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# Editor's Welcome

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Welcome to the September issue of Trenchless Works. I am sure many of you reading this are either in the final stages of preparing for, or currently attending, No-Dig Live at the fabulous NAEC Stoneleigh. Whether you are exhibiting or visiting, I hope you have a productive and enjoyable time, and we look forward to seeing many of you in what is bound to be a sunny Warwickshire.

As always, there is loads of great original content in this month's edition, including a thought-provoking piece from the team at Yorkshire Water discussing why Ofwat's ambitious 'Designer Liner' project is so important for an effective and efficient 21st-century network.

It was also great to have the opportunity to catch up with Vermeer UK at their head office in Wellingborough to discuss recent developments in the business and their plans for continued growth. Also, keep an eye out for the feature on Team

UAV's confined space drone work with the Environment Agency, as well as the results of an independent study by the Fraunhofer UMSICHT to identify the most sustainable lining solution.

Finally, just a reminder that Trenchless Middle East, which is taking place at the world-famous Jumeirah Beach Hotel, Dubai, UAE, on the 5 and 6 of November, will cap off a packed year of world-class trenchless events. Drawing visitors from the United Arab Emirates, GCC countries, the Middle East, Africa, and South Asia (MEASA) regions, and where you can discover solutions to the Dh80 billion being invested in Dubai's sewerage system.

Please keep your news and opinions coming, and hopefully see you in Warwickshire or Dubai!

Austen

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To submit editorial for Trenchless Works next issue please email copy and images to: [editorial@trenchless-works.com](mailto:editorial@trenchless-works.com) by the 12<sup>th</sup> of the month. Submissions arriving after this date cannot be guaranteed inclusion in that month's issue. For Trenchless Works sponsorship and advertising rates please email: [tdorrell@westrade.co.uk](mailto:tdorrell@westrade.co.uk)

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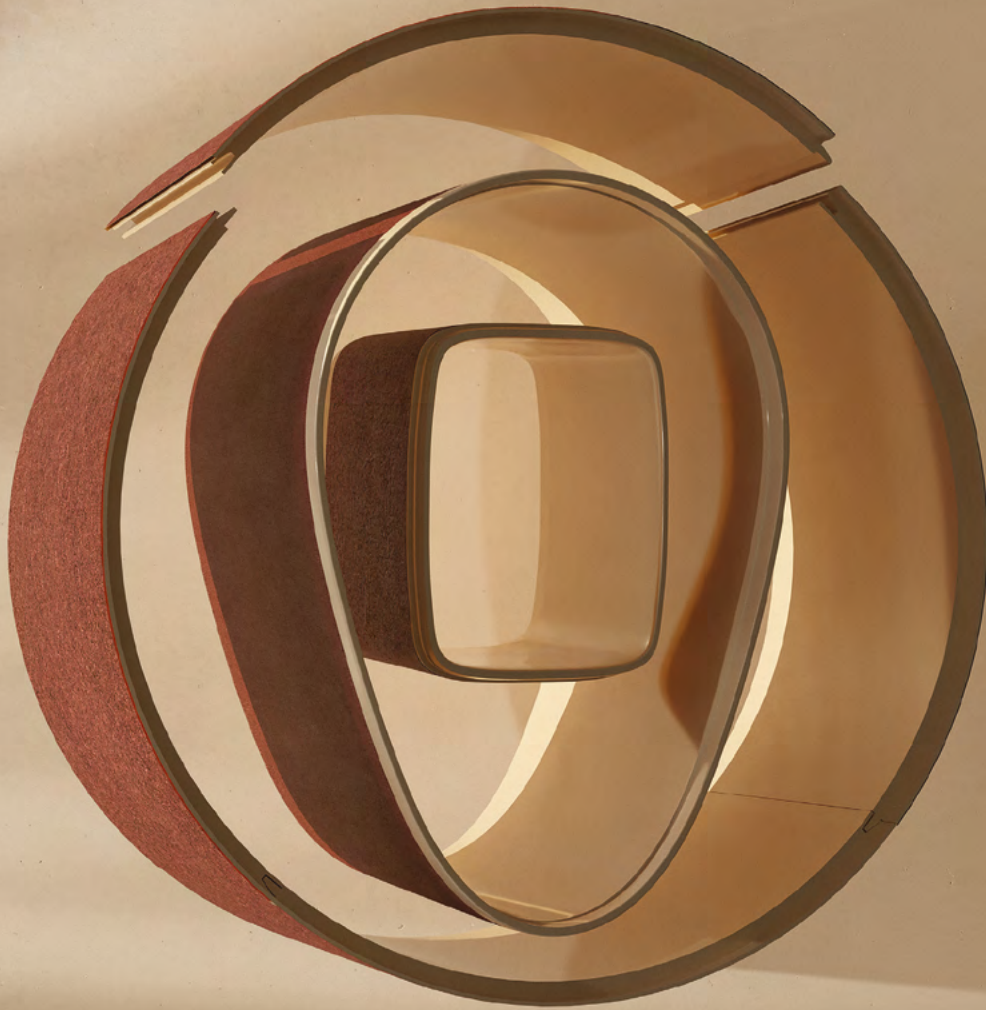
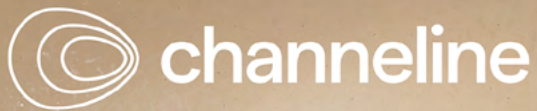
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# UKWIR's innovative research programme transforms sewerage management



