


TRENCHLESSWORKS

THE VOICE OF THE TRENCHLESS COMMUNITY

ISSUE 191 JULY 2022

Official Magazine & Media Partner:  KSTT

Official Publication of the International Society for Trenchless Technology  ISTT

FAST DISTRICT HEATING CONNECTION FOR PUBLIC OUTDOOR BATHS

UNDERSTANDING THE GROUND BENEATH OUR FEET
EXPERT NAVIGATION THROUGH HIGH INTERFERENCE

SPONSORED BY:

TRACTO
 VMT

SUPPORTED BY





EDUCATE DEVELOP ENDORSE

INVEST IN YOUR COMPANY'S FUTURE

**A two day EU Skills
accredited course that offers
an understanding of all aspects
of CIPP lining and patching.**

Localised patch repairs, ambient cure, hot cure
and UV/LED cure lining.



Scan the QR Code to
find out about our
lining and patching
course.



Scan the QR Code to
find out about our
patching course.



ENERGY &
UTILITY SKILLS

ENDORSED
TRAINING
PROGRAMME

+44 (0)330 043 9604
sales@rsm-web.com
www.rsm-web.com



CONTENTS

Click on an item for instant access

To submit editorial for Trenchless Works next issue please email copy and images to: editorial@trenchless-works.com by the 12th of the month. For Trenchless Works sponsorship and advertising rates [click here](#)

ARTICLE	PAGE		
NEWS			
LEAKAGE REDUCES THANKS TO SPRINT LED BY MORRISON WATER SERVICES	5	STRENGTHENING A HIGHWAY CULVERT	56
RSM RELOCATES	8	HOLYWELL CULVERT REHABILITATION	59
DIE DRAW LTD – PART OF THE AWARD-WINNING TEAM	9	SEWER LINING PROJECT PREPARES THE WAY FOR HS2 TERMINUS	61
TRENCHLESS TECHNOLOGY INTERNATIONAL SEMINAR MEXICO CITY	10	ONLINE PIPE REPLACEMENT	
BARHALE SECURES KEY SILVERTOWN TUNNEL PROJECT CONTRACT	13	HYDRASLITTER FOR LEAD PIPE REPLACEMENT	64
SANIVAR ANNOUNCES NEW PARTNERSHIP IN IRELAND	15	ASSET MANAGEMENT	
EUA NEW PRESIDENT AND VICE PRESIDENT	17	AUSTIN WATER SELECTS ELECTRO SCAN FOR INNOVATIVE INFLOW & INFILTRATION PROJECT	66
KOBUS LTD – NEW EUROPEAN PARTNERSHIPS	18	NASTT NEWS	
INDUSTRY COMMENT		THE WORLD'S LARGEST TRENCHLESS TECHNOLOGY CONFERENCE A HUGE SUCCESS	69
WORKING TOGETHER, THE FUTURE, OR JUST A DREAM?	20	ISTT SOCIETY NEWS	
INSPECTION, DETECTION & MAPPING		A MESSAGE FROM THE CHAIR	78
UNDERSTANDING THE GROUND BENEATH OUR FEET	22	UKSTT SOCIETY NEWS	
HDD		HELLO FROM THE CHAIR	83
FAST DISTRICT HEATING CONNECTION FOR PUBLIC OUTDOOR BATHS	42	UKSTT COUNCIL MEETING	85
EXPERT NAVIGATION THROUGH HIGH INTERFERENCE	46	UKWIR REPORT	86
MARKSMAN HDD GUIDANCE SYSTEM CUTS THROUGH HIGH-INTERFERENCE	50	UKSTT GALA DINNER & AWARDS	87
PIPELINE REHABILITATION		BELFAST NO-DIG ROADSHOW	88
AN ESTABLISHED PIPELINE REHABILITATION TECHNIQUE ENJOYS A RESURGENCE	51	UKSTT TECHNICAL ENQUIRY SERVICE	89
		THINK TRENCHLESS FIRST	90
		EVENTS AND MEETINGS	91

Paul Harwood, Publisher
pharwood@westrade.co.uk

Ian Clarke, Editor-in-Chief
editorial@trenchless-works.com

Austen Lees, Editorial
marketing@westrade.co.uk

Gary King, Group Sales Director
gking@westrade.co.uk

Trevor Dorrell, Group Sales Manager
tdorrell@westrade.co.uk

Stuart Hillyard, Sales Manager
shillyard@westrade.co.uk

Leigh Abbott, Group Marketing Manager
labbott@westrade.co.uk

Julie Harris, Design & Production

Lexi Di, Chinese Agent
lexi.di@bestexpo.cn



Trenchless Works is published 12 times a year by Westrade Group Ltd | Carotino House | Bury Lane | Rickmansworth | WD3 1ED | UK

Contributions: Contributions are invited and articles should be emailed to editorial@trenchless-works.com. No responsibility can be taken for drawings, photographs or written contributions during delivery, transmission or when with the magazine. In the absence of an agreement, the copyright of all contributions, regardless of format, belongs to the publisher. The publishers accept no responsibility in respect of advertisements appearing in the magazine and the opinions expressed in editorial material or otherwise do not necessarily represent the views of the publishers. The publishers accept no responsibility for actions taken on the basis of any information contained within this magazine. The publishers cannot accept liability for any loss arising from the late appearance or non-publication of any advertisement for any reason whatsoever.

ISSN 2049-3401

Subscribe for free: www.trenchless-works.com

CHANNELINE GRP Structural Lining Systems



PANELS SHOWN ABOVE ARE MANUFACTURED BY
CHANNELINE

ANY SHAPE – ANY SIZE

Large diameter pipelines and culverts represent the backbone of any city's utility network for the collection and disposal of sewerage and effective drainage of stormwater. The need arises to consider the means by which the structural rehabilitation of these pipelines and ducts can be achieved whereby a new, 100-years plus life expectancy can be provided with a high degree of confidence. Channeline international has been providing bespoke Structural Glass Reinforced Plastic (GRP / FRP) lining systems since the early 1980's, during which time we have accumulated unrivaled engineering and manufacturing experience for both Circular and Non-circular buried infrastructure worldwide. **At Channeline, we are proud of our heritage and are committed to offering economic custom solutions to our existing and future customers in the Storm and Wastewater Sectors.**

Channeline International Fiber Glass Manufacturing L.L.C.
P.O. Box 8091 Dubai,
United Arab Emirates
Tel: +971 4 8848383
Fax: +971 4 8848384
E-mail: timwebb@apsdubai.com /
sales@channeline-international.com
Website: www.channeline-international.com

Applications:

- Sewer Main Pipelines
- Sewer Overflow Pipelines
- Sewer Interceptor Pipelines
- Sewer Inverts
- Storm Water Drains
- Seawater Cooling Pipelines
- Large Diameter Culverts and Tunnels
- Railway & Road Culverts
- Manhole Liners
- Multisegmental Liners

Channeline International North America
Tel: +1 514 2424495
E-mail: andysherwin@channeline-international.com



Beyond the Ordinary

LEAKAGE REDUCES THANKS TO SPRINT LED BY MORRISON WATER SERVICES



A ground-breaking solution to tackling the challenges of water scarcity and demand identified by Morrison Water Services and Northumbrian Water has reduced leakage in two pilot areas by at least a quarter.

Morrison Water Services, a part of M Group Services' Water Division, and Northumbrian Water have been successfully trialling ground-breaking new leak-detection technology, VariSim Delta, since March 2022 in a bid to reduce leakage from the clean water network.

Leakage in the pilot areas, Newcastle and Dagenham, has reduced by 25% using the software system that uses flow meters, pressure sensors, high-frequency sampling and acoustic loggers to help identify leakages and bursts before they happen.

Trialling VariSim Delta came out of a sprint held at the Northumbrian Water Innovation Festival in October 2021. Innovators from across the world came together to look at creating a proactive approach to avoid leakage from a clean water network.

Morrison Water Services is the exclusive UK supplier of VariSim Delta, a ground-breaking technology can help to minimise disruption to customers' homes and businesses, keep water flowing and reduce the amount of water lost from the network through leakage. >

SPONSORED BY:

TRACTO
VMT

"We are delighted to be working with Northumbrian Water in delivering an industry-leading Digital Twin. We will reduce leakage and improve asset performance by monitoring critical supply areas in the region using live hydraulic models driven by pressure, flow, and acoustic data."

VariSim Delta has already been implemented successfully in Qatar and Dubai, two of the most water-stressed countries in the world.

By using millions of calculations per second, VariSim Delta creates an identical digital replica of a water network, known as a digital twin or pipeline simulator.

This real-time virtual recreation of the network can also help water companies understand why bursts happen, assess the condition of network assets and pipes and the profile of customer demand to help make informed decisions about asset optimisation.

Driven by Artificial Intelligence (AI), VariSim Delta software can also be taught to spot new leaks and bursts, identify changes in customers' water consumption and create alerts for malfunctioning assets.

Andy Carter, Business Services Director for M Group Services Water Division, said: "We are delighted our pilots with Northumbrian Water have so conclusively demonstrated that VariSim Delta is a proactive solution to water leakage. For this to come out of working together at the Innovation Festival is proof that collaborative working between innovative thinkers can successfully explore new ideas and identify new ways to tackle leakage and other challenges the water industry faces. Predicting leakages and bursts means fewer emergency excavations and more proactive action to tackle leakage in ways which are good for reducing costs, reducing carbon emissions and delivering better outcomes for customers. As the exclusive supplier of this progressive technology to the UK's water industry, we are confident we can revolutionise the ways leakage and network performance are managed, minimising disruption on the network and keeping water flowing to customers' homes and businesses."

Andy added: "We are pleased to be supporting the festival again this year and look forward to meeting people at the reception and throughout the week for more interesting conversations about the power of innovation."

Glyn Addicott, operations director at Hydraulic Analysis, said: "We are delighted to be working with Northumbrian Water in delivering an industry-leading Digital Twin. We will reduce leakage and improve asset performance by monitoring critical supply areas in the region using live hydraulic models driven by pressure, flow, and acoustic data. Our pipeline simulation software, VariSim Delta, is deployed on water networks and trunk mains around the world and we look forward to implementing our proven solution in the UK in this ground-breaking contract."

Jim Howey, Head of Water Networks for Northumbrian Water, said: "By using this exciting new technology, we can look proactively at leakage, stopping the churn of finding and fixing without knowing the root cause. The digital twin is helping us to understand our networks better and has been built based on data we already have along with pressure sensors in pipes. By using it, we can look for anomalies and tackle leaks in a much more efficient way, helping to save water and resources across our operating areas."

www.morrisonws.com

SPONSORED BY:



THE ORIGINAL WRc APPROVED PIPE PATCH REPAIR SYSTEM



Pipe Doctor
NO-DIG PIPE REPAIR SYSTEM

Fully WRc Approved from a company which offers flexible training and support to all of its customers.

Pipe Doctor has a long standing track record of providing a cost effective, easy to use and proven solution for the permanent and watertight repair of damaged pipes, without the need for excavation work.

WE WILL BE EXHIBITING AT
NO-DIG LIVE

13th – 15th September

NO-DIG LIVE



For enquiries contact the team at S1E Ltd on:

01226 397 015

contact@s1e.co.uk

www.s1e.co.uk

RSM RELOCATES

RSM Lining Supplies Global Ltd is delighted to announce its relocation to a new facility which increases its warehouse and office space from 12,000 square feet to 45,000.

First incorporated back in 2007, RSM has now been trading for 15 years. Experiencing rapid growth as a business over this time, the company has developed its very own range of products, partnered with some fantastic suppliers, and continued to push for excellence every step of the way.

Over the years RSM's product catalogue has continued to expand with new, innovative materials and equipment. With a constantly evolving market, the new warehouse allows the company to increase its day-to-day stock holding exponentially.

With the increased warehouse space, RSM took the opportunity to double its impregnation capacity – there are now not one, but two impregnation tables.

The impregnation team has over a decade's worth of experience and carries out a multitude of impregnations daily. With the introduction of the second wet-out bed, RSM can now run two liners at a time to keep up with customer demand. The company has the capability to impregnate liners with polyester, vinylester, epoxy and UV LED resin in diameters up to 2,000 mm.

RSM has also been able to expand its specialist service and repair centre. Split into two divisions (Robotics Repair Centre and General Maintenance and Repair Team), there is plenty of space for a vast array of spare parts to be kept in stock for all pieces of equipment to ensure a quick turnaround time on repairs.

The Robotics Repair Centre focuses on the repair of Sewertronics and Dancutter Systems, whilst the General Maintenance and Repair Team are constantly servicing and maintaining RSM's extensive fleet of hire equipment and carry out the repair and service of RSM's range of Sluices, Boilers, and Inversion Drums.

First introduced in July 2021, RSM's CIPP Lining & Patching Training Course has been incredibly popular. So much so that the company has created a new, bespoke training facility within its new premises. The one-of-a-kind training course is run over the period of two days and aims to provide an understanding of all levels of CIPP Lining & Patching.

Accredited by EU Skills and supported by the WRc, the aim is to offer confidence to contractor's clients that all attendees have been trained to a high skill level and understand how to successfully install liners and patches in diameters up to 300 mm.

The new training facility offers ample classroom space along with an external space for RSM's technical engineers to carry out demonstrations and conduct course attendee's practical examinations. It is also linked to the new purpose-built showroom, created to display RSM's variety of CIPP equipment and material samples.

RSM's Sales Director, Phil Steele, commented: "We are delighted to move to our new premises. This will make us much more efficient operationally and allow a significant increase in our stock holding to ensure we continue to meet customer requirements. It has been well overdue for some time, and we cannot wait to welcome customers and suppliers to show them around!"

As always, RSM's main priority is ensuring their high level of customer service is maintained and they are incredibly excited to see what the future brings.

RSM will be holding an official opening at some point over the next few months so be sure to keep a look out for further announcements.

You will now find
RSM located at...

RSM Lining Supplies
Global Ltd
Unit 2 Connection
Business Park
Woodfield Way,
Balby, Doncaster,
DN4 8GE

SPONSORED BY:



Sponsored by:

nationalgrid

united
living

ATKINS



DIE DRAW LTD – PART OF THE AWARD-WINNING TEAM

Die Draw Ltd is extremely proud to be part of a winning team to be awarded the prestigious Pipeline Industry Guild 'Utility Pipeline Project' Award.

The complex project involved 7 months of collaboration between Thames Water, Agility Alliance, Morrison Water Services and Die Draw Ltd to install 500 m of PE100 liner into a 36 in (914 mm) diameter, 150-year-old cast iron main in London. The location, in a highly built-up area with heavy traffic, presented unique challenges requiring selection of a technology that minimised the installation size and footprint, whilst maximising flow post-installation. The Die Draw technique was used to temporarily reduce liner diameter during installation. A 100 t winch was located at 90° to the pipeline using sheaves to transfer the pull-in forces between two very close adjacent mains without risk of disturbance.

"I'm delighted that Die Draw Ltd has helped our client MorrisonWS/Agility to win this prestigious award for its client Thames Water. It demonstrates what can be achieved when a multi-disciplinary team with all the right expertise is assembled together from different businesses. The successful implementation of Die Draw technology not only requires this, it demands it."

Steve Brogden, Managing Director, Die Draw Ltd

SPONSORED BY:

TRACTO
VMT

TRENCHLESS TECHNOLOGY INTERNATIONAL SEMINAR MEXICO CITY

Organised by



Supported by



TRENCHLESS TECHNOLOGY INTERNATIONAL SEMINAR 2022 MEXICO

Westrade Group and North American Society for Trenchless Technology (NASTT) are excited to announce the launch of the Trenchless Technology International Seminar in Santa Fe, Mexico on the 30th November 2022 at the Westin Hotel.

Mexico's infrastructure market is characterised by a strong domestic component along with a robust involvement of foreign firms. The government announced the first phase of an ambitious infrastructure plan that encompasses around USD 44 billion in spending. In 2023, Mexico will host the International Society for Trenchless Technology International No-Dig event. Ahead of this Westrade Group and the North American Society for Trenchless Technology (NASTT) are pleased to announce the Trenchless Technology International Seminar to be held in Santa Fe, Mexico City on the 30 November at the Westin Hotel, also supported by the International Society for Trenchless Technology. The Seminar is designed to assist the international and local community with educational, interactive, comprehensive and up to the minute information on the very latest in Trenchless Techniques, Underground Infrastructure and Pipeline Technologies.

SPONSORED BY:



“We’re excited to have the opportunity to make Mexico and Santa Fe the trenchless capital of the world for a day this November. In addition to its own rapidly growing market, Mexico is the gateway from the north to the south of the continent and as a result will pull a highly diverse and engaged audience from across the Americas. Delegates can expect to hear from global pioneers of trenchless technology sharing their experiences of new build construction and rehabilitation projects”

The Seminar programme will feature two, in-depth technical presentations introducing trenchless technology worldwide – one on New Installations and one on Rehabilitation. The local MEXTT Chapter of NASTT will provide case study presentations on local projects happening in Mexico, providing a platform for delegates to hear about practical applications of trenchless technology in their local and surrounding areas. At each presentation, there will be a forum to interact with our trenchless experts and local MEXTT members to ask questions and discuss the material in depth. The programme’s format is structured to create an educational atmosphere that encourages the exchange of information and experiences, while networking with like minded industry colleagues.

Commenting on the launch of the seminar Westrade’s Managing Director, Paul Harwood, said: “We’re excited to have the opportunity to make Mexico and Santa Fe the trenchless capital of the world for a day this November. In addition to its own rapidly growing market, Mexico is the gateway from the north to the south of the continent and as a result will pull a highly diverse and engaged audience from across the Americas. Delegates can expect to hear from global pioneers of trenchless technology sharing their experiences of new build construction and rehabilitation projects.”

The Trenchless Technology International Seminar proceeds the ISTT’s highly anticipated 39th International No-Dig Conference and Exhibition which takes place at the Expo in Santa Fe between the 17th and 19th October 2023.

A diverse and exciting portfolio of sponsorship packages are now available through the Westrade team. For more information, please contact pharwood@westrade.co.uk.

About MEXTT The México Chapter of NASTT (MEXTT) was established in 2021 and represents the country of México’s perspective of the trenchless technology marketplace. MEXTT members are currently from and represent the entire country of México. NASTT is thrilled to have the MEXTT Chapter join as our 12th Regional Chapter in North America. MEXTT continues to grow their membership and trenchless technology outreach in Mexico and is thrilled to be the host for the upcoming 2023 International No-Dig Show!

TRENCHLESS TECHNOLOGY INTERNATIONAL SEMINAR

2022
MEXICO

30 November 2022
Westin Hotel, Santa Fe, Mexico

The Trenchless Technology International Seminar will comprise of comprehensive technical presentations introducing trenchless technology worldwide, local case study presentations alongside exhibits from sponsoring organisations. All catering breaks are held in the exhibition area, affording maximum integration between delegates, sponsors and exhibitors. It will also feature a Networking Reception for the 2023 ISTT International No-Dig.

We are inviting industry support to facilitate these important events, designed to disseminate educational information to delegates in the selected regions. Being a sponsor presents a unique opportunity to evolve your company's status worldwide within the industry. Take advantage of this sponsorship package and contact Paul Harwood at pharwood@westrade.co.uk or +44 (0) 1923 723990

www.trenchlessmexico.com

Organised by



Supported by



Official Media Partner

TRENCHLESSWORKS



BARHALE SECURES KEY SILVERTOWN TUNNEL PROJECT CONTRACT

Overview of the Silvertown Tunnel project site.

A critical contract that will help to unlock works at the northern end of London's newest river crossing has been awarded to Barhale.

RiverLinx CJV, the joint venture comprising Ferrovial, BAM Nuttall and SK E&C, has appointed the civil engineering and infrastructure specialist to divert water mains which would otherwise clash with the proposed route of the £1 billion, 1.4 km twin-bore Silvertown tunnel under the River Thames.

A six-month programme of works, scheduled to run from July 2022 to December 2022, will see Barhale re-route the two twin 1,400 mm diameter rising mains to allow the cut-and-cover construction of the northern approach to the new tunnel.

When completed, the new crossing will run to the east of the 123-year-old Blackwall Tunnel, connecting the A102 at Greenwich Peninsula to the A1020 at west Silvertown, adjacent to the western end of the Royal Victoria Docks.

The project forms a major element in London's future transport strategy. It will ease traffic congestion and help the local infrastructure accommodate anticipated population increases in the catchment area.

A key benefit is the improvement in public transport links between the two sides of the river. It is forecast that the numbers of buses making the crossing will increase to 37 buses an hour, all of them able to use dedicated traffic lanes.

Michael Faherty, Contracts Manager at Barhale, is proud of the appointment and of the role his team will play in adding a new, vital connection within the capital. "We all understand how frustrating getting around London can be at times," he said. "So, it is great to be contributing to the transformation of travel in this part of town. It is a very pleasing endorsement of the skills and expertise that we bring to the table that we have been selected and we look forward to working alongside the RiverLinx team, playing out part in delivering this world-class engineering project."

SPONSORED BY:

TRACTO
VMT



VISIT US AT

NO-DIG LIVE 2022

13-15th September
Outdoor Stand 7
East of England Arena & Events Centre

SUNBELT RENTALS

2022
NO-DIG LIVE

SUNBELT RENTALS



IPEK

R-VION[®] HD

MORE ACCURATE REPORTS

-  **BETTER PICTURE**
-  **MORE ACCURACY**
-  **MORE VIBRANT**

2022 NO-DIG LIVE

VISIT US OUTSIDE AREA NUMBER 30

SD

FULL HD 1080p

www.ipek.at | UK sales and service contact | Tel: +44 (0)117 379 0710 | Email: dbkemp@idexcorp.com

IDEX

SANIVAR ANNOUNCES NEW PARTNERSHIP IN IRELAND



Above: Sanivar liner on delivery for the Tullamore Project.

Below: One of Dyno-Rod Ireland's vans on site.



Sanivar, a state-of-the-art water pipelining manufacturer, has announced a partnership with Dyno-Rod as an approved installer across Ireland, following the successful completion of the recent Tullamore Project.

