TRENCHLESSWORKS

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SPOTLIGHT

Ian Clarke, Editor-In-Chief,
Trenchless Works, Retired

It does not feel like 34 years since I started in this Trenchless game, having been told to take nothing more than a title 'No-Dig International', whilst working at the then Mining Journal Ltd, and make a magazine out of it. But it has been that long (and it has given me grey hair!).

For those of you not already aware, given the Spotlights of the previous two issues, what this now means is that I am announcing my retirement as of the publication of this issue of Trenchless Works (please those who know me from those years, do not cheer too loudly, it may get deafening). This also means that my company NoDig Media Services will also cease trading.

With this in mind there are a few people I would like to thank. First and foremost, I would thank all those people across the industry and across the world that have supported the efforts of the various publications I have been involved with to bring Trenchless Technology to the wider construction industry audience. Without the support of the various Trenchless Societies, consultants, client companies, contractors and equipment manufacturers and suppliers, in terms of both editorial and advertising, none of this would have been possible.

Yes, it is true that each and every one of these people had something to 'sell', but it was what they were selling that was most important in terms of what these technologies could do to improve the environmental aspects of construction, minimise disruption to businesses and the lives of everyday folk, all the time improving our utility and other infrastructure more efficiently and, in most cases, more cost-effectively. It has been a pleasure to work with you all (yes even those of you who really do not understand what the word DEADLINE actually means!).

Thank you all for giving me access to your products, services and projects and for making the past 34 years incredibly interesting and rewarding.

Looking forward, I now want to thank Paul Harwood and the team at Westrade, who for the past three years and more have, under licence, taken the reins of the magazine on my behalf, improved it greatly in its presentation and readership spread. Now this team is taking on full control and ownership of the title with the view of strengthening its position in the market and broadening its modern approach to international communication, with all the bells and whistles that high speed internet options now offer. I wish them well and a prosperous future with the publication.

Thank you all for the past 34 years and a career that hopefully has helped to make a difference somewhere along the line.

Ian

RELINE CONFERENCE 2024: LIVING SUSTAINABILITY, SHAPING THE FUTURE

The Reline Conference location

How can we protect the valuable resource of water? The RELINE CONFERENCE 2024 provided leading minds from research, industry, and associations with the ideal platform to discuss the future of water supply and the trenchless industry. It presented clever solutions while also igniting impulses, all in the spirit of strong partnerships and sustainability.

Historical steam locomotives, vehicles from the early days of mobility to the present, a Boeing 747 and even a space capsule with a spacefaring past provided the location where the RELINE CONFERENCE 2024 welcomed its visitors from more than 25 nations with surprises at first glance. Upon closer inspection, however, there could hardly be a better location than the Technik Museum Speyer, one of the largest of its kind in Germany. It is often spectacular exhibits testify to a lively spirit of innovation, the human endeavor to address the pressing problems of the time with technologies, and to overcome previously insurmountable distances. >

Participants from over 25 nations gather at the RELINE CONFERENCE 2024

Marc Stiebing emphasises the importance of collaboration among stakeholders, highlighting the significance of managing water resources and maintaining the water cycle

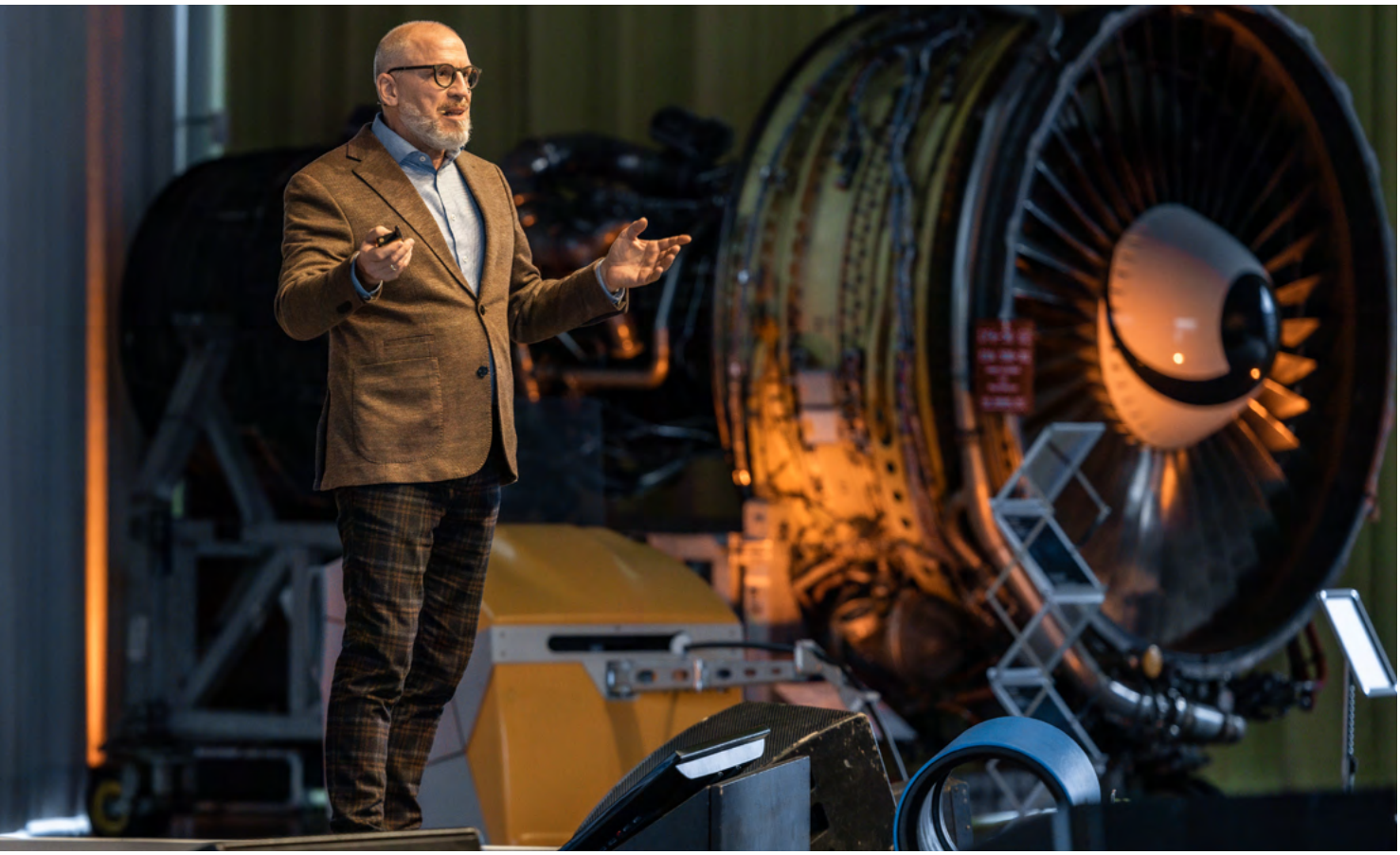
This is precisely the spirit that also characterises the trenchless industry. More than 120 decision-makers and leading figures from research, industry, and associations followed the invitation of the world's leading GRP company to Speyer. "We want to get back in touch with the customer, strengthen the relationship with them, and show them what we are looking for in the future." explained Philipp Bergmann, Area Sales Manager Europe, the idea behind the RELINE conference. How is the vital resource of water doing? How can the industry be transformed through sustainable solutions? Also, what ecological and economic opportunities does this transformation offer? These are all questions that need to be discussed. Ahead of the visitors are two days of lively dialogue, full of multifaceted insights, deep conversations, and enriching encounters.

The state of water supply demands urgent attention

'The power of partnership' is also the motto of the fifth RELINE CONFERENCE. It is a motto that expresses confidence in the power of what can be achieved. But at the same time, it is an appeal to unleash this power even further than before. Because one thing is certain: The challenges surrounding the supply of people with clean drinking water are enormous. 'The United Nations' water report of 2021 identifies the immediate threat of a global water crisis that could have serious implications for human health, food security, energy production, ecosystems, and social stability, Marc Stiebing emphasised at the start of the event. With compelling numbers and facts, the RELINE CEO outlined how precarious the situation is globally: "2 billion people in the world lack adequate access to water, around 3.6 billion lack access to safe sanitation facilities."

Billions of precious liters are lost in Europe alone

The magnitude of the mission facing the industry is difficult to overstate. For the situation is rapidly deteriorating even in places where it was previously unimaginable: in rapidly growing urban centers from Tokyo, Mumbai to Sao Paolo, water supply instabilities loom. Furthermore in Europe, there is an urgent need to address several critical aspects: >



During his keynote at the conference, Dr.-Ing. Robert Stein explained the role of tight budgets, understaffing, and cost-focused procurement policies in exacerbating the rehabilitation backlog

With an overall length of 3.1 million kilometers, the sewerage network has an average age of 50 years and is increasingly in need of rehabilitation. Exfiltration through leaks not only results in the loss of valuable resources but also poses risks to human health and the environment through contamination of groundwater and surface water. “1 litre of wastewater is enough to contaminate up to 1,000 litres of groundwater.” emphasised the CEO of RELINE, highlighting the potential dangers.

Infiltration into the sewer systems, on the other hand, can at worst push sewage treatment plants to their limits or even trigger sewage floods, leading to severe contamination and pollution.

On the drinking water side, the situation is no better. “Thames Water, the largest water supplier in England, lost 690 million liters of water every day due to leaks in 2018, equivalent to the daily needs of around 5 million people!” Marc Stiebing cited further numbers that give cause for thought. Looking at Europe as a whole, water loss averages at 25%.

Only a united effort from all parties involved can eliminate the backlog of rehabilitation

But what are the reasons for this disaster? Dr.-Ing. Robert Stein, an expert in pipeline construction, maintenance, and network management, provided answers in his keynote on the first day of the conference: “Tight budgets, lack of personnel, and procurement policies still focused on the lowest price have caused a backlog of rehabilitation in municipalities over the years.” Or, as articulated by Benedikt Stentrup, board member of the Pipeline Rehabilitation Association RSV e.V., the urgent need for action: “Our bridges are in a desolate state - underground, it is no different. The number of daily collapses, i.e., collapsing sidewalks and roads due to underground pipe damage, is noticeably increasing.” >

Addressing urgent infrastructure challenges: Benedikt Stentrup, board member of RSV e.V., emphasised the critical state of underground networks

Continuing as before is not an option. Returning to Marc Stiebing once again, who called for a major collaboration among all stakeholders in light of the situation: “It is important to manage the use of water as well as rainwater and to maintain our water cycle. We all, the planning offices, the manufacturers of GRP liners and equipment, the rehabilitation companies, as well as the municipalities, can make a crucial contribution to advancing this important societal issue.” the message of the RELINE CEO states. “Especially with regard to the consequences of global warming, policymakers must focus clearly on sustainable water management.”

The CO_2 footprint of GRP lining is convincing

When it comes to sustainability in the context of water supply, a critical examination of the CO_2 footprint of rehabilitation measures is unavoidable. “GRP lining is the most sustainable sewer rehabilitation method.” emphasised Marc Stiebing at the RELINE CONFERENCE 2024. Together with another manufacturer of GRP liners, a study was commissioned at the Fraunhofer Institute to investigate the CO^2 balance throughout the entire process, from material selection to production, transportation of the liner, to installation. “This study, which is about to be published, will clearly demonstrate that the GRP liner is the most resource-efficient rehabilitation measure compared to open construction methods as well as felt liner procedures.” Marc Stiebing provided initial insights into the results of the scientific study. Switching industry-wide from concrete pipes to GRP liners could save the annual emissions of a large European country. >

Factory tours and an Innovation Show offered participants the opportunity to explore RELINE's premises in Rohrbach: The trenchless industry continues to innovate, demonstrating that standing still is not an option

RELINE relies on extensive in-house expertise

As the host of the conference, RELINE recognised the potential of trenchless sewer rehabilitation and is dedicated to driving its optimisation with great enthusiasm. A significant milestone on this journey was gaining even deeper control over all key process steps in the manufacturing and processing of GRP liners. "We are producing our own fabrics in Rheine." explained Johannes Pick, Director of Operations. " I think this is one thing which makes us an outstanding producer." Since January 2022, the competence centre has been operating at full capacity, with around 20 employees bringing their expertise to the demanding manufacturing process. "We are able to produce everything we need to a special quality and to realize special projects for our customers." emphasised Johannes Pick, highlighting the advantages of this in-house concept. Two company records demonstrate what is possible through this strategy: in 2022, the heaviest liner in the company's history (54 tons) as well as the largest liner were manufactured: a DN 2000 with a wall thickness of 14.2 mm and a length of 149 metres.

