


# TRENCHLESSWORKS

THE VOICE OF THE TRENCHLESS COMMUNITY **ISSUE 209** JANUARY 2024

Official Magazine & Media Partner:  **KSTT**

Official Publication of the International Society for Trenchless Technology



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# CONTENTS

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ARTICLE	PAGE	HDD	
SPOTLIGHT	5	HORIZONTAL RAMMER GETS MOSELLE RIVER CROSSING	36
<b>NEWS</b>		NICOL OF SKENE SPECIFIES TRACTO	41
NAYLOR COMPLETES STRATEGIC MOVE	6	HDD PROTECTS PROTECTED TREES IN BARNET UK	44
TS PIPE SUPPLIES OFFERS VITRIFIED CLAY JACKING PIPES	8	<b>SUPPORT EQUIPMENT</b>	
VORTEX COMPANIES ACQUIRES APPLIED FELTS® INC	10	COLD WEATHER FUSION, US STYLE	47
JBP AND WESTRADE FORGE STRATEGIC PARTNERSHIP FOR TRENCHLESS MIDDLE EAST 2024	13	ENVIROCLEAN (SCOTLAND) INVESTS IN LATEST ROBOTICS	52
ALL EYES ON GERMANY FOR EUROPEAN NO-DIG 2024	15	<b>UKSTT SOCIETY NEWS</b>	
MCELROY NAMES MICHAEL GRANT VICE PRESIDENT OF OPERATIONS	18	WELCOME FROM THE CHAIR	55
WHAT'S ON IN 2024?	19	<b>ISTT SOCIETY</b>	
RSM' FIRST CAMERA SYSTEM - GECKO CAM	21	A MESSAGE FROM THE CHAIR	57
<b>FOCUS ON TRENCHLESS TRAINING</b>		ISTT'S WEBSITE ENHANCEMENTS IN 2023	59
TRAINING – CONTRIBUTING TO IMPROVED PERFORMANCE, STANDARDS & THE BOTTOM LINE	23	NO DIG MEXICO 2023 PAPERS NOW AVAILABLE ON OUR WEBSITE	61
<b>PIPELINE REHABILITATION</b>		<b>NASTT SOCIETY NEWS</b>	62
TRENCHLESS SEWER RENOVATION WITH UV TECHNOLOGY IN AUSTRIA	25	<b>EVENTS AND MEETINGS</b>	67
CUSTOM-MADE GRP PIPELINING SUCCESSES IN SCOTLAND AND ENGLAND	30		

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## Beyond the Ordinary



# SPOTLIGHT



Paul Harwood, Managing Director of event organiser Westrade Group Ltd, Publisher, Trenchless Works, Liaison, Board of Directors, International Society for Trenchless Technology

Welcome to first edition of 2024! What a year we have ahead of us with some exciting developments for the magazine and a packed calendar of events.

We have four major international shows to look forward to this year starting with European No-Dig in March. From there we move on to Trenchless Asia in July and No-Dig Live in early October, then to finish the year we are returning to the awesome Jumeirah Beach Hotel for Trenchless Middle East. That is not all however as we will once again be running our hugely popular No-Dig Roadshow series which will be launching soon.

Over the course of the year, we will continue to develop Trenchless Works firmly cementing its position as the leading global publication for the trenchless technology sector. As part of this, we will be welcoming Austen Lees, who many of you will know from our events over recent years, as our new editor. Austen will take over the reins from Ian Clarke who will be taking his well-earned retirement following the March issue. There will be more from both Austen and Ian in the February and March editions but for now I am sure you will join me in thanking Ian for everything he has done for the publication and wishing him all the very best for his retirement. Austen will be reaching out to many of you in the coming weeks to introduce himself but in the meantime could I please ask you to send any future editorial submissions or feature proposals to [editorial@trenchless-works.com](mailto:editorial@trenchless-works.com) to ensure they are picked up by Austen.

On the topic of editorial, make sure you take the time to check out our coverage of the Vortex Companies acquisition of Applied Felts Inc. as the company continues to be a trailblazer in transforming the trenchless rehabilitation industry. Congratulations to both parties – exciting times ahead for everyone, I am sure.

Finally, a call for help. Our content team are looking for someone to talk at one of our upcoming events about the potential for Artificial Intelligence (AI) in the trenchless sector. If you (or someone you know) could provide an overview of where the sector is today with the implementation of these technologies and their potential in the mid- to long-term, I would love to hear from you.

All the best very best.

Paul



# NAYLOR COMPLETES STRATEGIC MOVE

Naylor Denlok being installed



Naylor Denlock Jacking pipe

Yorkshire based pipe manufacturer Naylor Drainage has announced its intention to cease production of the Denlok clay jacking pipe range with effect from 30 June 2024. This development will free up space on Naylor's Cawthorne site, allowing expansion of the company's fast-growing plastic pipe business.

Naylor is a fourth-generation manufacturing business which was founded as a clay pipe maker in 1890. The move completes Naylor's transition into a focused, plastic only business, a transformation which started in 1999, when Naylor acquired its first plastic extrusion line. Since exiting Densleeve open cut clay pipe production in 2023, Naylor has dramatically expanded its plastic production facilities with some £5 million being invested in new extrusion halls and offices. New state of the art plastic extrusion and injection moulding equipment will be commissioned over the coming months and a number of high-profile product launches are planned for 2024 and 2025.

Current Denlok commercial arrangements are being transferred to German clay pipe manufacturer, Steinzeug Keramo, which will offer an equivalent to Denlok under the brand 'Keradrive'.

Naylor Group CEO Edward Naylor commented: "Over the 30 years that I have been CEO, we have seen a steadily increasing demand for plastics which led to the acquisition of our first plastic extrusion line in 1999. Over the last 25 years, we have responded to market demand by investing heavily in our plants in Yorkshire and Fife and we are very proud to have developed a focused, fast-growing plastic business. The next few years are set to be exciting too, given our ambitious growth plans." ■

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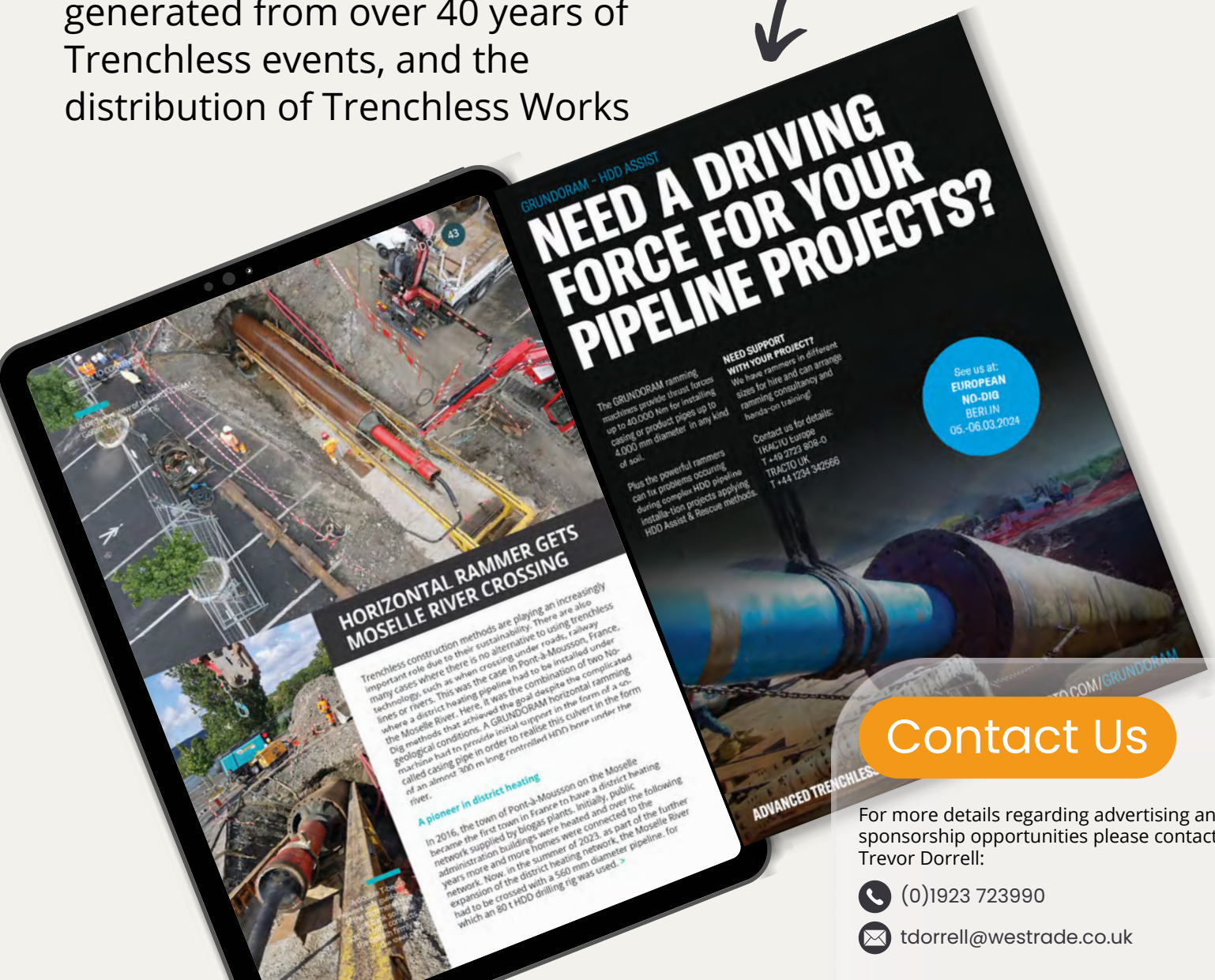


# TRENCHLESSWORKS

## WHY NOT ADVERTISE WITH US ?

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Trenchless Works readership is generated from over 40 years of Trenchless events, and the distribution of Trenchless Works



The image shows a tablet and a magazine. The tablet displays a construction site with a large pipe being installed. The magazine is titled 'NEED A DRIVING FORCE FOR YOUR PIPELINE PROJECTS?' and features an advertisement for GRUNDORAM - HDD ASSIST. The advertisement includes text about the GRUNDORAM ramming machines, their capacity, and contact information for TRACTO UK. There is also a blue circular badge with the text 'See us at: EUROPEAN NO-DIG BERLIN 05.-06.03.2024'.

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05.-06.03.2024

**HORIZONTAL RAMMER GETS MOSELLE RIVER CROSSING**

Trenchless construction methods are playing an increasingly important role due to their sustainability. There are also many cases where there is no alternative to using trenchless technology, such as when crossing under roads, railway lines or rivers. This was the case in Pont-à-Mousson, France, where a district heating pipeline had to be installed under the Moselle River. Here, it was the combination of two No-Dig methods that achieved the goal despite the complicated geological conditions: A GRUNDORAM horizontal ramming machine had to provide initial support in the form of a so-called casing pipe in order to realise this culvert in the form of an almost 300 m long controlled HDD bore under the river.

**A pioneer in district heating**

In 2016, the town of Pont-à-Mousson on the Moselle became the first town in France to have a district heating network supplied by biogas plants. Initially, public administration buildings were heated and over the following years more and more homes were connected to the network. Now, in the summer of 2023, as part of the further expansion of the district heating network, the Moselle River had to be crossed with a 560 mm diameter pipeline, for which an 80 t HDD drilling rig was used.

**Contact Us**

For more details regarding advertising and sponsorship opportunities please contact:  
Trevor Dorrell:

(0)1923 723990  
tdorrell@westrade.co.uk



A schematic of Keradrive pipe being installed using trenchless means.  
Below: Views of Keradrive pipe



## TS PIPE SUPPLIES OFFERS VITRIFIED CLAY JACKING PIPES

TS Pipe Supplies, part of the Trenchless Solutions Group, has announced a new partnership to provide the UK and Ireland 'No Dig' markets with a solutions-based sales and technical support offering for vitrified clay jacking pipes.