As part of the deal, Dyno-Rod will now oversee operations both North and South of the border, forwarding Sanivar's goals to promote the benefits of its pressure pipe liners on water, waste, and industrial assets across Ireland.

The Tullamore project's main aim for Cardinal Health was to refurbish in-situ a 40-year old fire main with recent burst history to maintain the integrity of the sprinkler system using 250 mm diameter SaniTube on a 12 bar pressure asset.

Sanivar's lining systems are based on extruding polyethylene around a close weave polyester fibre, producing a highly flexible, hard-wearing, long-lasting pipe lining system, suitable for high pressures, wide-ranging temperatures, resistant to abrasion, and carrying all sorts of mediums, including potable water.

Prior to the operation, the contractor was supported with product selection and scoping of the project addressing challenges around access, minimal disruption, onward connections and pressure testing at 16 bar.

Barry Benson Managing Director of Dyno-Rod Ireland commented: "When evaluating this project, we were keen to use SaniTube as it offered the optimum solution to the challenges faced. Fortunately, with Sanivar's technical support on site the team was able to overcome the challenges and finish the job to a high standard and to our client's specification paving the way for further work on site."

Sanivar's partnership in Ireland is set to play an integral part in promoting the benefits of its products in the coming months.

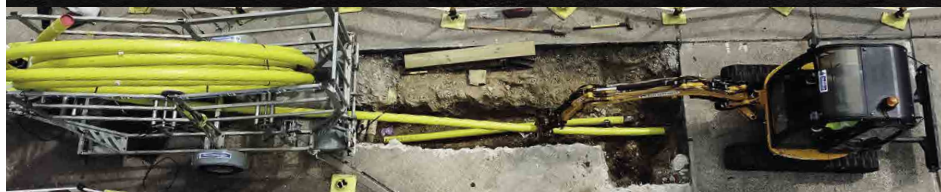
Speaking on the importance of the new partnership, Tim Farley, Business Development Manager at Sanivar, said: "The announcement that Dyno-Rod will now act as approved installer in Ireland is such a positive one for the progression of our goals here at Sanivar. The recent Tullamore project was a great success. The installation of the SaniTube for this project will mitigate the possibility of recurring bursts, as it is highly durable. It is always celebrated when, as a business, you can find trusted, hardworking and highly skilled companies such as Dyno-Rod to help get the job done. I have no doubt that this partnership will be the start of a positive journey for both parties."

<https://www.sanivar.co.uk/>

SPONSORED BY:

TRACTO
VMT

RAPTOR
FROM **TOWMATE**



LAUNCHING THE NEW AND IMPROVED PIPE TRAILER

The number one trailer choice for water, electrical and gas coil pipe transportation has just got even better. Come and see us on **stand no. 44** at **No Dig Live 2022** to see for yourself!

Join us at **Stand No. 44** from **13th to 15th September 2022**



**SCAN TODAY TO
REGISTER FOR
NO DIG LIVE!**

T: 01206 588566 **E:** sales@ate-uk.com **W:** www.ate-uk.com

ATE (UK) Ltd, Anglia House, Haven Road, Colchester, Essex CO2 8HT

TOWMATE
TRAILERS FROM **ATE**



IMERYS

SEWPERCOAT[®]

**You've put SewperCoat[®]
in service for over
30 years now...**

For more information:

+1 757 284 3278

sewpercoat@imerys.com

imerys.com/sewpercoat



EUA NEW PRESIDENT AND VICE PRESIDENT

Following the Annual General Meeting of the leading trade body, Energy and Utilities Alliance (EUA), Bob Murray, Managing Director - Skewb Industry, Communities, and CSR becomes the new President and Martyn Bridges, Director of Marketing and Technical Support at Worcester Bosch becomes Vice President.

Mike Foster, Chief Executive of EUA said: "Firstly I must thank our outgoing President Andy Parker for his commitment, support, and dedication throughout an incredibly challenging year. I am delighted to congratulate Bob on becoming President, for the second time in his distinguished career. Having served as president before, he has the experience and knowledge to assist EUA as we aid the UK's transition to Net Zero. Together with Martyn Bridges, who has a wealth of technical and industry experience in the heating sector, they make a formidable team."

EUR ING Robert J Murray BEng (Hons) MBA CEng FIGEM FInstLM FSOE FIPlantE MIED is a Past President of the EUA and has nearly 48 years of experience in the Gas, Water and Energy Industries.

Bob has held Director positions with Transco/National Grid, the Inexus Group, Skanska, and Enzen Global. His current role with Skewb UK is Managing Director for Industry, Communities, and CSR. A role, which refers to as his dream career role and the one worth waiting for.

On his presidency, Bob Murray said: "I am delighted and honoured to serve as President of the EUA, an organisation at the heart of everything good in the energy and utilities industry."

Newly appointed Vice president Martyn Bridges said: "I am honoured and very flattered to be appointed Vice President of the EUA. The heating industry is about to go through some seismic changes over the next few years with changing legislation and policy as we transition to a Net Zero solution.

The EUA plays a vital part in joining industry and government together so I am delighted to be taking on this new position during these exciting times."

www.eua.org.uk

The Energy and Utilities Alliance, **EUA**,
Management Board



EUR ING Robert J Murray,
President, EUA



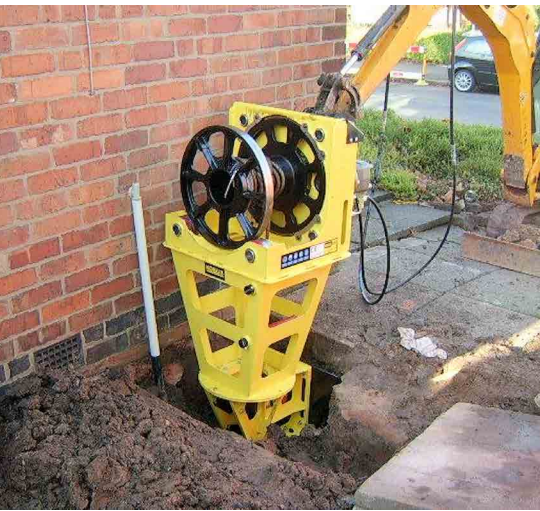
Martyn Bridges, Vice President
& Treasurer, EUA



SPONSORED BY:



KOBUS LTD – NEW EUROPEAN PARTNERSHIPS



Above: A Kobus Pipe Puller being positioned for a project.

Below: A Kobus unit undertaking replacement works.



Kobus Pipe Puller continues to sustain its growth as a leader in the world of pipe replacement equipment with new partnerships across Europe.

Since launching the original Pipe Puller in the UK in 2011, Kobus has led the way for trenchless technologies creating products capable of simultaneously removing and laying pipes.

Now, Kobus is proud to partner with Germany's Perforator GmbH to bring the Kobus Pipe Puller range to the German, Swiss, and Austrian markets. Perforator GmbH was founded in 2002 and will now utilise the Pipe Puller portfolio in its operations.

In March this year, Kobus Pipe Puller's business developer Simon Macdonald met with the Managing Director of Perforator, Johann-Christian von Behr, to finalise the agreement. Both company leaders share the same principles in striving for quick trenchless pipeline replacement work. This partnership adds to a growing number of deals across Europe.

The Kobus Pipe Puller range is already operating with partners in 10 countries including Poland, Cyprus, Spain, and the Netherlands. Spanish partner Sistemas de Perforacion was recognised with a gold award at the International Water & Irrigation Exhibition for its use of the Kobus Pipe Puller KPP300 technology in its operations.

Kobus' international operations also extend to the USA through a wholly owned US-based subsidiary, Kobus Inc. Launched in 2020, Kobus' US operation is based in the heart of America's pipeline replacement hotspot, Kalamazoo, Michigan. Both Michigan and surrounding states have a high incidence of lead pipes in need of replacement, particularly in inner-city areas.

Further partnerships across Europe, and globally, continues to be worked on with the Kobus Pipe Puller proving its worth for partners utilising the unique trenchless technology product range.

Kobus produces two pipe pulling products, the KPP300 and the KPP400. The KPP300 is the original offering. Modular for ease of handling and driven by its own, separate hydraulic pack the KPP300 is compact and easy to use with manual handling by two operators. It is best used when site access is difficult.

In 2014, with funding secured through the Gas Industry Network Innovation Alliance, the KPP400 was launched. Mounted on a compact excavator and driven from auxiliary hydraulics this product is an all-in-one excavator capable of generating up to 20 t of pulling force.

SPONSORED BY:

TRACTO
VMT

INTERNATIONAL NO-DIG 2022

HELSINKI
THE 38th INTERNATIONAL NO-DIG

Conference and Exhibition
3-5 October 2022

Messukeskus Helsinki Expo and
Convention Centre, Finland



International No-Dig Helsinki is the major annual international gathering for trenchless technologists to meet and discuss the latest industry developments.

- Reach new markets at this major event targeting influential audiences to be drawn from the European markets, as well as attendees from further afield
- An opportunity to display and demonstrate products to a highly targeted audience
- Ensure your brand has a profile in the presence of the industry's premier decision makers
- Take a leadership position and play a major role within the Trenchless/No-Dig sector
- Be seen at the region's only industry specific exhibition and conference with a proven track record that truly demonstrates Trenchless/No-Dig technology and its capabilities
- Be seen alongside influential supporters representing Europe

To be seen amongst the worlds leading providers and show your innovations, book a stand at International No-Dig Helsinki.

Contact Paul Harwood at pharwood@westrade.co.uk or +44 (0) 1923 723990

Organised by



Diamond Sponsor



Platinum Sponsor



Supported by



Official Media Partner

TRENCHLESSWORKS

Bronze Sponsor



WORKING TOGETHER, THE FUTURE, OR JUST A DREAM?

By David Pitt, Infotec



Working together to improve our environment by embracing and developing new techniques and innovative thinking whilst also seeking to enhance older proven technologies and utilising the wealth of knowledge and experience of those that still have a valuable part to play, is all part of this vital process.

The environmental challenges faced by our Water Utilities represent one area where collaboration has the potential to deliver significant benefits. Everything from achieving their committed goals for achieving NetZero, through to reducing flooding and pollution and restoring the health of Rivers and Watercourse and ultimately the Oceans. Striving for the Holy Grail and building opportunities that currently have to potential to deliver a truly circular economy, all of these are far more achievable by working together and achievable in a timely manner, as time for change is short!

The challenge for our Water Utilities is to remove barriers. To encourage every department and every member of staff to be inclusive and to solicit views and opportunities from every corner, particularly from those that have been denied access to the deliberation table to date. To recognise the expertise that others possess and to embrace it, not fear it. To remove hurdles caused by existing commercial interests, personal prejudice, or bias, and to replace outdated procurement rules that require an internal need and demand for a solution that is not currently available to be identified before allowing a purchase, hence denying access for truly innovative alternatives.

To succeed these responsibilities must include accountability and the appointment of an independent or transparent person or team, charged with ensuring all viable opportunities are duly considered and where possible developed. More time must be given to solutions with the potential to provide the most significant benefits. The value of these benefits must include every aspect not just the direct costs when compared to existing solutions. Compliance, prosecution, public opinion, third party costs, hidden commodities, or consumables such as mains water supply, third party and uncharged costs that could potentially be eradicated, all of this should be taken fully into account. We have the potential to achieve significant game changing steps through working together.

In the unforgettable words of Martin Luther King: "I have a Dream" a Dream is that one day doors will be open, and people will be fully prepared to listen, and then given the opportunity to consider, and the freedom to act. Whether that dream is ever truly realised, remains to be seen? But I for one am sure, that the World will be a much better place just for trying!

SPONSORED BY:





NO-DIG LIVE 2022

13-15 September

East of England Arena & Events Centre, Peterborough, PE2 6XE

BOOK NOW!

LAST FEW STANDS REMAINING

The UK's only event dedicated to trenchless technology

The sixteenth biennial trenchless technology exhibition, outdoor demonstrations and seminars

A visit to No-Dig Live 2022 is free of charge and a must for anyone involved in the installation or refurbishment of underground utilities.

Be part of the UK industry's only showcase dedicated to trenchless technology, attracting 2000 visitors in 2021.

- The 16th biennial trenchless technology exhibition
- Live outdoor demonstrations
- Technical sessions
- Supported by UKSTT and their Patrons
- Featuring the UKSTT Gala Dinner & Awards Ceremony
- Over 100 exhibiting companies in 2021

Registration now OPEN!

Featuring the UKSTT Gala Dinner & Awards Ceremony

The UKSTT Awards

in association with Westrade



Wednesday 14 September

Sponsorship opportunities available

For more details regarding exhibiting and sponsorship opportunities please contact:

Trevor Dorrell at tdorrell@westrade.co.uk or Gary King at gking@westrade.co.uk or +44 (0)1923 723990

www.nodiglive.co.uk

Contact the sales team E: tdorrell@westrade.co.uk & gking@westrade.co.uk T: + (0)1923 723 990

Organised by



Supported by



Supported by UKSTT Patrons



Official Media Partner

TRENCHLESSWORKS



FOCUS

INSPECTION, DETECTION & MAPPING

UNDERSTANDING THE GROUND BENEATH OUR FEET



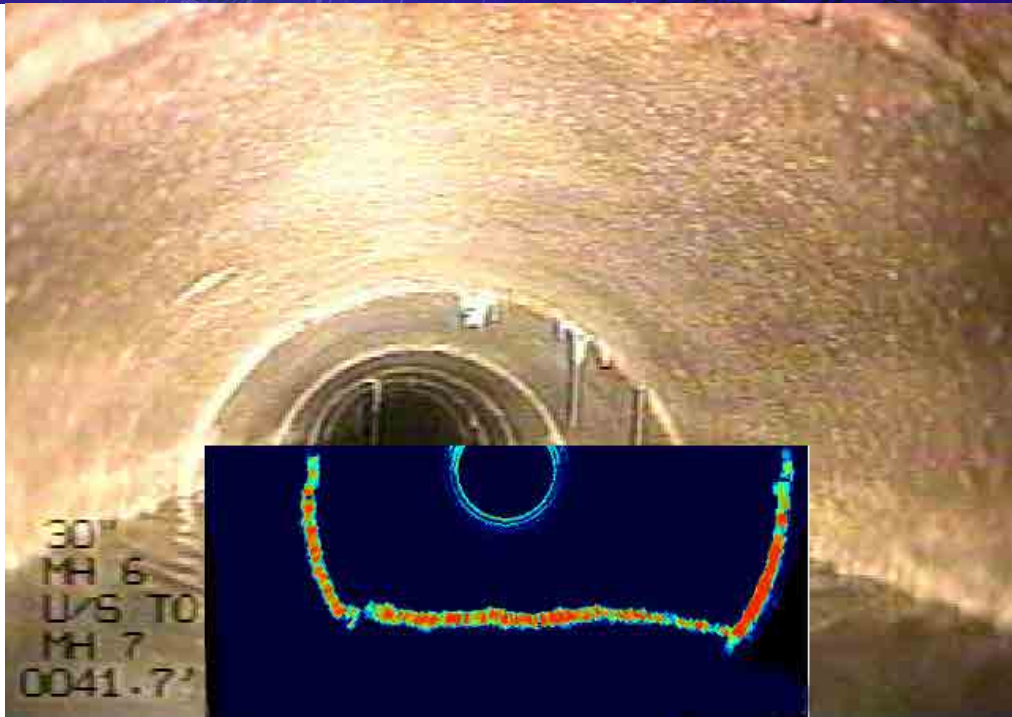
It has long been understood that it is not possible to maintain or repair buried services without the knowledge of where they are and where they run. This is why for decades (if not longer) it has been required to plot the position and course of such services on utility maps, which are available to those that may wish to enter the ground in the proximity of these services as well as allowing the utility owners and operators to access their own facilities. >

A crawler mounted CCTV camera designed for use in larger diameter pipes and culverts.

SPONSORED BY:

TRACTO
VMT

Visual and sonar inspection options working together.



Over the past 40 years or more this has become ever more important as subterranean highways have become the dominant means of delivery of services to businesses and residences. Furthermore, the past decade with the development of latest fibre optic technologies has required even more use of the subsurface world, adding to that already in use established networks for water, wastewater, gas, telecoms and electrical power delivery.

Yet even today across the buried service industries there are reports of thousands of utility strikes through excavations where operators have been unaware of the location of existing services in the area. Even with the development of the detection and mapping systems now available there are still many incidents recorded each year.

The increasing use of the family of trenchless technologies that serve the buried service industries, with access being through small excavations, or existing manhole or other accesses, has further required improved knowledge of what is already buried nearby, what lies in the path of any new installation or what may be affected by the trenchless operations being undertaken. But still strikes occur.

STRIKE REPORT

A recent report, 'Utility Strikes – Causes, Costs & Developments' from Professor Nicole Metje of University of Birmingham who presented an IOSH Webinar: Managing Underground Assets Safely, on 14 January 2021. (The full webinar presentation can be viewed at: <https://iosh.com/media/9192/utility-strikes-causes-costs-developments.pdf>), highlighted some interesting if potentially disturbing figures relating to strikes.

The webinar highlighted results from a test sample of incidents showing that in relation to Causes and Reasons for strikes:

- Out of 255 incidents where pre-excavation CAT scans were carried out:
 - ... 52% of the utilities were detected before the strike
 - ... 48% failed to be detected before the strike
- Out of 187 incidents that indicated reviewing utility plans/drawings before excavation:
 - ... 48% of the utilities were on plans
 - ... 52% were not shown on the plans >



“Out of 89 incidents that were on plans: 16% indicated that the location of the utility shown was accurate – 84% stated that the location of the utility struck was inaccurately plotted.”

Gas leak detection.

- Out of 89 incidents that were on plans:
 - ... 16% indicated that the location of the utility shown was accurate
 - ... 84% stated that the location of the utility struck was inaccurately plotted

Perhaps the most striking of these figures is that within the data used in the presentation is that of the incidents studied a huge proportion of buried services were inaccurately plotted on what are supposed to be accurate maps of existing utilities, not only to let the utilities themselves know where their assets are but also to indicate this presence to other utilities and or others that may need to operate/excavate in the same vicinity.

So, given the apparent evidence that the industry either does not know what is where or at least to any great degree of accuracy, despite equipment long being available to correct this situation, what is available?

LOCATION OPTIONS

The tool most used by working crews in the street is the Cable Avoidance Tool (commonly known as C.A.T.). Essentially, a Cable Avoidance Tool is designed to pick up the electromagnetic field created when an electrical current passes through a conductor like a buried cable. The electromagnetic field forms in an area around the conductor being at its strongest when the detector is directly above.

Where simple detection is achieved by passing the detector over the survey area this known as Passive location. The downside of this type of survey is that if the service is not carrying a current at the time of the survey, no electromagnetic field is generated so the service remains hidden.

For a stronger signal generation and therefore a more significant probability locating a service, Active location is used by adding a specific signal onto a utility using a signal transmitter/generator. Here, whether the conductor is carrying a current or not, the generated signal will be located by the detector, allowing the route of the service to be established irrespective of the service being active itself. There is usually a requirement for this option that a physical connection needs to be made to the service at some point, so a known starting location must be available to the survey to attach the signal generator. The utility also needs to be constructed of a material that will carry and propagate the signal, usually a metal pipe.

If there is suspicion that a service exists but no known start location is available there is the option to use a different form of signal generator to offer an Induced signal. >

SPONSORED BY:

TRACTO
VMT

Induction is a quick and simple way to apply a signal to a utility without the need to make any physical connection. An aerial pushes a magnetic field into the ground. Any buried metallic utilities routed within close proximity to the signal transmitter will be induced with the signal, allowing the utility to be located and traced with a cable locator.

The problem here of course is that many other than metal cable-based networks, modern services are now being installed, and have been for decades that do not use metal pipes or wiring. Water pipes have long been plastic, as have gas pipes. Fibre optic ducts and the cables themselves also are non-metallic. So, there is a need to ensure that these networks too are detectable when necessary.

One option that allows C.A.T. systems to be used is the installation of detectable warning tapes. Warning tapes have been used for many years during open installations of pipes to highlight to excavator drivers that they are nearing a buried service. More recently however many of these tapes have been made available with in-built wiring which, if connected to a signal generator or using an induction signal generator, can be traced as if they were metallic pipes.

Many C.A.T. systems also now have depth approximation technology in-built to indicate the expected depth of the buried service. This can aid excavation operations by allowing the driver to know when to expect to be near an existing service or where a trenchless operation is planned to indicate the depth of any potential obstacle to that operation as it proceeds.

GROUND PENETRATING RADAR

Where the use of signal generation is not feasible, or the materials used for the buried service are metallic, Ground Penetrating Radar (GPR) is a geophysical survey method that uses pulses of electromagnetic radiation to image the subsurface. It provides a non-intrusive and non-destructive method of surveying. Consequently, it is a useful survey technique to investigate many materials. Examples include the ground, concrete, masonry, and asphalt.

A GPR transmitter emits pulses of electromagnetic energy into the subsurface. Changes in the sub-surface are detected based on differences in aspects like density. When a change in the sub-surface is encountered, some of the electromagnetic energy is reflected back to the surface. This is detected by a receiving antenna and variations in the return signal are recorded. The information is displayed on a radargram, which when correctly analysed can indicate utility routes, voids and buried obstacles.

Although Ground Penetrating Radar can detect changes in the sub-surface, it cannot determine their exact nature. Some features exhibit specific characteristics in the reflected wave pattern. For example, reflections from metallic surfaces have a high amplitude, while reflections from a void are reverse polarity. These help with the identification of the detected features. However, in some cases, it may be necessary to supplement a GPR survey with absolute data from boreholes, sample cores, trial pits, etc.

It is now common practice to include GPR in a utility detection survey, especially for the location of non-metallic pipes and cables where other technologies may struggle or fail.

A big leap forward in GPR technologies came in the early 90's with the advent of portable computing with enough power to process GPR data immediately on site, thus enabling of cart based GPR systems, with an odometer for in-line positioning.