While records are impressive, it is more significant to continually increase the number of sewer rehabilitations using GRP liners in the spirit of sustainability and resource conservation. "Annually, the German wastewater industry renovates around one percent of the public sewer networknetwork." said Firmino Pires Barbosa, Area Sales Manager Northwest and South Europe, presenting a market with significant growth opportunities for the industry at the RELINE CONFERENCE 2024. Not only because the increasingly urgent backlog of rehabilitation needs to be addressed decisively, but also because currently only about 25% of the rehabilitation measures in the overall 594,335 km long German network utilise a GRP lining method.

Trenchless sewer rehabilitation requires holistic approaches

Now it is crucial to further raise awareness among planners, the construction industry, and municipalities about the attractive benefits of trenchless sewer rehabilitation – from reduced interventions in urban spaces and traffic, to lower emissions, and time and cost savings. This can be achieved, among other things, by providing customers in the trenchless industry with a portfolio of products and solutions that precisely cover their entire range of needs and are efficiently deployable. RELINE, for example, continuously invests in the development and expansion of its Alphaliner system. The company will soon introduce liner tubes to the market that are specialised for applications ranging from wastewater channels to pressure pipes, water mains, and manholes. In Europe alone, there is an annual demand for 310,000 manhole rehabilitations. "The repair of defective manholes contributes to ensuring the reliability, efficiency, environmental friendliness, and safety of infrastructure facilities within a community." said Philipp Bergmann succinctly summarising the added value of renewal, which can also be applied to other areas of GRP liner usage. >

Inspecting production facilities at Rheine

However, as evident from the first day of the RELINE CONFERENCE 2024, a comprehensive offering must go even further and consider the entire rehabilitation process. RELINE does exactly that with its modular UV curing systems and proprietary vehicle concepts for curing vehicles and rehabilitation trailers. “We need uniform definitions of installation processes and minimum requirements for UV curing systems.” emphasized Philipp Martin, Director Sales Europe & Marketing, regarding an ongoing dialogue within the industry aimed at strengthening client trust in GRP lining.

The RELINE CONFERENCE 2024 inspires a call to action

After the first day of the conference presented and discussed the challenges and perspectives surrounding water supply and the world of trenchless sewer rehabilitation in a fact-filled manner, the second day of the RELINE CONFERENCE 2024 got hands-on practical: factory tours and an Innovation Show invited participants to explore the RELINE premises in Rohrbach and experience the company’s product world up close. Once again, it become clear: standing still is not an option for the trenchless industry!

So, what is the conclusion of the RELINE CONFERENCE 2024? There is much to be done to secure water cycles, protect the well-being of people, and preserve the environment. The good news: GRP lining will play a crucial role in this endeavor. The monumental task can be tackled – together, with the power of partnership. ■

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MORRISON WATER SERVICES EXTENDS FRAMEWORK AGREEMENTS WITH YORKSHIRE WATER

UKSTT MEMBER NEWS

"This agreement marks a continuation of the long-standing relationship with Yorkshire Water and reinforces our commitment to provide Capital Delivery projects for the region, enhancing their network."

Morrison Water Services, a part of M Group Services' Water Division, has successfully secured contract extensions on two Capital Delivery Frameworks

As part of this latest agreement, Morrison Water Services will continue to work across the Yorkshire Water region to deliver customer-focused and complex infrastructure projects until April 2028.

Morrison Water Services has already delivered innovative solutions to parts of the region and will continue to do so, helping to reduce costs, time and carbon footprint through the use of Spray Lining. Morrison Water Services is the only contractor in the UK to hold the required accreditation to provide this in-situ spray lining to rehabilitate water pipes, helping to extend infrastructure asset health by up to 50 years.

As part of its ongoing contracts for Yorkshire Water, Morrison Water Services is currently undertaking work in Whitby to reduce storm overflow discharges and deliver a new surface water system to minimise discharges caused by heavy rainfall.

Protecting the environment is integral to contract delivery and, as part of its commitment to delivering social value, Morrison Water Services will continue to work with local stakeholders on environmental schemes throughout both frameworks.

Lee Wood, Area Director at Morrison Water Services, said: "This agreement marks a continuation of the long-standing relationship with Yorkshire Water and reinforces our commitment to provide Capital Delivery projects for the region, enhancing their network."

Lee Boshell, capital programme delivery manager at Yorkshire Water said: "We are thrilled to announce that we will be further extending our partnership with Morrison Water Services. We have ramped up our investment plans and it is great to have them on board to help support us with these."

HOW TO RESTORE PIPE INTEGRITY WITH VERSATILE REPAIR SOLUTIONS

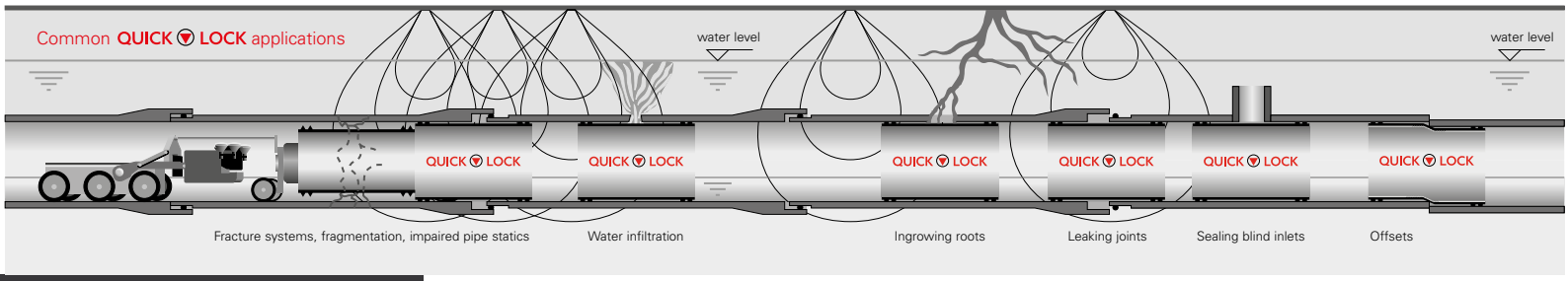
The SECA team receive their Quick-Lock certification

SECA – Sewer Equipment Company is our Quick-Lock Certified Partner in Australia and New Zealand.

Repairing underground water assets can be a costly and time-consuming task, with pipes and sewers being hard to reach. For councils, maintaining functional water and wastewater infrastructure requires a versatile, long-term solution that not only repairs damage, but also restores pipe integrity. Water asset management demands regular maintenance and repairs as underground assets are susceptible to damage from high flow, tree roots and gradual deterioration. But with different pipe sizes, materials and application along pipelines, council maintenance teams must select the right solution – which is often unique for each job – making repairs expensive and time-consuming. When a council is responsible for overseeing different water, wastewater and stormwater assets, a versatile, longterm solution is vital to keeping costs down and essential services functioning.

A Straightforward Solution

While repairing underground assets can be tedious, the Quick-Lock system offers a straightforward installation and operation process to repair and strengthen pipelines. The Quick-Lock system is a trenchless pipe rehabilitation solution that provides structural repair to the inside of pipelines. With a CCTV crawler, the system can be transported to the point of repair. The packer inflates once in position while the system's locking device holds the sleeve against the pipe to seal the damage, keeping out groundwater. The ring space between the liner and old pipe is then permanently sealed, becoming watertight. In turn, this reduces the pipe's vulnerability to infiltration and exfiltration. Alternatively, a liner end can be protected against the effects of high-pressure cleaning using a Quick-Lock liner end seal, making the Quick-Lock a long-term solution. Not only is the quick installation process easier for council water teams, it also means minimal disruption to the public, little to no excavation and less frequent maintenance. >



Variety Of Applications

Quick-Lock has a variety of applications for different pipes and materials, including concrete, clay, PVC and steel pipes. As a versatile rehabilitation solution, Quick-Lock can repair:

- Holes
- Circumferential and longitudinal cracks
- Cross bores
- General inflow and infiltration damage
- Root infiltration
- Leaks
- Joint displacements

Picture Application areas

On top of repairing pipes, Quick-Lock can also be used to connect CIPP pipe liner systems and rehabilitate walkable sewers. With many approvals around the world, including being DIBta and WRc Approved, NSF Certified, ASTM standard approved and the Water Services Association of Australia endorsed, Quick-Lock is a reliable solution designed to meet rigorous industry standards. Quick-Lock requires no chemicals, making it safe for use with sewage, stormwater and drinking water. This ensures councils can meet regulatory requirements to provide safe water supplies for residents.

Built For Longevity

Quick-Lock, unlike other rehabilitation systems, is built for longevity. Made of 316L stainless steel, the sleeve body has high corrosion resistance, allowing it to function in sewage and potable water without deteriorating. Quick-Lock is designed to be a longterm solution that provides decades of security for water providers and customers. The system strengthens the structural integrity of pipes by increasing load-bearing capacity, which becomes vital when pipes are handling heavy loads in populous areas. By extending the lifespan of existing water assets, Quick-Lock can help councils save on maintenance costs for pipe replacements. As one of Australia's leading pipe rehabilitation equipment suppliers, Sewer Equipment Company (AUST) better known as SECA, has decades of experience with providing affordable asset management solutions. As well as supplying Quick-Lock to Australian and New Zealand water providers and maintenance teams, SECA also offers installation training to new clients interested in using Quick-Lock for the first time. #WeSetTheStandard – together.

www.seca.com.au ■

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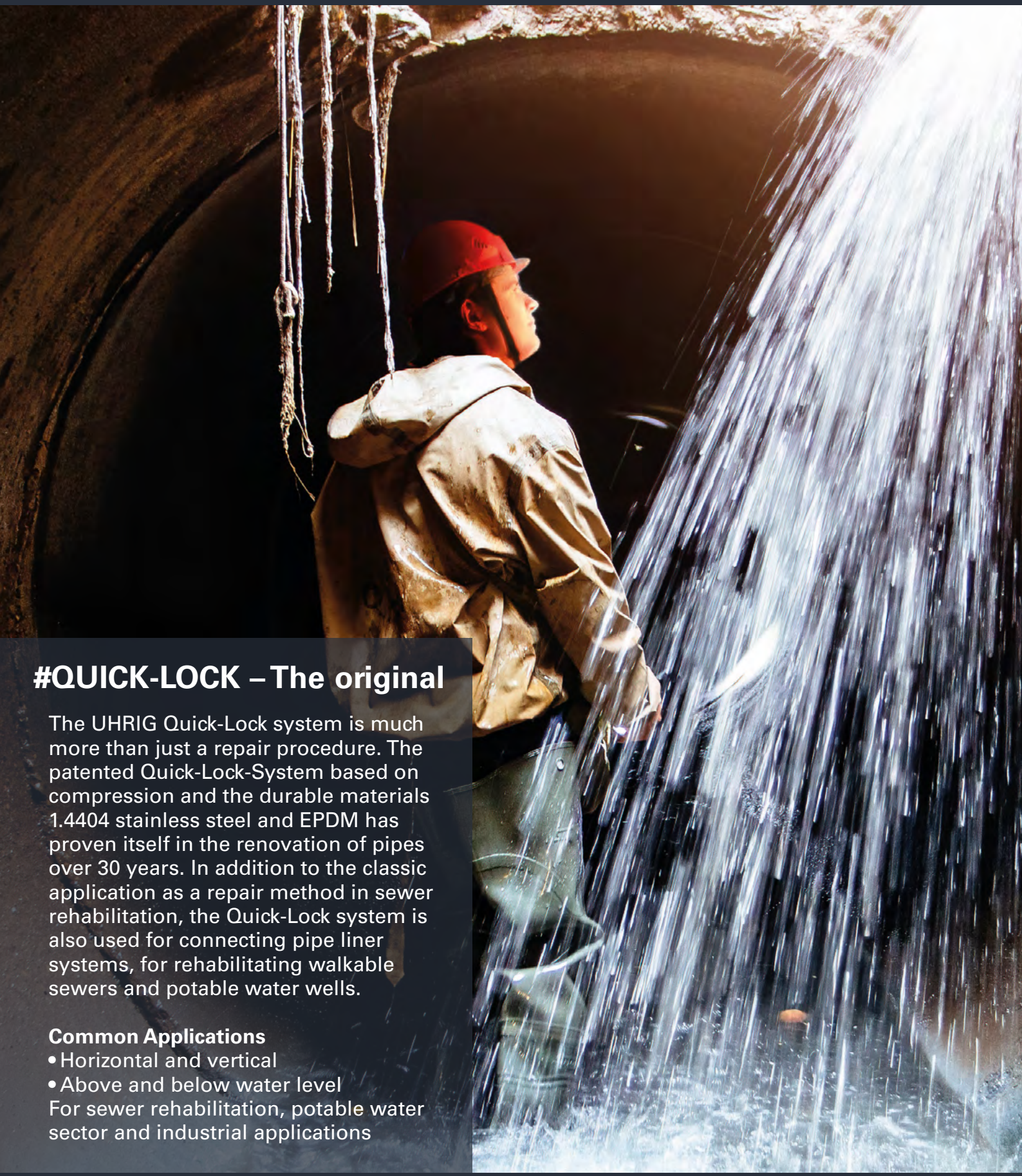