Stormwater running into drainage systems from highways risks urban pollution

**S**ewage pollution in surface waters in the UK and Ireland is one of the most high-profile environmental issues in the country. Water industry research organisation UKWIR is leading a raft of innovative sewerage projects designed to transform the way water companies manage this issue in the coming five-year Asset Management Plan period for England and Wales - AMP8, which starts on 1 April 2025.

"UKWIR's research programme aims to create a future where sewerage management is not just an essential service, but a key contributor towards a sustainable and healthy environment," said Jenni Hughes, UKWIR strategic programme manager.

"Previously, UKWIR research has focused on getting a deeper understanding of the networks, because we need to understand what's happening in the existing network before we can make meaningful, long-term improvements.

"Now our focus shifts to the future, with societal needs, environmental protection and resilient infrastructure at the centre. The latest wave of research offers water companies the tools and knowledge they need to navigate the ongoing challenges of sewage management into the next asset management period and beyond."

## Protecting rivers and seas

The impact of sewage and stormwater discharge, agricultural runoff, and urban pollution on river ecosystems in the UK and Ireland is a key area of research for UKWIR.

Dr Nick Mills is UKWIR's programme lead on the organisation's Big Question 6: How do we achieve sustainable and resilient sewerage and drainage by 2050? He is also director of environment & innovation at Southern Water. Mills says, "To optimise the benefits for both people and nature, we need a data-driven river strategy that comprehensively analyses threats to river health. This approach should hold all sectors accountable, while simultaneously empowering them to identify solutions for building and maintaining healthy rivers. >

“ Previously, UKWIR research has focused on getting a deeper understanding of the networks, because we need to understand what's happening in the existing network before we can make meaningful, long-term improvements.



Internal view of rainwater channelled away from the road

“There is a lot of focus on storm overflows in the media and from the general public. They are a legacy asset that the sector is attempting to phase out through a combination of nature-based and sustainable drainage systems, and data-driven engineering approaches.

“More widely, reducing storm overflows requires urgent, collaborative action from water companies, councils, property owners and the public,” added Mills.

### Beating blockages

Sewer blockages are a major concern in the UK, with an estimated 200,000 occurring annually, and FOG – fats, oils

and grease - cited as the cause in around 75% of cases. A build-up of FOG hinders the smooth operation of sewer systems and wastewater treatment works (WWTWs), shortens the lifespan of critical assets and increases maintenance costs.

This burden ultimately falls on water companies, which may be forced to raise prices for customers. Additionally, FOG blockages can cause sewer overflows, creating a public health hazard and impacting the environment.

UKWIR projects aiming to tackle this include:

- Understanding the scale and impact of privately owned drains and sewers on sewer capacity

- FOG charging – should food service wastewater charges reflect FOG content?
- Modelling sewer inlet capacity restrictions
- Treatment options for storm overflows

UKWIR has announced the direction of travel for research projects from now to 2050. The refreshed strategy aims to bring together global trends in water management with impactful research to address UK-specific industry challenges identified through the UKWIR Big Questions and extensive stakeholder engagement.

For more information visit: [ukwir.org/ukwir-announce-new-research-strategy](https://ukwir.org/ukwir-announce-new-research-strategy)





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**Date:** 1-3 October 2024

**Venue:** NAEC Stoneleigh  
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Warwickshire, CV8 2LZ

**Stand:** H48



## RELINE & IMPREG CONFIRM:

UV-cured GRP lining is most sustainable technology to maintain sewage networks.