Another significant leap forward on the 2000's was the advent on multi-channel systems, which can be of two types. >

The first is where antennas of two distinct frequency bands are packaged together in one antenna, thus two or more different data sets can be acquired simultaneously each giving different depth of investigation and resolution and thus enabling improved interpretation of the data, thus removing the need to make a critical decision about which antenna frequency to use to facilitate the best chance of locating the utilities of size depth and position interest.

The second development was that of arrays of up to 20 antennas of the same frequency in a single box, which can be either vehicle mounted in the case of large arrays, or in a push cart for smaller arrays. In both cases, data can be accurately positioned from a GNSS or use of a total station. With this development the age of 3D GPR surveying began. The physical size of the antenna array means they cannot be used in every location but if the area to be surveyed is large enough and relatively clear of obstructions then their use allows a significant improvement in data quality, speed of survey, accuracy and ease of interpretation over a conventional single antenna system.

With all GPR systems there is a trade-off between data resolution and depth of investigation, so it is important to have a knowledge of the anticipated ground conditions, the size range and depth of utilities of interest, so the appropriate antenna frequency can be selected to give the best possibility of a successful detection survey.

OTHER OPTIONS

Gyroscopic Alignment Systems are based on an entirely different mapping technique to more conventional systems which rely upon an emitted signal and as such are not limited by depth, pipe material or the quality of signal and absence of interferences. >



A paradigm shift in gyro-mapping

**PAY PER
METER**

RENT OUR INSTRUMENTS
and pay as little as €0,40/meter

For more info contact us at sales@reduct.net

The Gyroscopic Mapping system is passed through the subject pipeline, duct or sewer using a combination of propulsion methods and wheel arrangements and through the combination of on-board gyros, accelerometers, inclinometers and odometer sensors, are able to accurately plot the 3D alignment (X, Y, Z) of the pipe route between 2 fixed points of reference for example manhole chambers. Multiple surveys are usually conducted to ensure Quality Control Procedures and to maximise accuracy. The data obtained is then processed with averaging software to provide maximum accuracy for the plotted alignment. Gyroscopic Alignment techniques are unaffected by the external factors which would impact alternative techniques such as Electromagnetic Probing and would be the recommended minimum survey level for sewers of significant depth, size or importance.

By adding a full in-pipe LIDAR Survey to a Gyroscopic Alignment survey it enhances alignment accuracy and expands upon the lineal mapping of the pipeline route by adding 3D properties and confirming the internal extent of the structure which can be invaluable in informing the design of infrastructure and piling schemes around an existing underground asset. It is also common for internal structures to change shape and size along their route and the inclusion of full In-Pipe LiDAR survey will ensure that these deviations are captured accurately within the point cloud model. The quantity of internal data captured in one traverse will also ensure that the data is future proofed in the event that further information is required to inform later elements of a project or to confirm the presence of pre-existing defects for liability or monitoring purposes.

Electromagnetic (EM) Probe/Sonde surveys are another option. Here the probe or sonde is passed remotely through a pipeline, duct or sewer. This is traced using equipment similar to that used for C.A.T. surveys from surface to confirm the alignment and depth. Marked locations on the surface can be subsequently recorded >

Advancing the CIPP Industry Since the 1970s.

Quality: Manufacturer of the world's finest quality felt and fibreglass reinforced Cured-in-Place liners for gravity sewer, pressure pipe and potable water applications.

Our Customers' Success: More than 100,000 kilometres of our quality liners installed globally.

Culture: Listening, innovating and growing to supply customers' needs.

No matter the type of fiber, coating, seam or cure needed for your project, Applied Felts – the leading global manufacturer of CIPP liners and CalTubes® – truly has you covered.



APPLIED FELTS® WORLD CLASS CIPP LINERS

appliedfelts.com | 276.656.1904 | +44(0)1924 200535



using Topographic Survey methods and overlaid onto an existing survey drawing or OS Tile to provide a mapped representation of the pipe route with approximate depths where obtainable. Electromagnetic Probing presents a cost-effective remote mapping method within small, shallow pipelines. However, its reliability diminishes within increased asset diameter, depth or close proximity of adjacent utility infrastructure.

LOCATION SYSTEM MANUFACTURERS

There are a number of product manufacturers for the range of systems highlighted herewith so the following is but a small sample of the products available.

Allied Associates – Allied Associates Geophysical Ltd offers many solutions to this sector to include Utilityscan, Utilityscan DF and Utilityscan Pro by GSSI. Built for the utility locating professional to accelerate workflow from target detection to reporting, these Utilityscan products can be configured with an optional Linetrac® power detection module.

LineTrac is designed to identify and trace the precise location of underground electric and RF induced utilities with this data overlaid on a GPR scan. As this information is collected during a normal GPR survey this additional information comes without additional survey cost or time.

Other products in demand are GPR arrays, large multi-channel systems such as the 8 and 18 channel Raptor systems from Impulse Radar.

With the integration of RTK GPS or total stations, the surveyor's workload is reduced as traditional survey grids are now a thing of the past. Large survey areas can produce very large data sets, normally an issue at processing time. Allied Associates caters for a diverse client base supporting low- or high-end systems, post processing options, GPS and even vehicles for acquisition of highway and off-road data collection. >



A selection of Ground Penetrating Radar systems from Allied Associates.

SPONSORED BY:

TRACTO
VMT



A selection of C.Scope Cable Avoidance Tools and Locators.



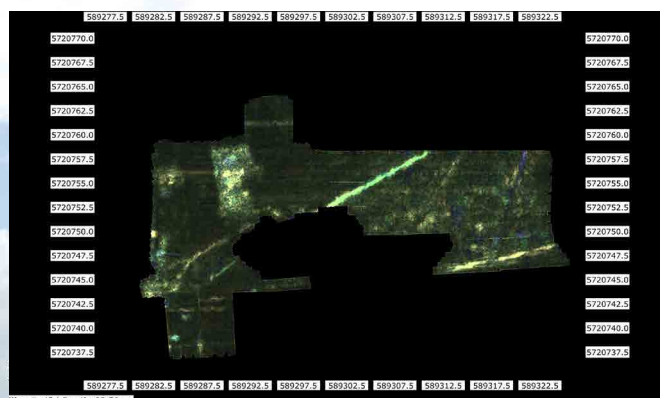
C.Scope – The use of a Sonde and a depth-measuring Locator, such as C.Scopes DXL4 Cable Avoidance Tool or MXT4 Locator to detect the exact position and depth of sewers and drains is already well known in the drainage industry but there is perhaps less knowledge surrounding the use of the same equipment to detect electricity cables prior to excavation work commencing.

All C.Scope Cable Avoidance Tools, such as the DXL4 and MXL4 Locators are designed for this critical task of ‘detecting to avoid,’ especially when used in conjunction with the SGV4 Signal Generator.

To further support their cable avoidance activities, these C.Scope products have a feature known as ‘data-logging’ which, put simply, means that a record is being kept of exactly when and how they have been used. Another version even records where they are being used. This feature is there primarily to provide reassurance that this essential cable avoidance scanning work has actually taken place before any excavation work commences but it is also useful to identify when refresher training courses might need to be considered.

C.Scope utility location products are designed such that they do not require a periodic servicing or calibration regime to be set up once purchased. The C.Scope DXL4 and MXL4 Locators have an automatic, daily self-test feature that checks the Locators ability to detect the signals it is designed to detect. The SGV4 Signal Generator, uniquely, also has the same feature, but this time it is checking the SGV4s ability to transmit the signals it is designed to transmit. These self-tests are also recorded in the units’ data files meaning that there is a record available to the owner that indicates the operating performance of the product. These tests are available to the owner at all times and at no cost.

C.Scope’s utility detection training courses are now renowned throughout the industry and allow the very most benefit to be gained from the use of this underground pipe and cable detection equipment. >



A Ground Penetrating Radar system from Geomatrix with associated survey output.

GeoMatrix – Alongside its many other geophysical survey systems, GeoMatrix offers a range of Ground Penetrating Radar options from manufacturer ImpulseRadar.

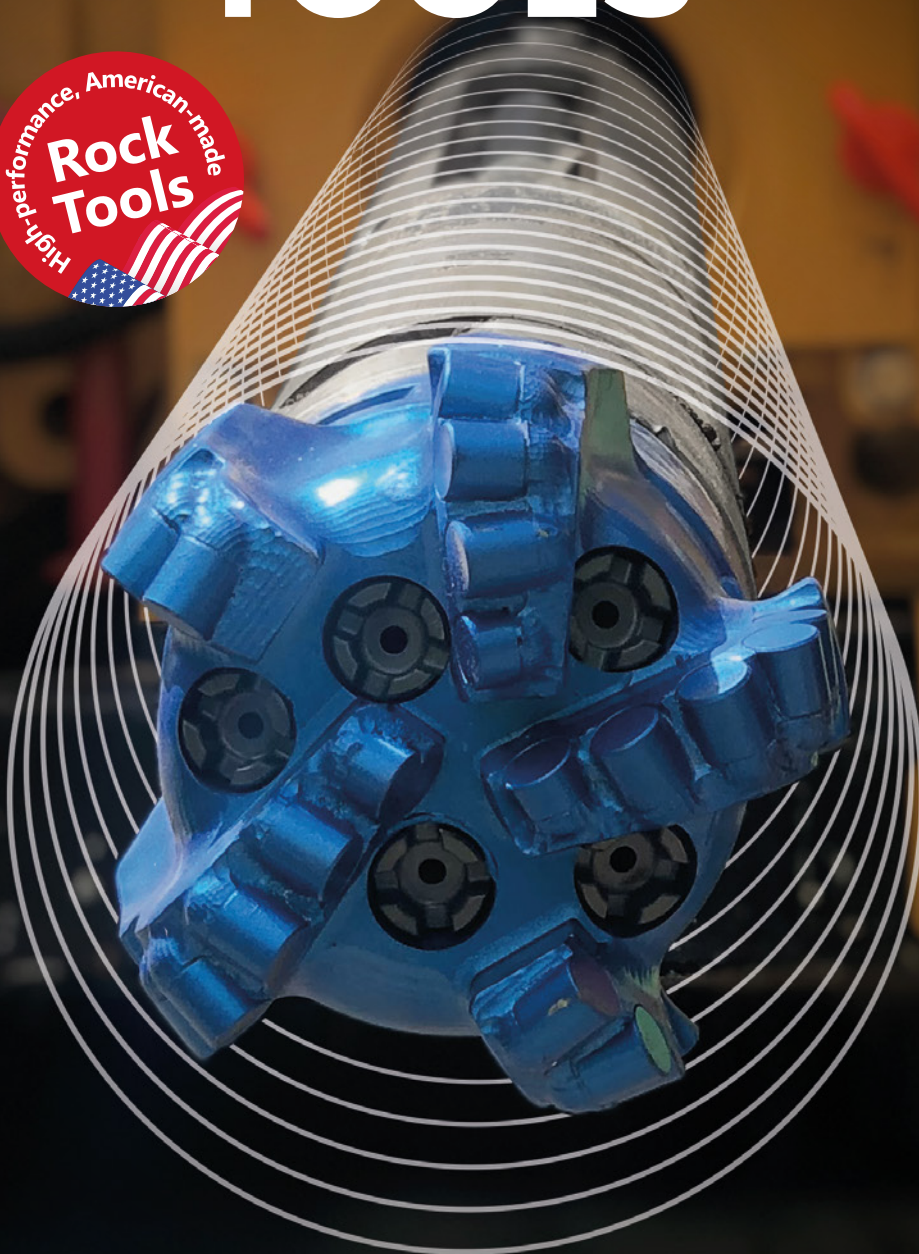
These include three models of the Crossover range. The Crossover1760 can be used in a variety of conditions and can be configured as a single channel (low or high frequency) or dual channel depending on your application. Its middle range antenna frequencies allow the operator to apply/ use the ground penetrating radar system in a variety of environmental, archaeological, UXO and civil projects. Used to image the near surface at high resolutions, at a medium depth range. The Crossover1760 is available in a cart and sled configuration, enabling the user to access restricted, uneven terrain and other surface types, whilst maintaining an easy-to-use comfortable design which you can adjust/transport within the field.

The Crossover4080 is an ultra-wide bandwidth dual channel GPR system, which can be used in a pull or push cart configuration. The system itself can be operated as a dual or single channel (depending on your application the system can be upgraded to a dual channel) and has two high frequency antennas, 400MHz (Low frequency channel) and 800MHz (High frequency channel).

The Crossover730 is the largest system within the Crossover series and is only available in a pulling arrangement, however the design can be adjusted and re-customised to suit the comfort of the user. The system uses low frequency antennas 70 MHz (Lowest Frequency) to 300 MHz (Highest Frequency) to prospect to deeper levels beneath the surface. Each of the channels are available as a single channel to which can be upgraded to dual channel system. The design of this GPR product allows the user to collect data in rough, barely accessible terrain throughout the field working day, covering large survey areas. >



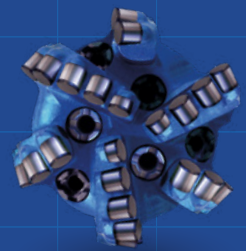
HDD ROCK TOOLS



TRICONE HOLE
OPENERS



TRICONES



PDC BITS



PDC REAMERS



DIRECTIONAL
HAMMER BITS

+44 1422 484984 | infinitytoolmfg.com

GeoMatrix also offers the PinPoint R system. Specifically designed to meet the requirements of the utility detection industry, the PinPointR GPR system combines ImpulseRadar's real-time sampling (RTS) technology with a 400 MHz and 800 MHz set of antennae to provide unquestionable data fidelity and resolution. The dual channel electronics permit both frequency antenna to be recorded simultaneously and targets picked from either channel on the fly. The compact all-in-one design means the systems can be stored and transported complete so that it is ready for use at a moment's notice.

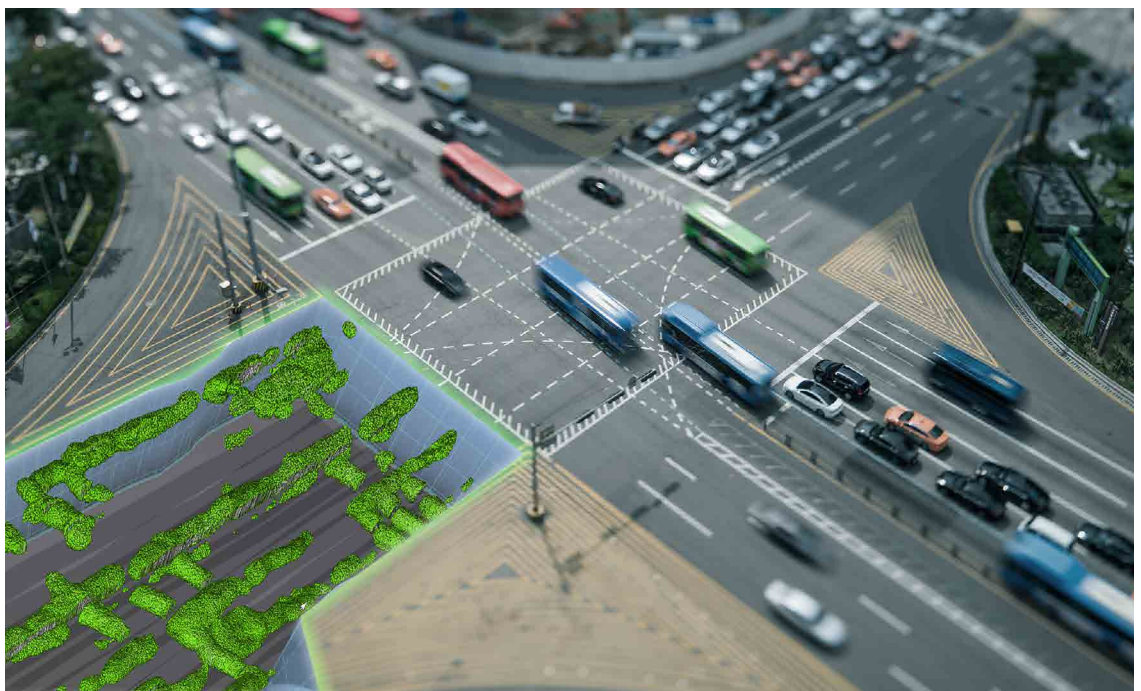
Completing the GeoMatrix offering is the Raptor range. The Mini Raptor offers a set of High speed GPR systems which use real time sampling (RTS) technology to obtain accurate and fast results in a variety of applications. The cart configuration can be used as an 8-channel arrangement for the 450 MHz antenna, up to a 12-channel array for the 800 MHz antenna. The raptor cart can easily be constructed, transported and stored by one person for use on a number of project sites especially in constricted areas. In terms of the data collection, the data acquired over each survey line can be combined with DGPS data improving the accuracy and gathering process. Furthermore, its modular design allows the user to make their own channel arrangement (from 4 to 30) depending on their requirements.

The Vehicle Raptor offers a set of High speed GPR systems which use real time sampling (RTS) technology to obtain accurate and fast results in a variety of applications. The Vehicle carrier option allows the operator to choose between an 18-channel arrangement for the 450 MHz antenna up to a 280-channel array for the 800 MHz antenna

IDS GeoRadar – IDS GeoRadar, part of Hexagon, offers a full range of non-intrusive utility detection and mapping products which exploit the most advanced ground penetrating radar technologies and methodologies. The company is a worldwide leading provider of Ground Penetrating Radar (GPR) solutions committed to delivering best-in-class performance for Utility Location and Underground Mapping.

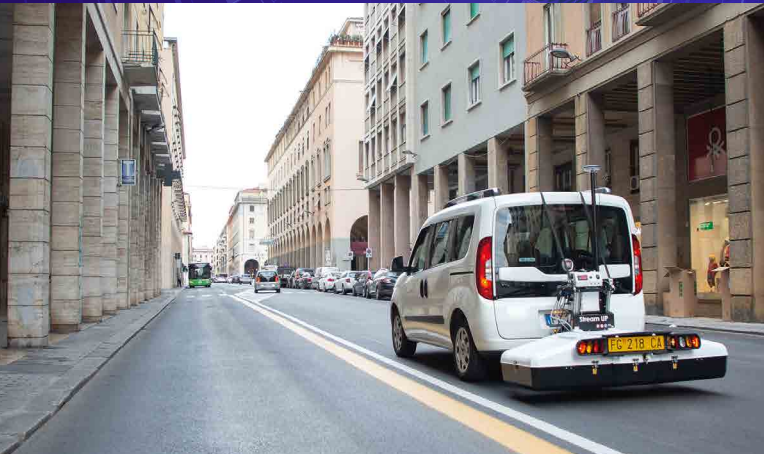
Stream UP is a cutting-edge GPR solution comprising a multi-channel, multi-frequency, double-polarised and lightweight GPR system which is specifically designed to perform utility mapping on extensive areas. >

AiMaps from IDS uses Artificial Intelligence as part of its survey processing technology.



SPONSORED BY:

TRACTO
VMT



Stream Up is the latest vehicle-mounted Ground Penetrating Radar system from IDS.

Stream Up, designed for easy assembly and mounting on a normal vehicle, can operate in urban environments without slowing down traffic (up to 150 km/h or 93 mile/h, with a suggested acquisition speed of 60 km/h or 37 mile/h), dramatically reducing the time for data acquisition and traditional maintenance operations thanks to the total absence of contact with the ground.

Stream Up can be combined with GNSS+INS technology by NovAtel in the APS (Accurate Positioning System) solution. APS is the turn-key accurate positioning solution to minimise time and cost for data collection and extraction process. It is able to obtain the most accurate radar information in poor or no satellite coverage scenarios, ranging from urban canyons to tree-lined roads, to tunnels and underpasses.

Besides hardware solutions, IDS GeoRadar offers software solutions for advanced GPR data analysis such as IQMaps, a post-processing software application providing fast interfacing between the user and the GPR data. IQ Maps allows underground assets' detection and mapping for real-time processing with advanced target management and 3D visualisation. IQMaps provides a step-by-step approach to guide the user in performing the best and the quickest data analysis; with the help of a customisable processing and analysis tool with functionalities for 3D mapping of sinkholes, inspection chambers or even archaeological sites.

When performing mapping on extensive areas, the amount of data available in a short amount of time can be huge and the workload for processing and analysis of radar data becomes a challenging activity for professionals. With AiMaps, IDS GeoRadar's latest software solution leverages Artificial Intelligence and processing and interpretation of acquired radar data is performed in the Cloud through deep learning algorithms. AiMaps provides an intelligent view of underground utilities, quickly highlighting areas where, with a high probability, hidden underground utilities lie. By doing so AiMaps can significantly reduce risks in underground detection while decreasing time, workload and costs for the utility analysis and extraction process.

Radiodetection – An established and trusted name in the industry, Radiodetection provides knowledge and equipment to locate, survey, maintain and protect critical buried infrastructure.

Radiodetection focuses on enabling its customers to identify and trace underground infrastructure thanks to a range of superior detection tools. These include:

- Cable and Pipe Locators
- Pipeline Integrity and Corrosion Control
- Plastic Water Pipe Locators
- Time Domain Reflectometers (TDR)
- Cable Test
- Network Analysis. >

Radiodetection's Cat 4 cable avoidance system in operation with a signal generator.



Schondstedt is another company in the Radiodetection family, and is a worldwide leader in the design and manufacture of metal and magnetic locators as well as cable and pipe locators.

Lastly, Sensors & Software expands Radiodetection's Ground Penetrating Radar (GPR) offering.

Flagship products include precision pipe and cable locators that are widely used around the world to identify buried utilities. Radiodetection's RD8200(G)[®] is claimed to be the most advanced precision locator in its range, offering accurate and reliable location in the most challenging of situations as well as mapping. In addition, the RD7200[®] is an all-industry locator offering a versatile, high-quality solution that is suitable for a wide variety of locating tasks, enabling accurate cable and pipe locating. >



SPONSORED BY:

TRACTO
VMT

A part of the range of other Radiodetection location systems.