#QUICK-LOCK – The original

The UHRIG Quick-Lock system is much more than just a repair procedure. The patented Quick-Lock-System based on compression and the durable materials 1.4404 stainless steel and EPDM has proven itself in the renovation of pipes over 30 years. In addition to the classic application as a repair method in sewer rehabilitation, the Quick-Lock system is also used for connecting pipe liner systems, for rehabilitating walkable sewers and potable water wells.

Common Applications

- Horizontal and vertical
- Above and below water level

For sewer rehabilitation, potable water sector and industrial applications

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UHRIG

Site location with team on site

PIPA-API CCTV, LEAK DETECTION AND MAPPING IN FRANCE

A pressurised potable water pipe ferrule is identified

The unlined pipe identified with medium levels of tuberculation identified

PIPA was recently contacted by consultant SUEZ on behalf of a water utility client in France.

The utility had identified several locations where it would like to inspect and observe pipeline condition without the need for excavations. API Specialises in chlorinated hydrant entry CCTV in the UK using PIPA Technology, entering pipes via buried fire hydrants so the project was a trial to see if the same could be achieved via pillar type fire hydrants.

Project Challenges

The pipelines varied and included an old 3 in (75 mm) diameter cast iron pipe with 5 bar pressure and was installed over 50 years ago with unmapped location and configuration.

Another location identified was a PVC pipe which was unmapped and the client wanted to locate property services.

European pillar type fire hydrants have not been trialled before so entry results were unknown prior to completing controlled site trials.

Location

The water utility client was SUEZ-Activite Eau France based in Northern France, in the Calais region. The fire hydrants selected were located on pavement areas with pipelines fed through deep risers with a 90° bend and an in-line isolation valve being a standard configuration set up. >

The Hydrocam T2

Technology

The Hydrocam™ T2 is a 100 metre pressurised CCTV and leak detection inspection product for 75 mm diameter water pipes and above. The system is designed for fire hydrant entry and comes complete with on-screen meterage overlay, text generator and operates with integrated rechargeable batteries.

PIPA has developed a pipe inspection technology that includes a pressure rated camera the Hydrocam T2™ which includes an acoustic sensor and trace feature, tethered to a 100 metre semi-rigid rod to give the operator live video and recorded audio data during an inspection. The system enters a pipeline via a fire hydrant or 1 in (25 mm) diameter tapping, and is fully chlorinated during its insertion. The system works on a live basis, with no Interruptions to the client's services and with several surveys undertaken this unique product can cover a distance of up to 1 km/day.

The technology is the latest live main inspection system on the market being fully battery powered and only requires a 1-person team for its implementation.

Survey results

- API successfully delivered pressurised water pipe entry inspections via pillar type fire hydrants
- API also identified pipe condition, an unknown pipe service and simulated leak
- Tethered insertion technology system allowed for precise tracing of the pipelines
- Client traced back the pipe service identified and asked the property owner to run the internal taps for API operators to see and hear the flowing water >

The Pillar type fire hydrant Hydrocam T2 camera entry point

"We have now proven we can enter pipes via pillar type fire hydrants and also a great case study for our company. The contractor had exhausted all other pipeline inspection avenues, and was more than relieved when we offered a solution without the need to dig trial holes."

It would have been very difficult and expensive for the water utility to find the remaining issues within the water mains by undertaking the traditional method of pipe isolation and excavations. The CCTV and acoustic capability proved indispensable for locating issues and troubleshooting via using a true trenchless technology solution offered by API and PIPA.

API successfully completed the inspections in 1 working day and offered a full solution identifying true pipe condition and configuration.

The API team also completed live Flowrider Trunk main inspection trials in the Dunkirk region during the same visit to France.

API and PIPA Representatives commented: "The project was a great success, after making some on site modifications of our camera launch system, we have now proven we can enter pipes via pillar type fire hydrants and also a great case study for our company. The contractor had exhausted all other pipeline inspection avenues, and was more than relieved when we offered a solution without the need to dig trial holes."

API has also delivered successful projects with the majority of the UK water utility companies and is planning many more overseas trials in 2024.

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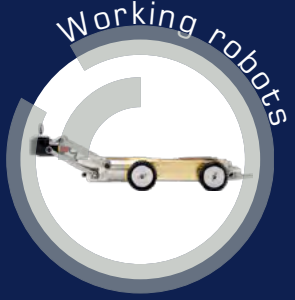

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A Lining Division team operating on site

Caption?

LINING DIVISION ATTAINS PRESTIGIOUS QUALITY MANAGEMENT CERTIFICATION


Certificate of Registration

Survival Innovations, LLC

ISO 9001:2015

The certificate border appears to be missing at the bottom? Caption for the other picture: Inspecting a pipeline

Lining Division Ltd (LDL), a key player in the UK's trenchless rehabilitation industry and a division of the Vortex Companies, has recently been awarded the ISO 9001:2015 Quality Management Certification. This achievement underscores LDL's unwavering commitment to upholding the highest standards of quality in its products and services, particularly in wastewater rehabilitation projects. The globally recognised ISO 9001:2015 sets the benchmark for quality management systems, focusing on principles such as customer satisfaction, leadership involvement, the process approach, and continual improvement.

Path to Certification

The journey to achieving the ISO 9001:2015 Certification was stringent and involved a comprehensive evaluation process conducted by NDC Certification Services, Ltd. LDL underwent thorough assessments covering various operational facets, including leadership, planning, support, and monitoring. The evaluation also included a meticulous review of LDL's documentation and records. This rigorous process ensures that certified organisations maintain a consistent approach to quality management, aiming to enhance customer satisfaction and operational efficiency. >

Preparing a lining installation

Implications for Customers and Industry

LDL's attainment of the ISO 9001:2015 Certification is not just a testament to its quality management prowess but also serves as a beacon of trust and reliability for its customers. With a client base comprising local water authorities and commercial facilities, the certification provides an added layer of confidence in LDL's capabilities and commitment to excellence. This achievement is particularly significant in the wastewater management sector, where quality and reliability are paramount for community health and environmental safety. Furthermore, the focus on continual improvement and corrective action processes embedded within the ISO framework aligns with LDL's dedication to advancing its services and maintaining the integrity of waterways and communities.

A Broader Perspective

Whilst LDL's certification is an accomplishment, it also reflects the overarching ethos of the Vortex Companies. As a parent company, Vortex is renowned for its innovative approach to renewing municipal, industrial, and commercial infrastructure. Specialising in advanced trenchless water and sewer technologies, Vortex, and its divisions, including LDL, are at the forefront of providing cost-effective, sustainable solutions for infrastructure rehabilitation. This commitment to quality and innovation not only positions Vortex and LDL as leaders in their field but also underscores the importance of quality management systems in supporting the broader goal of sustainable infrastructure development.

The ISO 9001:2015 Certification of Lining Division Ltd marks a significant milestone, not just for the company but for the entire trenchless rehabilitation industry. It reaffirms the critical role of stringent quality management practices in delivering high-quality, reliable solutions that protect and serve communities. As LDL continues to build on this success, its focus on quality, customer satisfaction, and continual improvement will undoubtedly drive further advancements in wastewater rehabilitation techniques, offering promising prospects for the future of waterway and community health. ■

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A global supplier to the Sewer Rehabilitation Industry, RSM Lining Supplies Global Ltd offers CIPP materials, equipment, and services, worldwide.

The company's innovative and diverse team have extensive knowledge and experience of the global CIPP network, distributing materials and equipment daily to wastewater and pressure pipe sectors across the globe. RSM has a UK-based head office, two Australasian depots based in Sydney and Melbourne, and several distributors worldwide.

RSM offers innovative solutions to the CIPP market, providing top-level service and technical support to their clientele. Striving to ensure they keep up to date with the latest technological advances within the market, RSM supplies only the best quality products and offers a vast equipment range available for both purchase and hire.

Their dedicated sales & technical teams deliver a comprehensive support structure, including training and consultancy services, to ensure your sewer rehabilitation project is successful. RSM offers solutions for the rehabilitation of wastewater and pressure pipes in diameters ranging from 50 mm - 2,000 mm with multiple curing methods available. Their solutions include a variety of different technologies, inclusive of point repair, drag-in and inversion lining, and ambient, hot, steam, UV & UV LED cure lining.

Over the past decade RSM's global reach has expanded exponentially with distributors in most European countries and further afield, such as: Spain, France, Germany, the Netherlands, Norway, Sweden, Finland, Poland, Romania, the UAE, South Africa, China, Canada & the United States.

The company offers the full package to their global network, inclusive of materials, equipment, practical training and technical support. RSM's technical team have visited a vast array of countries to assist with training and consultancy, consisting of above ground training and demonstrations, technical classroom training and presentations, and on-site installations. They are strong advocates for ensuring their distributors have a comprehensive understanding of the products that they are selling to ensure they deliver the best service possible.

RSM send multiple orders out internationally every week to ensure their distributors stock levels are kept as high as possible and avoid any potential delays with lead times. RSM's Sales Director, Phil Steele, commented: >

RSM Melbourne

"We are always looking for new partners to join our distribution chain. We place a high value on ensuring all clientele using our products experience the best service possible, which is why we are keen to continue expanding our reach worldwide to ensure wherever you are based"

"We are always looking for new partners to join our distribution chain. We place a high value on ensuring all clientele using our products experience the best service possible, which is why we are keen to continue expanding our reach worldwide to ensure wherever you are based, you can get the materials or equipment you need in a timely and efficient manner. Should you be interested in becoming a distributor be sure to get in touch - our contact details are available on our website and across all our social media channels."

RSM Lining Supplies Pty has been established since 2011, following the success of its parent company in the UK. Over the past year it has expanded to further support its customer base. The head office in Sydney has relocated to a larger premises and due to increasing demand they have expanded further across the continent with the introduction of a new warehouse based in Melbourne. Headed by Division Manager, Dan Kelley, the Melbourne Warehouse has increased Australia's stock holding and aims to improve accessibility to products and support to ensure high levels of customer service at all times.

RSM's Australian division has been spearheaded by their General Manager, Stephen Fanning, since 2013. Stephen has brought a wealth of expertise to the business over the years, he has a strong desire for success, benefits from over twenty years' experience in the Drainage Industry and has also been nominated for the ASTT person of the year award.