According to a study by the Fraunhofer UMSICHT, trenchless sewer rehabilitation with UV-cured GRP liners releases fewer carbon emissions than any other repair method of sewer pipe rehabilitation.

[www.relineurope.com](http://www.relineurope.com)  
[www.impreg.de](http://www.impreg.de)

# Morrison Water Services leverage expertise

Morrison Water Services, part of M Group Services' Water Division, is proud to announce the extension of its long-standing partnership with Southern Water through the award of both the Asset Management Plan 8 (AMP 8) Capital Programme Strategic Delivery Partner (SDP) Framework for infrastructure projects, and the Low Complexity Delivery Route Lot 2 Framework.

These significant framework wins represent a substantial body of work designed to support Southern Water's Water for Life ambitions and reinforce a relationship that has spanned over two decades.

Morrison Water Services' solutions will play a key part in Southern Water's response to the combined impacts of population growth, climate change and the need to protect the environment through enhancements to the wastewater network and long-term reliability of water supplies.

Under these frameworks, Morrison Water Services will leverage its extensive expertise across the programme lifecycle to deliver comprehensive, innovative solutions across Southern Water's strategic AMP8 programmes.

“ We are thrilled to be named Southern Water's Capital Infrastructure Strategic Delivery Partner. This award not only extends our valued relationship with Southern Water, but also allows us to bring our engineering expertise to the forefront in support of their AMP8 business plan.



## Scope of work

The scope of work includes strategic planning, detailed design, and the construction and delivery of critical water and wastewater infrastructure. Key projects will involve the enhancement of Combined Storm Overflows (CSO), improvements to the wider wastewater network, the installation of new strategic trunk mains, and the rehabilitation of large water mains. The execution of these projects will provide significant levels of enhancement to Southern Water's wastewater and water networks, supporting its ambitions to provide increased levels of asset and service resilience for customers, and enhanced protection of the local environment.

In addition to infrastructure improvements, the contracts will create increased levels of social value through local employment opportunities,

particularly for local technicians, engineers and apprentices. Morrison Water Services is committed to utilising local supply chain partners, investing in local people and further supporting the communities within Southern Water's operational areas.

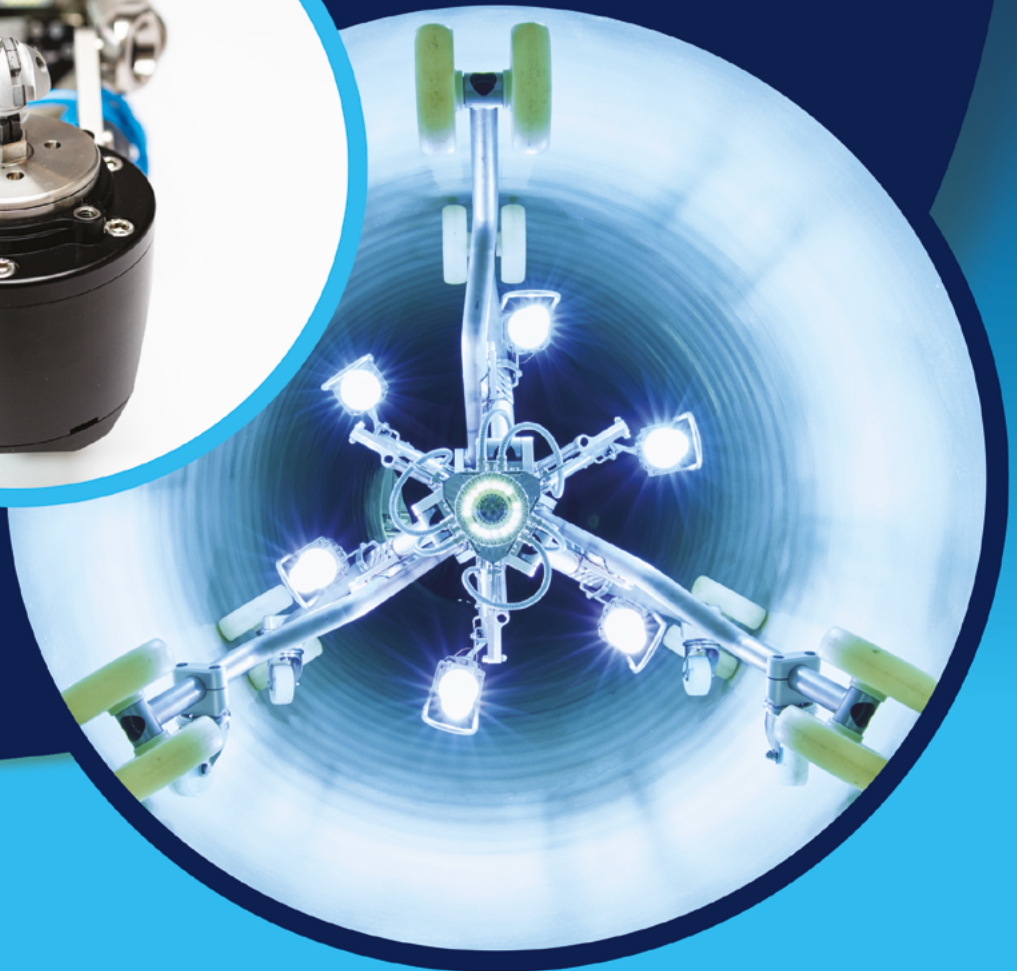
Iain Sutherland, Managing Director of M Group Services' Water Division, commented: "We are thrilled to be named Southern Water's Capital Infrastructure Strategic Delivery Partner. This award not only extends our valued relationship with Southern Water, but also allows us to bring our engineering expertise to the forefront in support of their AMP8 business plan. We look forward to collaborating closely with Southern Water on strategic planning, design, and construction, and to contributing to the successful delivery of these critical infrastructure projects."