TS Pipe Supplies has historically supplied the Denlok clay jacking pipe, manufactured by Barnsley-based Naylor Drainage. Naylor recently (see elsewhere in this issue) announced its intention to cease Denlok manufacture in June 2024 to concentrate on its fast-growing Plastic pipe business but has reached agreement to collaborate with continental manufacturer Steinzeug Keramo NV to transfer related commercial arrangements to achieve continuity in market supply.

In parallel, TS Pipe Supplies has forged an agreement with Steinzeug Keramo NV to supply Keradrive, a comparable vitrified clay product to Denlok. Dimensionally KeraDrive and Denlok pipes are identical. The only difference of note is that the Keradrive DN150 coupling is manufactured from a stronger reinforced PVC. Diameters DN150, DN225 and DN300 will be the initial focus with larger diameters quoted on a by-project basis.

To ensure safety, reliability and economic efficiency in sewage disposal, Steinzeug Keramo NV manufacture using the latest processes and technology, manufacturing a high-quality, high-performance vitrified clay pipe and fittings tested and certified to 'BS EN 295-7:2013 Vitrified clay pipe systems for drains and sewers - Requirements for pipes and joints for pipe jacking', under an ISO 9001 quality assurance system in production plants operating 24 hours a day.

Steinzeug-Keramo, is a subsidiary of Wienerberger AG, which is the largest brick producer in the world, and the largest clay roof tile manufacturer in Europe. The Wienerberger AG headquarters is in Vienna, Austria, with over 200 plants in 28 countries. In 2022, the group had 19,078 employees.

TS Pipe Supplies will be holding stock of KeraDrive at its Barnsley depot ensuring that the five working days lead time is maintained. Customer service and support will be supplied directly by TS Pipe Supplies, but now with the support of the largest vitrified clay pipe manufacture in the world. ■

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## VORTEX COMPANIES ACQUIRES APPLIED FELTS® INC

Preparing an Applied Felts liner

Since 2015, Vortex Companies has been a trailblazer in transforming the trenchless rehabilitation industry through a commitment to making access to cutting-edge technologies easier and more streamlined. Recently, this commitment took a giant leap forward with the landmark acquisition of Applied Felts® Inc., positioning Vortex Companies to deliver a direct, united offering to the market. Applied Felts Inc. including MaxLiner® and FerraTex Solutions™ represents all manufacturing and distribution throughout the Americas. Applied Felts Ltd. based in the U.K will remain with W.E Rawson Limited including manufacturing and distribution supporting customers outside of the Americas.

### Thinking Big

Vortex Companies, in pursuit of its mission, has executed 17 strategic acquisitions and many partnerships, all aimed at revolutionising the way contractors and asset owners approach infrastructure repair. The industry landscape has been reshaped by Vortex's forward-thinking approach, encouraging stakeholders to 'THINK BIG'. The Vortex team has dedicated their careers to this industry and is acutely aware of the incredible impact the industry makes on society and the opportunities yet to be implemented to serve the world even better. >



Alex Johnson Addresses Employees



Matt Timberlake Addresses Employees

## A New Era Begins

The acquisition of Applied Felts Inc., home to industry-leading brands MaxLiner and FerraTex Solutions, marks a monumental move for Vortex Companies. This strategic alliance allows Vortex to offer a direct, total solution to the market all under one roof.

Mike Vellano, CEO of Vortex Companies, expressed his gratitude and excitement about the acquisition saying: "This marks a transformative moment for Vortex Companies and the industry at large. The acquisition of Applied Felts Inc, its people and the great business they have built, positions us to provide a total offering, revolutionising the way infrastructure projects are approached and completed. We are excited about the total impact this will have on our combined customer base and the industry."

Alex Johnson, President of Applied Felts, also shared his perspective on the acquisition: "Joining forces with Vortex Companies represents an exciting chapter for Applied Felts Inc. The Vortex approach to the market will allow them to deliver integrated solutions, ensuring quality and innovation in every aspect of trenchless rehabilitation throughout the Americas. Applied Felts Ltd, based in the U.K., will continue to support all business in an advisory relationship. This is a significant step forward for the future of the industry we serve. There was no better choice than Vortex to carry the business forward and I look forward to continuing our long friendship and watching all the people of Applied Felts Inc. and Vortex flourish together." >





Mike Vellano Greets  
Employees

#### Benefits of the Direct Total Offering to the Industry include:

1. **Quality Control:** By shortening the supply chain, Vortex enhances quality control ensuring top-tier standards throughout every project phase.
2. **Shorter Lead Times and Reduced Shipping Costs:** Facilities strategically located to reduce lead times and shipping distances, providing more efficient service to our valued customers.
3. **Broader Service Support:** Vortex Companies and Applied Felts, together, now boast a greater regional reach, enabling faster and more comprehensive support for our customers.
4. **R&D Streamlined:** With Research and Development consolidated under one roof, Vortex's team of engineers, designers and chemists can seamlessly advance technologies and products in harmony with a 'total project' mindset, simplifying the approach to comprehensive projects.

Through this acquisition, Vortex Companies aims to broaden its local support throughout The Americas, bringing technology solutions closer to customers. This not only enhances the customer experience but also reduces the timeframe to deliver, aligning with Vortex's commitment to efficiency and excellence. ■





## JBP AND WESTRADE FORGE STRATEGIC PARTNERSHIP FOR TRENCHLESS MIDDLE EAST 2024

Paul Harwood and  
Borje Persson

Westrade is delighted to announce JBP as its Associate Partner for Trenchless Middle East which takes place later this year at the Jumeriah Beach Hotel in Dubai. Over the coming months JBP and Westrade will leverage their networks and engage with key stakeholders across the Middle East to promote the growth and innovation of trenchless technologies throughout the region.

Commenting on the partnership, Borje Persson Managing Director of JBP Composites S.L. said: "Our shared vision for Trenchless Middle East, extends well beyond this year's event. The aim is to become a transformative force, bringing together stakeholders from the Emirates, GCC countries, MEASA, and beyond. We are committed to inspire, educate, and empower in order to make this event a real catalyst for the advancement of underground infrastructure and the integral use of trenchless technologies."

A glance at the headlines in any trade media gives a clear indication as to the extent and rapid pace of urban development in the Middle East. JBP and Westrade recognise the growth opportunity that this significant investment represents for the sector and will work together to develop an even greater understanding of the benefits these sustainable technologies offer in the installation and maintenance of underground utilities. In doing so, they will naturally reinforce Trenchless Middle East's long held position as the premier trenchless event in the region.

Westrade's Managing Director, Paul Harwood, also commented saying: "With over three decades of experience in delivering highly innovative and sustainable solutions in the Middle East, Borje and his team will lend significant weight to Trenchless Middle East 2024 and our exciting plans for the future. I thank them for their support and am delighted to be working with them even more closely to deliver what will be 13<sup>th</sup> exhibition and conference in the region."

Trenchless Middle East 2024 will take place at the world-famous Jumeirah Beach Hotel on the 5 and 6 November. For the first time the event will also feature the ISTT international No-Dig, helping to deliver a truly international and high calibre audience. ■





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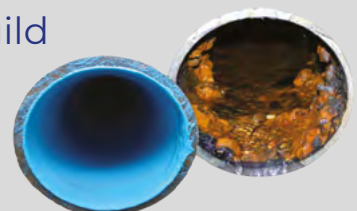


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# ALL EYES ON GERMANY FOR EUROPEAN NO-DIG 2024

Prof. Jens Hölterhoff  
Chairman of the Board,  
German Society for  
Trenchless Technology  
(GSTT), Germany

Excitement is really starting to build ahead of the first major trenchless event of the year - European No-Dig 2024 – which is taking place in the vibrant, historic, and culturally rich city of Berlin between 5 and 6 March.

European No-Dig is widely recognised as one of the leading platforms for trenchless technology and brings the sector together to share knowledge and find solutions to common challenges. The event, which is organised by Westrade, is hosted and supported by the German Society for Trenchless Technology (GSTT) with an array of other national societies and organisations in attendance. These include UKSTT, IBSTT and the AATT as well as the Italian and Romanian Clubs. Highly targeted event marketing is guaranteed to draw senior representatives from municipalities and utilities companies from across the continent as well as contractors, consultants, engineers and other key decision makers. >

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[www.european-nodig.com](http://www.european-nodig.com)



A stellar two-track conference programme has been curated by the GSTT and Westrade for what is set to be the biggest and best European No-Dig event to ever to be staged. The full programme, which will be announced soon, will have a strong focus on sustainable solutions and technological innovation. The latest developments in new pipe installation, fibre optic cable installation, inspection, repair and rehab will all be covered by some of the sector's leading authorities.

Alongside the conference, the Hotel Andels Vienna House will also host a table-top exhibition providing some of the industry's leading names with an exceptional opportunity to showcase their products, services, and innovations to a high-quality international audience. The fact that the exhibition space has already sold out signals the excitement that surrounds this event.

Day one European No-Dig will culminate in a drinks reception sponsored by Westrade. After what is guaranteed to be a busy and productive day, this will provide a great opportunity for some relaxed and informal networking with old friends and new.

Looking ahead to the event, Westrade's Managing Director, Paul Harwood, said: "2024 is going to be an amazing year for the trenchless sector with major events in the UK, Philippines, and Dubai. We are all extremely excited to be kicking off the calendar in the beautiful German capital where we will no doubt be superbly hosted by our friends at the GSTT. Whilst unfortunately the exhibition space is now completely sold out there is still the opportunity to register and attend as a conference visitor. In doing so you, will benefit from access to exciting bespoke content, which is not available anywhere else. You will also have access to the exhibition and all the fabulous networking opportunities that are available throughout the two days. I would also like to take this opportunity to thank the German society for all the time and effort they have already put in to ensuring that this will be a not to be missed event for anyone working in, or looking to access, the European trenchless market. Finally, a massive thank you to all our sponsors without whom events like this would simply not be possible. Wir sehen uns in Berlin!"

Another extremely exciting element of European No-Dig 2024 is the European Society Forum. The forum will provide a platform for societies to meet and discuss topics of shared interest. Each Society will be given the opportunity to put forward topics they would like to be on the agenda. These currently include membership development and fees, opportunities for growth, building links with industry, working more closely together and the development of talent.

The high-quality conference programme, targeted audience and proven format has made European No-Dig highly attractive to sponsors. These currently include Reinert Ritz, BKP Berolina, Rädlinger, Tracto, iMPREG, Bodenbender, Channeline, PE100+ and Anhui Tangxing – all of whom visitors will be able to find in the exhibition and conference breakout area. ■

For more information please visit - [www.european-nodig.com](http://www.european-nodig.com)

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**5-6 March**

**Hotel Andels Vienna House, Berlin**

## EUROPE'S LEADING EVENT FOR TRENCHLESS TECHNOLOGY

### Conference Programme

- A focused session on installation of fibre optics cable by VATM
- KRV (Society for Plastic Pipes) – “The Infrastructure of the future”
- Keynote - DVGW (German Gas & Water Association)
- Keynote - Berliner Waterworks
- Emphasis on green technologies
- AI in trenchless technology
- Latest technical developments in new pipe installation, inspection and cleaning
- Design software for pipeline design using trenchless methods

### Exhibitor List

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A professional headshot of Michael Grant, a middle-aged man with short brown hair, smiling. He is wearing a grey suit jacket, a light blue dress shirt, and a patterned tie. The background is dark and out of focus.

Michael Grant

# MCELROY NAMES MICHAEL GRANT VICE PRESIDENT OF OPERATIONS

McElroy, one of the world's leading designers and manufacturers of thermoplastic fusion equipment, recently announced the arrival of Michael Grant as the company's new Vice President of Operations.