The idea behind the expansion to Australia was to offer the Australasian market access to the CIPP technologies and methods available in Europe from a base that could be accessed centrally within the continent. Over the years RSM Lining Supplies Global PTY have adapted their business model to suit the Australian market - refining their product range and services to suit the needs of the developing CIPP market in Australasia. They offer full customer support and on-site practical training in all aspects of lining, patching, and the use of associated equipment for all facets of the CIPP process. Over the past 12 years RSM Pty has grown tremendously and we are incredibly excited to expand its reach further across the continent.

From its beginning in 2003, RSM Lining Supplies' ethos has been to introduce choice & technology to the CIPP industry, positioning them as a forward-thinking, market-leading supplier, committed to providing only the highest-class of materials and a top-level service. They supply the full package of technical knowledge, equipment, services, and materials to the wastewater industry across the globe.

BERLIN HOSTS EUROPEAN NO-DIG 2024

Paul Harwood, Yasin Torun, Dawn Grieg at the Berlin event

By Austen Lees – Editor Trenchless Works

Earlier this month I was fortunate to meet up with the Westrade team, and representatives from across the European trenchless technology sector in Berlin for European No-Dig 2024.

Over the course of the two days, I joined representatives from major contractors, municipalities, and underground utilities providers to hear about the latest developments in pipeline and fibre optic cable installation, inspection, repair, and rehabilitation from some of the sector's leading luminaries. During breaks in the conference programme, it was also great to spend time in the exhibition hall talking to some of the industry's leading names and finding out more about the products and services they were showcasing at the event. It was not all work, however as the event also incorporated plenty of time for networking. The social programme kicked off at the end of day one with a drinks reception sponsored by Westrade and then continued in to the evening in the hotel's impressive roof top bar.

The event, which was brilliantly hosted by the German Society for Trenchless Technology (GSTT), was attended by several national representative bodies including UKSTT, IATT, IBSTT, AKATED, AATT, OGL, LAMSTT, and the Trenchless Romania Club. This in turn provided the ideal opportunity to stage the first European Society Forum where several European societies met to discuss topics of shared interest. Feedback from the forum was that it was highly productive with no shortage of energy in the room. The participants have agreed to continue their dialogue and we look forward to bringing more news on developments in the coming months. >

Views from the berlin exhibition hall

Immediately following European No-Dig Paul Harwood and I headed to the beautiful town of Speyer about an hour south of Frankfurt where we attended The Reline Conference 2024. The first day took place at the fascinating Technik Museum with speakers and expert panels discussing how and why we must work to protect the valuable resource that is water. The following day we had opportunity to visit the company's highly impressive facility in Rohrbach and witness their liners being manufactured first-hand. I would like to take this opportunity to say a big thank you to Firmino, Carla and Marc for their hospitality during what was a really informative couple of days. You can read more about the Reline event on page 6.

Exhibitor List

ACQUAINT
AMIBLU GERMANY GMBH
ANHUI TANGXING
BKP BEROLINA GMBH & CO KG.
BODENBENDER GMBH
BOHRTEC GMBH
BRAWO SYSTEMS GMBH
CHANNELINE INTERNATIONAL
DOWN2EARTH
HERRENKNECHT AG
IBG HYDROTECH GMBH
IMPREG GMBH
JACKCONTROL AG
MTS-MICROTUNNELING SYSTEMS GMBH
NUFLOW TECHNOLOGIES
PERFORATOR GMBH
PE100+ ASSOCIATION
PICOTE SOLUTIONS OY LTD
PIPETRONICS GMBH & CO. KG
RÄDLINGER PRIMUS LINE GMBH
REINERT-RITZ GMBH
RSM LINING SUPPLIES
RSP GMBH & CO. KG
SAERTEX MULTICOM GMBH
SCHAUENBURG MAB GMBH
S.F.L. INTERNATIONAL A/S
SHIJIAZHUANG BODA INDUSTRIAL PUMP CO., LTD
STEVE VICK INTERNATIONAL
SWP-SYTSEMS GMBH
TRACTO-TECHNIK GMBH & CO. KG
TUNNEL SERVICE GROUP
TUNNEL24 GMBH
UHRIG KANALTECHNIK GMBH
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ADVANCED TRENCHLESS TECHNOLOGY

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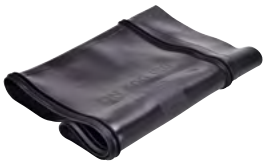
JBP Sales Team presenting a Quick-Lock product

THE IMPORTANCE OF MATERIAL SELECTION FOR THE QUICK-LOCK

QL 0300 - 12 inch



QL 0300 - 12 inch

QL BIG rubber

The choice of materials plays a pivotal role when choosing the Trenchless Technology to be applied. The Quick-Lock System, a renowned trenchless rehabilitation solution supplied by JBP Composites S.L., underscores the significance of selecting the right stainless steel and rubber material tailored to the specific characteristics of the pipeline, be it for water, sewage, or other applications.

One of the primary reasons Quick-Lock has gained prominence is its ability to provide an effective and durable solution. The success of this trenchless method, however, is intricately tied to the careful consideration of materials, particularly stainless-steel, and EPDM.

Stainless steel, making the appropriate choice of material.

Stainless steel stands out as the material of choice in Quick-Lock projects due to its remarkable corrosion resistance, strength, and versatility. The corrosion resistance is particularly crucial when dealing with water pipelines, where exposure to moisture and various chemicals poses a constant threat to the structural integrity of the rehabilitation system. Quick-Lock's deployment of high-quality stainless steel ensures resilience against corrosion, minimising deterioration over time.

The diversity of stainless-steel materials available for Quick-Lock applications further enhances its adaptability to various pipeline types. Different grades of stainless steel can be selected based on the specific demands of the rehabilitation project. Whether dealing with potable water pipelines, wastewater systems, or seawater projects, JBP offers a tailored approach through the careful choice of materials.

Beyond corrosion resistance, the strength of stainless steel is a key factor in the longevity of the rehabilitation. Quick-Lock's use of robust stainless-steel materials provides structural support, leak tightness, with a life expectancy of 50+ years. >

The Quick-Lock System can be supplied with:

Stainless steel AISI 316L:

- Composition: Contains 16-18% of chromium, 10-14% of nickel and 2-3% of molybdenum.
- Common Applications: Widely used in various industries, especially in marine environments and chemical processing. Known for its excellent corrosion resistance, good formability, and weldability.

Stainless steel AISI 904L:

- Composition: Contains high amounts of chromium (19-21%), nickel (24-26%), and molybdenum (4-5%).
- Common Applications: Primarily used in environments with aggressive corrosion conditions, such as cellulose industry, offshore, refineries, seawater technology, hot sulphuric, and phosphoric environment.

Selecting the ideal rubber seal: EPDM, VMQ or NBR

EPDM (Ethylene Propylene Diene Monomer), NBR (Nitrile Butadiene Rubber), and VMQ (Vinyl Methyl Silicone) are different types of rubber with different properties, and their suitability for use in wastewater, sea water, or drinking water depends on several factors.

WASTEWATER APPLICATIONS: EPDM is an elastomeric material with a low viscosity. This rubber has several properties, such as:

- Excellent resistance to weathering, UV and ozone.
- Good resistance to water, steam and some acids and bases.
- Wide temperature range, typically -50°C to +90°C (long term) or +150°C (short term)
- Limited resistance to oil and petroleum-based products.
- High resistance to permanent deformation

DRINKING WATER APPLICATIONS: VMQ is a type of silicone rubber composed of silicon, carbon, hydrogen, and oxygen with the following properties:

- Excellent high temperature resistance, typically up to +210°C
- Good resistance to weathering, ozone and UV radiation.
- Good electro-insulating properties
- Not resistant to silicone oils and greases, fuel, water vapor above +120°C
- Safe for use in contact with drinking water.

When selecting a material for drinking water applications, it is important to ensure that the material complies with relevant health and safety regulations. In addition, compliance with local and international standards, such as NSF/ANSI 61 for potable water system components, provides assurance that the material is suitable for use in contact with potable water. >

Installation training for Quick-Lock BIG

We always recommend checking with the supplier and manufacturer for specific certifications and suitability for the intended application.

OIL PIPE APPLICATIONS: NBR is used mainly in applications where the seals are in constant contact with grease and mineral oil. Its main properties include:

- Operating temperature ranges from -30°C to +100°C
- Good to excellent gas and air impermeability
- Good resistance to oils
- Not resistant to fuels with high aromatic content (depending on ACN content)

In conclusion, the importance of material selection in Quick-Lock pipeline rehabilitation cannot be overstated. The choice of stainless steel, with its corrosion resistance, adaptability, and strength, ensures that Quick-Lock projects deliver lasting and effective solutions across a spectrum of pipeline applications. Education and training is an important part of the process in understanding materials, their appropriate selection and effective application. As the demand for efficient and sustainable rehabilitation methods grows, the thoughtful consideration of materials will continue to be a cornerstone in achieving successful and long-lasting pipeline restoration. ■

Views of activities at previous No-Dig Roadshow events

READING TO STAGE FIRST NO-DIG ROADSHOW OF 2024

Westrade has announced the first in its 2024 series of No-Dig Roadshows with the event taking place at the Hilton Reading on Wednesday 26 June.

The event, which is being held in association with the UKSTT and supported by Thames Water, will once again feature an integrated exhibition and conference programme providing suppliers with a unique opportunity engage with some of the UK's largest utilities companies and contractors.

A conference programme expertly curated by the UKSTT, and the fact that the venue is situated in the catchment area for several major waster companies including Wessex Water, Southern Water, Dwr Cymru Welsh Water, SES, Bristol Water, SGN and Cadent means this is likely to be one of the best attended roadshow events to date and will build on the tremendous success of the 2023 series. To add further to its popularity Reading is also easily accessible with a host of major transport links in close proximity. These include Heathrow airport, the M4 and M25 motorways and rail links to London and the South West.
For sponsorship opportunities or to book a stand please contact Trevor Dorrell tdorrell@westrade.co.uk or visit www.nodigroadshows.co.uk.

The Reading Roadshow is the next in a busy year of events which includes Trenchless Asia, No-Dig Live and Trenchless Middle East. ■

THE ROLE OF TRENCHLESS SOCIETIES & TRAINING ...

Frank Reilly - Director
JBP's Trenchless Training Programme

"It may sometimes require out of the box thinking to overcome the challenges that exist and meet the training objectives embedded in societies' mission statements and statutes."

Anyone who attend the recent European No-Dig's Trenchless Societies' Forum in Berlin, at the beginning of March, would know that training was very much in the spotlight. Many of the societies' forum presentations highlighted this priority.

A quick search of the twenty-eight ISTT-affiliated national societies' websites confirms this focus, with education and training included in societies' statutes or mission statements, as is the case with ISTT's own mission statement, "to promote education, training, study, and research ...".

Cooperation and Knowledge Sharing: Associations are well positioned to facilitate trenchless community collaboration and knowledge sharing. These organisations can and do bring practitioners, equipment manufacturers, researchers, and other stakeholders together for networking, training, and information sharing through their conferences, seminars, workshops, and online forums. These channels allow professionals to learn about industry trends, share best practices, and network with peers and colleagues.

Training Goal Obstacles: Societies face significant challenges in fulfilling their training objectives and ambitions, not least time and money. These organisations depend primarily on subscriptions and time given voluntarily by their members to fund and organise initiatives.

Despite these obstacles, societies remain committed to providing and promoting training. It may sometimes require 'out of the box thinking' for societies to overcome the challenges that they face and to meet the training objectives embedded in their mission statements and statutes.

Certification and Courses: In order to provide their members and the trenchless communities with more involved training programmes, societies must sometimes seek partnerships, to go beyond simply providing a platform, and to overcome resource challenges. Benefits could include the wider provision of carefully structured courses or the development of certification programmes. Association certification programmes could validate courses and individuals' expertise and skills after training. Societies would potentially gain further incremental income in the process.