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from **1 - 3 October** in Kenilworth, Warwickshire



# Clancy secures appointment to help deliver Southern Water's AMP8 investment

Clancy has been appointed to Lot 1 & Lot 2 of Southern Water's Low Complexity Delivery Route (LCDR) Capital Infrastructure Framework to support the large-scale investment in sustainable infrastructure improvements planned through the upcoming AMP8 regulatory period.

The contract will see Clancy continue its longstanding relationship with the water company and its suppliers to create a new collaborative framework that will deliver low complexity infrastructure design and build route schemes for Southern Water's water and wastewater networks. The expected projects over both frameworks will consist of new water mains, sewer rising and gravity mains, infiltration reduction schemes, rehabilitation projects, growth and pump away schemes plus waste developer services and infrastructure projects.

The family-run infrastructure specialist will provide its expertise to identify, design and implement low carbon or no build solutions, where possible, to promote both cost effectiveness and greener solutions, while reducing disruption and ensuring uninterrupted services for Southern Water's customers. Clancy will also focus on factoring easy, cost-effective maintenance into the design of the capital investment projects through this

framework to deliver greater efficiency in the long term.

Reflecting Southern Water's prioritisation of sustainable practices, Clancy is working to increase the proportion of its onsite energy generated by solar panels, as well as its use of hydrogenated vegetable oil (HVO) to power its plant, vehicles and equipment by contract start.

Extended across Southern Water's geographical portfolio, including the Isle of Wight, the framework will run for five years at a value of £400m across the two lots with the possibility of a three-year, extension. This is part of the water company's largest investment period to date, as it improves its network resilience. Ronan Clancy, executive director at Clancy, commented: "The water sector is feeling pressure from all sides. Increasingly unpredictable weather and growing populations are placing rising demands on the network. At the same time there is a requirement to keep customer bills low as we strengthen our ageing infrastructure. As a result,

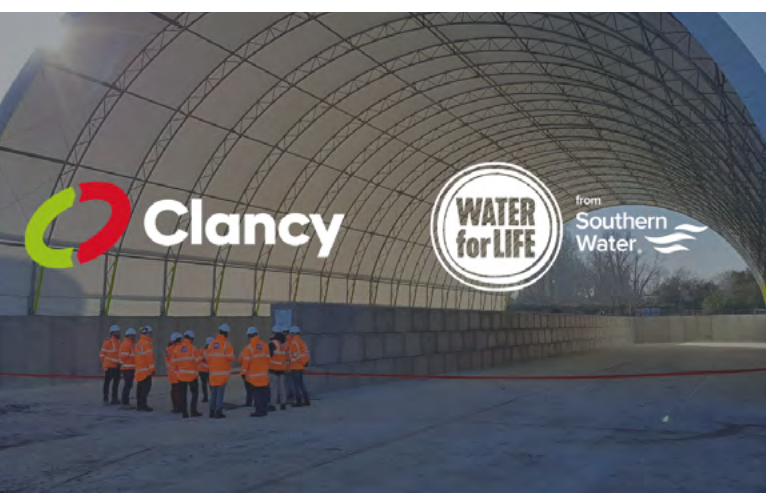


Ronan Clancy

it's essential that we find cost-effective and efficient solutions to upgrading assets and improving performance.