"We are thrilled to have Michael come to McElroy," said McElroy President and CEO Chip McElroy. "For more than 30 years, he has shown tremendous ability to coach and develop strong leadership teams and foster a culture of operational excellence. As we celebrate McElroy's 70<sup>th</sup> anniversary, we know that Michael's presence will help continue to help the company not only grow, but also thrive."


After graduating from Oklahoma State University with a degree in mechanical design technology, Michael received an MBA from Southwestern College in Winfield, Kansas.

He began his career with Texas Instruments, developing CNC programs for Department of Defense machined components. From there, he branched into design, prototype, and manufacturing engineering roles, where he took on various leadership positions, including in aircraft manufacturing, consumer home goods, and construction equipment.

Michael spent the last eight years with the Toro Company, formerly known as Ditch Witch - The Charles Machine Works, Inc. in Perry, Oklahoma. He began his time with Ditch Witch as Vice President of Operations and Supply Chain before going on to become Toro's Managing Director of Construction Operations.

"I am honoured and excited to become a part of McElroy Manufacturing, a company known for safety excellence, product innovation, quality commitment, exceptional customer service, and deep manufacturing capabilities," Michael said. "I look forward to coming alongside the talented and dedicated team at McElroy to help write the next exciting chapter in the company's storied history." ■





Attendees at one of Westrade's previous No-Dig/Trenchless events

# WHAT'S ON IN 2024?

Westrade's Managing Director, Paul Harwood guides us through what is a busy events schedule for the year ahead.

I speak for the whole Westrade team when I say that we are super excited for what is set to be an extremely busy yet fun and productive 2024.

Our events calendar kicks off in just a few weeks with [European No-Dig](#) at the beautiful Hotel Andels Vienna House in the historic German capital, Berlin. Hosted by GSTT, this event is covered in more detail on page 15 but suffice to say its world-leading content programme and sold-out exhibition space mean it is set to be the biggest and best European No-Dig ever to be staged. The event will also incorporate the European Society Forum bringing together societies from across Europe to discuss shared areas of interest and the benefits of working more closely together.

From Berlin we travel some 10,000 km to the capital and commercial heart of the Philippines, Manila, for [Trenchless Asia](#) which is being held at the internationally recognised World Trade Center Metro. This provides exhibitors and visitors with an easily accessible venue in close proximity to international air and sea ports, entertainment, cultural and five-star hotel accommodation as well as Makati, the main central business district in the Philippines.

Manila itself looks set to be a high-growth market for our industry with an urgent need to upgrade and repair its aging water and sewer pipelines. The use of trenchless technologies will be key to the efficient and cost-effective delivery of this infrastructure with minimal disruption to the community.

This event follows a hugely successful Trenchless Asia 2023 in Kuala Lumpur and we really cannot wait to return this exciting, fast-paced and high-growth continent. >





Outdoor, live demonstrations of equipment are a great draw for visitors to No-Dig Live events

Next up it is the turn of what many regard as our flagship event, certainly in the UK, [No-Dig Live](#). The event, which is the largest of its type anywhere in the world, will take place at the NAEC Stoneleigh Park, Warwickshire between the 1 and 3 October, 2024.

In addition to being easily accessible by air, road or rail the NAEC Stoneleigh offers some of the UK's most sought-after exhibition space. In fact, it boasts 250 acres of outside space for larger equipment and the ever-popular live demos as well as three state-of-the-art exhibition halls covering just over 10,000 m<sup>2</sup> together with a purpose-built conference centre. The popularity of this recently refurbished venue has meant we have already had to extend the exhibition space. No-Dig Live will also host the UKSTT Gala Dinner and Awards – always a highlight of the year.

To end the year we head to Dubai and return to the spiritual home of [Trenchless Middle East](#) - the Jumeirah Beach Hotel. The event, which is the thirteenth time we have come to the region, will take place between 5 and 6 November and will for the first-time feature ISTT International No-Dig.

Trenchless Middle East is the region's only event focused solely on the use of trenchless technology with visitors drawn from the United Arab Emirates, GCC countries, Middle East, Africa and South Asia (MEASA) regions and the ISTT technical conference programme and industry awards will be a huge draw for visitors from further afield.

I hope you are now as excited as us and I really look forward to seeing many of you at one or more of our events over the course of the year. I will continue to provide updates on all our events here in Trenchless Works but in the meantime if you would like information about sponsoring or exhibiting, please visit the relevant event website or email me at [pharwood@westrade.co.uk](mailto:pharwood@westrade.co.uk). See you soon! ■





RSM's Gecko Cam



## RSM'S FIRST CAMERA SYSTEM - GECKO CAM

The brand new Gecko Cam from RSM Lining Supplies Global Ltd has been taking the Sewer Rehabilitation industry by storm. As the first camera system offered by RSM, the company believes the Gecko Cam is a fantastic solution for CCTV inspection.

Sales Director, Phil Steele, commented: "After extensive market research, we consider the Gecko Cam to be a great alternative to many of the camera systems already within the market as it is a competitively priced, robust and high-quality unit."

It is designed and manufactured within the UK and RSM's experienced Service and Repair team have been fully trained to be able to offer a quick turnaround on any repairs or general maintenance. Tailored to the user, the push-rod CCTV inspection camera boasts a multitude of benefits to ensure optimum user experience.

Incredibly versatile, Gecko Cam suitable for use in diameters ranging from 50 mm to 300 mm and is easily transportable to the jobsite. Gecko Cam is supplied with a detachable monitor to enable easy viewing and charging on site. To ensure durability the monitor is protected by a robust cover, resistant to both water and heavy impact, the display of the monitor is protected by a front panel manufactured from gorilla glass.

For easy connectivity wherever operators are, the monitor comes with built-in Wi-Fi and the HD display screen is still easily readable in direct sunlight. It is integrated with detailed reporting software and is supplied as standard with an impressive 128 Gb of internal memory, with the option to record to a USB memory stick additionally if preferred. All the files recorded are stored in MPEG4/JPEG format and are both WinCan and Viewline compatible.

The camera head itself is self-levelling to make the unit as user friendly as possible and it is supplied with built-in, ultra-bright LED lighting and a high impact sapphire lens to always ensure a clear visual. To ensure operators get the system most suitable for them, Gecko Cam is available with reel lengths of 40 m, 60 m, 80 m and 120 m.

RSM is currently offering demonstrations across the UK completely free of charge. ■



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# TRAINING – CONTRIBUTING TO IMPROVED PERFORMANCE, STANDARDS & THE BOTTOM LINE



Frank Reilly - Director  
JBP's Trenchless Training  
Programme

"There's a direct, often overlooked, correlation between investment in training, and efficiencies and cost-effectiveness. Well-trained professionals maximize the efficiency of trenchless projects"

In the ever-evolving field of assets management and maintenance for water and wastewater infrastructures, trenchless technologies are indispensable. Self-evidently, a well-trained workforce of engineers and professionals at every level is essential for the effective assessment and application of these technologies and methods.

**Meeting Current & Future Challenges:** Water and Wastewater Utilities globally are under regulatory, budget, and consumer pressure to deliver value for money and quality of products and services in an environmentally sustainable way. And all this under increasing public concern for the best management of our scarce water resources. In this context, and to meet both current and future challenges, a well-trained workforce has never been more important.

**Contributions to the Bottom Line:** There is a direct, often overlooked, correlation between investment in training and efficiencies and cost-effectiveness. In meeting the challenges mentioned above, it is in the interests of water and wastewater utilities as well as all contractors, consultants, manufacturers and others in the supply chain that their staff offering management, maintenance, and rehabilitation services are well-trained in the use of the latest and often innovative solutions that they provide.

**A Win-Win situation** Training is an investment in terms of time and money, but most of all in people. Knowledgeable, trained, and skilled professionals will optimise trenchless project outcomes, resulting in significant cost savings as well as quality improvements. Training programmes focused on streamlining operations, using cutting-edge equipment, and adopting best practices will deliver measurable benefits, a direct contribution to the bottom line, and ultimately better client satisfaction – a win for all concerned.

**Focus on Training:** Training comes in a variety of shapes and sizes. At JBP, we have developed a platform, in conjunction with industry experts, to deliver effective, up-to-date, and applicable courses for trenchless professionals. Every month, in **Focus on Trenchless Training**, we will explore different aspects of professional development and training and their importance for all stakeholders across the trenchless sector.

We will examine all forms of training, whether provided by training specialists or professional associations and institutions, water utilities or systems and equipment providers, and share their insights and experiences; training to raise standards and enhance skills, knowledge, and innovation across the entire Trenchless sector.

*Next issue: Systems & Equipment Providers – A review of Product Training*

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## TRENCHLESS SEWER RENOVATION WITH UV TECHNOLOGY IN AUSTRIA

The light train within the liner tube

Wiener Linien GmbH & Co KG (WL for short, which until June 11, 1999 was known as Wiener Stadtwerke-Verkehrsbetriebe) is the municipal transport company of the Austrian Federal Capital, Vienna and is a subsidiary of Wiener Stadtwerke GmbH. Wiener Linien operates the largest regional transport network in Austria, employing around 8,500 people and which transported 939.1 million passengers per year in 2015, making this the sixth largest tram network in the world.

A pipeline, operated by WL and with a bell profile, was found to be defective and the concrete fabric of the pipeline was in poor condition, and so was in need of renovation.

Wiener Linien has been awarding contracts to Swietelsky-Faber for sewer renovation for many years. The rapid implementation of large and special projects as well as the comprehensive expertise and the high-quality execution of the work by Swietelsky-Faber Kanalsanierung are always important decision-making criteria for the award of such special projects. Currently UV lining is one of the fastest and most cost-effective renovation technologies on the market today. >