Academia-industry collaboration: Societies, working with higher education institutions and by fostering academia-industry collaboration, can play an important role in the development of a skilled trenchless workforce to meet tomorrow's water and wastewater infrastructure network challenge. In some cases, they are already doing this.

In conclusion, trenchless societies significantly impact the trenchless training ecosystem, through their promotion of knowledge exchange. An end-of-term report might state, "There is always room for improvement." However, our Trenchless Societies, both national and international, deserve recognition for their continued commitment to trenchless education, and our active support for all their training initiatives, events, and forums.

Next issue: In the Classroom versus On-line

JBP

combining strength

Pipe stoppers

Silicate resin,
ECR-Fiberglass and
Packers

Training

The JBP Patch Repair System, an effective repair solution for pipes DN 50 up to DN 1200

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The goal of Technical Support: The measure must be successful

RÄDLINGER PRIMUS LINE: TECHNICAL SUPPORT FOR PIPELINE PROJECTS

Solutions are customised to the project

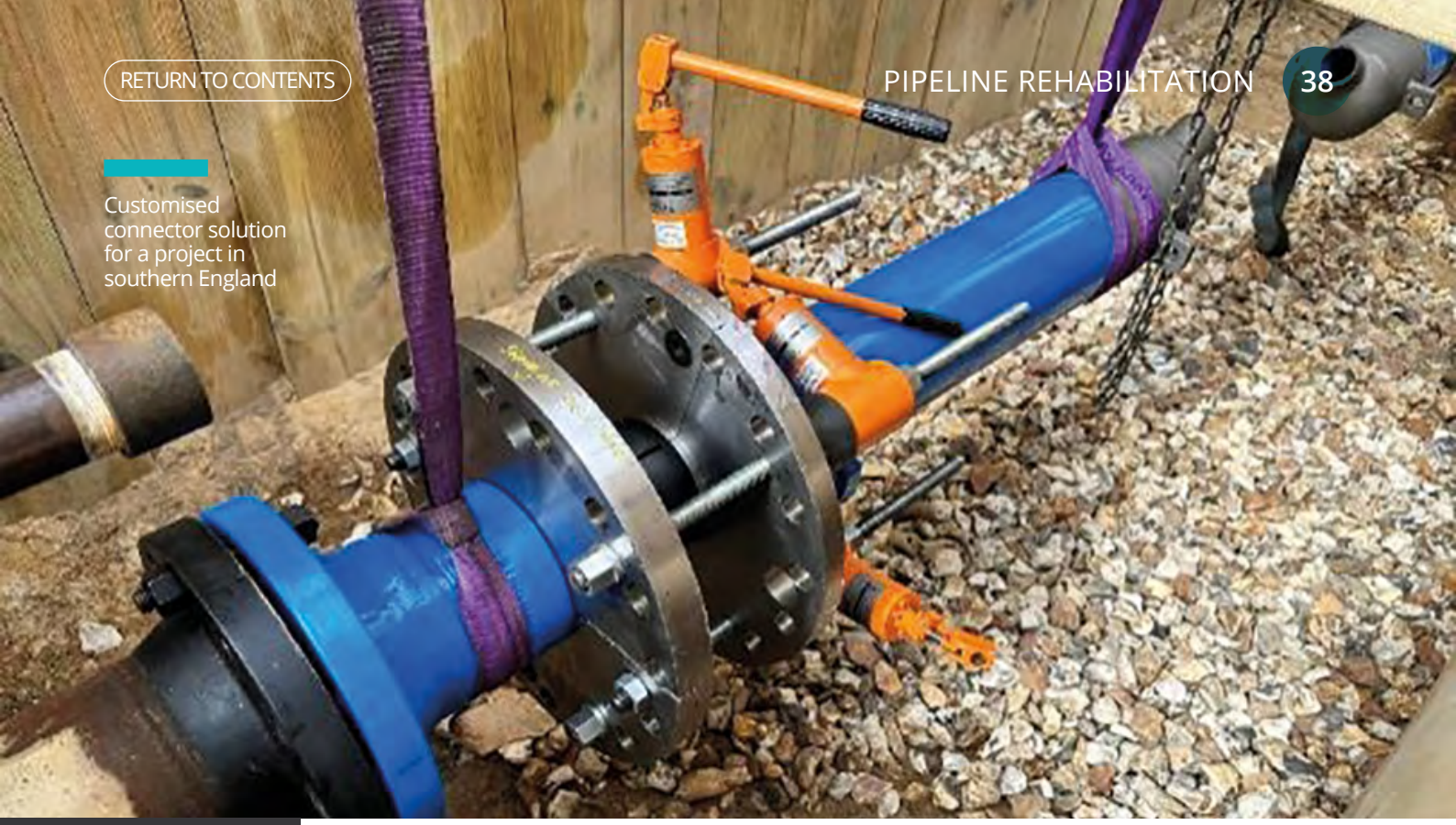
Rädlinger primus line GmbH sees itself as a solution provider in piping technology and offers its customers extended technical support for the successful realisation of pipeline projects.

With the support of two in-house engineering teams, the company assists its customers and partners in realising projects with the flexible Primus Line® piping system.

Primus Line® technology is used for the trenchless rehabilitation of pressurised pipelines and for the construction of freely layable pipelines. Since the company was founded in 2001, Rädlinger primus line GmbH has professionalised the production of the flexible liner and the associated connectors to the highest quality standards. At the same time, the company has acquired a wealth of experience in the planning and realisation of pipeline projects through countless projects worldwide.

Robert Goletz, Head of Technic Field, emphasised: “We see ourselves not just as a technology supplier, but also as a comprehensive solution provider. Our aim is to ensure that our products are only used for suitable measures, that they are implemented reliably and that the pipelines can be operated permanently and safely.”

To achieve this goal, the company has two in-house civil engineering teams with a total of eight employees as well as another two-person team based in Pakistan. While the company installs the technology with its own construction site teams in Germany, it works with specially trained installation partners in other countries. >



Customised connector solution for a project in southern England

Robert Goletz, Head of Technical Field

"We want to ensure that our product is suitable for the project and represents a safe solution."

Robert Goletz and his colleagues support both their own construction projects and those of their partners. They train new installation partners and provide intensive support during the preparation and realisation of their first projects. In addition, the engineers work on projects that require a customised solution.

The technical departments are therefore closely involved in project management, but also take care of the basic technical documentation.

Engineering support

In the world of pipework technology, projects with flexible, fabric-reinforced liners have established themselves as an effective solution. Rädlinger primus line GmbH offers comprehensive technical support, starting with the initial discussions.

"We want to ensure that our product is suitable for the project and represents a safe solution." explained Goletz. To do this, the engineers carry out a detailed feasibility study in advance. They analyse as-built plans, check application specifications, and carry out inspections if necessary.

The precise planning of the measure includes, among other things, determining the diameter and pressure rating of the liners and connectors as well as testing the material resistance to the medium. The aim is to find an optimal, customised solution from an economic and technical point of view and to prepare cost-accurate quotations.

As part of further project management, the technical departments provide support in analysing the CCTV inspection (camera inspection), prepare reports and make recommendations for pipe cleaning. Hydraulic calculations on the properties of the pipes and implementation plans are also carried out in close consultation with the client. If required, special solutions can be developed and implemented in-house, while the company's own supervisors oversee the implementation of the measures on site. >

Rehabilitation of a hydrocarbon pipeline with around 200 bends

Detailed planning: Installation sections and location of the excavation pits

In addition to the project, the client receives technical instructions for the long-term safe operation of his pipeline.

Services at a glance

Documentation

- Installation manuals and guidelines
- Technical data sheets
- Process descriptions
- Tailored guidelines

Project management

- Feasibility study and technical review
- CCTV inspection
- Hydraulic calculations
- Special solutions and troubleshooting
- Installation scheduling
- Supervision of the project

Certification of partner companies

Customised solutions for a 10 km pipeline

An outstanding example of the successful implementation of customised solutions is a project carried out by Primus Line partner Danphix S.p.A. from Italy in Wareham, southern England. A 10 km long pipeline with almost 200 bends for the extraction of hydrocarbons was renovated using trenchless methods.

The pipeline runs through a highly sensitive area with several nature and landscape conservation areas. An application for which Primus Line® is ideally suited due to its long installation lengths, low machine utilisation and bend flexibility.

As part of the project planning, the engineers from Rädlinger primus line GmbH checked the requirements for flow rate, operating temperature, and pressure, among other things, and identified the Primus Line DN 150 medium-pressure liner for oil applications as a suitable rehabilitation solution.

During the implementation planning, the engineers paid particular attention to the number of installation sections and the location of the construction pits. The impact on the environment and the effects on tourism, flora and fauna were to be minimised as far as possible. The final planning envisaged eight sections with lengths between 200 and 2,382 metres.

In addition, special solutions were required for the connectors and the cable winch. The usual Primus Line connectors were out of the question due to the client's requirements. The solution was a modified connector consisting of three connector types, which met the requirements with a back flange, a temperature resistance of 60oC and a weld-on end. The usual winch with a steel cable was replaced by a winch with a flexible and lightweight HMPE cable so as not to jeopardise the integrity of the old pipe through friction when pulling it in.

The experience of Rädlinger primus line GmbH and the engineering support ensured the successful completion of the project. ■

Drain It Ltd were able to successfully renovate and rehabilitate long lengths of repair using CIPP installation methods, alongside the reliable and accredited liners from the BRAWOLINER® range.

A WHOLE ISLAND REHABILITATED BY BRAWOLINER®.

S1E Ltd supply and provide onsite support alongside BRAWO SYSTEMS GmbH, as Drain It Ltd tackle the Jersey drainage system.

Drain It Ltd are drainage specialists in Jersey, with thirty-four years of industry experience performing both domestic and commercial plumbing and drainage work. Over the course of several years, Drain It has conducted extensive surveys on the island of Jersey, alongside a major project with the Government of Jersey.

The surveys carried out primarily highlighted issues relating to water infiltration and the need for an overall improvement to the island's drainage system. With long lengths of lengths of pipeline in various locations across the island needing to be repaired, this project needed to be done effectively and with minimal disruption – resulting in the need for CIPP lining methods to be used.

Due to the need of future proofing the islands drainage system, the Government of Jersey mandated that any drainage liner installed must be CIPP leak tightness tested as per the Water Research Centre's CP308 standard.

Drain It selected liner from BRAWO® SYSTEMS, their BRAWOLINER® XT. An extra strong liner that has a higher stiffness whilst still maintaining it's unique flexibility that comes with the BRAWOLINER® range.

FOR MORE INFORMATION:
WWW.S1E.CO.UK

The construction of the BRAWOLINER® XT make it compliant with the WRc's CP308 leak tightness test to meet the contractual obligations with the Government of Jersey.

Collaborating with S1E Ltd, UK specialist suppliers in trenchless technology and UK partners and distributor with BRAWO® SYSTEMS, Drain It was supplied with various lengths of the BRAWOLINER® XT liner and their BRAWO® III resins. S1E also provided onsite support from Andrew Sapnik, Area Sales Manager at S1E and technical support from Thomas Matthias, from BRAWO SYSTEMS GmbH.

On site in Jersey for five days, Thomas and Andrew assessed Drain It's liner installation practices and provided recommendations for enhancing their procedures. Throughout the week, both representatives were on hand as Drain It installed liners ranging between 150 and 300mm in diameter with lengths spanning for 50 to 150 metres.

Carl Burrell, Managing Director at Drain It Ltd, commented: "We started working with the Government of Jersey sewer rehab project in 2016, initially surveying and assessing the islands drainage system. Due to the requirements from Government of Jersey we needed to ensure we were working with accredited and quality products. We'd worked with BRAWO® products before, and they have a good and trusted reputation within the industry."

He continued: "We appreciate both the team from S1E and BRAWO® SYSTEMS making the time and effort to join us on site and provide support during the installation. It's so valuable to have that support on such a large project like this and provides us with confidence we can rely on our suppliers."

Hakim Dehimi, International Sales Director at BRAWO® SYSTEMS, said: "BRAWO SYSTEMS GmbH, has the knowledge of 25 years' experience in rehabilitation of inhouse and domestic sewers. We are very proud we can join with S1E and provide onsite support to users. We are looking forward to continuing to work in partnership with our partners in UK."