"The new regulatory period presents an excellent opportunity for the industry to invest vital resources into expanding and reinforcing the integrity of the country's pipelines. Clancy's wealth of experience in delivering capital investment programmes, as well as in the maintenance of water and wastewater networks, means we are well-placed to support Southern Water in ensuring the network is resilient and efficient to maintain for the future."

Denver Knight, operations director at Clancy, said: "As we look ahead to AMP8, our long-standing expertise in the sector, our direct delivery model and our culture of approaching challenges innovatively will enable us to deliver better quality and more efficient outcomes for Southern Water and its customers. We're looking forward to continuing our well-established relationship in the years to come."



“ The new regulatory period presents an excellent opportunity for the industry to invest vital resources into expanding and reinforcing the integrity of the country's pipelines.

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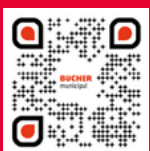
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# JBP at Trenchless Middle East 2024

## A key player in the region's Trenchless Technologies

JBP is excited to announce its participation in the Trenchless Middle East 2024 event, scheduled for 5-6 November in Dubai. JBP, as Westrade's Associate Partner at this prestigious event, continues to solidify its position as a leading provider of trenchless technology solutions in the Middle East, reinforcing its commitment to driving innovation and growth in this sector.

### JBP's expanding presence in the Middle East

JBP, with a long-standing presence in the region, positions itself as a major player in the field of trenchless technologies. JBP, as the market leading solution supplier for the trenchless industry, offers a wide range of materials, specialised machinery, and expert-led training adapted to the needs of the Middle East.

### Visit JBP at Booth B63

JBP's booth, B63, will feature a dynamic collaboration with renowned business partners and manufacturers such as BKP Berolina, SWP-Systems, and UHRIG, showcasing a wide range of trenchless solutions. Visitors will have the opportunity to explore a wide range of products designed to meet the evolving needs of the region.

The following key products will be on display:

- Patch Repair Systems using packers for targeted pipe repairs.
- The Quick-Lock System, known for its durability and ease of installation.
- CIPP UV-Cured Liners, offering efficient and long-lasting pipe rehabilitation.
- A selection of PICOTE products, including high-performance cutting and cleaning tools.

These products reflect JBP's commitment to providing reliable, cost-effective, and

JBP at Trenchless Middle East 2021



environmentally sustainable solutions for the maintenance and rehabilitation of underground pipelines and infrastructure.

### Applied trenchless technologies workshops programme

In addition to showcasing products, JBP will also play a pivotal role in the educational aspects of the event. For the first time at Trenchless Middle East, JBP will deliver a two-day Applied Trenchless Technologies Workshops Programme, with specialised training sessions aimed at giving professionals hands-on insights to techniques, methods, and technologies used in trenchless applications. Industry-leading experts, each bringing years of direct experience and practical insights into the challenges and advancements in the field, will lead the workshops. Attendees

will gain invaluable knowledge about modern trenchless methods, making these sessions an excellent opportunity for skill enhancement and professional development.

More details about the Applied Trenchless Technologies Workshops Programme, the speakers and topics will be shared on JBP's LinkedIn and on the official Trenchless Middle East 2024 website. We look forward to welcoming all our fellow trenchless colleagues at Trenchless Middle East in Dubai.





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# IN THE LINE LIGHT

Our quarterly newsletter keeping you in the line light **NO DIG LIVE 2024 EDITION**

## WELCOME TO RSM LINING SUPPLIES' SHOWCASE AT NO-DIG LIVE!

We are thrilled to be part of the No-Dig Live Exhibition once again!

This year, you can find us at **Stand H16**, where we have an exciting array of products to share with you.