The lining crew  
within the lined pipe

## CHALLENGE

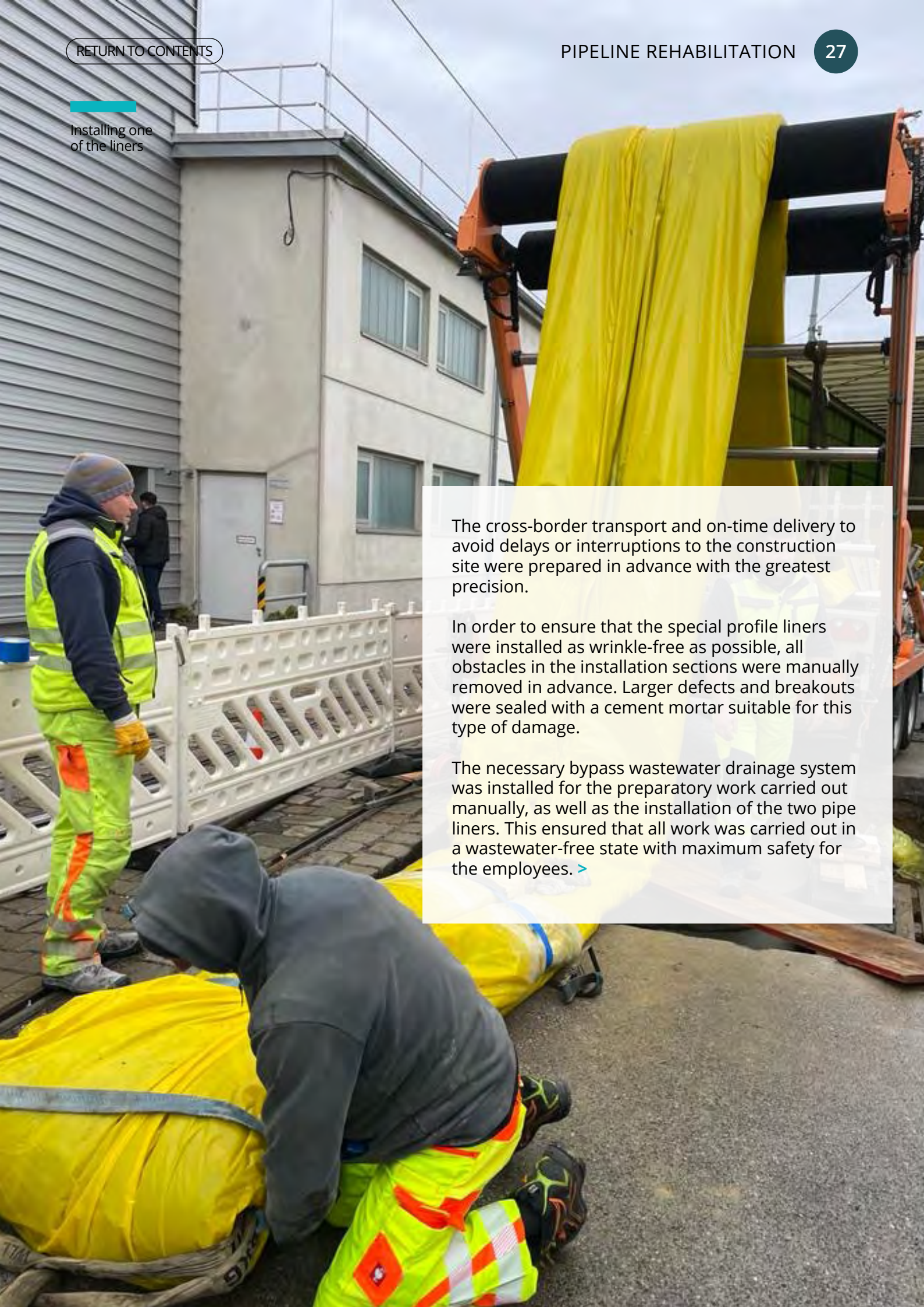
To realise the renovation of the sewer in question Swietelsky-Faber GmbH undertook the installation of two DN1500 liners using material provided by IMPREG. The liner selected had a wall thickness of 11.9 mm and the two liner runs were 161.9 m and 75.1 m long respectively. A major challenge for completion of the liner operation was the weight of the liners being used, the largest being that for the 161.9 m run which was 17.8 t, the smaller liner being 8 t.

Under the leadership of Wiener Linien, the first test section with a total renovation length of 237 m in the two sections, comprising 161.9 m and 75.1 m, was discussed with the relevant contact persons and the project managers of Swietelsky-Faber sewer renovation in the first quarter of 2023. Swietelsky-Faber Kanalsanierung also received technical support in the preparation and clarification of technical questions from the manufacturer of the liner, IMPREG GmbH. The intensive collaborative planning and preparation of the highly demanding project convinced Wiener Linien to award the renovation contract directly to Swietelsky-Faber Kanalsanierung.

Not only was the special profile of the pipe challenging, but also the local conditions led to extensive preparatory work, such as the precise manual circumference measurement of the profile in a wastewater-free state. In order to ensure the successful installation of the two liners, two DN1500 shafts had to be sunk in advance to a depth of 6 m. These shafts were absolutely necessary in order to be able to carry out the renovation work with the entire equipment and vehicle fleet outside the tram gauge to ensure maximum safety.

Based on the circumference measurement and the static requirements, the old pipeline showed severe spalling, local breakouts and cracks. So, IMPREG GmbH produced two 'custom-made' liners with a total wall thickness of 11.9 mm each for the two installation sections. In order to ensure complete hardening of the liners or the laminate over the entire wall thickness, both liners were produced with peroxide to support the curing reaction. >





Installing one  
of the liners

The cross-border transport and on-time delivery to avoid delays or interruptions to the construction site were prepared in advance with the greatest precision.

In order to ensure that the special profile liners were installed as wrinkle-free as possible, all obstacles in the installation sections were manually removed in advance. Larger defects and breakouts were sealed with a cement mortar suitable for this type of damage.

The necessary bypass wastewater drainage system was installed for the preparatory work carried out manually, as well as the installation of the two pipe liners. This ensured that all work was carried out in a wastewater-free state with maximum safety for the employees. >



Positioning the UV light train



Inserting the liner



## INSTALLATION

For installation, the old sewer was cleaned using high-pressure jetting and the sliding film to assist the liner installation was installed. This protects the hose liner from mechanical damage whilst it is being pulled in. The most demanding part of the work began with the delivery of the liners. The liners were pulled in using a cable winch corresponding to the liner weight. In order not to exceed the maximum pull-in forces on the liners, both liners were pulled in using a conveyor belt with a folding device.

After being pulled in, the liner was then closed on both sides with a packer and, in the next step, inflated using compressed air. In order to optimise the installation phases in terms of time, a second compressor was also used.

After completing the installation process, the UV light source modified for this special profile was installed in the liner.

The light source, from manufacturer Prokasro with 2 x 6 x 2,000 watts (total output: 24,000 watts), was constructed with a special set of wheels in such a way that the irradiation of the laminate was carried out as centrally as possible, thereby ensuring complete hardening of the laminate over the entire circumference and over the entire wall thickness.

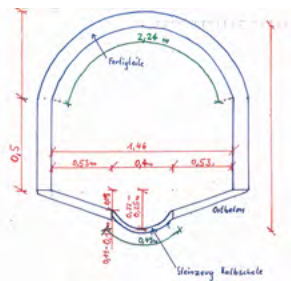
By using the appropriate light source in combination with the optimal structure for the profile, a curing speed of 950 mm/min could be achieved. As part of quality assurance, additional temperature monitoring was implemented in both installations using sensors from Vortex.

After the laminate had hardened and cooled, the light source and the packers were removed from the liner, the inner film was pulled out and the house connections were opened again manually.

The final step was to dismantle the bypass wastewater system and put the combined sewer back into operation.

With a staff of six very experienced and well-rehearsed employees, as well as collaborative planning and preparation by everyone involved, the complete renovation of the section with a length of 162 m was carried out in a time window of just 15 hours. ■

A diagrammatic representation of the profile of the host pipe



The host pipe after completion of the lining process



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Installing a Channeline  
liner on the Peterborough  
project


## CUSTOM-MADE GRP PIPELINING SUCCESES IN SCOTLAND AND ENGLAND

In the realm of trenchless projects, collaboration and expertise play pivotal roles in overcoming complex challenges. The following sheds light on two successful joint ventures between iLine Technologies Ltd and Channeline International, wherein they utilised their collective strengths to restore and rehabilitate a ARMCO culvert located beneath a bustling road in Falkirk, Scotland and a Brick Egg Sewer Line Under a Busy Highway near Peterborough, England. >





Finalising the liner on the Falkirk project



A view along the finished liner

### Falkirk Project

The Scotland project involved the construction and installation of a custom-made Glass Reinforced Plastic (GRP) Pipeline, expertly tailored to fit the unique shape and size of the existing culvert. By opting for this innovative solution, the team bypassed the complications of using a Cured-In-Place Pipe (CIPP) UV solution, which would have necessitated cumbersome over-pumping and road excavation.

iLine Technologies Ltd secured the project through a competitive tender process, recognising the urgent need for the rehabilitation of an ARMCO culvert positioned 3 m below a busy highway. Spanning an impressive 45 m with a 1.2 m diameter, the culvert exhibited signs of rusting and structural degradation, demanding immediate attention to ensure the integrity of the underground infrastructure.

Having a well-established professional history and a deep understanding of each other's strengths, iLine Technologies Ltd and Channeline International joined forces for this challenging project. Given Channeline's expertise in GRP pipelines' strength and durability, the team decided to pursue a circular GRP solution over the originally planned CIPP UV method. This strategic choice was driven by the complications surrounding over-pumping, which would have involved intrusive road cutting and burying the pump, creating logistical difficulties and increasing overall costs. >



Positioning liner segments in the Falkirk pipeline



The original pipeline in Falkirk



Liner segments awaiting installation?




Channeline International's proficiency in crafting custom-made GRP pipelines proved instrumental in this project's success. The team meticulously designed and manufactured the GRP Pipeline to perfectly fit the unique dimensions and contours of the existing ARMCO culvert. This bespoke approach ensured seamless installation and a reliable long-term solution for the structural defects and rusting issues faced by the pipeline.

While Channeline International expertly constructed the GRP Pipeline, iLine Technologies Ltd, being specialists in CIPP lining and underground pipeline rehabilitation, took on the installation responsibility. The project adhered to strict timelines and both teams collaborated seamlessly to ensure efficient execution. Thanks to their meticulous planning and well-coordinated efforts, the project was completed on time, showcasing their commitment to delivering exceptional results.

Throughout the project, the team encountered the primary challenge of over-pumping, which had initially led to the consideration of a CIPP UV solution. By opting for the circular GRP pipeline, the collaboration efficiently circumvented the need for over-pumping, thereby mitigating road disruptions and reducing additional costs. Additionally, iLine Technologies Ltd demonstrated its capabilities in traffic management, effectively handling logistics and ensuring a smooth project flow.

The successful rehabilitation of the ARMCO culvert beneath a bustling road stands as a testament to the synergy between iLine Technologies Ltd and Channeline International. By leveraging their collective expertise and opting for a custom-made GRP Pipeline, the teams effectively addressed the structural defects and rusting issues while adhering to strict timelines. Through innovative solutions and meticulous planning, the collaboration demonstrated their prowess in tackling complex trenchless projects. >





Installing liner segments on the Peterborough

### Peterborough Project

The project in Cambridgeshire, UK highlights the successful construction and installation of a Glass Reinforced Plastic (GRP) pipeline by Channeline International, in collaboration with iLine Technologies Ltd, to rehabilitate a 1 m diameter egg-shaped brick sewage pipeline near Peterborough, UK. This project too exemplifies how leveraging expertise and tailored solutions can lead to exceptional outcomes in the trenchless industry.

iLine Technologies Ltd secured the project based on its reputation as specialists in Cured-in-Place Pipe (CIPP) lining and underground pipeline rehabilitation. Channeline International was again the natural choice for this project due to their extensive history of successful collaborations with iLine Technologies and their proven track record of providing durable and robust GRP pipelines.


The brick egg-shaped sewer posed a significant threat due to its deteriorating condition, displaying signs of deformation and potential collapse. The sewer's location in close proximity to a historic building beneath a road added urgency to the need for rehabilitation. Channeline's solution involved the construction and installation of a custom-made GRP pipeline to fit the non-circular shape of the structure.

The project encountered several challenges, including limited access at one end and the small size of the structure, which led to tight working conditions. Additionally, a 90° turn within the culvert demanded innovative engineering solutions to ensure the successful installation of the GRP pipeline.

Channeline International's expertise in manufacturing and customising GRP pipelines proved crucial for the seamless rehabilitation of the egg-shaped sewer. The tailored GRP unit, measuring 1,046 mm x 646 mm and not exceeding 42 m in length, was precisely designed to match the unique configuration of the sewer.

During the installation process, iLine Technologies Ltd, armed with its proficiency in CIPP lining, skillfully placed the GRP pipeline. The installation involved pushing the GRP unit into place, negotiating the challenging 90° turn with precision and effectively reinstating laterals to ensure the smooth functioning of the sewer system. >





Channeline liner segments installed around a bend on the Peterborough project

The collaborative efforts of Channeline International and iLine Technologies Ltd resulted in an impressive accomplishment, the project was completed ahead of schedule. Originally estimated to take 10 days on-site, the rehabilitation and repair process were successfully executed in a commendable 7 days. This efficient turnaround showcased the synergy between the two companies and their commitment to delivering timely and effective solutions.

The construction and installation of a custom GRP pipeline for the rehabilitation of the brick egg-shaped sewer near Peterborough again exemplifies the power of collaboration and tailored solutions in the trenchless industry. Channeline International's expertise in manufacturing GRP pipelines, combined with iLine Technologies Ltd.'s proficiency in CIPP lining and pipeline rehabilitation, ensured the successful restoration of the critical sewer infrastructure.