Radiodetection also has a focus on data solutions that comprise:

- C.A.T Manager® Online – which provides automatic field data retrieval as well as storage into a secure cloud database and web-based usage analysis
- eCert™ (for remote locator calibration with no downtime)
- RD Map™, which enables users to create detailed utility maps in real time with external third-party GPS.
- PCMx Manager Mobile allows users to create measurement graphs automatically and in real time to facilitate emailing survey reports directly from the field.

Furthermore, when Radiodetection launched the Cable Avoidance Tool (C.A.T), it was the first commercially available electromagnetic locator. The latest C.A.T. models are the C.A.T4® and Genny4® products. The C.A.T4 is the standard model of the range. Using it with the Genny4 transmitter, experienced operators will be able to find more buried utilities, faster.

The C.A.T4+ offers the same locating performance as the C.A.T4 but with addition of Depth measurement, allowing better identification of the route of buried utilities.

With the gC.A.T4+, this model adds GPS positioning to the usage data recorded. Bluetooth connectivity allows seamless transfer of usage data to the C.A.T Manager Online cloud-based system for near real-time monitoring of operators' performance.

The Genny4's patented simultaneous dual-frequency signal output facilitates location of small diameter cables such as telecoms and street lighting, including spurs. All C.A.T4 locator models have patented technology to detect both signals simultaneously. The power boost function in Genny4 enables the locate signal to travel further and deeper, and couple onto utilities more easily.

Ground Penetrating Radar (GPR) solutions from Sensors and Software offer application-focused GPR including:

- LMX® for utility-locating
- CONQUEST® 100 for concrete scanning
- FINDAR® for forensics
- IceMap™ for measuring ice thickness
- RESCUE RADAR® for Search & Rescue
- EKKO_Project for advanced GPR software.

Schonstedt's magnetic locators are used by surveyors and utility contractors to accurately locate buried ferrous metal objects such as cast iron and steel, water and gas pipes. These locators are trusted by private contractors and NGOs in munitions response operations around the globe. >

A Radiodetection cable locator with a mobile phone attachment.



‘Alternative’ Technology

In line with the foregoing, it has also been noted that some utility companies are starting to utilise new mapping software in conjunction with their mapping and tracking operations to aid field operatives to pinpoint locations once surveys have been completed. Thames Water is one such example.

In November 2021 the company announced that it using the ‘what3words’ app. Described as a mobile-first app, the software provides a detailed overview of London’s vast trunk sewer network and has been adopted by Thames Water as part of its industry-leading digital transformation.

SymTerra allows the Strategic Pumping & Trunk Sewer team at more than 1,000 locations across the capital to record and access all aspects of a job, whether remotely or on-site.

With ‘what3words’ embedded across all features of the app, communication and safety is improved by enabling engineers to record the location and condition of assets and generate real-time updates of progress and issues.

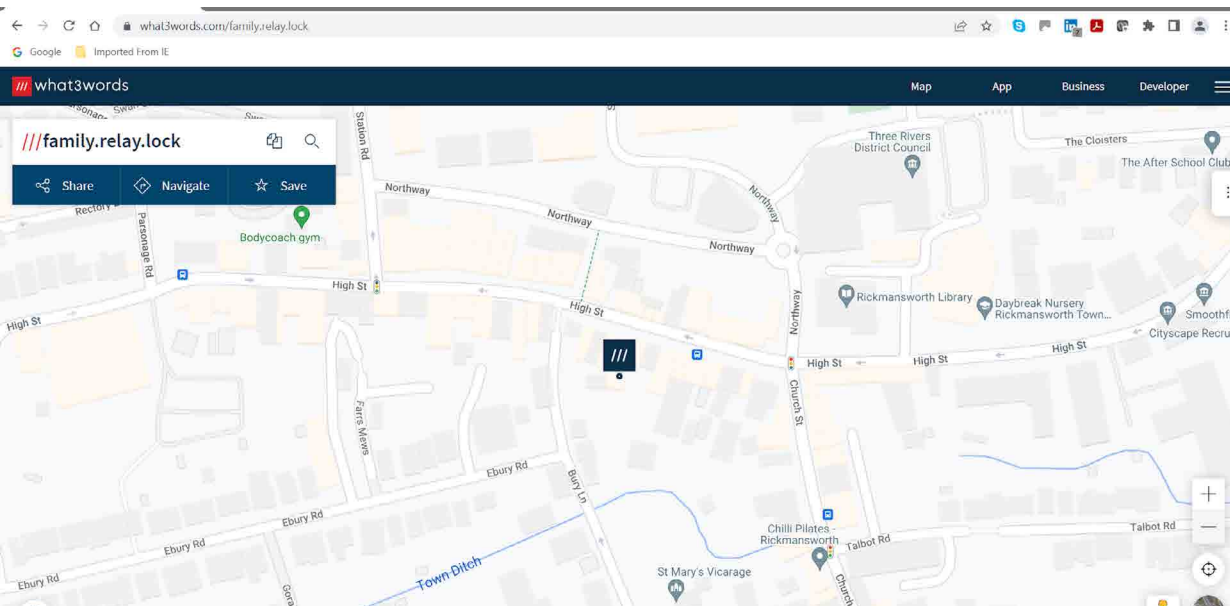
A fully searchable cloud-based photo and knowledge library can also be created that integrates with Thames Water’s existing mapping and modelling systems, making it quicker, easier and cheaper to plan for future work.

So, where does this leave the detection and mapping sector? Basically, in a very strong position. The technology is there that will detect and allow display on modern digital maps. There is also now software that will assist in the locating of these assets once plotted for those in the field. >

Leading the way in Suction Excavation

**MTS**

Order your 2023 rig **NOW!**



What Three Words software is being used by Thames Water to aid location in the field.

What is however clear from some of the figures reported above is that, even with this technology available, there is still the problem of just how accurate some of the utility plans are that are deemed to show the whereabouts of long-established services. This brings rise to two points.

Firstly, more needs to be done to find what is already there and new build, replacement or renovation operations need to ensure that up-to-date accurate data on location is provided as part of any such operation. There is of course the question of resources here from the utility owner view-point. But the question has to be raised as to whether the costs of completing the data update will outweigh the costs and inconvenience to customers when their services are interrupted when the utility gets struck during someone else's project.

Secondly, for those carrying out what might be termed third-party works in the vicinity of buried services, there is a need to understand that the plans they are being given simply may not be accurate enough for the purpose in hand and that they themselves as the excavator need to confirm the positionings shown before work commences and not just with a simple C.A.T. survey, as there is far more 'down there' today than a few cables that need to be avoided.

CONDITION ASSESSMENT

There is little profit in simply knowing where an asset runs unless its state of repair is known and how this changes, over time.

Only when the engineer understands the full extent of an asset's condition can a full and effective plan be put together to make best use of it and replace it in a timely fashion as and when required.

Obtaining this information is not however always easy. Where access is available it may be possible to get the required data by using a man-entry team to go and look. But, with modern Health & Safety concerns, the need for confined space training and set-up on site does usually make this a less than desirable option.

Of course, the first non-man-entry option is the CCTV survey. A quick overview of the types of CCTV inspection systems available include:

- **Zoom cameras** – where an access is not too deep there are systems available that can be lowered into the pipe horizon from a manhole or similar access with a CCTV camera attached that can view using zoom several meters into a pipeline with images being recorded at surface for later inspection and classification. >



CCTV inspection systems from MiniCam.

- **Small rod-based CCTV systems** – it is also possible from a drainage point of view for wastewater pipes to be viewed from inside a building using small diameter camera systems on extendable rods, either through a plug hole or around a U-Bend. This tends to be utilised more in the plumbing profession that main and lateral drainage sectors.
- **Rod-based CCTV** – This is a simple to use and quick CCTV option in (usually) shallow sewers, however the cameras may be limited to smaller diameter pipes, up to a maximum of 150 mm (6 in). The length of a survey is limited by the length of rod carried on the dispenser carriage which is today normally in the form of a flexible coiled 'rod' which also houses the power/data cables. Rod mounted systems usually utilise self-levelling cameras which retain an upright (correct view) image of the inside of the pipe irrespective of the orientation of the camera head in the pipe. Images are usually recorded at surface on the machine with data today being available direct to the client via WiFi or internet connection almost as soon as the survey is completed.
- **Crawler-mounted** – In larger diameter pipes probably the most widely use CCTV configuration with the CCTV camera mounted on a self-propelled tractor unit that can be remotely-controlled by the surveyor from a single access point whilst monitoring and recording images on a TV screen/storage system. The speed of survey is very controllable. Advances in current camera and lighting technology now permits surveys in pipes of over 2 m diameter. Pipes do not have to be thoroughly cleaned but it helps. Also, camera heads may be Pan & Tilt, some with zoom, which allows the operator to view more closely potential defect sites.
- **Digital Scanning** – Sometimes known as SETT, Digital Scanning uses a digital, high-resolution scanner to produce a forward image of the pipeline under inspection, as well as a 360° image of the interior wall of the sewer at 90° to the survey route. A 360° scanning camera is mounted on a robotic, remote-controlled, wheeled tractor which travels through the pipe at a constant speed. The camera continuously scans the pipe's inner surface creating a series of adjacent section views covering the pipe's circumference. Specially developed computer software processes these scanned sections and stores them for further analysis as a single complete record of the survey run.
- **Lateral inspection** – Where laterals join into a mainline pipe it is possible to some extent to utilise Pan & Tilt cameras to look into the lateral pipe but this can have limitations. Some companies have developed lateral inspection systems that can extend the camera head off the main crawler body and steered into the lateral to complete an inspection over in some cases several metres to provide a much clearer and detailed survey of the lateral connection. >



TRENCHLESS ASIA 2023

17-18 May

Kuala Lumpur Convention Centre, Kuala Lumpur, Malaysia

The twelfth event in this outstanding series returns to Kuala Lumpur.

Floor plan extended due to phenomenal demand – Book your stand now

- Trenchless Technology
- Underground Infrastructure
- Pipeline Technologies
- Underground Utilities
- Trenchless Solutions for Urban Flooding
- Knowledge Transfer
- Green Technology

For more details regarding exhibiting and sponsorship opportunities please contact:

Paul Harwood at pharwood@westrade.co.uk or +44 (0)1923 723990

Stuart Hillyard at shillyard@westrade.co.uk or +44 (0)1923 723990

Book your stand today – shillyard@westrade.co.uk



Organised by



Supported by



Official Media Partner

TRENCHLESSWORKS

Platinum Sponsors

CMEI Group, Inc.



Gold Sponsors



Media Partner



www.trenchlessasia.com

In some cases, it is not just the requirement to 'see' what the inside of the pipe looks like but to also understand if any deformation has occurred. For this the laser line survey was developed. This shines a ring laser light around the circumference of the pipe in question which is viewed and recorded as the 'visual' CCTV is carried out. The laser ring 'flexes' as the pipe shape changes. Measuring these flex changes against the known starting profile shows the degree of deformation at any point along the pipeline. This can be advantageous when looking at the planning of rehabilitation or other subsequent pipeline actions.

Where a pipe may not be able to be fully cleaned and desilted and may even have continuous flows during a survey, a sonar-based survey system may be used in conjunction with the visual survey. This aims sound waves into the invert which are reflected to show any defects or deformation below any silt level as well as monitoring the silt level itself.

Once all this information is collected it can be stored for future reference, usually electronically for quick and easy access. Some CCTV software providers also now have the capacity to enable storage of this information directly to GIS mapping systems so that as a problem/question arises at a specific location the currently available information can be viewed directly. This also enables any new survey to be compared with the previous one to highlight any substantial changes that may have occurred.

This is also where condition monitoring comes into play. Comparative CCTV surveys will allow engineers to see how pipeline condition progresses, but where this option is not available there are other means of assessing pipeline conditions in the present and over time.

In particular it may be necessary establish the condition of pipelines, often metallic pipes, to measure for example corrosion, loss of wall thickness, reduction in stiffness or other effects of stresses. Examples of such systems are:

- **Remote Field Eddy Current (RFT)** is a method of non-destructive testing using low-frequency AC to find and measure defects in metallic pipes.
- **Near Field Eddy Current (BEM or NFT)** technology uses two coils, a transmitter and a receiver. Typically, the receiver coil is close to the transmitter coil, taking advantage of the transmitter's near-field zone, that is the zone where the magnetic field from the transmitter coil induces strong eddy currents, axially and radially, in the pipe wall.
- **Magnetic flux leakage or MFL** (also known as TFI or Transverse Field Inspection technology) is a magnetic method of non-destructive testing used to detect corrosion and pitting in metallic pipes. The principle uses a powerful magnet to magnetise the steel in the structure. Using an MFL tool a magnetic detector is placed between the poles of the magnet to detect the leakage field. At areas where there is corrosion or missing metal, the magnetic field 'leaks' from the metal. Trained specialists interpret the recording of the leakage field to identify damaged areas and to estimate the depth of metal loss.
- **Ultrasonic non-destructive testing** is also a method of characterising the thickness or internal structure of a structure under test using high frequency sound waves. The frequencies used for ultrasonic testing are many times higher than the limit of human hearing, most commonly in the range from 500 kHz to 20 MHz. Ultrasonic testing is widely used on metals, plastics, composites, and ceramics.

LEAK DETECTION

Whilst understanding the structural condition assessment and the visual inspection of pipes may be a necessity for water and sewerage engineers, leakage is pretty much at the top of the list of the problems the water companies need to sort out according to public opinion. >

However, given that across all the Water companies in England and Wales there are some 346,455 km of water pipes, it is no surprise that leakage is a problem and is likely to continue to be for some time to come even if losses continue to fall year on year.

This situation has of course led to the development of significant leakage detection technology.

Modern technologically based systems include:

- **In-pipe systems** – where a listening device is passed through a pipe suspected of having leaks. As the device passes any leak a microphone picks up the distinctive sound created by pressurised water passing through the defect. Tracking from surface using a transmitter sonde and receive aerial on surface then allows the leak location to be marked for further investigation and repair.
- **Volume measuring** – this can be done on a local or area spread whereby monitoring stations are set up to check flows at specific points in the network which are then cross-referenced to see if there are measurable losses between points that are unexpected, which could indicate a leak in a specific part of the network which needs further pinpoint investigation.
- **Acoustic monitoring** – in similar fashion to the volume monitoring set-up area 'listening devices' can be set-up across a network to pick up the characteristic noises of leakage that run through pipes. By picking up and recording these noises and cross-referencing them it is possible to locate the possible source of the noise/leak and locate it to a smaller area for further investigation and repair.

This is a very simplistic view of the leak detection systems available but generally covers the options available.

This of course does not take into account any leakage from foul sewers that may be in need of rehabilitation or replacement which could lead to contamination of ground water and other water courses. As yet however, other than the previously discussed inspection options there is little in the way of technology that can pin-point and record these sorts of leaks. They are generally addressed by the ongoing and long-term rehabilitation and replacement programmes within the water companies.

To conclude then, engineers in the buried service industries need to know first where their service is and where it runs and what it does (water, wastewater, gas, power, telecoms etc.). Without this knowledge the likelihood of it being damaged by third parties is high and the likelihood of not being able to find it easily to maintain or repair it is low.

Once this knowledge is available there is the need to know just how well it is operating, so condition assessment is required.

Only when all the available data is in the engineers hands will it be possible to manage the asset effectively in terms of cost to the owner, convenience of service to the customer and benefit to the environment.

FAST DISTRICT HEATING CONNECTION FOR PUBLIC OUTDOOR BATHS



The bore path ran up to 4 m deep below the lake bed, which is why the location of the drill head had to be carried out from a boat.

District heating offers a very high level of service security and, if produced in a sustainable manner, is also one of the most environmentally-friendly and economical energy sources. For the user, it is inexpensive and convenient. The fact that district heating is still not available everywhere is often due to the costs of developing areas for district heating networks, in addition to various technical aspects. The use of trenchless technology can provide a remedy here in an economically- and ecologically-friendly way. As for example in the Bavarian town of Eggenfelden, Germany where a district heating pipeline was installed beneath a reservoir in only 2 days. >

SPONSORED BY:

TRACTO
VMT



Left: View of Lake Mertsee, under which part of the 1.2 km long district heating pipe was partially installed for the open-air swimming pool on the right-hand side.

Right: The HDD-bore rig was set up on the bank opposite the open-air swimming pool, in order to cross beneath the Mertsee.



Lake Mertsee, on the north-eastern outskirts of Eggenfelden in the lower Bavarian district of Rottal-Inn, is a reservoir on the river of the same name, Mertsee, which was built in 1961 for flood protection and as a local recreation area. The dam, built as an earth embankment, essentially consists of an artificial banked area and rock fill. With a water surface of up to 23 hectares and a height of 15 m above the base of the foundation, Lake Mertsee has a water storage volume of around 1 million m³.

In 2021 a small group of smart minds founded the 'Energy Corporation Karl-Rolle-Strasse e.G.' among other things, for the 'construction and operation of plants for the generation and supply of heat to members as well as the operation of a heat supply network'. For a few years now, an idea has been spreading around the city to build and operate a sustainable combined heat and power plant that, in addition to the planned residential blocks and various buildings for the Karl Rolle business park in the north of Eggenfelden, would also heat the outdoor swimming pool located there. The latter was to guarantee that the developed concept would work, as a heat consumer for the summer ahead was badly needed, so the open-air swimming pool seemed to fit into this perfectly.

Construction work started in November 2021, the heat storage tank was installed in early March 2022 and the construction of the district heating pipes began in mid-March. The first section was also the most urgent with the connection line to the outdoor pool, as the pool water is to be heated with 'the new district heating' as early as the 2022 swimming season. The shortest, most sensible approach for the protection of the environment and nature, but also most economically favourable route for this district heating connection line to the open-air swimming pool, was clearly across 'Lake Mertsee'. 'Directly across' the reservoir naturally meant, from a technical point of view, 'directly underneath' and therefore applying the trenchless horizontal flush drilling method. A conventional open trench construction was not even up for discussion.

With its many years of experience and the high standards the company sets itself, the TPP (Trenchless Pipe Pulling) GmbH & Co KG team is a proven specialist for horizontal drilling technology. When things get tricky, everyone can rely on their professional know-how and their experience of working hand-in-hand. Last but not least, the team also trust their own technical equipment and their reliable and precise drilling rigs. For the planned length of the Lake bore, the expected height difference and the well-known complicated structured subsoil, the team chose to bring a TRACTO HDD rig, the GRUNDODRILL 18N with TD82 drilling rods and maximum torque of 10,000 Nm from their own fleet. Also, the bore diameter and the diameters of the necessary expanding heads for the 280 mm o.d. SDR 17 PE >

SPONSORED BY:

TRACTO
VMT

The bore path ran up to 4 m deep below the lake bed, which is why the location of the drill head had to be carried out from a boat.



protection pipe to be pulled in, helped to influence the decision to choose the 'King of Rock' machine. The usual work and preparations for the jobsite set-up took place early March 2022 with construction of the starting and target pits on the dam crest at the level of the combined heat and power plant in the Karl-Rolle-Strasse, respectively at the outdoor swimming pool on the other side of Lake Mertsee. Also required was the selection of the appropriate drilling tools and expanders, as well as production of the drilling fluid in a ratio of 35 kg/m³.

Everything was in place for the start of the pilot bore on 16 March 2022. According to the planning, the total distance from the starting point on the crest of the dam level to Karl-Rolle Strasse 43 to the end of the crossing on the opposite bank at the open-air swimming pool site, was measured at 180 m. The bore head had a diameter of 190 mm. Drilling started. The GRUNDODRILL 18N worked its way through the embankment to at least 4 m below the lake's water level with a total height difference of 15 m in relation to the starting pit. Despite difficult soil conditions, the pilot bore progressed at a good speed with a torque of approximately 6,000 Nm and an average push/pulling force of up to 75 kN; (the machine has 180 kN available) the drilling fluid requirement was just about 90 l/min.

After precisely 180 m the bore head reached the target pit on the opposite bank of the dam as planned. Then it was time to retrieve the bore head and replace it with a stepped reamer of 350 mm diameter for the first expanding process. A stepped reamer with 440 mm diameter was used for the second expanding process and the connection to the protection pipe (which comprised 12 m segments welded together) to simultaneously pull in the pipe string. This then demanded the full power of the GRUNDODRILL 18N, with a maximum torque of 10,000 Nm and 55 kN pulling force the culvert was successfully completed under Lake Mertsee. The insertion of the district heating pipe which comprised twin 75/75, 202 mm diameter pipe inserted into the protection pipe seemed almost a minor issue after the actual culvert construction.

Crossing underneath the Lake Mertsee, for which the TPP team and the 'King of Rock' did a really great job, has fulfilled the expectations of the energy co-operative – the open-air swimming pool will open on time for the start of the season and both >

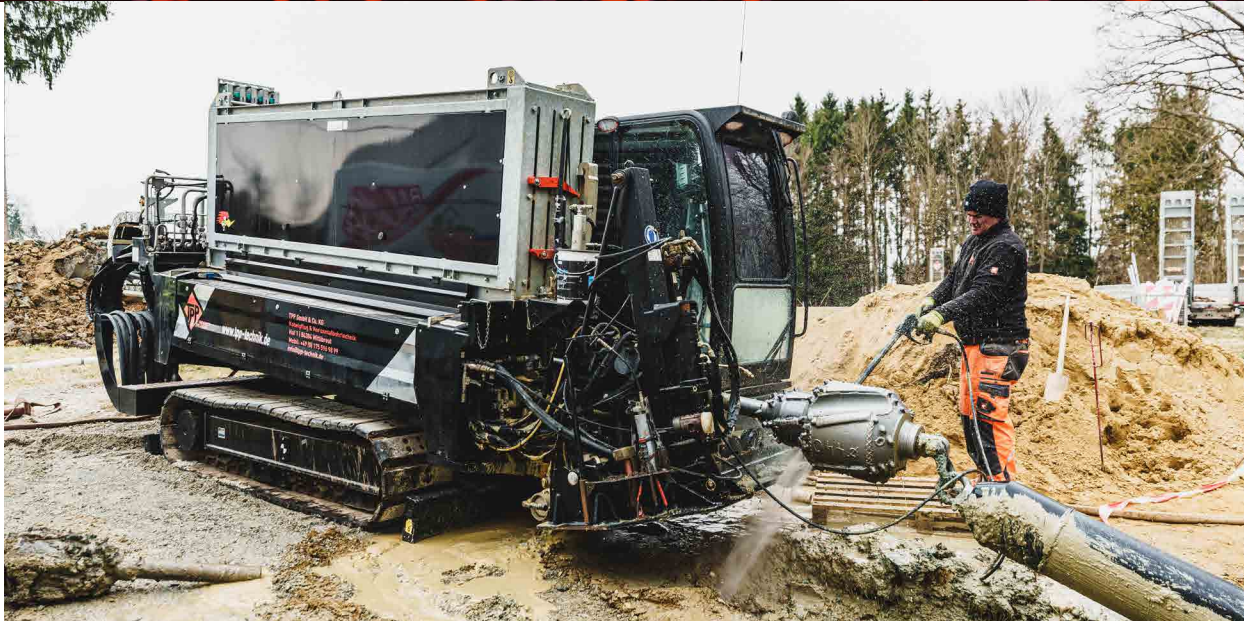
The protection pipe for the Duo-district heating pipe was pulled in from the target pit on the other lake bank.