Here's a sneak-peak at what we will be showcasing:

- UV LED Cure Equipment
- RSM Gecko Cam Camera system
- Lateral Cutting Equipment
- Impregnation Equipment
- Hot & Steam Cure Systems
- Picote Equipment
- Inversion Equipment
- Certified & Accredited Resins and Lining Systems
- VeriCure Cure Monitoring System



## JOIN RSM FOR OUR FIRST EVER NO-DIG STAND PARTY!

RSM are making history at No-Dig Live by hosting our inaugural Stand Party on **Tuesday, 1st October, starting at 5pm**. Expect a vibrant evening filled with...

- A live DJ
- Free bar
- Unparalleled networking opportunities



Phil Steele, RSM's Sales Director, said:

*"We are incredibly excited to be hosting our first-ever Stand Party at No-Dig Live! This event offers a fantastic opportunity to connect with our clients and partners, showcase our innovative products, and celebrate the advancements in our industry. Most importantly, it allows us to express our heartfelt thanks to our customers for their loyal support over the years!"*



Please note this is a registration only event, make sure to scan the QR code so you don't miss out!





## THANK YOU PETER!

RSM recently said goodbye to Peter Ringland, one of our longest-standing employees, as he embarks on his well-deserved retirement.

Peter's career in the Sewer Rehabilitation Industry spans over 30 years, and his decade of service as Technical Engineer at RSM has been invaluable. He has been instrumental in developing our highly successful

CIPP Lining & Patching Training Course and has provided expert on-site support to hundreds of our customers. To continue supporting the business's growth, RSM has introduced multiple new members of technical staff to ensure we maintain the operational excellence our customers are accustomed to.

RSM would like to publicly thank Peter for his dedication, hard work, and loyalty, and wish him all the best in his retirement – he will be greatly missed by colleagues and customers alike!



## CELEBRATING RSM'S 2024 ACHIEVEMENTS

As we approach the final quarter of the year, RSM are incredibly proud of our accomplishments throughout 2024 so far.

Here are some highlights:

- **Production & Dispatch:** Over 35,000 RSM Pipe Aid Kits manufactured and delivered.
- **Training:** Over 100 engineers have completed their EU Skills-accredited, WRc approved, CIPP Lining & Patching Training Course.
- **Impregnation:** More than 3.5km of Fero Force Pressure Pipe Liner and 5 km of inversion liner impregnated with polyester resin.
- **Distribution:** Over 10km of UV liner distributed.

In addition to these milestones, we have also seen impressive sales of our equipment range since January, including:

- 40 Picote Cleaners & Millers
- 30 inversion Drums
- 10 KrasoTech Sluices
- 5 Sewertronics UV LED Systems
- 20 Gecko Cam Systems
- 5 Dancutter Superflex Systems
- 1,700 Patch Repair Packers
- 25 Impregnation Systems



**RSM are incredibly eager to see what the rest of 2024 holds and are looking forward to an exciting 2025. We would like to thank our loyal customers for their continued support and hope everyone enjoys the exhibition!**

# RSP UK drives innovation forward at No-Dig Live



The new ESE 6, RSP's next generation suction excavator, will be paired with a Brokk 520d, to demonstrate how these two technologies can be combined to deliver exceptional results in even the most demanding of conditions across all industries.

The new ESE 6 is the further development of our most popular suction excavator. It retains all the great features of the current model, with many additional benefits, not least the improved suction performance. With the new ESE 6, there is an option for a newly developed RSP swivel joint which allows for

greater precision and efficiency when excavating. Another feature of this model is an extension nozzle that can now remain on the articulated hose carrier, so no disassembling is required. The new container contour, inspired by the flagship ESE 8 design, enables unloading over higher drop-side bodies. >



Joining the global RSP group in 2022, Amphitec is a renowned Dutch company specialising in the design and manufacture of high-quality vacuum equipment. RSP UK is now the official distributor for Amphitec products in the UK and the equipment can be widely used across various industries, including construction, environmental remediation, and utilities.

RSP UK now offers a range of powerful Amphitec vacuum excavators that can efficiently remove wet and dry materials without causing damage to underground utilities. In addition,

some of the models include a blowing function, used for blowing materials over long distances, making them suitable for tasks like spreading mulch, sand, or gravel. Following a successful first-ever live demo of the Amphitec Vortex blowing function at Hillhead in June, visitors to No-Dig Live will be able to see the versatility of this impressive machine first-hand.