By overcoming challenges like limited access, tight working conditions, and a 90° turn, the project demonstrated the companies' innovative approach to problem-solving and their dedication to excellence. This successful collaboration not only preserved a significant historic building but also reinforced the importance of strategic partnerships in delivering exceptional trenchless projects. The seamless construction and installation of the GRP pipeline stand as a testament to the capabilities of both Channeline International and iLine Technologies Ltd in revolutionising the trenchless rehabilitation industry.

These projects serve as an invaluable reference for industry professionals, emphasising the significance of collaboration, custom solutions, and strategic decision-making in achieving successful trenchless rehabilitation projects. As iLine Technologies Ltd and Channeline International continue to make strides in the field, they cement their position as reliable partners for future endeavours in the domain of trenchless technology. ■



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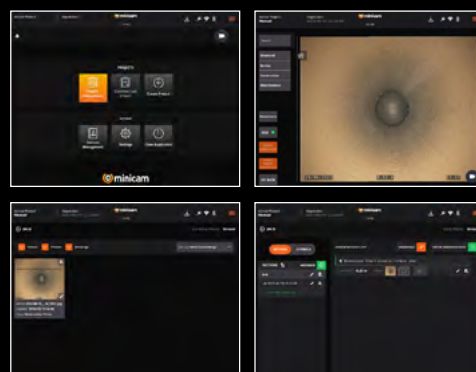


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A bird's eye view of the GRUNDORAM Goliath during ramming



## HORIZONTAL RAMMER GETS MOSELLE RIVER CROSSING

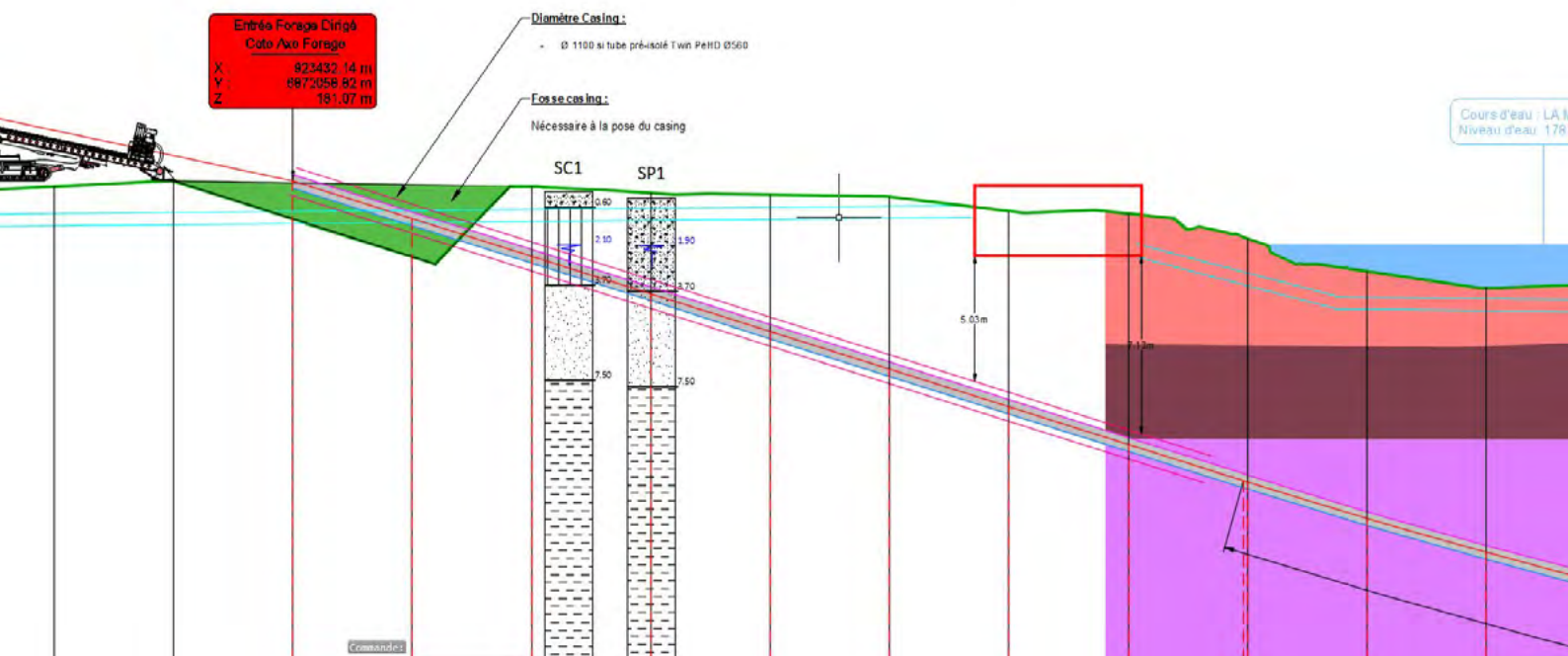
Trenchless construction methods are playing an increasingly important role due to their sustainability. There are also many cases where there is no alternative to using trenchless technology, such as when crossing under roads, railway lines or rivers. This was the case in Pont-à-Mousson, France, where a district heating pipeline had to be installed under the Moselle River. Here, it was the combination of two No-Dig methods that achieved the goal despite the complicated geological conditions. A GRUNDORAM horizontal ramming machine had to provide initial support in the form of a so-called casing pipe in order to realise this culvert in the form of an almost 300 m long controlled HDD bore under the river.

### A pioneer in district heating

In 2016, the town of Pont-à-Mousson on the Moselle became the first town in France to have a district heating network supplied by biogas plants. Initially, public administration buildings were heated and over the following years more and more homes were connected to the network. Now, in the summer of 2023, as part of the further expansion of the district heating network, the Moselle River had to be crossed with a 560 mm diameter pipeline, for which an 80 t HDD drilling rig was used. >



The planning sketch for the start of the HDD bore under the Moselle. The red lines show the casing pipe, the 30° angle of inclination is clearly recognisable



The 6 m long steel pipes for the 30 m long casing were welded on individually during the tunnelling process

According to the available soil survey, a water-impermeable clay layer with only small stones was to be expected under the Moselle, ideal conditions for the crossing using the HDD method. In the riverbank area, however, the soil was very soft and therefore not drillable. Nevertheless, the large area drilling was made possible using the pipe ramming technique by driving a casing on each side of the riverbank through which the controlled pilot drilling could enter and exit. This created ideal conditions for a safe crossing under the Moselle.

The entire Moselle project was entrusted to Groupe Gendry (GSL), which has extensive trenchless experience working with large HDD rigs, but which does not have rammers in its fleet and has only worked with them to a limited extent. A subcontractor, Forages du Nord-Ouest (FNO) from Normandy, which not only has 28 years of experience with all types of No-Dig techniques but also owns a GRUNDORAM Goliath pipe rammer, was called in to carry out these vital preparatory works.

### HDD Assist enables undercrossing

Dynamic pipe ramming has long been a proven method for installing media or protective pipes up to ND4000 in all displaceable soils. The GRUNDORAM is connected to the pipe to be installed by means of an attachment cone and aligned axially behind the pipe. The piston strikes the head of the rammer housing. The resulting impact energy is transmitted directly to the ramming pipe via the attachment cone, which is driven through the ground hit by hit. Obstacles in the ground do not have to be moved, but are crushed, so that the drive is not only powerful, but also precise. At the same time, TRACTO pipe rammers are virtually indestructible, thanks to the solid forged housing and elaborately hardened piston surfaces, which make for high rammer performance and low wear. Set-up times are also kept to a minimum as there is no need for thrust abutments. >



Once the ramming is done, the accumulated soil is removed from the casing pipe using an auger drill



The Moselle in Pont-à-Mousson, where the culvert for the expansion of the district heating network was installed

As a result of these features, pipe rammers are also ideally suited to the successful completion of complex HDD drilling operations. These so-called HDD Assist & Rescue methods can, for example, support the pipe pull-in with dynamic impact force, loosen stuck drill pipes or, as in Pont-à-Mousson, ram steel casing pipes through non-drillable soils in order to start and end the horizontal bore.

FNO's Goliath is already 12 years old but has lost none of its 18,600 Nm impact force. To enable the pipeline to be installed under the Moselle in the soft riverbank soil, a 30 m long, spirally welded steel pipe with a diameter of 1,220 mm and a thickness of 12.5 mm had to be driven into the ground at an angle of 30° on both sides of the Moselle river.

To do this, Forages du Nord-Ouest's experienced staff lifted 6 m long pipes into the construction pit, welded them together and then drove them into place. This was done using a double T-beam to guide the pipe. The necessary pressure and alignment of the rammer to the steel pipe was provided by an excavator, which pulled the rammer to the pipe using a sling. This worked very quickly, so that ramming speeds of up to 20 m/hour could be achieved.

Finally, an auger boring machine was used to remove the soil from inside the newly installed casing pipe. This took only three days per pipe, even though they had to be reworked in places, i.e. cut open and re-welded. Everyone involved was satisfied with the professionalism of this HDD assist operation. >





The previously completed casing on the other bank, where the HDD bore for laying the district heating pipe under the Moselle emerges

### Gentle network expansion thanks to trenchless technology

Once the casing pipes were ready on both banks of the river, the actual installation of the district heating pipeline under the Moselle could take place in October. The first step was to use the HDD drilling rig to create a pilot bore along the route, starting through the casing pipe on the right bank and exiting through the pipe on the left bank. In a second step, the bore channel was widened to accommodate the district heating pipe with a diameter of 600 mm. Finally, the pre-insulated pipe, which is almost 300 m long and weighed 10 t, was pulled into the widened trench in one piece. It runs 40 m below the water level.

In total, Pont-à-Mousson's district heating network is currently being extended by 10 km, including new pipelines in the town centre. The first phase, which was commissioned in 2015, already covered 10 km on the right bank. Trenchless technology has now made it possible to extend the network on the left bank of the Moselle in a gentle and sustainable way.

### Collaboration delights the client

The project was completed on schedule at the end of October, much to the client's pleasure. Sylvain Gendry, Managing Director of Groupe Gendry, was delighted: "This project is a great success for our group, which specialises in directional drilling and trenchless construction in general. The two special features of this project were the construction of two casings on the one hand and the construction of a river crossing over a relatively short distance of 330 m on the other hand. The good cooperation between Gendry and FNO has shown that French companies are able to join forces for the most complex projects. We would like to thank everyone involved in this project, from our suppliers to our end customers. Thank you all." ■



GRUNDORAM – HDD ASSIST

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## NICOL OF SKENE SPECIFIES TRACTO

The Nicol of Skene site team are well pleased with the machine's performance

Founded in 1980, Nicol of Skene is one of the leading civil engineering firms in the North East of Scotland. From bases in Aberdeen and Inverness, the company manages a variety of projects from large industrial projects through to domestic utility installations and is a firm advocate of sustainable drilling practices. This includes the use of directional drilling techniques in many of its projects in order to minimise ground disturbance, preserve natural landscapes and reduce landfill to waste by repurposing and reusing materials.

In 2019 the company visited the TRACTO HQ in Germany which included a tour of sister company, Prime Drilling and the TRACTO drilling factory where midi drill rigs are manufactured. The company subsequently bought a PD80 Prime Drilling rig, which has been deployed on many large projects, including the company's longest drill to date, a 510 m bore under the Caradale River and flood plains in the West Highlands. >



The new GRUNDOPIT PS60 arrives on its first site



The GRUNDOPIT PS60 set up on site prior to the bore commencing

Now, after hiring a used TRACTO 400G pipe burster for over two years, the company has bought both that unit and a new GRUNDOPIT PS60 for the efficient installation of utilities. The company already enjoys the use of a GRUNDOMAT mole.