The current contract with Drain It Ltd for this project is scheduled to continue until April 2024, with numerous additional contracts anticipated for upcoming rehabilitation projects in other areas.

BRAWOLINER® is DIBt certified and has passed CIPP leak tightness test from the WRc (CP308).

Pipeline cleaning on the Anglian Water site

REPAIRING SEWERS BENEATH MULTI-STOREY ACCOMMODATION

UKSTT MEMBER NEWS

Using 'No-Dig' technology Danaher & Walsh Civil Engineering Advanced Pipeline Solutions (D&W APS) recently successfully repaired two sewers underneath multi-storey accommodation, saving its client tens of thousands of pounds and mass disruption. One in-line trap was collapsed and the second was on a 90° bend.

Overview

D&W APS is on a long-term framework for Anglian Water, along with several other companies that make up the IMR WR Alliance. This particular job was so complex that Anglian Water asked the company's 'No-Dig' team to find a trenchless solution to this challenging repair.

Location

The in-line traps were located underneath the multi-storey buildings. The access point was located inside the cellar, which meant going through the premises, along a corridor and down a narrow staircase into a basement with a shallow ceiling.

Before D&W APS was assigned to the project, previous engineers had suggested excavating and tunnelling under the property to reach the collapsed inline traps.

In addition, the location of one of the two in-line traps was beyond a tight bend in the pipe, so it was very difficult to reach.

Underground video screen-grab showing collapse

Outcomes

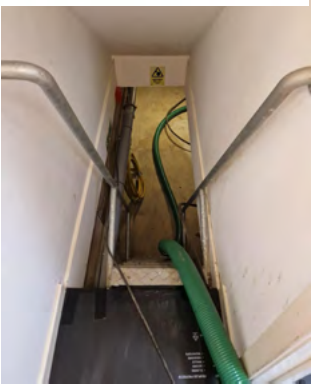
Utilising D&W APS' innovative technology, the company was able to access the pipe and reach the collapses via the manhole covers in the cellars using remote cameras and robotic equipment.

To allow it to carry out the repair around the tight bend the contractor fed the patch through a guide tube. The guide tube was then removed so the patch could be pulled back into place and inflated.

Completing these two jobs, including the clean-up, took just four days instead of multiple weeks, as had been forecast by the earlier engineers.

Anglian Water believes D&W APS' ingenuity saved it tens of thousands of pounds on this job alone, with the potential to save many hundreds of thousands of pounds down the line, as well as reducing the H&S risks due to the less evasive procedure. ■

Underground video screen-grab showing repair



Accessing the pipeline through the building

NEW

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PIPER LAUNCHES INTO NEXT INSTALMENT

The cutterhead of Piper the tunnel boring machine

Recently, Piper, a tunnel boring machine (TBM), will begin the second leg of its journey to dig and install the Warkworth to Snells Beach wastewater pipeline in New Zealand.

The second leg of Piper's journey will begin at the new Snells Beach Wastewater Treatment Plant, which is under construction. Over three or four months, the TBM will install 2 km of the 5 km pipeline.

Since completing the first leg three months ago, Piper has received new cutterheads, bearings, and seals and had hydraulic pumps, motors and navigation systems checked.

Project manager Dirk Du Plessis said construction partner McConnell Dowell also used this time to transport equipment, thrusters, separation plant and various support systems to the site where Piper will start the second leg of the journey.

"Doing this preliminary work before each of the legs helps to reduce the likelihood of breakdowns and delays from occurring while the pipeline is being tunnelled. The work she must do is extensive as she has cut and ground through various ground and soils while simultaneously pulling and installing the pipeline as she moves forward." >

Project manager Dirk Du Plessis inside Lucy Moore pump station

A bird's-eye view of Snells Beach Wastewater Treatment Plant

"Doing this preliminary work before each of the legs helps to reduce the likelihood of breakdowns and delays from occurring while the pipeline is being tunnelled."

Du Plessis said while Piper undertakes the second leg of her journey, the project team will also be installing a twin 500 mm diameter high-density polyethylene pipe inside the steel casing pipe laid during the first track of Piper's journey to reduce leaks and corrosion.

The Warkworth to Snells pipeline remains on track to be completed early next year. It is one of four key infrastructure projects in a NZ$300 million+ investment programme underway to support growth and improve environmental outcomes in Auckland's north-east region.

This project, alongside the construction of the Lucy Moore Wastewater Pump Station, Snells Beach Wastewater Treatment Plant and Warkworth North-west Growth Servicing Pipeline, will play a key role in sustaining regional development, population growth and safeguarding the environment.

Snells Beach Wastewater Treatment Plant

"Once all four projects are complete, the pipe will transport raw wastewater from the Lucy Moore Wastewater Pump Station to the Snells Beach Wastewater Treatment Plant." Du Plessis said.

Du Plessis says, the team is progressing well on the Snells Beach Wastewater Treatment Plant and Lucy Moore Wastewater pump station. "Most of the structures at the Snells Beach Wastewater Treatment plant are complete. We are installing process equipment, interconnecting pipework and electrical components on the Snells Beach Wastewater Treatment plant." Du Plessis said.

SEVENTH TBM FOR RECORD-BREAKING BRENNER PROJECT

Machine acceptance: Martin Herrenknecht with representatives of the client and customers

UKSTT MEMBER NEWS

Once completed, the Brenner Base Tunnel (BBT), with a total length of 64 km, will be the longest underground rail link in the world. Herrenknecht is delivering eight tunnel boring machines for the construction of the new transalpine rail link between Austria and Italy. On Thursday, 7 March, 2024, the seventh tunnel boring machine was presented to the customer and client in Schwanau, Germany.

On behalf of Brenner Basistunnel BBT SE (BBT), the project operator for the transalpine rail link, construction consortia are building two tunnel tubes and a continuous exploratory tunnel in various construction lots. Herrenknecht has now presented the first of two Double Shield tunnel boring machines for construction lot H53 Pfons-Brenner. The consortium of the companies PORR and MARTI will use them to excavate 7,500 m of tunnel in the direction of Innsbruck.

The Austrian and Swiss tunnel construction specialists of the H53 Pfons-Brenner Base Tunnel consortium ordered a Double Shield tunnel boring machine (TBM) from Herrenknecht for this purpose. “The Brenner Base Tunnel is a project of the century and also extremely challenging from a technical point of view. H53 Pfons-Brenner is the largest construction lot in Austria.” said PORR CEO Karl-Heinz Strauss. >

The Herrenknecht Double Shield for the H53 Pfons-Brenner construction lot will drive 7.5 km of the Brenner Base Tunnel

Double Shield TBMs are among the most technically sophisticated tunnel boring machines. They combine the functional principles of Gripper and Single Shield TBMs in one machine. This powerful technology is therefore predestined for driving long tunnels in hard rock. Bernhard Kuderer, Project Manager at Herrenknecht, emphasized: “In close cooperation with the consortium, we are providing tailor-made solutions for the complex geological requirements of this project.”

The new Herrenknecht Double Shield for the Brenner Base Tunnel has a diameter of 10,370 mm, a length of around 183 m and weighs a total of around 2,700 t (both figures include the back-up). Transportation of the first parts of the machine from the Herrenknecht factory in Schwanau to Austria is expected to start at the end of March. The machine will then be reassembled in the assembly cavern. Tunnelling is scheduled to begin in fall (autumn) 2024. The eighth, identical Double Shield TBM for driving the second tunnel tube in lot H53 Pfons-Brenner is also currently being built at the Herrenknecht plant in Schwanau and will be delivered in spring.

The Brenner Base Tunnel, which is designed as a flat track and runs almost horizontally, forms the core of the new Brenner line between Munich and Verona. It will lead to a significant improvement in travel and transport options on one of Europe’s central transport axes and help to shift freight traffic in the Alpine region to rail. ■

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The pilot bore commences

TACKLING VERY CHALLENGING GROUND USING GUIDED AUGER BORING

The Guided Auger Boring technique has, in some quarters, been a belief that, unlike full scale microtunnelling, the use of the technology would be limited to certain less demanding ground conditions. However, a recent project for client Thames Water on Gossmore Lane in Marlow, Essex, UK has managed to dispel this idea.

The situation that Thames Water was experiencing required that emergency repairs and replacement was required for some of Thames Water's critical assets in the area, with minimal impact on the location. >

The shaft construction was complex due to the prevailing ground conditions

The main contractor for the project was J Browne Construction, which investigated an array of construction options. One of the main obstacles facing the contractor was the, as expected, extremely permeable granular geological conditions of the subsoil which comprised varying gravels with a very high and pressured water table, conditions not always deemed suited to the use of Guided Auger Boring.

A full face/pressure balanced solution was considered, but this would require a diameter upsize and would also incur additional risks, in particular heave would be a major concern especially at the shallow depth. The working space and launch shaft diameter would also be a major issue as the site footprint was extremely tight.

However, after the initial review and discussions, it was decided that the proposed guided auger bore methodology from a 2.4 m caisson shaft with soft eye seals, complete with retracted auger cutting head positioning, with adequate pumping provision, would provide a safe and successful installation. Furthermore, the guided auger solution was selected due to its reduced overall impact on both the environment and the population of the district as well as substantial cost benefits over the alternative solutions available, particularly given the ground water and highly permeable nature of the expected drill horizon. It also offered the capacity to provide the accuracies required in challenging ground conditions and the control of ingress of both ground water and the surrounding ground.

Excavation of manhole locations along the proposed route gave a good understanding of the geology that was encountered preconstruction.

To complete this challenging installation, OneBore was engaged as the main trenchless sub-contractor. Trenchless Plant Hire Limited provided, on a hire basis, the Auger boring equipment plus one lead operator with on-site experienced to assist with the hire equipment and the installation, giving technical support and additional knowledge and expertise throughout the process. >

Installing the Naylor Denlok pipes

The rubber gate used to control water ingress during the bore launch cycle

The equipment fleet utilised comprised

- A Perforator PBA85V auger boring machine
- A Perforator HS90 hydraulic Powerpack
- A Bentonite Pump and tank
- An OEN navigation unit (which utilises a camera for accuracy of the pilot bore installation)

Trenchless Plant Hire Limited offers the largest fleet of Perforator Auger boring machines in the UK.

In total two bores were required each comprising 40 m in length. Both bores were to comprise the installation of DN225 Naylor Denlok NC pipe which was provided in 1 m lengths, which were complete with EPDM integral seals and a load transfer ring encapsulated in a 316 stainless steel coupling. The pipes were supplied direct to site by Trenchless Pipe Supplies.

Installation

Initially, the programme of works was designed for 10 days, starting on 7 November, 2023. However, the works on site actually took some 23 days in total, until 7 December, 2023. Delays were due to the principal contractor having to overcome significant challenges in preparing the work sites, with keeping the ground water levels down to a workable level. This was further exacerbated by some severe and adverse weather conditions by way of winter storms. >

Ground water ingress was a significant problem during the shaft construction operations

The Perforator rig set up in one of the launch shafts

These conditions were in addition to those already understood, including the very high-water table with ingress under high pressure, the loose gravels and running ground. Experience and ingenuity, however was used to overcome these challenges.

To manage ground water, OneBore fitted a soft-eye rubber gate to the front of the entry window within the 2.4 m PCC ring prior to the sheet piles of the launch shaft being lifted to allow machine access to the ground. This enabled control of the ingress of both ground and ground water into the shaft from the outer annulus of the drilling corridor. Upon commencement of the Auger Boring processes, a small cut was made in the rubber gate which allowed the guided auger pilot tubes and casings to pass through, thereby maintaining the integrity of the ground on the outside of the shaft.

Further to this, during the progression of the 305 mm diameter reusable steel casing, the cutting head remain in a retracted state, its position being some 0.5 m back from the leading-edge casing. This created a 'plugged section' within the casing which allowed full control of the cutting face and the ingress of arisings during the boring process, thereby reducing the high risk of overmining in the difficult ground conditions.