Visitors will also have the opportunity to see one of the latest additions to RSP UK's premium product range: the BROCK VS7 road sweeper. With its exceptional suction

performance, motorways and construction sites are the territory of the VS7. It has a modular system, with customisable options including but not limited to a high-pressure water system, additional brooms, leaf suction, double brushes, rotor cleaner, side suction and a rear grit suction unit.

RSP's expert team will be on hand to show visitors around, with live demos running continuously throughout the three days, and a warm welcome guaranteed – so make sure to visit Stand G30 in the outdoor area.



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# COIL SAFETY RANGE

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## 180 Pipe Coil Trailer

For the safe transport, storage and dispensing of coiled PE from 40mm to 180mm. Accommodates a 100 metre coil of 180mm SDR 11/17 PE. Now available with new mesh guarding to ensure operator safety while facilitating easy access. Suitable for all utilities including district heating.



## Coil Control

Designed specifically for the 180 Pipe Coil Trailer, Coil Control is a pipe installation device that removes the stored energy from the pipe, mitigating health and safety risks for site operatives and the public.



## Long Reach Band Cutter

Available as an optional accessory, the Long Reach Band Cutter keeps operatives at a safe distance from the trailer when cutting bands. Simple to operate with a telescopic handle and easy pull-down lever operation.



Stand G20



# Steve Vick International presents advanced solutions at No-Dig Live 2024

Steve Vick International, a trusted name in trenchless technology, is pleased to be exhibiting at No-Dig Live 2024. As a family-owned business with depots across the UK, Steve Vick International has had a regular presence at this event for many years. This year, they are excited to be showcasing their latest products and services at the event's new venue, where visitors can find them on the outside grass area at stand G20.

At No-Dig Live, attendees can explore a wide range of Steve Vick International's Pipe Handling, Cutting, and Cracking equipment, all available for purchase or hire. A centrepiece of their display is the 180 Pipe Coil Trailer. This robust, double-axle trailer is designed to handle PE pipe coils with diameters ranging from 40mm to 180mm. Its central drum ensures smooth dispensing, while the addition of new mesh guarding ensures operator safety while facilitating easy access.

Visitors to the stand can also experience live demonstrations of Steve Vick International's

most popular equipment. Among these are the PE Pipe Cutter, Rapid Rotary Cutter, and the Perpetual Pipe Pusher. These live demos provide a hands-on understanding of how these tools can make pipe handling and installation more efficient and safer.

In addition to their well-known products, Steve Vick International is offering a sneak peek at their latest innovations including the Coil Control. Specifically designed for the 180 Pipe Coil Trailer, this device is engineered with safety as a priority. It significantly reduces the risks associated with handling and dispensing coiled pipe by removing stored energy from the pipe, thereby safeguarding site operatives and the public. The Coil Control uses an innovative roller system with two pairs of conical rollers at the rear of the trailer to neutralise the stored energy, making the pipe easier and safer to manage.

Another new product on display is the Long Reach Band Cutter, an optional accessory to accompany the Steve Vick



International trailers that allows operatives to cut bands from a safe distance. With its telescopic handle and simple pull-down lever operation, this tool makes band cutting both safe and straightforward.

Steve Vick International's Contract Services, including FBOS and ESEAL, will also be demonstrated, showcasing the breadth of their expertise and service capabilities.

Be sure to visit stand G20 to meet the Steve Vick International team and discover how their innovative trenchless solutions can support your upcoming projects.



# Clay pipes – the infrastructure of the future

Steinzeug-Keramo is making a bold move to expand its presence in the UK and Ireland's rapidly growing trenchless technology market, in collaboration with TS Pipe Supplies, a UK-based subsidiary of the Trenchless Group.

**M**inimally invasive and sustainable Steinzeug-Keramo is one of the leading European suppliers for wastewater infrastructure.

Steinzeug-Keramo, a leading subsidiary of Wienerberger AG, globally renowned as the largest producer of vitrified clay products, is making a bold move to expand its presence in the UK and Ireland's rapidly growing trenchless technology market. The company is now introducing its cutting-edge KERA.DRIVE vitrified clay jacking pipes, available in diameters of DN150, DN225, and DN300, with larger sizes offered on a project-specific basis. This expansion is in collaboration with TS Pipe Supplies,

a UK-based subsidiary of the Trenchless Group, ensuring seamless distribution and customer service.