Peter Jon Cowe, COO for Nicol of Skene, is pleased that the units have finally been added to the drilling fleet and is highly impressed with the service provided by the TRACTO team saying: "We have been interested in the PS60 GRUNDOPIT since 2020. However, due to other key investments, it had to be postponed. We eventually placed an order for a unit this year and thought it would be a great idea to have it on display on our stand at the Black Isle Show in August. The only problem was that our unit was due for delivery in October and TRACTO had just sold their other stock unit. The TRACTO team bent over backwards to source one for us anyway and even went to the trouble of shipping it in from Germany."

The ordered unit arrived on schedule in the first week of October and a day's training was held at the company's site to train the operators the same week. This was followed up by on-site training on a live job in Aberdeenshire, which was a 12 m road crossing for a 90 mm diameter water supply pipe under two ditches either side of the roadway. The job was set up, the bore completed and the pipe pulled in all before midday.

Peter said: "The GRUNDOPIT PS60 made light work of the job and the on-site training proved very useful. Our operators are now confident of using the rig on future jobs. One of the bonuses of working with TRACTO is their Scottish depot. We get excellent support, training and after care and the team there are truly first class. We are delighted with our portfolio of TRACTO products." ■

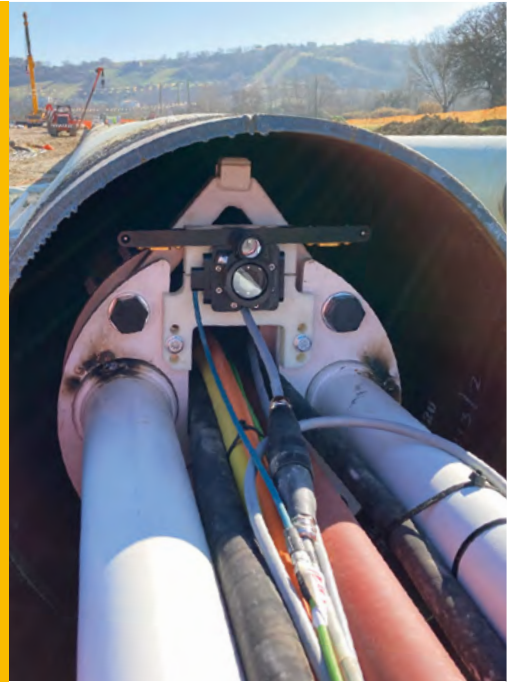


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# HDD PROTECTS PROTECTED TREES IN BARNET UK

A view into the  
HDD launch pit

Situated on Mill Corner in the London Borough of Barnet, UK is a privately-owned house that had historically flooded on numerous occasions. Investigations showed the flooding was being caused by a damaged surface water drainage pipe that ran directly underneath 1 Mill Corner.

The matter went to court and Barnet Council was ordered to provide both a temporary and permanent solution. Contractor Public Sewer Services (PSS) was tasked with providing the permanent solution, which involved installing 230 m of new surface water drainage pipework.

PSS ran a brand new 300 diameter pipe, from an existing buried manhole on nearby Ashbury Lane, out on to a pond at Monken Mead Brook, which is approximately 300 m away from the house.

An existing manhole was located around 15 m away on Dury Road. PSS capped-off the northern branch from the manhole and created a new outfall in the same position as the existing outfall, which was provided at the pond.

Trenches were dug along Ashbury Lane to enable the first section of pipe to be installed. However, the subsequent two sections ran through an established conservation area.

## Protected site Installations

The second section of pipe was installed by PSS in a tunnel that runs underneath approximately 60 Tree Preservation Order-protected Oak, fruit and other mature trees. The final section ran through light woodland and grassland and was installed using open trench construction down to the outfall. >





The HDD rig used for the project



Pullback of the new pipeline is completed

PSS carefully selected a route for the pipework that would cause minimum disruption to the trees and extensive local habitat. The company steered clear of using traditional excavation methods to prevent damaging any of the surrounding vegetation. All trees of a stem diameter greater than 75 mm, when measured at 1.5 m above ground level, remained untouched.

Only two excavations were used, with PSS making sure they were of the smallest dimensions possible, 2 m x 2 m x 1 m. They were deliberately installed away from any vegetation that was inhabited by local wildlife to avoid any disturbance. These two excavations only were used as a launch and receiving pit for PSS' directional drilling rig during the entire project.

The work was carried out extremely efficiently, within the space of just two weeks. This was due to the fact PSS used trenchless Horizontal Directional Drilling (HDD) methodology. In comparison, using open cut methodology would have resulted in the work taking six weeks to complete.

The existing damaged surface water drainage pipe has been removed and replaced. Ultimately, Barnet Council and the local community have been provided with a permanent solution for diverting surface water flow away from 1 Mill Corner and preventing the area from flooding again due to historical drainage pipe issues.

Work was carried out with minimal disruption to the local community and surrounding woodland and wildlife habitat. Considerable care and attention was paid to making sure all of the protected trees remained intact and any wildlife was undisturbed by diverting the route of the pipework and using No-Dig methods.

The fact the work was carried out so swiftly, within a fortnight, meant the impact on the local community was kept to an absolute minimum. What is more, the risk of flooding at 1 Mill Corner and surrounding properties due to the old, damaged pipework no longer exists. ■





## EUROPEAN NO-DIG 2024

5-6 March 2024

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## TRENCHLESS ASIA 2024

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NAEC Stoneleigh Park, Warwickshire  
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## NO-DIG ROADSHOW SERIES 2024



## TRENCHLESS ASIA 2025

21-22 May 2025

KL Convention Centre, Kuala Lumpur, Malaysia



## NO-DIG ROADSHOW SERIES 2025



## TRENCHLESS MIDDLE EAST 2025

Kingdom of Saudi Arabia 2025



## EUROPEAN NO-DIG 2025



## TRENCHLESS MIDDLE EAST 2026

Dubai 2026



## EUROPEAN NO-DIG 2026



## NO-DIG LIVE 2026

29th September – 1st October 2026



## TRENCHLESS ASIA 2026



## NO-DIG ROADSHOW SERIES 2026

# FUTURE EVENTS

TRENCHLESS THAILAND | TRENCHLESS VIETNAM | TRENCHLESS PHILIPPINES

NO-DIG SOUTH AFRICA | TRENCHLESS GERMANY







# COLD WEATHER FUSION, US STYLE

Cold weather fusion takes experience and the right equipment

Cold or inclement weather can be a limiting factor when fusing outdoors, but there are steps operators can take to limit the impact to the job and get the same successful fusion results.

High-density polyethylene (HDPE) fusion can occur in almost any inclement weather situation, including snow, rain, and sub-zero temperatures, if operators and contractors take the time and effort to carefully consider the logistics of the fusion machine and site.

Because HDPE is an extremely durable, ductile material, it can easily withstand exposure to the coldest temperatures on earth. HDPE's glass transition temperature, the temperature at which it changes from a ductile material to a brittle material, is -135°F (-92.8°C).

As HDPE's acceptance grows, particularly in areas that experience cold weather, fusion standards have been crafted to account for ambient temperature. ASTM F2620 allows for pipe fusion in temperatures as low as -4 degrees Fahrenheit (-20 degrees Celsius). >





Preparation is the key to cold weather fusion success

## FUSE TO THE STANDARD

The fusion procedure steps outline in ASTM F2620 requirements for butt fusion do not change based on changes in temperature. Regardless of the weather or temperature, the procedure outlined in the ASTM F2620 must be followed for a quality fuse. Contractors and operators, however, can take steps to ensure their fusion environment is conducive to managing the procedure itself.


In circumstances where the ambient temperature is less than -4°F (-20°C), steps must be taken to move the fusion itself into a controlled environment, like a tent. That environment can then be heated to at least the minimum temperature needed for the fusion to take place. If a tent is not available, a non-flamed heater, such as the heater included with the fusion machine, can be brought near the pipe to heat it to the minimum required temperature. Industrial heating blankets may be used, also, though the blanket's temperature should not exceed 180°F (82.2°C).

## BE PROACTIVE WITH THE HEATER

In cold weather, it can help to increase the temperature of the heater to the higher allowable range. ASTM F2620 sets the heater range as 400 to 450°F (204 to 232°C). Rather than setting the heater in the middle of the allowable range, operators may consider setting it to the higher side, such as at 440°F (226.7°C). Because the heater cycles itself on and off, setting it higher than usual, while not exceeding the allowable range outlined in ASTM F2620, can speed up the fusion process since the heater will be much less likely to dip below the allowable minimum temperature.

Operators may see a longer bead-up time when performing butt fusion in cold weather. ASTM F2620 does not indicate a maximum heating time, for pipe that is below 14 in (355 mm) diameter, the standard specifies a bead size only, and for pipe 14 in (355 mm) diameter and above, it specifies both a minimum heat time and minimum bead size. Keeping the pipe ends in contact with the heating plate for longer than the specified minimum does not deviate from the standard. >





Covering the fusion site aids the success of fusion operations

## COVER THE FUSION SITE

A tent or other cover for the fusion setup also helps prevent wind and water from interfering with the fusion process during inclement. Water or other debris can contaminate the fusion itself, resulting in an unacceptable fuse and wasting time, money, and manpower.

In misty weather, the heater and pipe ends should be kept dry until the fusion begins. That can mean putting an umbrella over the heater and covering pipe ends with plastic, or it could mean again utilising a structure like a tent to keep as much moisture out of the fusion site as possible.


In areas where snow is present, a structure with a roof is ideal for the fusion process. If a protective structure is not available, operators can do their best to mitigate the effects of cold weather by capping or tarping the ends of the individual sticks of pipe or by moving vehicles to essentially block wind flow around the fusion machine itself.

## CLEAR PIPE OF MOISTURE AND DEBRIS

When fusing in inclement weather, any snow and ice should be cleared off the pipe ends, at least as far as the part of the pipe that will make contact with the jaws. In fuse-and-pull situations, the entire pipe should be cleared of snow and ice. This not only helps protect the fusion site, but it reduces the amount of debris that will come into contact with the fusion machine. It is critical to reduce the risk of moisture being introduced to the heater or HDPE during the fuse. The pipe ends should be thoroughly dried, inside and out, before being introduced to the heater.

Any water that makes contact with the heater during the heat soak phase will immediately boil. If that moisture is present during the fusion, it could introduce bubbles into the pipe material. Those bubbles, in turn, could create voids, which will result in an unacceptable fusion. >





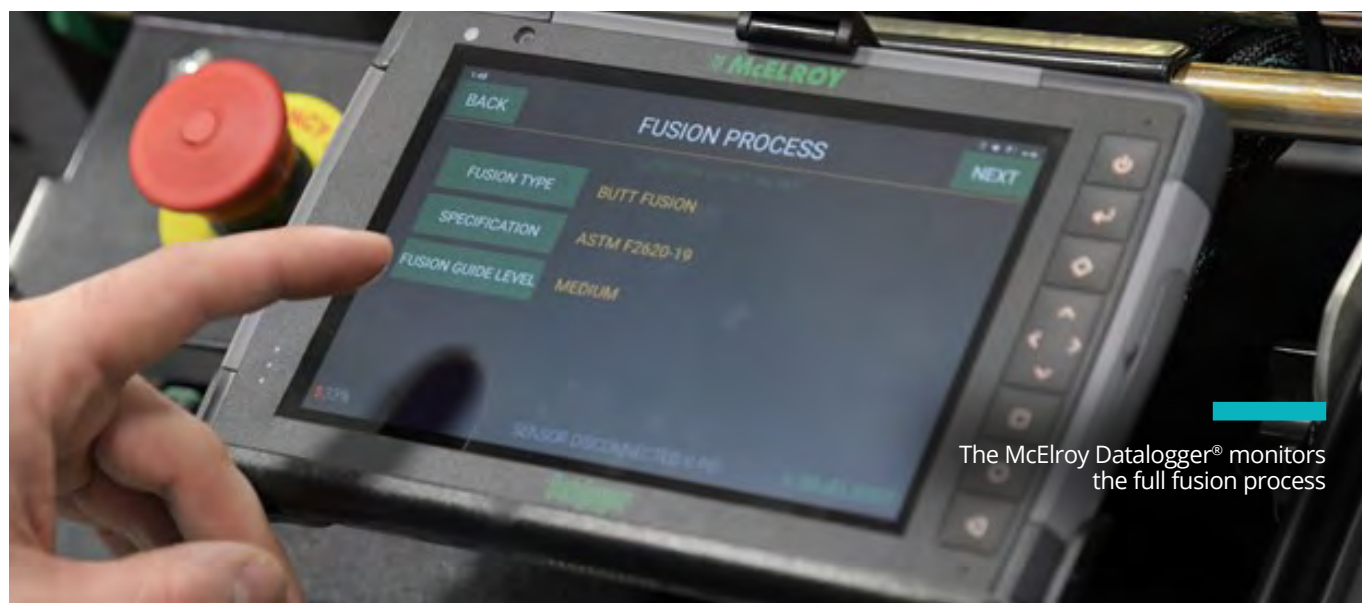
Fusion operations can be required in all sorts of sites and terrains

## WATCH OPEN AND CLOSE TIMES

Special attention should also be paid to the open-close time during the fusion process. The open-close times are defined in the standard. Exceeding these times can cause especially in windy and cold conditions can lead to cooling of the molten faces resulting in incomplete fusion. One visual sign of these incomplete fusions are white, striped-appearing areas in the valley between the resulting fusion beads that are caused when the molten material stretches and bends when brought together.