SPONSORED BY:

TRACTO
VMT

Mission accomplished: Installing the 280 mm o.d. PE protection pipe which would accommodate the Duo 75/75 heating pipe underneath the reservoir took only two days.



the heating plant and the construction of this district heating connection fully meet the sustainability criteria. The new combined heat and power plant will save about 83 tonnes of CO₂ emissions alone and use local wood chips for its operation. In contrast to the construction of the pipeline with the open trench method, which would have been unreasonably long and complicated, the crossing of Lake Mertsee has resulted in significantly lower costs and also minimal fine dust and noise emissions.

www.tracto.com

GRUNDOSTEER - GUIDED ROD PUSHER

STEERING IN THE RIGHT DIRECTION HAS NEVER BEEN EASIER.




The GRUNDOSTEER guided rod pusher combines proven methods of trenchless pipe installation in an easy-to-operate, robust and compact rig.

A locatable guiding head and a time scale on the rods' position connector allow for directional corrections the easy way when establishing house connections or installing product pipes.

ADVANCED TRENCHLESS TECHNOLOGY

TRACTO.COM/GRUNDOSTEER

EXPERT NAVIGATION THROUGH HIGH INTERFERENCE

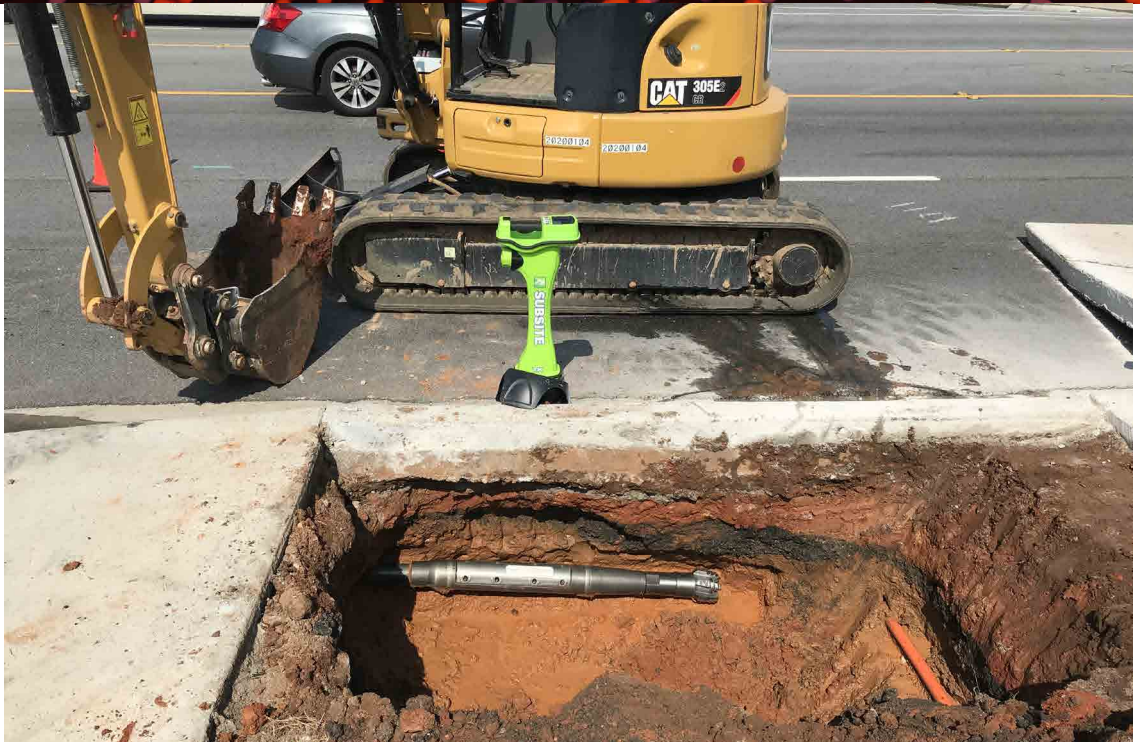


A long distance horizontal directional drilling (HDD) project on its own is a big undertaking. Add in bore-path complications like two heavily vegetated ravines, a road, two restrictive railroad rights of way and a reinforced concrete parking lot, and there is the recipe for a jobsite that contractors are begging to leave. Not to mention, the path runs between two abandoned underground gasoline storage tanks that had been filled and alongside a mismarked fibre optic line that had to remain up and running. >

SPONSORED BY:

TRACTO
VMT

The Subsite tracker operating in the high interference zone of the HDD works.



This was the situation for a Greenville, South Carolina, USA fibre optic installation project. Magnetic field anomalies confounded utility locators and HDD guidance systems. Several regional contractors had either failed to complete the installation or refused to take the job altogether. The project was now more than a year overdue.

Luckily for the customer, this is exactly the type of job Atlas Group's HDD division pursues. "We are called in to finish jobs other contractors cannot finish. You could say that is our niche, drilling in hard rock, doing the most difficult jobs," said Atlas Group President KJ Woody.

Founded in 2001 in Buckhannon, West Virginia, USA by KJ and his brother, Kyler, Atlas Group is a family-owned, family-operated company serving the needs of underground utility and construction customers throughout the East Coast region. HDD applications typically involve fibre, natural gas and waterline installations.

Mapping The Route

The 672 ft (205 m) run went along a busy highway. It began directly beneath high-tension power-transmission lines with a massive magnetic field that completely masked a typical drill string's beacon signal. The path then descended beneath the heavily vegetated surface of a 40 ft (12 m) deep ravine before crossing deep beneath a side road.

Beyond the road, the surface descended again. Here the bore path crossed beneath a decommissioned railroad track and then further on beneath two active railroad tracks. The railway company forbid any locating activity within 10 ft (3 m) of the rails.

Once past this obstacle, the surface above the path rose to an elevation beneath an old gas station's parking lot. The bore must rise beneath the parking lot to pass between two abandoned tanks lying just before the exit point. Adding further interference was an existing fibre optic line that lay parallel to the bore path along its full length, also passing between the abandoned gas tanks.

No Stranger To Energised Ground

Atlas was brought onto the job after finishing a different HDD project for the same customer in similar energised ground conditions.

Since the two sites were located close together, KJ anticipated they would have similar problems with signal reception and interpretation. The initial BPA using the >

SPONSORED BY:

TRACTO
VMT



Utilising the Subsite Commander tracker on site.

company's own Subsite TKQ receiver confirmed it. The TKQ is a four-frequency tracker especially designed for larger rigs and longer bores with a locating depth range rated to 110 ft (33.5 m) and tracker-to-rig range rated at 2,000 ft (610 m).

Despite the receiver's power and accuracy, in many of the places where Atlas crews could get signals, they could not consistently trust them.

The shallow noise floor they discovered meant even after a successful start, portions of this job would have to be either drilled blind or exposed. Obtaining a visual verification at the depths specified for this run, and working on the slopes in rough terrain, would add enormously to project time and cost.

Available Resources

The Woody's decided to see if they could get better signal reliability and brought in Subsite application specialist Brett Romer to demo the newest HDD guidance equipment.

Romer brought along a four-frequency Subsite TK RECON 4 receiver, Subsite 17T4 beacon and Subsite Commander 7 remote display. What is more, KJ said, Romer brought: "a wealth of knowledge" that further increased his and Kyler's understanding of how interference affects a receiver's interpretation and how to use that knowledge to their advantage.

Innovations in HDD guidance systems have made them so user-friendly over the years that they are a cinch to learn and operate. However, interpreting what they say in actual field conditions entails a much deeper grasp of the underlying operating principles.

Measure twice, drill once

Romer hooked up the Commander 7 to Atlas' Ditch Witch JT3020 All Terrain drilling rig and calibrated the receiver. Then, using both of the receivers on hand, the team initiated another BPA and compared the results to the first BPA. Comparisons are useful because they can show whether anomalous variations remain consistent from one BPA to the next or if they have changed with time of day or other variables. Both instruments recommended frequencies of 29 kHz and 12 kHz to mitigate ambient interference.

Next, the crew re-examined the noise floor for the run, determining a maximum depth of about 55 ft (16.8 m). Knowing they would not be allowed to perform locates near the railroad tracks while running at a depth of 35 ft (10.7 m), they set up the beacon for 29 B power and 29 X power.

The 17T4 beacon Atlas was using in its Ditch Witch Rockmaster housing on this job can emit its signal in four frequencies at three field-configurable power levels. Pre-set frequency and power combinations can be switched from one to another on the fly by putting the beacon to 'sleep' and restarting within a designated period.

Then they began drilling. One of the big benefits of the TK Recon 4 was its beacon compass. The crew no longer needed to track steering by having the receiver operator cross back and forth 20 ft (6 m) at a time to verify nulls. Another benefit was its pitch-assist tracker boot, which came into play because of the rough, irregular terrain and varying slope of the surfaces above the bore. >

Removing the pilot bore drill head on completing the initial bore.



Finishing the job

The crew got more than halfway through the full length of the run on the first day. Day two's drilling would include the railway crossings and the pass under the rebar-embedded concrete of the old gas station's parking lot before exiting on target.

When the crew got to within 12 ft (3.6 m) of the active railway tracks, they switched guidance techniques from the TK system's walkover mode to its DrillTo mode. Despite the distance to the receiver, the driller easily tracked bore progression to the target on his Commander 7 display. The setup had a continuously reliable signal with the bore 14 ft (4.3 m) beneath the rails, progressing at about 2 ft/min (0.6 m/min) for each rod.

The final peak of the bore path topped out about 150 ft (45.7 m) away from run completion. The trick here would be steering the bore precisely enough to avoid the fibre optic line running alongside the bore path and the abandoned gas tanks on the other side of the lot.

Even using a Subsite Utiliguard locating system, it took two hours to locate the fibre optic line. The crew finally had success after running out an additional 50 ft (15 m) of fish tape and grounding the transmitter to the air conditioner ground of a nearby business. They first detected the signal by running the unit at 13,000 Ohms. Setting the power to level 5 and using 8.01 kHz enabled the crew to get down to reliable reception at 5,000 Ohms.

Despite being satisfied with their utility locator's settings, the crew did not believe the reading it was giving them. They knew the fibre as marked was mislocated, but they were showing it at just 1 ft 1 in (305 mm) below the concrete.

Atlas Group called in a ground penetrating radar (GPR) contractor to determine the fibre optic line's true location, only to learn their readings had been nearly spot on. The GPR showed the line to be on the exact path, but slightly deeper at 1 ft 9 in (530 mm).

Always learning

Even with an excellent track record, KJ and Kyler acknowledge that they still walk away from every job with valuable new knowledge and experience.

"Everyone gains from each locating experience. Maybe it is not something we use on the next job, but it adds to our expertise." KJ said. "The best advice we have to give from this job is, why not use all your resources on hard jobs?"

www.ditchwitch.com

SPONSORED BY:

TRACTO
VMT



MARKSMAN HDD GUIDANCE SYSTEM CUTS THROUGH HIGH-INTERFERENCE

The Subsite Electronics Marksman in action.

The Subsite Electronics Marksman™ HDD Guidance System is designed to perform in high-interference environments and features the widest range of frequencies in a single beacon currently available on the market.

The Marksman's Bore Path Analyzer scans the most usable frequencies and selects the best choice to avoid interference, helping operators drill more effectively. The new guidance system offers improved communication between the tracker and beacon at extended depths (130+ ft/40+ m) and, the beacon's dual-power mode offers consistent performance across housing sizes to drive bore productivity.

Ease-of-use is another key element in the design of the Marksman system. The tracker is operated with a single toggle control, with no extra buttons or triggers. The system also gives operators a choice of user interface. The new Marksman View is easy to learn, featuring intuitive graphics and clear data, while those already familiar with Subsite trackers will recognise the Classic View interface. The streamlined controls and choice of user-friendly interfaces work together to help operators be more productive from day one.

"Interference can negatively impact jobsite productivity," said Rodolpho Cabello, HDD guidance and utility locating product manager for Subsite. "But the Marksman cuts through the noise. With the widest frequency in the market today, operators can confidently go downhole with 64 power level and frequency combinations at their disposal. The Marksman's Bore Path Analyzer scans the most usable frequencies and selects the best choice to avoid interference so bores can be drilled more effectively."

The Marksman is designed to allow current TK Recon customers, including those that own a Commander 7 or Ditch Witch® customers who own a drill with an integrated display, to retain their display which has a 2,000 ft (610 m) range between the tracker and drill operator. For customers needing GPS solutions, an integrated GPS is included as standard, not an add-on, while maintaining the ability to connect to an external GPS device.

The Marksman offers two advanced locating methods. Users can select between Walkover Mode, which allows pinpoint drill-head locations with peak and null techniques, or an improved Drill-To Mode with an unrestricted extended range that enables the drill operator to make real-time corrections further out, expediting the drilling process.

www.subsite.com/products/hdd-guidance/marksman/

SPONSORED BY:



AN ESTABLISHED PIPELINE REHABILITATION TECHNIQUE ENJOYS A RESURGENCE

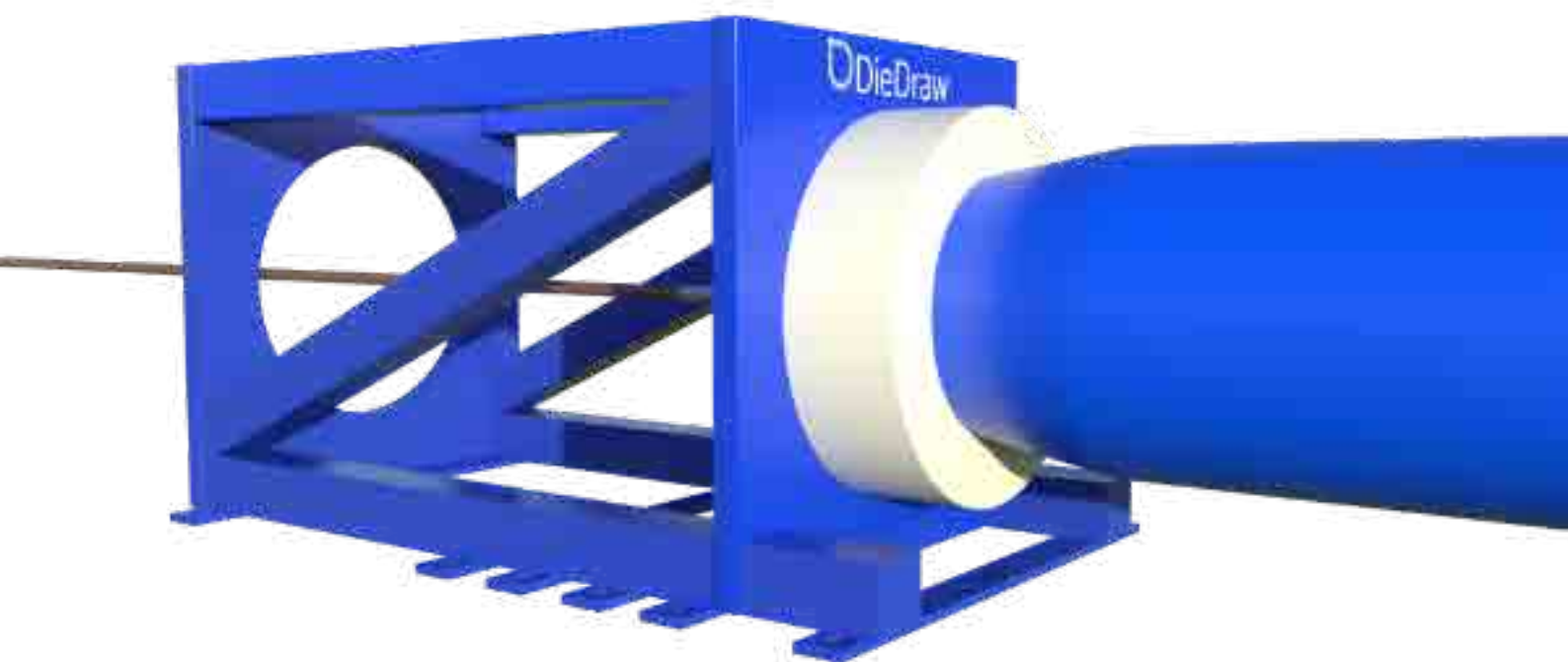
Preparing a liner pipe for insertion using the Die Draw technique.

The die draw process for pipeline rehabilitation is an established process with a proven track record that has been around since the 1980s. To date, thousands of kilometres of pipeline have been lined globally using this technique, saving the industry a very significant amount of money.

In recent times however, the process has been underutilised primarily due to a shortage of process specific expertise. That changed in 2018 when Die Draw Ltd opened its doors and rapidly established itself as the 'go to' agency for complex, thermoplastic lining solutions. Its founder, Dr Steve Brogden is one of a handful of people recognised as a global authority on the die draw process and is working closely with several utility companies around the world to ensure pipeline owners recognise the advantages, the savings, and the environmental benefits the process brings to the industry. >

SPONSORED BY:

TRACTO
VMT



A schematic of the die draw process for reducing the liner pipe diameter.

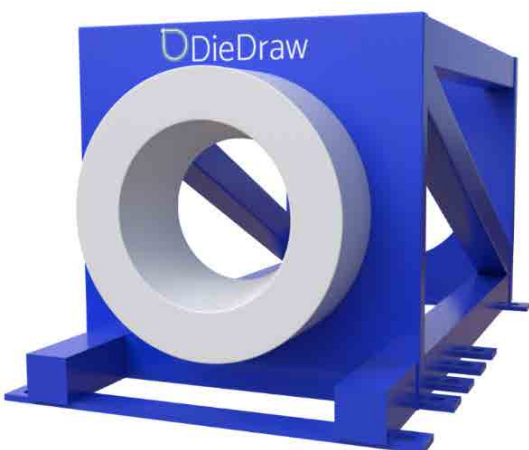
What is die drawing?

The Die Draw process involves drawing a thermoplastic liner (usually PE 100) through a die at ambient temperature to elastically reduce the diameter of the liner. The diameter will be reduced sufficiently so the liner can be pulled through the host pipe. Once the liner has been pulled through, the tension is released and the stored energy in the liner causes it to revert naturally in an axial direction. As the liner reverts it expands diametrically which creates a tight fit on the bore of the host. This reversion is an essential part of the process and is entirely caused by the viscoelastic properties of the thermoplastic liner returning it to its natural state – no additional processes or materials are required.

Benefits of the die draw process

The 5 primary benefits of the process include:

1. Longest design life of any pipeline rehabilitation solution: 100-year design life using industry proven materials that have been manufactured in a controlled environment.
2. Maximised Flow Capacity: Tight fit lining maximises the pipe bore and therefore flow capacity over the length of the pipeline. No other thermoplastic lining technique can match the flow capacity of a tight fit Die Draw lining.
3. Speed of installation: Once the equipment and the liners are in place, the installation is extremely quick, minimising the disruption and congestion
4. Cost savings: The Die Draw process offers significant cost savings over the lifetime of the pipeline
5. Considerable Environmental Benefits: PE 100 is a recyclable, chemically stable material with zero leeching. The ease of installation minimises requirement for heavy plant and therefore minimises CO₂ production. >



The die draw diameter reduction unit.

What is behind the rise in popularity?

For utility companies and pipeline owners looking to reduce the costs of the pipeline rehabilitation, minimise environmental impacts, maximise flow capacity and have repair solutions with a lifetime in excess of 100 years, the Die Draw process becomes an obvious choice.

The required expertise is now readily available and many of the perceived complexities of the process are simply no longer an issue. With the right experience and knowledge, a Die Draw tight fit lining solution can be easily designed and implemented quickly.

With the completion of each successful project, the reputation of the process is solidified as one of the most robust and reliable rehabilitation techniques in the industry.

Stockholm Project

Client, NCC for Norrvatten required the lining of a steel host pipe of DN1000 over a length of 600 m in Finspångsgatan, Solna, Stockholm. The rehabilitated pipe had to provide a design life of 100 years with a design pressure of 10 bar. Using the Die Draw technique, the liner pipe material selected was Borealis Borsafe™ HE 3490 HE 3490-LS-H with 1,045 mm o.d. and 20.6 mm wall thickness at SDR 51.

The host pipe, constructed in 1969, has an average diameter of 997 mm and is made of steel with an inner bitumen lining. The depth of the pipeline varies between 1.5 and 3 m from street level to the crown of pipe. The first section to be lined was reasonably straight, without significant bends. The liner pipe was delivered in sticks of 20 m length. These were welded together to provide three 200 m long stalks. >

Site operations on the Stockholm project.





Left: Overview of the Kongsberg work site.



Right: Liner pipe reduction at Kongsberg.

This project had to take into account the expected range of ambient temperature conditions experienced in Sweden between late August and November. It was necessary to ensure that all variables were accounted for, which resulted in several iterations of the installation calculations.