Ultimately the project was successfully completed to the complete satisfaction of the client, using a technique which has not always been seen as suited to this type of ground condition. ■

DAVAO CITY MOVES TO FIXED NETWORK LEAKAGE MONITORING

Davao City

Installation of 320 Ovarro remote correlating loggers has taken place in Davao City in the Philippines, with a major leak detected just days later. The volume of water saved means a large-scale project to construct a new production well can be put on hold.

Davao is the largest city on the island of Mindanao and the third largest in the Philippines. With a rapidly increasing population, the city is considered one of the country's fastest economic growth areas.

The population's water supply is managed by Davao City Water District (DCWD), which has been challenged to reduce non-revenue water (NRW) losses by 1% per annum until it reaches a target of 20% NRW. Groundwater has historically been the city's main source of water, but increasing pressures deriving from population growth and urbanisation means there is a need to limit abstraction and make supplies more sustainable.

For utilities like DCWD, reducing demand for water by cutting NRW is a key part of long-term supply planning. The district has invested in advanced correlating noise loggers from Ovarro's Enigma range, including 260 of the Enigma3m model and 60 of the Enigma3HyQ model, as part of its drive to secure future water supplies. >

On site training with the detection systems

Significant savings

The loggers have been provided and are supported locally by Ovarro's partner in the Philippines, Eastasia Solutions Technologies Corporation. In the week after installation in mid-2022, the Enigma3m correlating loggers identified a point of interest in an area that had been scanned with ground microphones several times before, and where there was no surface evidence of any leak.

Putting the Enigma3m to the test, the DCWD team dug up the road and uncovered a leak with an estimated flow rate of over 1,000 m^3/day. Once repaired, the surrounding suburb experienced a 15 psi rise in water pressure.

Further investigation by DCWD showed there had been no significant drop in pressure since records of pressure had been kept. This led DCWD to believe the leak could have been flowing for at least 10 years, costing them more than 25 gigalitres, that is 25 billion litres, in lost water.

The savings for DCWD associated with repairing the leak are considerable. At more than 1,000 m3/day, the volume of water saved allows DCWD to push back plans for the new production well, along with significant financial outlay.

This may have included spending on licencing costs, construction of the well and any water treatment and storage facilities required, along with transmission pump and pipeline assets. Pausing the project means a significant reduction in cost and environmental impact for DCWD. >

The section of pipeline found and repaired using the leak location technology

Utilising the detection systems on site

Correlating noise loggers

Enigma correlating noise loggers gather sound samples for analysis by for analysis by the cloud-based analytics tool LoggerVision, which allows users to visualise and review the data collected. The Enigma3m and Enigma3HyQ are designed for remote deployment, and use an integrated battery and 4G modem to provide daily samples of pipeline noise for up to five years.

With 50 Enigmas in a district metered area (DMA), up to 1,225 correlations can be performed every day, analysing pipeline noise for evidence of leaks. A leak will generate vibrations in the pipe material that is collected by an Enigma3m via an accelerometer.

In the case of softer plastic materials, noise attenuates quickly, so an Enigma3HyQ, with its integrated hydrophone is preferred. Daily analysis excludes any ambient interference and pinpoints significant noise sources between loggers to provide the precise location of leaks in water distribution networks.

Change in approach

The engineer in charge of DCWD's active leakage control team told Ovarro he had seen a change in approach towards leak detection in his crew. He explained that his team had previously walked the streets of Davao City with ground microphones.

He said: "Now, with a precise point of interest and evidence from the Engima3m loggers, the team go to the location and do not return until they have an explanation for the noise, usually uncovering a new leak. It is changing the way they look at leak detection, with positive results."

Ovarro channel sales manager Craig Abbott said: "DCWD's installation of fixed correlating loggers is a first for the Philippines and we are very excited to be working with Eastasia Solutions and Davao City Water District on such an important project. The significance of their change in attitude cannot be understated. DCWD's team are transforming into a professional leak detection outfit that will benefit DCWD, their community and the local environment. They are setting a fine example for all Philippine water authorities to follow." ■

SOCIETY NEWS

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WELCOME FROM THE CHAIR

Ian Ramsay, Chair, UKSTT

Everyone knows about my previous comments concerning the UK Water companies and their lack of focus on investment resulting in sewer spills, pollution, environmental and wildlife negative effects. However super bonuses are being paid out to management and shareholders rather than reinvesting into upgrading the network. This whole situation was highlighted in a one hour long documentary, with comedy and a serious spin by Joe Lycett a few weeks back. Using his 'celebrity' status, I give him respect, as he is prepared to put his head into the lions mouth in order to highlight the fundamental environmental issues. The UKSTT and Leigh from Westrade are planning further discussions with Joe and also other high profile celebrities to look at additional approaches to keep the pressure on the powers that be. Watch this space.

Interestingly, recently I was in Berlin at the European No-Dig conference. It was a chance to network with other No-Dig societies within Europe with the aim of working closer together and learning from each other. The overall commonality across the board was the lack of education within the water companies, engineering groups, engineering students and 'powers that be' about the trenchless solutions available and the environmental benefits and overall cost effective solutions they bring to help save money and the planet. We all addressed these issues and agreed to start working together, sharing and communicating to try and be a bigger, better voice. Not a quick fix by any shot, but working as a bigger better team, we can move things along.

The university schemes in France, apprentice schemes in Ireland, Trenchless forums in Italy, UK and Germany are great strides forward that we are planning to learn from and build on. Giving owners, engineers and contractors a better understanding of the concepts, issues and solutions is essential. This of course costs money but as with learning new software packages, health and safety requirements are an essential overhead for the companies involved if they want to effectively support the pipe networks. This is the challenge we face to convince the various groups.

We have just held our CIPP masterclass which covered the rehabilitation of pressure pipes. This is an up and coming sector of the trenchless market and we are pleased that the event went very well with a strong line up of speakers and high attendance from all sectors of the industry. Our next event is the UKSTT Trenchless Conference taking place on the 11 June and this is followed by the Reading NODIG Roadshow, held in conjunction with Westrade Group and supported by Thames Water on the 26th June.

As always, I appreciate any comments or ideas and thank you for your continued support.

Ian Ramsay

UKSTT Chair

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UKSTT TECHNICAL & EDUCATION REPORT

Iain Naismith
Technical & Education
sub-committee Chair

Masterclass on CIPP for pressure sewers and a request for help with research on the 'three-hour rule'

International relations with other STTs

UKSTT had an interesting opportunity in March to share experience with other national trenchless societies at a forum at No-Dig Europe in Berlin, where there appeared to be good attendance from other STTs. The other major opportunity will be at Trenchless Middle East in November and the inauguration of the new Middle East Society for Trenchless Technology.

Standards, Research & Awards - Sub-Group 1 Chair: Richard Swan

We have had a request from UKSTT Council member Jo Parker for UKSTT members to contribute information to help with research she is running for Water UK about changing the 'three-hour rule' maximum time for disconnection of customers water supplies). Please see separate article in this issue, which affects water companies' ability to utilise all the repair/replacement options available to them. We are reviewing and planning the awards process for 2024 following the well-attended awards evening in November. Congratulations again to the finalists and winners. The 2024 Awards Dinner will be on 2 October at No Dig Live. Meanwhile, the UKSTT has been actively involved in Standards Groups and we continue to develop our collaboration with other societies (FWA, PIG, BPF & Water UK Standards Board) on standards and regulations for the water industry.

Events Sub-Group 2 – Sub-Group 2 Chair: Iain Naismith

Our next major event involving the T&E subcommittee is the Masterclass on CIPP for pressure pipe in March with a good and diverse line up of speakers across water, gas and wastewater (see separate article). Attention is now turning to the programme for the first UKSTT Annual Trenchless Conference, planned for 11 June in Coventry with an overarching theme around driving greater use of trenchless. >

SOCIETY NEWS

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Richard Swan

Tim Sargent

Venues for this year's two No-Dig Roadshows are being finalised with Westrade and the utilities who can support them. The first is planned for Southeast in Reading in June and the second towards the end of the year, probably in Leeds. No Dig Live in October (1 to 3) at its new venue Stoneleigh Park offers an exciting new opportunity to re-vamp UKSTT events during the show because the conference area will be within the exhibition hall next to the UKSTT stand, not in a building outside the hall, as it was in Peterborough.

Education, Client Organisations & Patrons- Sub-Group 3 – Chair: Tim Sargent

Our primary focus is switched to encouraging Patrons and Education establishments to be more actively engaged in the society. We are planning to further strengthen this through a series of one-to-one meetings and to encourage these organisations to spread the trenchless word with their employees and students. We have also been seeking their participation in our next round of Masterclasses and our newly planned annual conference in June. It will take time to gain momentum, but the signs are encouraging that they want to learn more about our UKSTT and what it can offer. ■

SOCIETY NEWS

UKSTT

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3-HOUR RULE

CAN YOU HELP with a Water UK project addressing the 3-hour rule for the maximum water supply interruption to customers?

We have had a request from UKSTT Council Member Jo Parker for some assistance in providing information for a project she is managing for Water UK, aimed at changing the 'three-hour rule'.

Currently water companies have to inform Ofwat of all interruptions in water supply for customers over 3 hours, whether planned or unplanned. These are reported publicly with no differentiation between planned and unplanned events. They count towards the water company's performance rating which can make a huge difference in the income they are allowed to raise in the following price review. This frequently means that it becomes uneconomic to use relining methods, which require curing time, rather than during short lengths of open cut.

As part of the work to achieve the targeted leakage reductions for 2030, a project to change the Ofwat requirements for planned renewals has been launched. It is hoped that this will open up opportunities not just for more trenchless work but also more renovation generally. But a robust case needs to be built to show that trenchless approaches are better for the customer and the environment. For Ofwat, this may well mean a focus on the environmental benefits.

It would be a huge help if any lining contractors who have either cost comparisons or carbon footprint comparisons between relining and open cut could let Jo have the information In addition, if you have any good photographs of work being carried out illustrating the reduction in traffic disruption, visual impact on the surroundings or any other benefits that would also be very useful. If contractors can assist in any way please email admin@ukstt.org.uk and we will put you in touch with Jo. ■

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A MESSAGE FROM THE CHAIR

Keh-Jian (Albert) Shou,
Chairman, ISTT

2024 No Dig European, Berlin

2024 China-Europe TT Conf, Jinan

Dear ISTT members

As you may know that we will have many national and regional No-Dig events in 2024. I believe they will be more active and prosperous than before, so please do not forget to check the event calendar on the ISTT website. As you may remember, in additional to International No Dig in Mexico City, I have attended No-Dig events in many countries, such as Australia, Brazil, China, Colombia, Italy, Japan, Malaysia, Poland, Turkey, etc. In 2024, I will try my best to join as many events as possible to encourage our affiliated societies.

In 2024, the past regional event in Europe, i.e., No-Dig Europe in Berlin during March 5-6, set up a good example to create more cooperation between the affiliated societies, for the opportunities in their region. In addition, the China-Europe TT Conf. in Jinan also successfully gathered more than 500 attendees and 35 exhibitors, showing the strong support of the central and local governments.

I strongly believe the regional No-Dig conferences will be the major trend in the next few years. Obviously, the demands and challenges in different regions also create good opportunities. Like the cooperation between Asian societies, the bi-lateral and multi-lateral cooperation also help in developing new technologies and good business.

For the ISTT educational webinars, we will soon have 2-3 new topics ready, please do not forget to check the notice in ISTT website. I would like to let you know that our Executive Director Peter Smeallie has resigned for retirement, and Trevor Gosatti has started his new ED appointment on 1 March. ISTT will try to provide more services to our affiliated societies. To enhance our service, we will soon create a plan of actions based on your feedback.

I wish you All The Best!

Keh-Jian (Albert) Shou

Chair, ISTT

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REMEMBERING MICHEL MERMET ISTT AND FSTT PAST CHAIRMAN

Sam Ariaratnam, ISTT Past Chairman presenting Michel Mermet with the 'Lifetime Service Award' at the 25th Anniversary ceremony of the association in 2015

Michel Mermet received the "French personality of the year" award

We gratefully remember the life and involvement of the Honorary President of the FSTT, Michel Mermet, who died 23 February, 2024, aged 84. This is a sad moment for all those who knew him.