Because of HDPE's durability, the reliability of McElroy fusion machinery, and the standards put in place by ASTM F2620, most butt fusion jobs can be done year-round, worldwide. By using McElroy's DataLogger®, operators and inspectors can ensure that joints fused in cold and inclement weather follow ASTM F2620 standards. Beginning with the DataLogger6, the operator can record temperature and weather conditions along with noting if the fusion was done inside a shelter providing further documentation of the process. The DataLogger is a powerful part of the fusion process, recording the time, pressure and temperatures used for each joint.

Even after the job itself is done, information gathered by the DataLogger can be uploaded into the Vault™, McElroy's powerful cloud-based storage tool that allows contractors, engineers, and operators to view fusion data long after it takes place. This provides an added level of peace of mind, as it can show that standards were followed and the joint is good, no matter the conditions in which the fusion took place. ■



The McElroy DataLogger® monitors the full fusion process





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TRENCHLESSWORKS







Preparing for a training session

## ENVIROCLEAN (SCOTLAND) INVESTS IN LATEST ROBOTICS

From its Head Office in East Kilbride, EnviroClean (Scotland) is a specialist industrial Drainage and waste management company operating across Scotland and the UK.

EnviroClean identified a need to invest in a specialised UHP Directional Water powered cutting robot to undertake a host of specialised pipeline related cutting tasks such as removing high grade concrete and metal in and around Scotland and the surrounding areas which other methods had failed to address.

After looking to the market for the latest in robotics innovations, EnviroClean, which has been an IMS Robotics client for many years, inevitably turned to IMS Robotics UK Ltd (a subsidiary company to IMS Robotics GmbH) for its support and guidance. >

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Premium flex  
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Hands on training  
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**IMS**  
ROBOTICS UK
The TURBO 4  
Mainline systemThe Enviroclean team on  
the training days

John Rose, Sales Manager of IMS Robotics UK stated: "After discussing the client's needs and requirements at length it was decided that both the DN75-250 PREMIUM flex system and the DN200-800 TURBO 4 Mainline system with both the milling and UHP capabilities would be the perfect solution for our client as both of the systems combined cover the pipeline diameter range of Enviroclean's requirements and there would be occasions where both the UHP technology and the milling arm of the device would be beneficial for the variety of tasks which Enviroclean require to undertake. In its basic configuration, the MICROpremium flex modular system consists of a cable drum and a control unit. These can be combined with the MICROpremium cutting robot. Applicable from DN80 to DN250, the house connection cutter has a good bendability of 90° from DN 100. Also, the unique CLEANERbasic can be connected.

The ultra-high pressure (UHP) water head can also be used in DN100 to DN250 and uses a maximum water pressure of up to 2,500 bar (40,000 psi). With the cutting robot TURBO 4 operators can easily clean main sewers from DN200 to DN800, rehabilitate them with different attachments and of course open lateral connections after liner rehabilitation. The powerful air motor of the robotic milling arm and the power of the ultra-high pressure (UHP) CLEANER attachment providing again up to 2,500 bar (40,000psi) of water pressure ensures the reliable removal of tough materials. The adjustable camera and the powerful headlights ensure perfect accuracy and visibility within the pipeline."

John further added: "The service that our team also provides to EnviroClean with their previously supplied DN150-400 DRIVE cutter coupled with the excellent relationship that exists between both IMS Robotics UK Ltd and EnviroClean was also taken into consideration by EnviroCleans management team when it was concluded that these significant 'UK First' investments would be made with IMS Robotics UK Ltd."

Robert Emans, Operations Manager of EnviroClean stated: "Regularly we are confronted with blockages in pipelines that cannot always be removed with conventional robotic cutting technology. For this reason, we chose both the IMS Robotics small diameter PREMIUM flex and TURBO 4 with cutting capabilities and high-pressure water technology. We can easily reconfigure the robots change the modular components as needed and are therefore extremely flexible no matter the challenge. The team and I enjoyed a great few days training at IMS Headquarters in Germany accompanied by John Rose of IMS Robotics UK Ltd and the service that we have received to date has been excellent. We have utilised both systems on various projects recently and both have achieved excellent results." ■



# “SIMPLE AND EASY SYSTEM TO WORK WITH!”

Svanbjörg Vilbergsdóttir was tasked by the government of Greenland to oversee small diameter pipe rehabilitation projects in hundreds of apartment buildings. She chose NuCure CCUV because it combined quality control with a fast and easy-to-execute process.

**“I loved the simplicity of the NuCure UV system. And I like how fast UV works in our cold temperatures.”**

**“Once I learned that it also came with quality assurance documentation – I was sold! I can review the data, including before and after videos, to grade it and create a report right from the portal.”**

**“The training was excellent. And NuFlow Central offers training videos and support, so we can continue to learn on our own time. It’s a simple and easy system to work with, and easy to teach others.”**

**Svanbjörg Vilbergsdóttir**  
Consultancy - Ráðgjöf og eftirlit

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# SOCIETY NEWS

[ukstt.org.uk](http://ukstt.org.uk)

Society News brought to members by Trenchless Works

## WELCOME FROM THE CHAIR



Ian Ramsay, Chair, UKSTT

A Happy New Year to everyone and I hope you had a chance to recover after a very busy year. The UKSTT trenchless year culminated in the No-Dig Road Show at Bristol where we had a record attendance and an amazing Awards Dinner. A special thank you to Paul and his team at Westrade for their hard work and professional handling of both events.

Feedback has been really positive and we are looking forward to arranging two roadshows in 2024 in spring and autumn and will keep everyone informed. The Bristol event was special as one of the champions of the trenchless world Julian Britton was retiring and we were able to celebrate his life and work at Wessex Water and present him with a UKSTT Lifetime Achievement Award. We all wish him well in retirement.

I was encouraged with the Awards applications last year. A record number of companies applied and in the next few months we will be highlighting the winners and runners up at upcoming events. I think it is important to celebrate their achievements and encourage all to apply for future awards.

2024 will be a very challenging year for the water companies. The next AMP begins and budgets are tight. Targets remain unchanged and I believe this is an opportunity to highlight our memberships innovations and cost saving ideas. We will be engaging with the patrons and water companies and we are arranging a conference in June where opportunities to present and engage with the water companies and patrons will take place. In addition, we will be following up on the Master Classes proposed last year looking at pressure pipes, and trenchless rehabilitation and condition assessment. This is one of the high growth areas in trenchless and education of the systems and materials along with case studies and technical specifications is key and awareness of what is available and when it can be used is a necessary requirement.

I would like to thank the Council within the UKSTT for their continued hard work and innovative ideas to support the membership. This year we are planning a number of events from Technical Evenings, Roadshows, Masterclasses and our inaugural trenchless conference and in October we are looking forward to holding our Annual Awards Dinner in conjunction with NODIG Live 2024 in Warwickshire.

Thank you again for your continued support and I am looking forward to a healthy and productive trenchless year.

Ian Ramsay  
UKSTT Chair





# TRENCHLESS MIDDLE EAST

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# SOCIETY NEWS [istt.com](http://istt.com)

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## A MESSAGE FROM THE CHAIR



Keh-Jian (Albert) Shou,  
Chairman, ISTT

Dear ISTT members

Happy New Year! I believe most of you are ready for a busy 2024, including regional and national No Dig events. As you may remember, addition to International No-Dig in Mexico City, I have attended the No-Dig events in many countries, such as Australia, Brazil, China, Colombia, Italy, Japan, Malaysia, Poland, Turkey, etc. in 2023. I can tell the No-Dig business will still be extremely vibrant in 2024 due to the demands of the changing world. Like I did in 2023, I will try my best to join as many events as possible to encourage our Affiliated Societies.

For the regional events like 2023 Trenchless Latin America, 2023 No-Dig Europe, and 2023 No-Dig Turkey, the organising Societies successfully focussed the spotlight by integrating the governing sector, consultants, contractors, and suppliers in the trenchless business. In 2024, there will be more similar regional events in Europe, America, Asia, and even the Middle East, i.e., International No-Dig Dubai 2024 with the Trenchless Middle East 2024 event. The demands and challenges in those regions also create good opportunities for TT business. In addition, like the cooperation between Asian societies, the bi-lateral and multi-lateral cooperation also become a trend which could help in developing new technologies and good business.

As you may know, we keep hosting the ISTT educational webinars, that can be replayed in the member space. The next one will be 'Resilient and Structural Trenchless Watermain Pipe Renewal Technology' by Martin Bureau of Altra Sanexen, on 8 February, 2024. Please do not forget to register and attend this extraordinary webinar. Furthermore, the TEC committee is now planning to have more in 2024. I would like to let you know that ISTT is trying to provide more services to its Affiliated Societies through our website and other communication channels. To enhance our service, we will also include your feedback to the survey to our plan of actions in 2024.

Finally, I wish you and your family a Happy New Year in 2024!

Keh-Jian (Albert) Shou  
Chair, ISTT





# TRENCHLESS ASIA 2024

16-17 July

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# SOCIETY NEWS

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## ISTT'S WEBSITE ENHANCEMENTS IN 2023

In 2023, ISTT made significant strides in upgrading its website to make it a more valuable, user-friendly and inclusive resource for members and the wider trenchless industry. These enhancements reflect its commitment to innovation and global collaboration. Here are some of the improvements made in 2023.