The project used a thin-walled liner designed to withstand lifetime pressures by spanning holes and gaps in the host pipe. The design methodology used by Die Draw enabled a very thin liner to be used utilising the residual hoop strength in the host pipe, thus creating a semi-structural liner. The significant benefits of this design over a full pressure bearing liner pipe include:

- Increase in flow capacity by maximising the host bore
- Lower material costs
- Lower CO₂ emissions
- More environmentally friendly
- Easier construction handling
- Lower tow in loads
- Lighter liner
- Shorter welding times
- Does not require disposal of aged pipe – it is an integral part of the composite solution

Kongsberg Project

Pipeliners AS required the rehabilitation of a DN400, cement mortar lined, ductile iron pipe in Kongsberg, Norway over a length of 365 m. The liner pipe selected was a PE 100 RC SDR 33 pipe suitable for the rehabilitation of the potable water being transported at an operating pressure of 8.5 bar. The rehabilitation was required to provide a working life of 100 years.

The challenges on this project were that the design had to take into account that the pipeline runs below one of Norway's busiest roads and minimising disruption was a prerequisite. Furthermore, the liner had to be pulled around an 11.5° bend.

Installation of an interactive liner required a minimum 100-year operational life span while retaining maximum pipeline flow capacity. As always, safety was paramount as there were high loads close to buildings and roads.

Ultimately using the Die Draw technique, the project was a resounding success. >

SPONSORED BY:





Left: Works at Kongsberg allowed continued traffic movements.

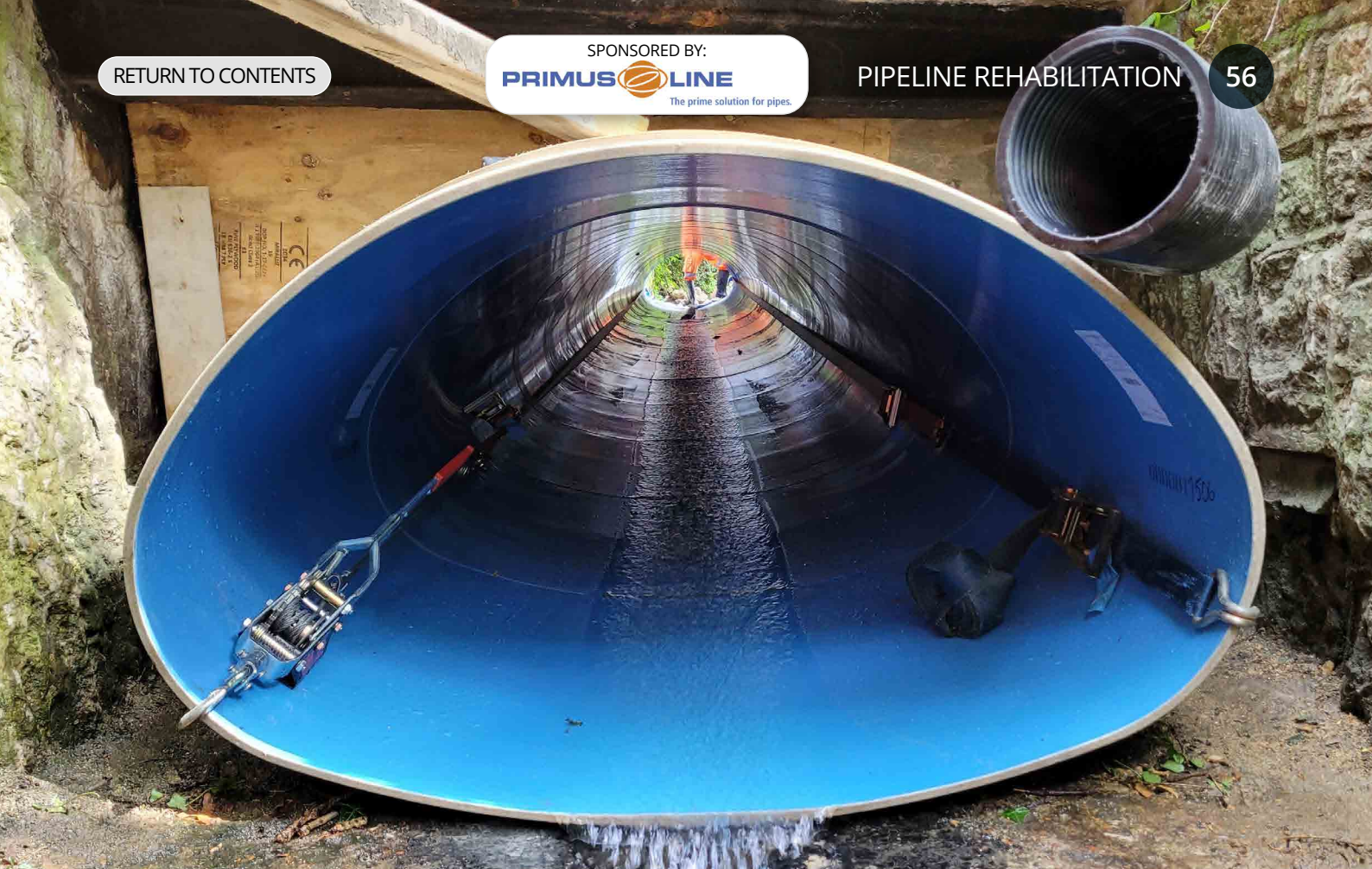
Right: Inserting the reduced liner pipe into the host pipe at Kongsberg.

Some key aspects of the project included:

- 365 m of pipe was lined in one insertion pull in one day
- Only 2 pits were required
- The design demonstrated SDR 33 gap bridging was sufficient for 100 years life
- Flow calculations showed the liner had no impact on flow capacity
- All loads safely were constrained
- The carriageway only closed for one day
- Navigating the bend was no issue

The Die Draw process significantly reduced the project time frame as only a single insertion was required.

Die Draw technology resulted in significant impact reduction to the community and environment. The thin liner used less raw material and helped provide the lowest carbon footprint solution. Furthermore, only one lane needed to be closed so traffic flow was maximised on this key trunk road. There is now a very low risk of any future intervention on this pipeline within the next 100 years.



STRENGTHENING A HIGHWAY CULVERT

Existing
Raigersfield
Culvert – Courtesy
of Steadline Ltd.

Kent County Council's programme of planned highways maintenance works to be carried out during the period 2019 – 2021 included strengthening works to structures such as the Raigersfeld Culvert situated beneath the A20 Ashford Road, Maidstone, Kent, UK.

Following on from previous culvert rehabilitation works for Kent County Council, Steadline Ltd was once again commissioned to make the required improvements to an existing historical brick and steel beamed culvert which was showing signs of deterioration resulting the restriction of flow capacity.

With the same project team comprising Steadline Ltd, BdR (Civil & Structural Engineering) Ltd and Amiblu, a bespoke, non-circular GRP liner was designed with specific challenges to overcome, including:

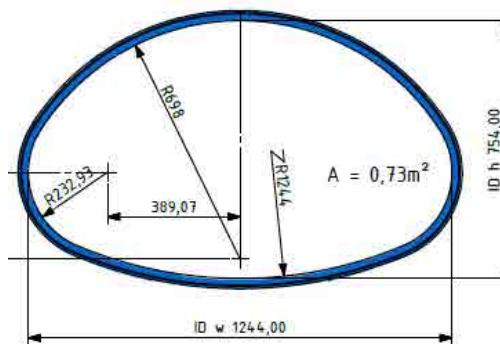
- Steel cross sections to the soffit of the culvert
- Inconsistent shape
- Traffic loads
- Restricted access
- Environmental considerations

The result required 16 x 1 m length sections of 1,244 mm x 754 mm Elliptical shaped NC Line liners from Amiblu with a 27 mm wall thickness weighing just 175 kg per metre with a push fit bell & spigot socket, to be designed to maintain the required cross section and flow capacity. >



Left: The culvert prior to renovation.

Right: Finished Ragstone headwalls
– courtesy of Steadline Ltd.



Liner Profile Cross section.

Project

Steadline Ltd and BdR (Civil & Structural Engineering) Ltd worked in conjunction with Kent County Council, to ensure all works were carried out safely and efficiently whilst meeting the requirements set out by the client in respect of strength, durability and finished aesthetics.

Forward planning of this scheme was critical as the culvert runs beneath the main A20 which is a major arterial route through Maidstone and a road closure was never an option, so the team at Steadline worked closely with park rangers within Mote Park to secure the downstream access and with residents of a gated housing estate for the upstream access.

The stream was dammed and over-pumped with precautions in place to ensure that no unwanted debris found its way into the natural water course. The 1 m long NC Line sections were then craned onto the upstream landing area before being installed using a purpose-built roller system to accommodate for the inconsistent internal condition of the existing culvert.

Once all 16 of the NC Line sections had been installed, grouting was carried out in stages following Amiblu's recommendations and the headwalls were finished in keeping with the original culvert construction.

Amiblu relining pipes are particularly suitable for pipe and culvert rehabilitation, as they are light in weight, corrosion resistant, quality assured, easy to install and engineered to give 150 years' service life, they are manufactured in a wide range of sizes in both circular and non-circular options and with varying strengths to cater for all locations and performance criteria.

Amiblu NC Line pipes are produced to ISO16611. The non-circular cross-sections are ideal for relining and strengthening aging sewer networks, culverts and channels. Non-circular pipes are also used for open trench applications where capacity is required, but allowable depth to invert is limited. They can be customised according to project requirements and easily be adapted to different types of shapes and geometries.



TRAIN WITH PICOTE

SANDHURST | WHITBURN | VIRTUAL



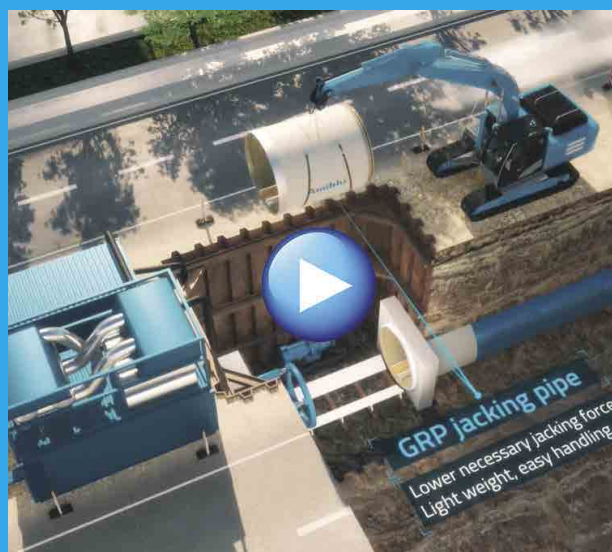
Contact: training@picotesolutions.com | www.picotegroup.com

Why chose Amiblu GRP Jacking Pipes?

Not having to open trenches for an installation means less damage to nature and existing infrastructure, and less CO₂ emissions from construction machinery and traffic jams.

- 150-year asset lifetime
- Lighter in weight than concrete
- Smaller machinery
- Less jacking force and energy needed
- Outstanding hydraulic efficiency
- Diameters: 300 mm – 3600 mm
- Full technical support

Scan code and watch a video animation to learn more about the benefits of pipe jacking installations with Hobas GRP pipes! Direct link: bit.ly/3kyLm0c



Amiblu[®]
Pipes designed for generations

www.amiblu.com
united.kingdom@amiblu.com
Tel: +44 7786 013574

HOLYWELL CULVERT REHABILITATION



Above: Local stone was used to finish the headwall construction.

Below: Extended headwalls.

Terra Solutions Limited was recently employed to undertake a 1500 mm diameter culvert rehabilitation scheme, one of the largest diameter projects in the UK.

Holywell culvert crosses the A59 near Skipton, North Yorkshire, UK and comprises a straight run between existing concrete bag headwalls of nominal 1,500 mm diameter corrugated steel pipe (CSP) in a corroded condition. As part of renovation, by lining of the culvert, owners North Yorkshire County Council (NYCC) proposed to extend the culvert at both ends to new stone headwalls, to be aligned with the edges of existing concrete inlet and outlet roof slabs. At the upstream end the extension piece was to form a bend to bring the inlet more in line with the existing watercourse.

As main contractor for the project, Terra Solutions Ltd was responsible for design as well as installation. The design had to account for the practical implications of the proposed introduction of a bend in the culvert alignment at the upstream end. >



The newly lined culvert.

Terra engaged John Gumball of JG Pipeline Consultancy to conduct a report to review both the NYCC culvert extension specification and the supplier submitted CIPP liner designs. Reline Europe's Alphaliner 1800H product was chosen.

Great care was taken to develop a technique that avoided the use of any materials that would have had a detrimental impact on the watercourse or wider environment. Through collaboration with the Environment Agency and NYCC it was agreed that the use of Reline Europe's UV-cured CIPP liner, as opposed to a more traditionally cured liner, would remove the requirement of using chemicals and resins in the curing process.

Due to the flow through the culvert, a robust flow management system was required using a series of 6 in and 8 in pumps. In order to minimise disruption, it had been agreed with Bolton Abbey that the discharge pipes from the pumps would be run alongside the railway track and discharged into the nearby field. This negated a road closure and reduced the risk of spillage. If a closure was required, this would have entailed a 10 miles+ (16 km) traffic diversion causing major inconvenience to the community.

Extensive devegetation was required prior to lining works to facilitate access to the inlet and outlet points of the culvert. For the extensions reinforced plastic was selected due to its light weight characteristics when compared with other alternatives such as steel or concrete. This meant it could be lifted into place using a 14 t excavator. It also negated the requirement for welding in confined spaces and live flow conditions.

Local stone was sourced and used for the headwall façade construction. This helped to integrate the works with the surrounding landscape and was locally aesthetically pleasing.

This impressively turn-key, large diameter, culvert remediation was completed ahead of programme, and within budget to the satisfaction of the NYCC, local residents and all stakeholders.

SEWER LINING PROJECT PREPARES THE WAY FOR HS2 TERMINUS

HS2 Curzon Street
Birmingham UV liner.

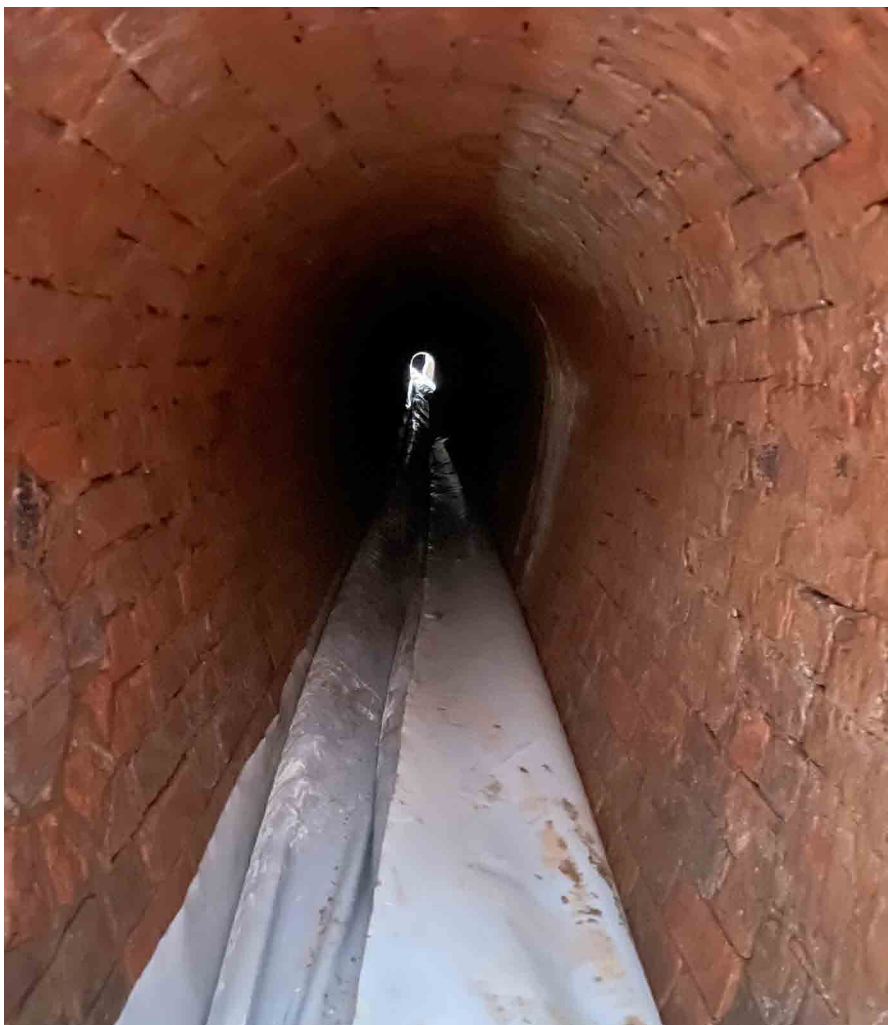
Drainage and wastewater specialist Lanes Group plc has installed one of its largest diameter ultraviolet liners to date to strengthen a sewer on the site of the new HS2 railway station in Birmingham.

The brick-lined sewer, which is 1,460 mm high and 820 mm wide, is due to end up beneath what will become the second city's new Curzon Street HS2 Station.

The Lanes sewer rehabilitation and lining division was given the task of lining the egg-shaped sewer so it had the strength to withstand building work and the weight of the new station above it. >

SPONSORED BY:

TRACTO
VMT



Pulling the liner through the brick pipe.

Based on specifications provided by main contractor Murphy, Lanes worked with German liner manufacturer IMPREG to design a liner that would fit the sewer and provide the structural strength needed.

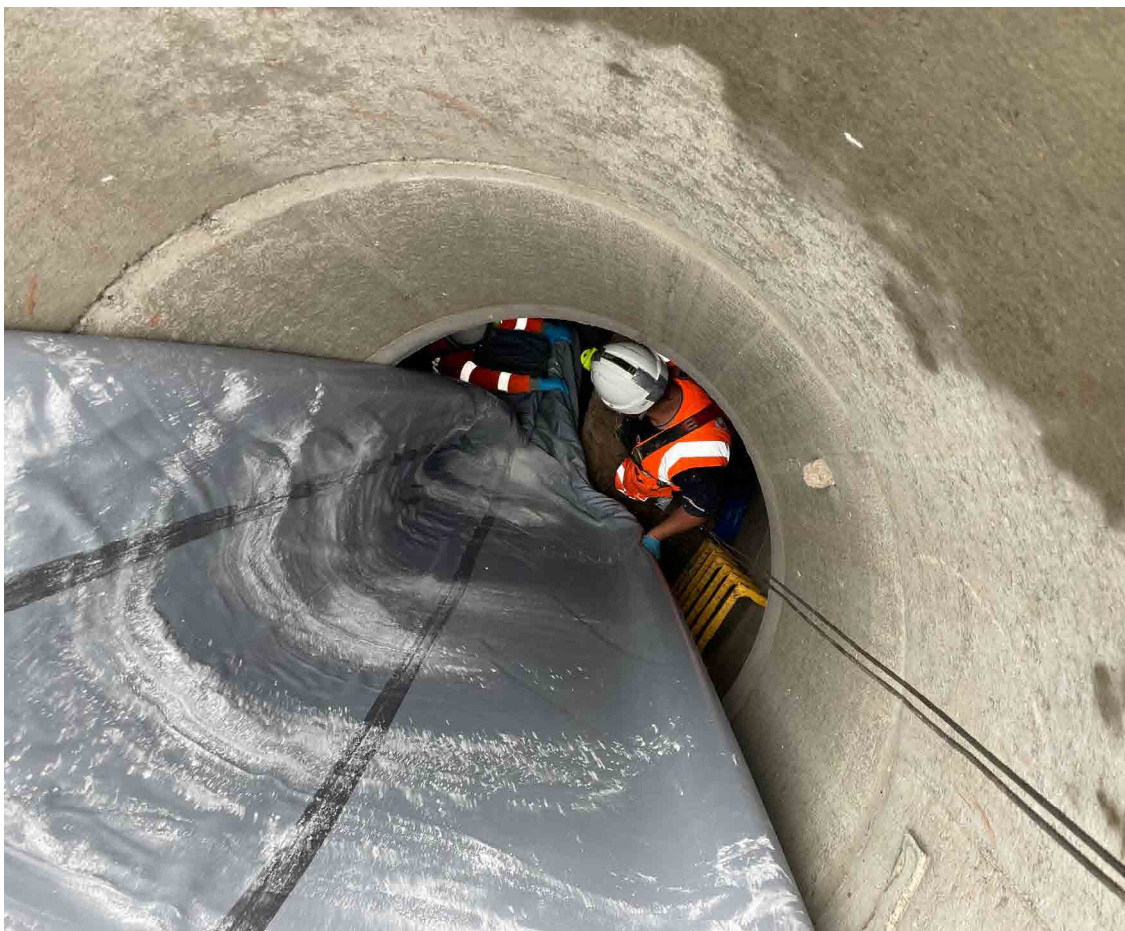
The outcome was the production of a liner that was 21.6 mm thick, one of the thickest Lanes has installed, and weighing 168 kg/metre, giving an overall weight of 6.5 tonnes.

Lanes lining project manager Gary Carey, who led the eight-person team that installed the liner, said: "The thickness and dimensions of the liner added to the challenges for this project. Also, because the new HS2 station will be built over the sewer, we were required to carry out a particularly stringent series of strength tests on the liner, before and after installation. It is very likely that many other culverts and sewers will have to be strengthened as the HS2 build-phase gets underway. Lining these structures is much more sustainable and less costly than replacing them, and we are pleased we have demonstrated the capability of our technology and our teams with this early project."

Murphy first had to provide Lanes with access to the sewer, buried 5 m below ground. This was achieved by installing two chambers at either end of the section being lined.

The liner was brought to the site in central Birmingham directly from IMPREG's factory in Germany, transported in a refrigerated lorry to prevent the resins in it hardening before it could be installed. >

One of the chambers created to facilitate access to the pipeline.



The liner was then unloaded along a specialist conveyor, pulled into the sewer with a 10 t electric winch, and inflated with compressed air.

Lanes' jumbo core UV light train, its 12 bulbs generating 12,000 W of UV power, was pulled through the liner to trigger the catalysts that cured layers of resin in the liner.