A pioneer in the introduction trenchless techniques to France, inspired by the formation of ISTT, Michel Mermet, then Director of Water & Sanitation for the Val de Marne, created the FSTT on 4 July, 1990 with 4 other visionary engineers: Michel Audouin, Daniel Crosnier, Mathieu Le Chatelier and Christian Legaz, all convinced of the future of trenchless techniques in France. He served with great energy as FSTT Chairman until 2003.

He was largely responsible for the development of these techniques in France.

He single-handedly embodied the French Society for Trenchless Technology (FSTT) and Techniques Sans Tranchee (TST) and it was with justifiable pride that he was awarded the "Personality of the Year" trophy at the 2013 Trenchless Trophies ceremony. >

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Michel Audouin, Michel Mermet et Christian Legaz received from Patrice Dupont the FSTT 2015 Trophy as founding members of the FSTT at the 25th Anniversary ceremony of the association in 2015

Michel Mermet and Prince Philip at a ISTT Board meeting in London in November 1993

Michel Mermet applied himself with strength, character and determination to promoting FSTT not only in mainland France, but also overseas, with a particular focus on Reunion Island, where he worked to set up the FSTT/Indian Ocean delegation in a far from straightforward context. The seed was sown, with his good advice, confidence and unfailing enthusiasm.

He has also invested a great deal of time and energy on the international stage through his work with the ISTT, which he supported during its early years and chaired from 1993 to 1996. In 2015, the ISTT awarded him the prestigious “FSTT Lifetime Service Award” for his actions and commitment to TST. A driving force and leader within the FSTT, always very involved even after his handover, he would address members with words full of common sense and sincere encouragement when President Patrice Dupont handed him the microphone to conclude the association’s General Meetings he was attending each year until 2023.

The FSTT will pay tribute to him at its next general meeting, to be held on 3 April at 3:30 pm in the FNTP amphitheatre in Paris and during the next VST Ville Sans Tranchée event on the 29 May during the Gala Evening, and invites all its members and friends of ISTT to join in this homage with their presence and their expressions of sympathy. ■

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NEW EXECUTIVE DIRECTOR FOR THE ISTT

Trevor Gosatti

As I submit this article, my first as the Executive Director of the ISTT, I am very aware of the enormity of the requirements needed to take the trenchless technology industry forward on the international stage. The ISTT has a significant role to support the 28 (and growing!) Affiliated Societies that are its members and to assist those Societies to promote and educate the trenchless technology benefits to their countries and regions.

In the previous edition of Trenchless Works, the contribution of my predecessor Peter Smeallie was outlined and I also acknowledge the work done by Peter as I come into the role. I thank Peter or his service to the ISTT over the seven years since he commenced in 2017, and make special mention of his work to take the organisation through the difficulties of the COVID pandemic years.

My focus for the ISTT going forward is to produce a platform that allows the ISTT to:

- Generate new income streams so as to better provide services to its Affiliate Societies
- Promote trenchless technology education and training opportunities to areas not currently serviced
- Host and facilitate world class International No-Dig events each year
- Facilitate and support regional No-Dig events
- Better promote and advocate the benefits of trenchless technology throughout the world
- Assist its member Affiliate Societies to grow their membership

I have been fortunate to serve the ISTT as a Board member since 2017 and as Chair of the Outreach & Marketing subcommittee had a role in the appointment of the Westrade Group/Trenchless Works as the official media partner for the ISTT, exactly three years ago now. The Trenchless Works magazine has grown enormously over that time and both parties have benefited. Now as the Executive Director, I will look to expand that relationship even further to promote the trenchless technology industry internationally. ■

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Cevdet Yılmaz, Deputy President of Türkiye, 05 February 2024

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ISTT ANNOUNCE SUPPORT FOR TRENCHLESS MIDDLE EAST

What is already a fantastic year for trenchless events has been further bolstered by the news that the International Society for Trenchless Technology (ISTT) will be actively supporting and participating in the ever-popular Trenchless Middle East event, which takes place this November in Dubai.

The exhibition space at the stunning Jumeirah Beach Hotel has already sold out and the popularity of the event presents the perfect platform for ISTT to hold their Annual Meeting and associated social calendar. Trenchless Middle East's diverse international audience will also support ISTT in its commitment to advancing the use of trenchless technologies and promoting the education, training and research that is so vital to its increased uptake around the world.

Commenting on the news, Westrade's Managing Director, Paul Harwood, said: "We are thrilled that ISTT have committed their support for Trenchless Middle East, and we look forward to welcoming them and their associated societies to Dubai later this year. Trenchless Middle East is only trenchless technology event in what is one of the sector's highest growth markets, and this, coupled with its location, means that it attracts an unbelievably broad range of visitors from the United Arab Emirates, GCC countries, Middle East, Africa, and South Asia (MEASA) regions."

ISTT's Executive Director Trevor Gosatti, Executive Director also commented saying: "ISTT's participation in Trenchless Middle East underlines our commitment to growing the use of these low impact, environmentally sustainable and cost-effective technologies. The event's location and international audience provides a fantastic opportunity to maximise the visibility of trenchless technologies and to help inform the public about their associated commercial and environmental benefits."

Trenchless Middle East organised by Westrade and supported by ISTT takes place 5-6 November 2024 at the Jumeirah Beach Hotel, Dubai.

For more information visit www.trenchlessmiddleeast.com ■

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- TME is the longest running trenchless event in the UAE, GCC and MEASA regions
- TME is the only event dedicated conference and exhibition focusing on Trenchless Technology
- The only event to be officially supported by ISTT
- Meet planners, contractors and operators, central & local government officers and civil engineers
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DCA – FSTT COLLABORATION

Patrice Dupont Chairman FSTT and Atef Khemiri Vice-President DCA

Olivier Mecheri Vice president FSTT Patrice Dupont, Atef Khemiri and Jean-Marie Joussin International Director FSTT

At a time of political turmoil in Europe, marked by war on our eastern borders and extreme right-wing parties coming to power in several countries, the trenchless industry is going the opposite direction; acting for more integration in order to foster the energy transition and allow for a better life for the future generations.

In this context, the Drilling Contractors Association (DCA-Europe) - the European association that promotes quality within the Horizontal Directional Drilling (HDD) Industry, and the French Society for Trenchless Technology (FSTT) - the scientific and technical association that promotes the trenchless techniques in France, articulated a vision in which the technical standards and best practices are aligned across Europe.

This vision resulted in the signing of the DCA-FSTT Collaboration Agreement on 28 November, 2023 during the FSTT Technical Days in Marseille, which will allow the edition of a joint technical guideline applicable in France.

With this agreement, a foundation is laid for further cooperation between the two associations and joint activities in the coming months and years, for the benefit of the HDD market.

This first of a kind collaboration between the DCA and a national association for trenchless technologies is a model than can be duplicated. The DCA will be aiming for doing so in the years to come.

NASTT UPCOMING EVENTS

April 14-18, 2024
NASTT 2024 No-Dig Show
Providence, Rhode Island, USA

April 14, 2024
NASTT's Intro to New Installation Methods Good Practices Course
Providence, Rhode Island, USA

April 14, 2024
NASTT's Intro to Rehabilitation Good Practices Course Providence, Rhode Island, USA

April 14, 2024
NASTT's Municipal Sewer Grouting Good Practices Course Providence, Rhode Island, USA

April 17-18, 2024
NASTT's CIPP Good Practices Course
Providence, Rhode Island, USA

April 17-18, 2024
NASTT's HDD Good Practices Course
Providence, Rhode Island, USA

April 17-18, 2024
NASTT's 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

May 30, 2024
Municipal Sewer Grouting
Virtual

June 26, 2024
New Installation Methods
Virtual

September 25, 2024
HDD
Virtual

October 21-23, 2024
No-Dig North 2024
Niagara Falls, Ontario, Canada

November 13, 2024
CIPP
Virtual

December 12, 2024
Gas
Virtual

March 30 – April 3, 2025
NASTT 2025 No-Dig Show
Denver, Colorado, USA

March 29 - April 2, 2026
NASTT 2026 No-Dig Show
Palm Springs, California, USA

For more information and the latest course offerings, visit nastt.org/training/events.

APRIL 14-18 | PROVIDENCE, RI

NO-DIG SHOW 2024

GREEN ABOVE. GREEN BELOW.

Register Now

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

Educational & Networking Opportunities Await

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

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

Visit **nodigshow.com** to learn more

NETWORKING EVENTS | EXHIBIT HALL | TECHNICAL SESSIONS

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

2024

TRENCHLESS ASIA

TRENCHLESS ASIA 2024

16-17 July

World Trade Center Metro Manila, Philippines

The thirteenth event in this outstanding series travels to Manila.

TRENCHLESS ASIA is the major annual international gathering for trenchless technologists to meet and discuss the latest industry developments featuring:

- Trenchless Technology
- Underground Infrastructure
- Pipeline Technologies
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- Knowledge Transfer
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istt.com

AFFILIATED SOCIETIES

ISTT Affiliated Societies around the world

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Brazilian Association for Trenchless Technology (ABRATT)
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Email: hrosas@abratt.org.br
Web: www.abratt.org.br

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Bulgarian Association for Trenchless Technology (BATT)
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Web: www.chkstt.org

China Society of Geology – Trenchless Technology Committee (CSTT)
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Baiwanzhuang Street, Xicheng District,
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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: zoradcrc@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
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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

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Email: contact@fstt.org
Web: www.fstt.org

German Society for Trenchless Technology (GSTT)
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Email: beyer@gstt.de
Web: www.gstt.de

Italian Association of Trenchless Technology (IATT)
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ISTT International Society for Trenchless Technology
istt.com

AFFILIATED SOCIETIES

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Web: www.trenchlessromaniaclub.ro

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Besiktas 34349 Istanbul, Turkey
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Web: www.akated.com

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Email: trenchless.as@novatec.ua
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United Kingdom Society for Trenchless Technology (UKSTT)
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Phone: +44 (0)192 651 3773
Email: admin@ukstt.org.uk
Web: www.ukstt.org.uk

EVENTS AND MEETINGS

2024

April 24-26 ITTC 2024:
Changsha International Convention and Exhibition Center, China
www.cstt.org.cn/

April 14-18 NASTT 2024 No-Dig Show:
Providence, Ri
www.nastt.org/no-dig-show/

April 14-18 No-Dig Show 2024
Rhode Island Convention Center
One Sabin Street , Province, RI, Main, 02903
United States
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

June 5-6 Trencless Romania 2024:
Venue: Caro Club Hotel, Bucharest, Romania
www.trenchless-romania.com

June 26 No-Dig Roadshow Reading 2024:
Hilton Reading, Drake Way, Reading RG2 0GQ
www.nodigroadshows.co.ukcom

July 16-17 Trenchless Asia 2024:
World Trade Center Metro Manila, Philippines
www.trenchlessasia.com

September 17–18 CzSTT Conference and Exhibition on Trenchless Technology
Hotel Palcát, 9.května 2471, Tábor, South Bohemia, 390 02-Tábor, Czech Republic
Email: slovecky@atlas.cz
www.czstt.cz

October 1-3 No-Dig Live 2024:
Featuring the UKSTT Gala Dinner & Awards Ceremony
NAEC Stoneleigh Park, Warwickshire
www.nodiglive.co.uk

October 23-24 No-Dig Turkiye 2024:
Featuring 8th Water Loss Forum
WOW Istanbul Hotel and Convention Center
www.nodigturkey.com

5-6 November: Trenchless Middle East 2024 Featuring the ISTT International No-Dig Conference
Jumeirah Beach Hotel, Dubai
www.trenchlessmiddleeast.com

2025

No-Dig Turkey 2025
No-Dig Turkey Conference and Exhibition
Yesilkoy M. Ataturk C. No: 15-17-19 Bakirkoy, Istanbul,

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