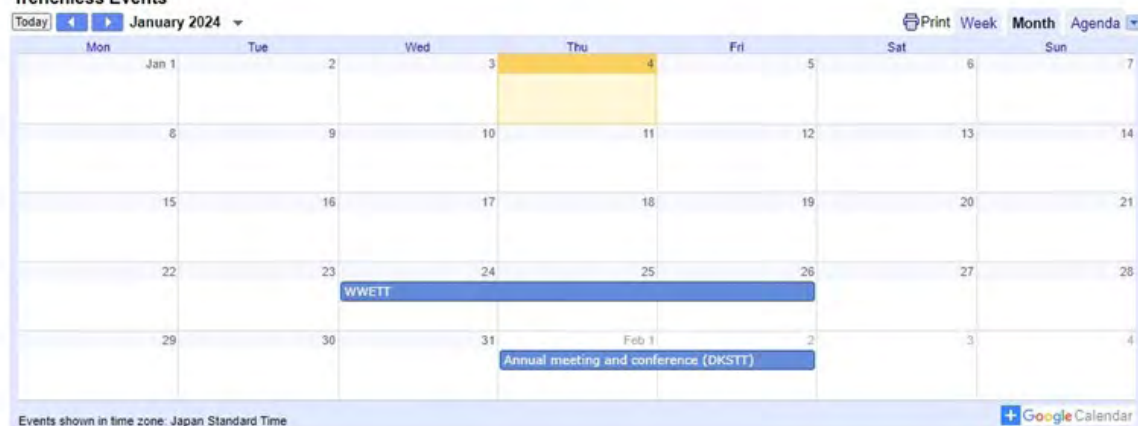
### Trenchless Event Calendar

The newly launched '[Trenchless Event Calendar](#)' is a dynamic resource for professionals in the trenchless industry. Positioned on the ISTT website under the 'Event' menu, this Google Calendar-based tool is dedicated to sharing trenchless events globally. It is curated with contributions from our Affiliated Societies and also includes significant events from other major organisations such as IFAT, ROKATECH, WEFTEC, WWETT, UTC, SWE, and ITA. This calendar is your go-to guide to stay updated on global trenchless events and opportunities.

#### Events

Check our event calendar.

#### Trenchless Events



### Multilingual Function

In an effort to embrace our diverse global community, we have added Spanish and Japanese translations to our website as of October 2023. This website enhancement, powered by the innovative AI technology of ChatGPT, ensures one-to-one translation accuracy in English. We understand the importance of accessibility, which is why every new announcement on our website is automatically translated, providing a seamless information flow. Our commitment to inclusivity continues as we plan to introduce more languages this year, making our valuable content, such as paper abstracts and webinars, accessible in various native languages. >

The International Society for Trenchless Technology

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## Trenchless Charts and Descriptions

2023 also marked the introduction of an Excel version of our [trenchless technology charts](#), complementing the dynamic charts available since 2022. These downloadable charts offer a quick, comprehensive view of various trenchless technologies, each linked to detailed descriptions on our website. For added convenience, we have crafted a printer-friendly version, ensuring that these resources are just a print away. The technology list, now arranged alphabetically, and the integrated search box, make navigating to your desired technology simpler and faster.

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**Trenchless Methods - Chart and Descriptions**

The resources on this webpage "Chart and Descriptions" is accessible for anyone. Use of the material presented, is allowed by anyone/(members of affiliated societies only), provided that ISTT must be acknowledged and the material used at the user's own risk. ISTT assumes no responsibility or liability for any errors or omissions in the content of the material.

Excel chart is available now. (Updated on 15 September 2023)

[Trenchless Chart and List.xlsx](#)

[Chart only-Metric Size.xlsx \(Printer-friendly\)](#)

[Download chart images by technical category \(jpg files downloading in zip\)](#)

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## Webinar Recordings in Streaming Link

We recognise the value of knowledge sharing, which is why we have made all the [past webinar recordings](#) readily available through a straightforward streaming link in our 'Past Webinars' section for ISTT members. Members can simply enter their email address and click 'SEND' - the website will verify your membership status and promptly dispatch the streaming link. This feature eliminates the need for website login, offering a more efficient user experience. While many of our webinars are accessible on our YouTube channel 'ISTT Trenchless Talks', some exclusive content remains 'member-only'. This streaming link service is particularly beneficial for members wishing to view these exclusive videos.

The website enhancements introduced in 2023 mark the beginning of a journey towards a more inclusive and accessible future. We urge all our members and industry professionals to explore these new features and fully use the available resources. We will keep pushing the boundaries, sharing knowledge, and propelling the trenchless industry toward a more technologically advanced world. ■

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**SEARCH OUR PAPERS**

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**PAST WEBINARS**

**2023-12-12 Webinar**

Key findings from a comparison of pressure sewer rehabilitation technologies

Category: Rehabilitation

**Presenter:** Iain Naismith

**Date:** 12 December 2023

**Organization:** IKT Institute

[Click to get access to video \(Members Only\)](#)

[Available on YouTube](#)

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# SOCIETY NEWS

[istt.com](http://istt.com)

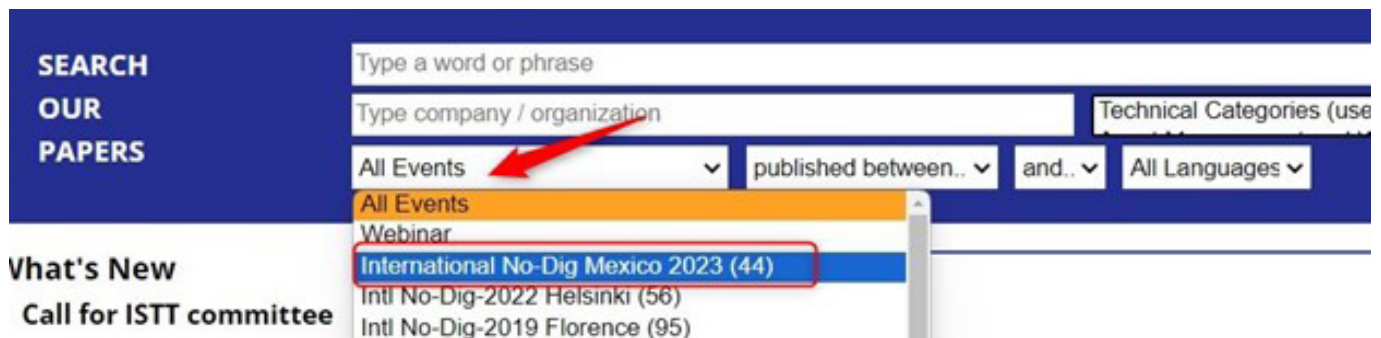
ISTT News brought to members by Trenchless Works

## NO DIG MEXICO 2023 PAPERS NOW AVAILABLE ON OUR WEBSITE

We are thrilled to announce that the technical papers from the International No-Dig Mexico 2023 are now available on the ISTT website! Papers are free of charge for members and US\$10 for non-members.

To access these papers, please follow these steps:

1. Go to ISTT [website](http://istt.com) and click 'All Events'.
2. Select 'International No-Dig Mexico 2023' from the dropdown menu.



ISTT now offers Spanish in addition to English, marking the first time we have included languages other than English.

1. Navigate to the 'All Languages' section.
2. Choose 'Spanish' from the options.



Please take advantage of these valuable papers to stay up-to-date in the field of trenchless technology! ■



# NASTT SOCIETY NEWS

[nastt.org](https://nastt.org)

NASTT News brought to members by Trenchless Works



## NASTT UPCOMING EVENTS

**April 14-18, 2024**

NASTT 2024 No-Dig Show  
Providence, Rhode Island, USA

**April 17-18, 2024**

NASTT's New Installation  
Methods Good Practices Course  
Providence, Rhode Island, USA

**April 14, 2024**

NASTT's Intro to New Installation  
Methods Good Practices Course  
Providence, Rhode Island, USA

**April 17-18, 2024**

NASTT's Pipe Bursting Good Practices  
Course Providence, Rhode Island, USA

**April 14, 2024**

NASTT's Intro to Rehabilitation Good  
Practices Course Providence, Rhode  
Island, USA

**October 21-23, 2024**

No-Dig North 2024  
Niagara Falls, Ontario, Canada

**April 14, 2024**

NASTT's Municipal Sewer Grouting  
Good Practices Course Providence,  
Rhode Island, USA

**March 30 – April 3, 2025**

NASTT 2025 No-Dig Show  
Denver, Colorado, USA

**April 17-18, 2024**

NASTT's CIPP Good Practices Course  
Providence, Rhode Island, USA

**March 29 - April 2, 2026**

NASTT 2026 No-Dig Show  
Palm Springs, California, USA

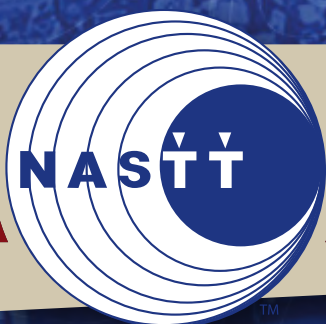
**April 17-18, 2024**

NASTT's HDD Good Practices Course  
Providence, Rhode Island, USA



**NASTT 2024 NO-DIG SHOW**  
**APRIL 14-18 | PROVIDENCE, RI**

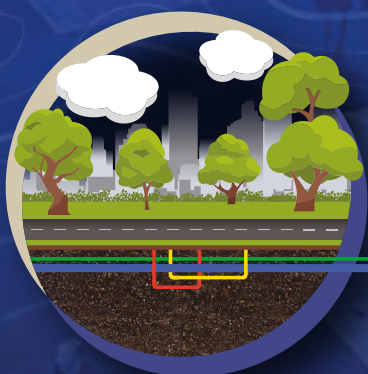
**SAVE THE DATE**



**APRIL 14-18 | PROVIDENCE, RI**

**NO-DIG SHOW**

**2024**



**GREEN ABOVE.  
GREEN BELOW.**

**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](http://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](http://nastt.org).*





# 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)

PO Box 2242,  
MALAGA LPO, WA, 6944  
Phone: +61 419 918 449  
Email: secretary@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: zoradrcr@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



### 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)

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PTLA 28027, Madrid, Spain  
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Email: ibstt@ibstt.org  
Web: www.ibstt.org





# AFFILIATED SOCIETIES

## ISTT Affiliated Societies around the world



### 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)

Gezelius väg 12, 134 31 Gustavsberg  
Sweden  
Phone: +46(0) 70 438 01 54  
Email: Kontakt@sstt.se  
Web: www.sstt.se



### Trenchless Romania Club

Roma Street, No. 16, Ap.2, District 1  
Bucharest Romania  
Phone: + 40724 550 830  
Email: maria.nae@trenchlessromania.ro  
Web: www.trenchlessromaniaclub.ro



### Turkish Society for Infrastructure and Trenchless Technology (TSITT)

Gayrettepe Mah. Huzur Sok. No:1A  
Besiktas 34349 Istanbul, Turkey  
Phone: +90 212 603 11 01  
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



# EVENTS AND MEETINGS

## 2024

February 2 Annual meeting and conference

DKSTT 2024:

Hotel Kolding Fjord, Fjordvej 154, Kolding,  
Danmark, 6000

[tina@juul-consult.dk](mailto:tina@juul-consult.dk)

March 5-6 European No-Dig 2024:

Hotel Andels Vienna House, Berlin

[www.european-nodig.com](http://www.european-nodig.com)

April 24-26 ITTC 2024:

Changsha International Convention and  
Exhibition Center, China

[www.cstt.org.cn/](http://www.cstt.org.cn/)

April 14-18 NASTT 2024 No-Dig Show:

Providence, Ri

[www.nastt.org/no-dig-show/](http://www.nastt.org/no-dig-show/)

April 14-18 No-Dig Show 2024

Rhode Island Convention Center

One Sabin Street, Providence, RI, 02903

United States

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

May 29-30 Ville Sans Tranchée 2024: Paris Event Center

20 Avenue de la Porte de la Villette, Paris, 75019,

France

[www.salon-villesanstranchee.com](http://www.salon-villesanstranchee.com)

June 5-6 Trenchless Romania 2024:

Venue: Caro Club Hotel, Bucharest, Romania

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

July 16-17 Trenchless Asia 2024:

World Trade Center Metro Manila, Philippines

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

October 1-3 No-Dig Live 2024:

Featuring the UKSTT Gala Dinner & Awards  
Ceremony

NAEC Stoneleigh Park, Warwickshire

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

5-6 November: Trenchless Middle East 2024

Featuring the ISTT International No-Dig  
Conference

Jumeirah Beach Hotel, Dubai

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

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](mailto:editorial@trenchless-works.com)