND MEETINGS



2014

June 2-4

Trenchless Asia 2014 - Singapore

Details from: www.trenchlessasia.com

June 3-6

International Trade Fair and Conference for Trenchless Technologies NO-DIG Moscow - Moscow, Russia

Details from: www.nodig-moscow.ru

June 3-6

CityPipe 2014 - International Trade Fair 'Piping Systems for Municipal Infrastructure: Construction, Diagnostics, Repair and Operation - Moscow, Russia

Details from: www.citypipe.ru

June 10-11

ISTT SUMMIT/MASTERCLASS – Soeul, Korea.

Details from: www.istt-summits.com

July 29-30

NO-DIG SOUTH AFRICA Conference and Exhibition - Pretoria, South Africa.

Details from: www.westrade.co.uk

August 28-31

No-Dig Turkey 2014 - Istanbul, Turkey.

Details from: www.nodigturkey.com

September 16-18 **NOTE NEW VENUE**

No-Dig Live 2014 - Peterborough, UK

Details from: www.nodiglive.co.uk

October 13-15

International No-Dig 2014 - Madrid, Spain.

Details from: www.nodigmadrid.com

2015

March 24-27

NO DIG BERLIN - Berlin, Germany.

Details from: www.nodigberlin.com

September 28-30

No-Dig Istanbul 2015 - Istanbul, Turkey.

Details from: www.nodigistanbul.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