The computer-controlled process took 2½ hours to complete. Because the liner was so thick, heat from the UV lamps also contributed to the curing process. The liner could then be trimmed and grouted into place.

Samples of the installed liner were then taken and sent for laboratory analysis to confirm that it met the performance criteria required by Murphy and HS2 structural engineers, to provide a design life of 100 years.

Lanes is one of the UK's leading cured in place pipe (CIPP) lining specialists. Its UV CIPP systems can be used to line pipes with diameters up to 1,600 mm. Larger pipes can be lined with specialist equipment.

UV lining is one of the most sustainable ways to rehabilitate pipes. Liners can be installed in shorter time periods than with other CIPP techniques and in more constrained spaces, with less energy and waste.

Curzon Street Station will be the northern terminus of phase 1 of HS2, linking Birmingham with Euston Station in London.

The high-speed rail line is due to open in 2026, with an expected nine train arrivals and departures every hour.

The trains will reach speeds of up to 226 miles per hour, cutting journey times between London and Birmingham from the current 1 hour 21 minutes to 52 minutes.



HydraSlitter Kit.

HYDRASLITTER FOR LEAD PIPE REPLACEMENT

HammerHead® Trenchless Same Path® technology now includes the HydraSlitter™ system, which is claimed to be the most economical and effective trenchless alternative to open cut replacement of lead potable water pipe of ½ to 1 in (13 mm to 25 mm) diameter. HammerHead launched the system during this year's American Waterworks Association ACE22 in San Antonio, Texas, USA.

NATIONWIDE LEAD WATER LINE CRISIS

Josh Hood, Sr. Manager, Product Management and Support at HammerHead Trenchless, commented: "Federal guidelines and specifications sanctioned the manufacture and use of lead pipes for potable water into the 1950s and national plumbing codes permitted the use of lead water pipes into the 1970s and '80s." It was not until 1986 that congress finally banned lead for use in new installation/construction. >

SPONSORED BY:



“HammerHead is an industry leader in the innovation, manufacture and consultation of environmentally safe, minimally invasive pipe repair and replacement techniques. Its HydraSlitter kits are specifically designed to give pipe replacement professionals a safe, quick and reliable means of taking lead pipe laterals out of service.”

The U.S. EPA enacted a water treatment technique regulation for lead in 1991 based on the use of orthophosphates to mitigate problems associated with lead contamination occurring from corrosive water. Orthophosphates can create a protective mineral coating that keeps toxic lead stuck to pipes. “However,” Hood said, “the protective coating they provide is not a permanent solution.” Many local and state requirements call for its removal, and nearly every state has funding available to do so.

An estimated 6 to 10 million linear feet (1.8 to 3 million linear metres) of lead pipe at or nearing the end of its useful life is still in service. Much of it exists as lateral service delivering potable water to private, residential customers. The U.S. goal is to replace all of it within the next 10 years, and US\$15 billion has been set aside from the infrastructure bill to address the lead crisis.

Hood said HammerHead is an industry leader in the innovation, manufacture and consultation of environmentally safe, minimally invasive pipe repair and replacement techniques. Its HydraSlitter kits are specifically designed to give pipe replacement professionals a safe, quick and reliable means of taking lead pipe laterals out of service.

MINIMAL EQUIPMENT OUTLAY, EASE OF USE

Hood said the HydraSlitter system is simple, it is easy to learn and easy to use. Plus, “investment cost is super low, since users are only buying tooling, not a machine.”

In most cases, the machine used to pull the tooling can be the same mini excavator that was used to dig the pit depending on ground conditions and length of run. Hood said: “Runs will generally be 40 to 50 ft (12 to 15 m), but 120 ft (36.5 m) is the maximum length right now.”

BENEFITS OF TRENCHLESS REPLACEMENT VS OPEN CUT


Open cut techniques not only damage tree root systems but routinely require extensive excavation to remove the full length of pipe and then restoration of sidewalks, drives, retaining walls or other surface structures after the replacement pipe installation.

A trenchless pipe-slitting operation using HydraSlitter tooling provides a significantly less invasive process of lead pipe replacement. Drawn by a cable attached to a mini excavator with the cable grip provided in the kit, HydraSlitter tooling slits the lead pipe while simultaneously installing new product pipe into place as it progresses.

Since the replacement pipe follows in the same path as the existing pipe, a trenchless replacement process greatly reduces disruption to daily routines, traffic, or commerce. It reduces project time and cost by minimising excavation, demolition, and restoration requirements. It has no impact on tree root systems and significantly mitigates the risk of interfering with other utilities in shared easements.

Contractors can now select from two full-system HydraSlitter kits online. The kit arrives within just a few days containing exactly what the contractor needs for a job. Contents include the appropriate blades, expanders, cable, duct-rod, and cable grip for the excavator, as well as a tooling assembly selection chart and instructions.

www.hammerheadtrenchless.com



AUSTIN WATER SELECTS ELECTRO SCAN FOR INNOVATIVE INFLOW & INFILTRATION PROJECT

Electro Scan's readings automatically detect buried manholes, as found in Austin, Texas, not included on GIS.

Electro Scan Inc. recently announced that it has been awarded a contract by Austin Water, Texas, USA to conduct a 20,000 linear feet (LF) (6,096 m) assessment of 8 in to 24 in (200 mm to 610 mm) diameter sewer mains that the City has been unable to locate sources of infiltration in using legacy inspection techniques.

Cities and utilities have traditionally used closed-circuit television (CCTV) cameras, dye flood testing, ground penetrating radar, lasers, smoke testing, and sonar to assess gravity sewer mains. Recently, some cities have tried using acoustic sensors and artificial intelligence to re-assess CCTV video.

What makes infiltration so difficult to find is when rainfall percolates through the soil, water enters cracks, bad joints, and leaky customer connections through pathways that cannot be easily seen or traced contributing to sewer backups, overflows, and street flooding.

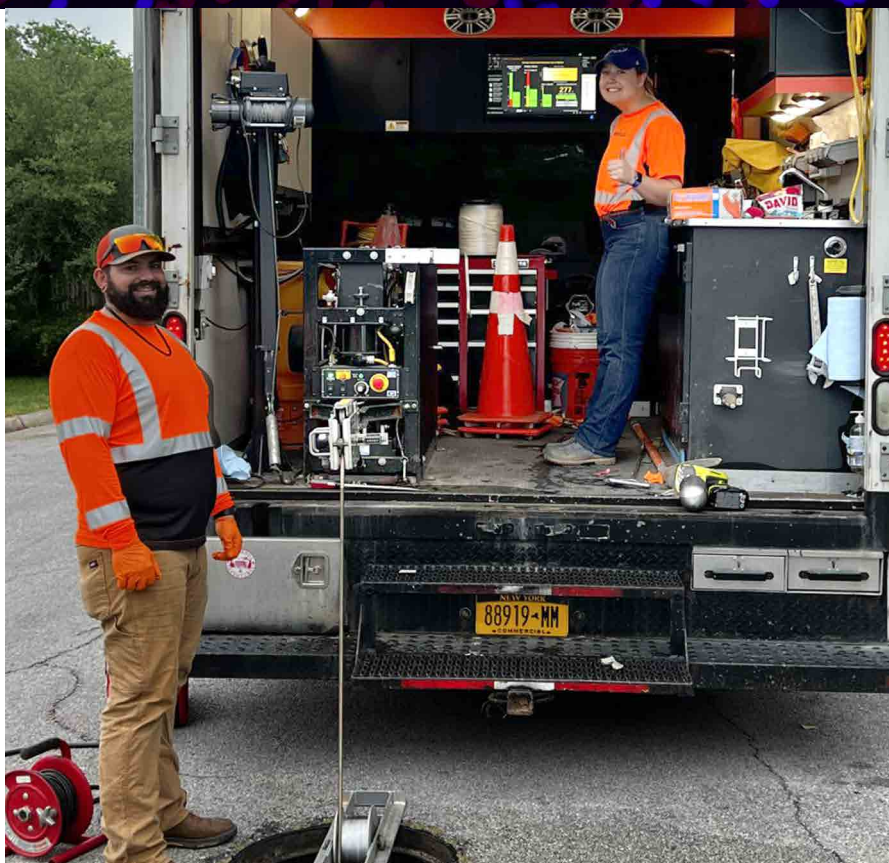
In contrast, Electro Scan can automatically evaluate the pipe wall of sewer mains when either empty or full of water, 365-days a year.

Using its patented technology, Electro Scan uses electrical current to systematically assess full length, 360° of a pipe, mapping all cracks that go through a pipe wall, leaking joints, bad connections, and other openings; automatically locating every location where unwanted water can enter or exit a pipe travelling through a pipe at 30 to 45 ft/min (9 to 14 m/min). >

SPONSORED BY:

TRACTO
VMT

Mackenzie App and John Murdock set up for the day in Austin, Texas.



Today, Austin Water serves approximately 195,000 sewer connections, connected to 2,600 miles (4184 km) of sewer mains, including 124 lift stations.

As part of this project, Austin Water selected numerous pipe materials, including Cured-In-Place Pipe, Polyvinyl Chloride, Reinforced Concrete Pipe, and Vitrified Clay Pipe, with a variety of ages to determine if combinations of pipe materials and age are contributing factors for infiltration.

Austin Water crews will also support Electro Scan in the field by providing jet trucks and operators, traffic control, and access to back easements, right of ways, and city streets.

Electro Scan's machine-intelligent technology represents a next generation assessment tool for underground pipes. Using simple electric current, equivalent to no more than six (6) AA batteries, Electro Scan is able to locate every location where water is able to leak from a pipe and measure the size of the hole or orifice to determine severity in either gal/min or l/sec.

Recent large scale benchmark testing has shown the biggest factor of determining pipe condition often is the contractor that installed the original pipe or completed recent repairs or relining.

Due to difficult to access sewers, Electro Scan will use both its ES-600 truck-mounted probe and ES-600 mobile unit. Austin Water officials and staff, including hydraulic modelers, will be visiting Electro Scan in the field to view how the technology is 3-5 times faster than CCTV camera operations, how real-time data is displayed during each assessment, and how data is transmitted and available on the cloud.

One pipe pre-selected sewer main had a previously Abandoned CCTV Survey, which Electro Scan tends to easily navigate to correctly and more thoroughly assess and quantify major defects.

Prior to the COVID-19 pandemic, Electro Scan completed a successful demonstration inspection of a sewer siphon for Austin Water. Combined with results from a nearby Electro Scan project at San Antonio Water Systems, (SAWS), Austin Water reached out to Electro Scan to organise the current project.

SPONSORED BY:





WESTRADE GROUP LTD

NO-DIG EVENTS

International No-Dig events brought to you by the industry's world experts



NO-DIG LIVE 2022

16th Biennial Exhibition, Live Demonstrations and Technical Sessions

13-15 September 2022

East of England Arena and Events Centre, Peterborough, UK



14 September 2022 - UKSTT Gala Dinner & Awards Ceremony in association with Westrade

www.nodiglive.co.uk



INTERNATIONAL NO-DIG HELSINKI 2022

ISTT's 38th International No-Dig Conference and Exhibition

3-5 October 2022

Messukeskus Helsinki Expo and Convention Centre, Helsinki, Finland

www.nodighelsinki.com



TRENCHLESS TECHNOLOGY INTERNATIONAL SEMINAR

30 November 2022

Westin Hotel, Santa Fe, Mexico



TRENCHLESS EGYPT 2023

Part of the Trenchless Middle East Portfolio
March 2023

Cairo



TRENCHLESS ASIA 2023

17-18 May 2023

Kuala Lumpur Convention Centre, Malaysia

www.trenchlessasia.com



INTERNATIONAL NO-DIG MEXICO 2023

ISTT's 39th International No-Dig Conference and Exhibition

17-19 October 2023

Expo Santa Fe, Mexico



INTERNATIONAL NO-DIG DUBAI 2024

ISTT's 40th International No-Dig Conference and Exhibition

November 2024

Dubai World Trade Centre, Dubai



NASTT SOCIETY NEWS

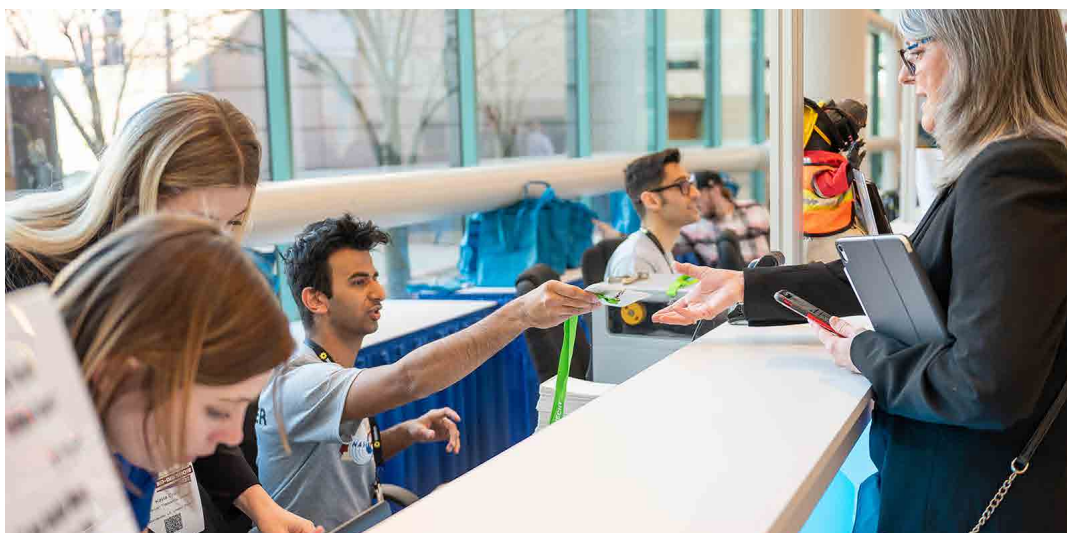
nastt.org

NASTT News brought to members by Trenchless Works

THE WORLD'S LARGEST TRENCHLESS TECHNOLOGY CONFERENCE A HUGE SUCCESS



The NASTT 2022 No-Dig Show was a triumphant return to business-as-nearly usual, demonstrating the resilience, resourcefulness and innovative nature of the trenchless industry, and the people who pursue it with a passion.



NASTT University Student Chapter

Members attend the No-Dig Show and volunteer throughout the event while also having the opportunity to attend technical sessions, walk the exhibit hall and network and engage with attendees and future employers!

NASTT University Student Chapter Members are encouraged to participate in the Trenchless Research Competition with a poster and presentation explaining a research project they have been working on. The 2022 winning student was Stephen Gordon of Louisiana Tech University with his research presentation entitled: Ohmic Curing Technique for GPC Pipe. The prize for the winner was a generous cash donation donated by Sunbelt Rentals. >



SPONSORED BY:



Student Member Stephen Gordon of Louisiana Tech University and NASTT Executive Board Member Tiffanie Mendez of Sunbelt Rentals.



Monday morning opens with the Kick Off Breakfast which features peer networking, awards, a plated breakfast and fantastic entertainment to set the tone for the week!



Outstanding Paper of the Year Award in Rehabilitation was awarded to Columbia Canal Brick Arch Tunnel Geopolymer Lining in South Carolina, written by Joe Royer, Ph.D., of GeoTree Solutions, LLC and Bill Sharpe, of Inland Pipe Rehabilitation, LLC. Shown here: Joe Royer receives the award from NASTT Board Member, Jim Williams of Brierley Associates.



Outstanding Paper of the Year Award in New Installations was awarded to HDD Lessons You Can Only Learn in the Field, written by Kimberlie Staheli, Ph.D., P.E., and Jake Andresen, P.E. of Staheli Trenchless Consultants. Shown here: Kim and Jake receive the award from NASTT Board Member, Jim Williams of Brierley Associates.



NASTT's Volunteer of the Year Award recognises members who exemplify the mission, vision and core values of NASTT and make an impact in the trenchless industry through their dedication, leadership and volunteer contributions during the past year. One NASTT member is chosen annually at the discretion of the NASTT staff. The 2022 NASTT Volunteer of the Year is Brian Avon of Carollo Engineers. Brian was recognised during the Kick Off Breakfast and is shown here with NASTT Executive Director, Matthew Izzard. >

SPONSORED BY:





Trenchless Technology magazine Person of the Year: Derek Potvin of Robinson Consultants awarded by Trenchless Technology magazine Publisher Kelly VanNatten and Trenchless Ambassador Dan Sisko of Benjamin Media.



Trenchless Technology magazine awards their Trenchless Project of the Year in Rehabilitation and New Installations each year during the NASTT No-Dig Show Kick Off Breakfast. Awards were presented by Sharon Bueno and Michael Kezdi, editors of Trenchless Technology magazine.



Attendees were treated to a wild ride with exciting stories, motivational content and music by the dynamic speaker and musician Keni Thomas, a former Army Ranger who was present during the infamous Black Hawk Down battle in Somalia. The crowd was riveted throughout his presentation and left the breakfast feeling energised and ready to take on the week of learning and networking with gusto! >



The annual ceremonial ribbon cutting opens the exhibit hall and welcomes sponsors, exhibitors, attendees and guests to the NASTT No-Dig Show! L-R: NASTT Board Vice Chair, Matthew Wallin of Bennett Trenchless Engineers; NASTT Executive Director, Matthew Izzard; 2022 No-Dig Show Program Vice Chair, Joe Lane of Aegion; and NASTT Board Chair, Alan Goodman of HammerHead Trenchless.



Networking and education are always top of mind during the NASTT No-Dig Show. The exhibit hall is buzzing with the latest innovations in the trenchless industry with product and equipment demonstrations and lively technical discussions. Exhibitors offer raffles, food and beverages give-aways and more in their booths for attendees to explore and enjoy.

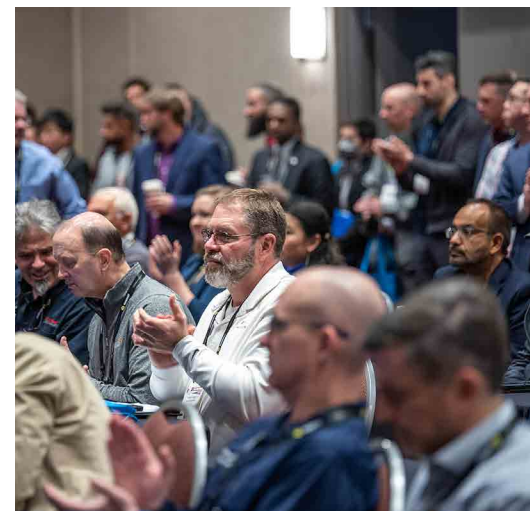


The NASTT Municipal & Public Utility Scholarship programme is all about connecting trenchless contractors with municipal and public utility decision makers. Doing business with municipal agencies and public utilities is crucial to the trenchless industry. NASTT's Municipal & Public Utility Scholarship brings hundreds of decision maker agency representatives in-person to the No-Dig Show. Since its inception, over 2,000 delegates have been onsite looking for solutions to their infrastructure challenges that trenchless technology can provide. Municipal and public utility scholarship winners from all over North America attended the NASTT 2022 No-Dig Show and a reception specifically for these winners was held at the start of the conference for networking and some fun, too! >





A core feature of the NASTT No-Dig Show is the unparalleled technical schedule which spans six tracks over the course of three days. Over 130 sessions on all aspects of trenchless technology were presented and also included panel forums with industry experts offering topic discussions where audience Q&A and participation is encouraged! Registrants are able to earn Continuing Education Units to support their professional development with their attendance to the technical sessions.



University Student Chapter Members from Louisiana Tech University enjoyed the networking reception held prior to the Gala Awards Dinner.

Gala Awards Dinner attendees dressed to impress for a festive evening that included a cocktail hour, a delicious meal, plenty of time to socialise and network with industry friends and colleagues as well as recognize and honor award recipients and enjoy fabulous entertainment! >



SPONSORED BY:

TRACTO
VMT



Long time NASTT member and tireless volunteer, Dennis Doherty, was inducted into the 2022 NASTT Hall of Fame. Dennis was instrumental in the formation of the Northeast Regional Chapter of NASTT and is a staunch advocate of our University Students!



Trenchless Industry veteran, Paul Nicholas, was inducted into the 2022 NASTT Hall of Fame. Paul has spent over 32 years in the trenchless technology industry promoting the development and use of microtunneling.



The Ralston Young Trenchless Achievement Award applauds savvy members under 36 who have demonstrated excellence early in their career by making valuable contributions to the trenchless technology industry. The 2022 recipient is Matthew Olson of Lithos Engineers. Matthew is shown here flanked by NASTT Board Member, Chris Sivesind and Board Chair, Alan Goodman.



Former NASTT Executive Director, Michael Willmets, was inducted into the 2022 NASTT Hall of Fame. Mike's career in infrastructure management and trenchless technology has spanned nearly 50 years!



The NASTT Chair Award for Distinguished Service Award recognises trenchless professionals that have provided both NASTT and the trenchless industry with meritorious, prominent and long-standing service. One recipient each year is chosen at the discretion of the NASTT Chair. The 2022 honouree is Tiffanie Mendez of Sunbelt Rentals. Tiffanie serves as the Secretary on the Executive Board of Directors for NASTT. Tiffanie received her award from Chair Alan Goodman and is also shown with Executive Director, Matthew Izzard.



SPONSORED BY:

TRACTO
VMT

Underground Infrastructure Sustainability



OCTOBER 17-19
Beanfield Centre
Toronto, ON Canada

• In-Person • Over 80 Peer Reviewed Presentations • Exhibit Hall



REGISTRATION now OPEN
nodignorth.ca

For Sponsor & Exhibit Info please contact Hannah Stakolich at Hstakolich@benjaminmedia.com.

No-Dig North is owned by the North American Society of Trenchless Technology (NASTT).
For more information about NASTT or other NASTT events, please visit nastt.org.

UPCOMING CONFERENCES, COURSES & EVENTS

2022

JULY 28

Municipal Sewer Grouting Good Practices Course
Virtual

AUGUST 24-25

New Installation Methods Good Practices Course
Virtual

OCTOBER 17-19

No-Dig North 2022
Toronto, ON

OCTOBER 19

Trenchless Elevated 2022
West Valley City, UT

OCTOBER 26-27

CIPP Good Practices Course
Virtual

NOVEMBER 16-17

HDD Good Practices Course
Virtual

NOVEMBER 30

Trenchless Technology International Seminar
Santa Fe, Mexico City, MX

DECEMBER 14-15

Pipe Bursting Good Practices Course
Virtual

2023

APRIL 30 - MAY 4

NASTT 2023 No-Dig Show
Portland, Oregon

2024

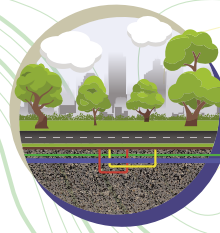
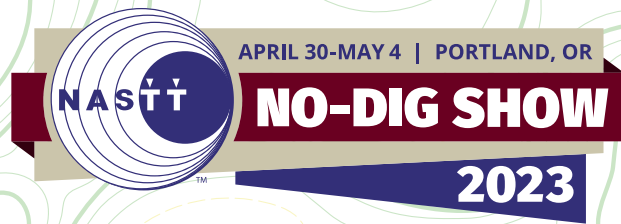
APRIL 15-17

NASTT 2024 No-Dig Show
Providence, Rhode Island

2025

MARCH 30 - APRIL 3

NASTT 2025 No-Dig Show
Denver, Colorado



**GREEN ABOVE.
GREEN BELOW.**

Save the Date

NASTT 2023 NO-DIG SHOW | APRIL 30-MAY 4 | PORTLAND, OR

Educational & Networking Opportunities Await

The No-Dig Show is the trenchless industry's flagship educational and networking event. Each year No-Dig attendees are privileged to the best industry-related content and access to the leading companies and individuals in trenchless technology.

- Technical papers & presentations
- Large exhibition hall
- Specialized trenchless training courses
- Engaging networking programs & events
- Prestigious industry related awards

Visit **nodigshow.com** to learn more



NETWORKING EVENTS | EXHIBIT HALL | TECHNICAL SESSIONS



The No-Dig Show is owned by the North American Society for Trenchless Technology (NASTT), a not-for-profit educational and technical society established in 1990 to promote trenchless technology for the public benefit. For more information about NASTT, visit our website at nastt.org.



SOCIETY NEWS

ISTT News brought to members by Trenchless Works

A MESSAGE FROM THE CHAIR



Jari Kaukonen, Chair, International Society for Trenchless Technology

Hi ISTT members!

I paid a visit to the conference in Cracow, Poland to have a meeting with the new chairman of the PFTT Tadeusz Zaba. We have a tricky situation in Poland because there are two trenchless societies in the country.

I had good discussions about co-operation with these two parties. They are now searching for ways to have a meeting within the agenda and I have promised to give all my help that I can to somehow join the parties. I also had the possibility to promote the International No Dig show 2022 in Helsinki whilst there. Many people were interested to attend and no doubt that our show will be remarkable for everyone taking part in it. We have the potential for a good delegation from Poland at our conference. The conference in Cracow was well arranged and we heard many good presentations and many high-level panel discussions as well.

The programme for the International No Dig show in Helsinki is almost ready. We have received almost 70 papers and that shows that we will have a qualified high-level programme at the conference. We have now also prepared the programme for the student masterclass. We will have 10 first class professors from around the globe presenting the introduction to the trenchless world. All students are more than welcome to the student masterclass which is free of charge for students. The exhibition floorspace has sold about 90% and the registration is now open for the conference, and we have sold about 100 tickets already. The early bird rate will be open until the end of July. When registering for the conference, you can also buy tickets to the tours, Gala Dinner and the Finnish language conference where you can train in our language! That is so easy that I have learned the skill even when I was a child...The registration is available via the conference webpage: www.nodighelsinki.com

We have in Finland now the Summer Holiday season and we will continue to prepare the conference programme again in August.

I wish to all of you an active trenchless business season!

With best regards,

Jari Kaukonen

Chair, ISTT



One of the panel discussions in Tomaszowice, Poland.

SPONSORED BY:



HOSTED BY



SUPPORTED BY



OFFICIAL MEDIA PARTNER

TRENCHLESSWORKS

NO-DIG TURKEY 2022

TRENCHLESS TECHNOLOGIES,
INFRASTRUCTURE CONSTRUCTIONS
MACHINERY AND EQUIPMENT FAIR
2-3 NOVEMBER 2022 - ISTANBUL

**Istanbul Lutfi Kirdar
International Convention
and Exhibition Centre
2-3 November 2022**

In Conjunction With



6th WATER LOSS FORUM & EXHIBITION
SU KAYIP VE KAÇAKLARI FORUMU & FUARI
2-3 Kasım / November 2022 / İstanbul
www.waterlossforum.org



ORGANIZED BY



Harbiye Mah. Darülbekad Cad. İstanbul Lütfi Kirdar Kongre Merkezi
Blok No:4 İç Kapı No:2 Şişli / İstanbul - TURKEY
T. +90 212 352 03 93

For Exhibition and Sponsorship Enquiries
Ms. Nurdan BAYRAM
nurdan@maven.events

For General Enquiries
Ms. Zumra KAYA
zumra@maven.events



TRENCHLESS EGYPT

Part of the Trenchless Middle East Portfolio

CAIRO

SEPTEMBER 2023



International Exhibition and Conference featuring:

- No-Dig (NDRC) Technology
- Underground Infrastructure
- Pipeline Technologies
- Underground Utilities

Be part of the Egypt infrastructure development project, book your stand today

- In excess of \$400 billion planned construction & Infrastructure Projects
- A forecasted population in excess of 128 million by 2030
- Ageing infrastructure
- Forecasted to be the 7th World's largest economy by 2030

Contact: Paul Harwood or Stuart Hillyard

Email: pharwood@westrade.co.uk or shillyard@westrade.co.uk Telephone: +44 (0)1923 723990



Organised by



Supported by



Official Media Partner

TRENCHLESSWORKS

Media Partner



www.trenchlessegypt.com



AFFILIATED SOCIETIES

ISTT Affiliated Societies around the world



Austrian Association for Trenchless Technology (AATT)

c/o TU Wien Resselgasse 5,
1040 Wien, Austria
Phone: +43 664 5184084
Email: office@grabenlos.at
Web: www.grabenlos.at



Brazilian Association for Trenchless Technology (ABRATT)

Alameda Santos, 1773 – Jardim
Paulista Sao Paulo
01419-002 Brazil
Phone: +55 11 983893450
Email: hrosas@abratt.org.br
Web: www.abratt.org.br



Australasian Society for Trenchless Technology (ASTT)

18 Frinton Place Greenwood,
6024, WA, Australia
Phone: +61 (0)8 9420 2826
Email: jeffpace@astt.com.au
Web: www.astt.com.au



Bulgarian Association for Trenchless Technology (BATT)

Kaprinka Lake Village Kazanlak
6100, Bulgaria
Phone: +359 2 4901381
Email: info@batt-bg.org
Web: www.batt-bg.org



China Hong Kong Society for Trenchless Technology (CHKSTT)

Tsimshatsui Post Office 91499 Kowloon
Hong Kong
Phone: +852 9201 1952
Email: chkstt@gmail.com
Web: www.chkstt.org



China Society of Geology - Trenchless Technology Committee (CSTT)

Xicheng District Room 151, 26
Baiwanzhuang Street, Xicheng District,
Beijing 100037 China (PR)
Phone: +86 10 6899 2605
Email: yan64843889@126.com
Web: www.cstt.org



Chinese Taipei Society for Trenchless Technology (CTSTT)

3F, No 92, Roosevelt Rd., Sec. 4,
Zhongzheng Dist, Taipei City, 100
Taiwan
Phone: +886 2 2362 0939
Email: zoradrc@gmail.com
Web: www.ctstt.org.tw/en_index.asp



Czech Society for Trenchless Technology (CzSTT)

Bezova 1658/1, 147 14 Praha 4 Czech
Republic
Phone: +420 244 062 722
Email: office@czstt.cz
Web: www.czstt.cz



Danish Society for Trenchless Technology – NoDig Infra (DKSTT)

Odinsvej 29 Silkeborg Denmark
Phone: +45 50894489
Email: tina@juul-consult.dk
Web: www.nodiginfra.dk/nodig-infra/
startside



Finnish Society for Trenchless Technology (FISTT)

c/o Sari Pietilä
Haapasuonkankaantie 10
90830 Haukipudas, Finland
Phone: +358 504132484
Email: info@fistt.net
Web: www.fistt.net



French Society for Trenchless Technology (FSTT)

4 rue des Beaumonts, F-94120
Fontenay Sous Bo, France
Phone: +33 1 53 99 90 20
Email: contact@fstt.org
Web: www.fstt.org



German Society for Trenchless Technology (GSTT)

Kurfürstenstr. 129 (Building:
German construction association)
Berlin, Germany
Phone: +49 30 81 45 59 84
Email: beyer@gstt.de
Web: www.gstt.de



AFFILIATED SOCIETIES

ISTT Affiliated Societies around the world



Italian Association of Trenchless Technology (IATT)

Via Ruggero Fiore, 41 Rome Italy
Phone: +39 06 39721997
Email: iatt@iatt.info
Web: www.iatt.it



Iberian Society for Trenchless Technology (IBSTT)

C/ Josefa Valcarcel, 8 - 3a
PTLA 28027, Madrid, Spain
Phone: +34 913 202 884
Email: ibstt@ibstt.org
Web: www.ibstt.org



Japan Society for Trenchless Technology (JSTT)

3rd Floor, Reed-C Bldg., 2-11-18,
Tomioka, Koto-ku, Tokyo 135-0047 Japan
Phone: +81 3 5639 9970
Email: office@jstt.jp
Web: www.jstt.jp



Latin American Society for Trenchless Technology (LAMSTT)

Medellín Highway (Calle 80) KM3.5
via Bogotá-Siberia south side, Bogotá
Terrestrial Cargo Terminal, Office C-12,
Cota - Cundinamarca, Colombia
Phone: +57 1 8764675
Email: cistt.arlex.toro@lamstt.org
Web: www.lamstt.org



Malaysia Association for Trenchless Technologies (MATT)

No 44, Jalan Dungun, Damansara Heights,
Kuala Lumpur 50490 Malaysia
Email: trenchless@matt.org.my
Web: www.matt.org.my



North American Society for Trenchless Technology (NASTT)

22722 29th Drive SE, STE 100,
Bothell, WA 98021
Phone: +1 888 993 9935
Email: info@nastt.org
Web: www.nastt.org



Netherlands Society for Trenchless Technology (NSTT)

Postbus 79, 3769 ZH Soesterberg,
Netherlands
Phone: +31 346 723450
Email: info@nstt.nl
Web: www.nstt.nl



Polish Foundation for Trenchless Technology (PFTT)

Ul. Warkocz 14, 25 - 253 Kielce, Poland
Phone: +48 41 34 24 450
Email: parkaa@tu.kielce.pl
Web: www.pftt.pl



The Russian Society Trenchless Technology Association (RSTT)

Severnoy proezd 12, Balashikha Moscow
region, Russian Federation
Phone: +7 (495) 521 78 82
Email: gnb.06@mail.ru
Web: www.s-gnb.ru



Southern African Society for Trenchless Technology (SASTT)

1053 Hyde Avenue, Eldoraing ext 1,
Centurion Gauteng, South Africa
Phone: +27 (0) 82 551 7458
Email: director@sastt.org.za
Web: www.sastt.org.za



Singapore Society for Trenchless Technology (SgSTT)

84 Toh Guan Road East, Singapore Water
Exchange, #02-02 608501, Singapore
Phone: +(65) 97124054
Email: singaporestt@gmail.com
Web: www.sgstt.org.sg



Scandinavian Society for Trenchless Technology (SSTT)

SSTT Service AB, Box 22 307 104 22,
Stockholm, Sweden
Phone: +46 8 508 938 00
Email: Kontakt@sstt.se
Web: www.sstt.se



Turkish Society for Infrastructure and Trenchless Technology (TSITT)

Kucukbakkalkoy Mah. Ali Ay Sok. No:3/2
Atasehir 34750 Istanbul, Turkey
Phone: +90 216 469 75 65
Fax: +90 216 469 75 69
Email: info@akated.com
Web: www.akated.com



Ukraine Association for Modern Trenchless Technology (UAMTT)

83A Srednyaya Str., Odessa 65005 Ukraine
Phone: +380 50 3953280
Email: trenchless.as@novatec.ua
Web: www.no-dig.odessa.ua



United Kingdom Society for Trenchless Technology (UKSTT)

Camden House, Warwick Road,
Kenilworth, Warwickshire, CV8 1TH, UK
Phone: +44 (0)192 651 3773
Email: admin@ukstt.org.uk
Web: www.ukstt.org.uk

SOCIETY NEWS

ukstt.org.uk

Society News brought to members by Trenchless Works

HELLO FROM THE CHAIR



Dawn Greig, Chair, UKSTT



Lynn Maclachlan – Associate Director
for UKSTT



Wow, what a scorcher! I hope you have all been enjoying the good weather while it lasts. Having said that, the record-breaking temperatures remind me that Green Alliance is even more important than ever – how can we reduce carbon emissions to meet net zero targets, reduce greenhouse gasses and tackle climate change head on?

Following on from the success of our Green Alliance webinar in June, we will be holding our next one on 8 September with Scottish Water, looking at low carbon concrete for water applications – offering potentially huge carbon savings for our industry. Save the date and make sure you register for free to find out more on this topical subject.

We have had another busy few weeks at UKSTT. My thanks go out to Julian Britton, Fran Thums and the team for welcoming myself, Lynn and Richard Swan for a Patron's meeting at Wessex Water. As always, it was wonderful to have feedback and brainstorm new ways that UKSTT can collaborate with them. It is incredibly important for us to have the support of our Patrons and we truly appreciate all of them. We have an educational day in planning and will keep you informed as it takes shape.

With No-Dig Live and the UKSTT Annual Awards & Gala Evening creeping up fast, I am delighted to let you know that there has been an extension granted until 19 August for those being entered for the Young Professional Award, with the winner chosen by yours truly. If you know someone making a difference in the trenchless industry, under the age of 30, please encourage them to participate. There is a £2,000 bursary, as well as the obvious benefits to their CV. Terms and conditions, as well as the all-important entry form, can be found on the UKSTT website at www.ukstt.org.uk.

Finally, do not forget to make the most of our amazing FREE technical enquiry service on the website. Send us your trenchless questions, big or small, and we will do our very best to provide the answers you need or point you in the right direction.

Stay cool!

Dawn x

SPONSORED BY:



UKSTT EXHIBITING AT NO-DIG LIVE 2022

CONTACT US



www.ukstt.org.uk



07745781500



admin@ukstt.org.uk



UKSTT STAND

Network with clients and chat with colleagues in a relaxed and friendly environment



CREAM TEA

Lynn & Linda would love for you to join them for a truly delicious Cream Tea



CPD POINTS

The conference programme qualifies for CPD points

2022
NO-DIG LIVE

See us on Stand 22
13-15 September Peterborough


www.nodiglive.co.uk

Organised by Westrade Group
TRENCHLESSWORKS



Supported by UKSTT



UKSTT JULY COUNCIL MEETING



On Thursday 7 July the UKSTT Council met at the Woodland Grange in Leamington to discuss the activities of the Society and to take the opportunity in bringing its members together, in real life, to share knowledge, make decisions, and advance our industry.

After a 3-year term, this meeting was the last one current Chair Dawn Greig will be hosting as during the AGM in October she will be passing the reins over to Ian Ramsay. Over the last three years Dawn has made an incredible input into the Society, she has been instrumental in updating the look of the organisation through the social media accounts, magazines and the website and has been very pro-active in engaging with our Patrons and active in pursuing new ones. Watch this space for an announcement to come soon regarding our newest sign up!

A report of the discussions that took place will be available on the Members area of the website as soon as they have been approved.

All Council meetings are open to UKSTT members, we would love to see you at the next one on the 14 October. Further details will follow shortly regarding the location but in the meantime please call Lynn 07745781500 if you would like further information.

Notice of Annual General Meeting 2022

UKSTT has announced that its 2022 Annual General Meeting (AGM) will be held on Thursday, 13 October 2022 at 10.30 am. The location is to be confirmed shortly.

The notice of the AGM, proxy and attendance forms have been issued in accordance with the UKSTT articles of association and we look forward to seeing as many members there as possible.

A link to the meeting will be issued to all members who have registered their intention to attend.

For any enquiries, please contact Lynn by emailing admin@ukstt.org.uk

SPONSORED BY:



The following UKWIR Report has now been published.

Report Title: Transferring minimal excavation methods into the water industry

Report Reference: 22/WM/12/1

Original Proposal Number: L1208

Abstract:

This report provides a comprehensive review of current and developing technologies for minimal excavation which have the potential to enable the water industry to undertake leak repairs and the associated excavation activities, safely and efficiently.

Technologies were identified through global literature reviews, interviews with subject matter experts and contact with relevant companies. A workshop attended by practitioners, technology providers and water companies, provided clarity over the critical issues that need to be resolved to enable these technologies to be widely adopted in the water industry. To encourage the transfer of the identified technology a functional specification is presented which defines the requirements for the application of this technology. A route map to enable the implementation by the water industry is also presented, including a suit of core project areas that will address the key challenges to technology implementation

This report is available for download on our website via the PSG Portal for this project.

[https://ukwir.org/water-research-reports-publications-viewer/\\$P5hfpLm!](https://ukwir.org/water-research-reports-publications-viewer/$P5hfpLm!)

UKSTT GALA DINNER & AWARDS

PARKINSON'S^{UK}
CHANGE ATTITUDES.
FIND A CURE.
JOIN US.

CEREMONY

14th SEPTEMBER 2022

The Atrium, Peterborough Arena, Peterborough, PE2 6XE



- Co-Host and After Dinner Speaker **PAUL SINHA**
- Champagne Reception
- Lavish 3 course meal
- Spectacular live entertainment from the London Showband

CLICK HERE TO RESERVE YOUR TICKETS

www.ukstt.org.uk

07745781500

BELFAST NO-DIG ROADSHOW



2022

NO-DIG ROADSHOW



On the morning of Wednesday 15th June, the team from Westrade Group, were at the Crowne Plaza Hotel in Belfast early to welcome everyone to the show.

The conference programme started at 9am with UKSTT's event organiser Shauna Herron welcoming everyone to the morning session.

UKSTT were honoured to welcome Keynote speaker Dec Downey, Principal Consultant at Trenchless Opportunities Ltd as well as Joe Carroll & Mark O'Duffy – Irish Water, Eoin Gilmore & Paddy Brow – Northern Ireland Water, Pahvai Raveenthiran – McAdam Design & Ciaran Duignan – Nicholas O'Dwyer.

The roadshow was attended by a number of industry professionals, including representatives from Irish Water & Northern Ireland Water.

The show was a resounding success, and we are all looking forward to the next one in the North of England later this year.



TECHNICAL ENQUIRY SERVICE

THINK TRENCHLESS FIRST

Would you like help with a current project? Do you wonder if there is a trenchless solution? The UKSTT website has a dedicated link for visitors to raise any technical enquiries they may have concerning the world of trenchless. Get in touch with UKSTT today!



Free advise support & guidance



Years of knowledge & experience



Extensive list of members experienced in all aspects of trenchless technology



Fast & effective response



+44 (0) 7745 781500



admin@ukstt.org.uk



UNITED KINGDOM SOCIETY FOR
TRENCHLESS TECHNOLOGY

THINK
TRENCHLESS
FIRST

UKSTT
AGM



10:30AM

Open to
Members

Thursday
13 OCTOBER

10:30 am - 11:00am
followed by the Council
Meeting 11am - 3:30pm



Chair Dawn Greig



Vice Chair Ian Ramsay

For More Information: admin@ukstt.org.uk

07745781500



EVENTS AND MEETINGS

2022

September 6-7: Pipes XIII
Emperors Palace, Johannesburg

September 13-15: No-Dig Live 2022
Peterborough, UK.
Details from: www.nodiglive.co.uk
Includes the UKSTT Gala Dinner and Awards Ceremony

September 20-22: ITTC China 2022 26th China International Trenchless Technology Conference (ITTC) & Exhibition
Suzhou International Expo Centre, Suzhou, China
Details from: <http://www.cstt.org.cn/Yhome/Index/index.html>

October 3-5: ISTT's 38th International No-Dig Helsinki
Helsinki, Finland
Details from: www.nodighelsinki.com

October 11-12: British Tunnelling Society Conference and Exhibition
QEII Conference Centre, London
Details from: www.btsconference.com/

October 24-30: bauma
Munich, Germany
Details from: www.bauma.de/

November 2-3: No-Dig Turkey 2022
Istanbul Lutfi Kirdar
International Convention and Exhibition Centre
Details from: <https://www.nodigturkey.com/>

November 30: Trenchless Technology International Seminar
Westin Hotel, Santa Fe, Mexico

2023

April 30-May 4: NASTT 2023 No-Dig Show
Portland, Oregon

May 17-18: Trenchless Asia 2023
Kuala Lumpur Convention Centre, Malaysia.
Details from: www.trenchlessasia.com

September 2023: Trenchless Egypt 2023
Cairo

October 17-19: International No-Dig Mexico 2023
ISTT's 39th International No-Dig Conference and Exhibition
Expo Santa Fe, Mexico

November 1-2: No-Dig Turkey 2023 Conference and Exhibition
Darulbedai Cad. No 4 Harbiye Sisli,
Istanbul 34367, Turkey

November 8-9: STUVA-Expo 2023 in Munich
Messe München, Messegelände, Hall C1
81823 München, Germany

2024

November: International No-Dig Dubai 2024
ISTT's 40th International No-Dig Conference and Exhibition
Dubai World Trade Centre, Dubai

If you have an event, course or meeting scheduled and would like to add it to this listing please forward details to: editorial@trenchless-works.com