Wienerberger AG, headquartered in Vienna, is a global giant in sustainable building materials and infrastructure solutions, boasting over 200 manufacturing facilities across 28 countries. With a workforce of 19,078 employees in 2022, the company continues to lead the way in delivering innovative solutions to the construction and infrastructure sectors. The introduction of KERA.DRIVE pipes to the UK and Ireland marks a significant step forward for the trenchless technology industry.

This sector is increasingly focused on minimising disruption to urban landscapes and existing infrastructure during construction, making vitrified clay pipes an ideal solution. Renowned for their exceptional durability, sustainability, and resistance to chemical and biological corrosion, these pipes are perfectly suited for underground applications.

To further streamline supply, TS Pipe Supplies will maintain stock of KERA.DRIVE pipes at their Barnsley depot, ensuring that a five-day lead time is consistently met. Customers will benefit from TS Pipe Supplies' excellent customer service, now bolstered by the





support of the world's largest vitrified clay pipe manufacturer.

KERA.DRIVE vitrified clay jacking pipes offer outstanding hydraulic performance, unmatched strength, and a long service life. Their advanced vitrification process ensures superior resistance to wear and challenging conditions, making them particularly well-suited to trenchless installation methods. These methods, which reduce surface disruption, are becoming the go-to solution in densely populated urban areas.

Through its partnership with TS Pipe Supplies, Steinzeug-Keramo is ensuring that the distribution of KERA.DRIVE pipes meets the high standards of efficiency and reliability demanded by customers.

This collaboration positions both companies to meet the evolving needs of the trenchless market, where flexibility and adaptability to various project specifications are paramount.

This strategic move underscores Wienerberger AG's dedication to expanding its product portfolio and providing innovative, sustainable solutions. As urban development continues to accelerate across the UK and Ireland, the demand for durable, environmentally friendly piping solutions that minimise installation disruption will also rise. KERA.DRIVE pipes are poised to play a pivotal role in this space, offering an ideal blend of quality and sustainability.

Steinzeug-Keramo's expansion into the UK and Ireland is a clear signal of its commitment to delivering industry-leading products and solutions that meet the highest standards. With a reputation for quality and innovation, the company is well positioned to support the growing demand for sustainable infrastructure in the region.

For more information about KERA.DRIVE vitrified clay jacking pipes or project-specific solutions, please contact TS Pipe Supplies, the exclusive distributor for the UK and Ireland, or visit us on stand 110 at No-Dig Live exhibition from 1-3 October.

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The GullyFlex C80 offers flexible chassis options, including the popular Mercedes-Benz low-entry cab. The GullyFlex C80 also boasts a more powerful pump configuration, providing a jetting capacity of 125L/min at 160 bar. This higher-pressure capability means the GullyFlex C80 can cut through debris more effectively and efficiently. The fully automated rear door opening and closing system enhances safety and ease of use.

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# Positioned for growth

## Service excellence is key to Vermeer UK's continued success

Trenchless Works' editor, Austen Lees, visited Vermeer UK headquarters in Wellingborough and caught up with the company's Utility & Pipeline Specialist, Jason Barnes.

Since the UK franchise was taken back in-house in February 2023, Vermeer UK has been working to ensure it is perfectly positioned to deliver the next phase of its ambitious growth plans for the underground utilities sector.

For a business that generally prefers to operate through a network of international dealerships, the decision by Vermeer to buy back its UK franchise was perhaps slightly out of character. A year and a half on, however, it appears to be a strategic masterstroke,

with the company showing an increase of over 40% in its annual turnover.

Jason explains that the parent company has been unwavering in its support for the UK business and its customers, eliminating any issues with stock availability. He also points out that any profits made in the UK are now being reinvested into the business, helping to drive it forward and ensuring it is well-positioned for what is set to be an extremely busy time for the UK utilities market.

### A period of high growth

While political unrest and a tough macroeconomic climate continue to present challenges for the underground utilities sector, Jason explains that the company's international capability and coverage help mitigate many of the risks associated with potential product or material shortages.

The UK business has seen growth across a range of sectors, with particular note over the past 12 months being the UK fibre industry, where

“ From its distribution centre in the Netherlands, Vermeer can provide an incredible range of parts and consumables to its UK customers within 24 hours.



RTX1250 Utility Tractor

there has been a surge in demand for utility tractors, ploughs, rock wheels, and small directional drills. The growth in fibre stems from COVID-19 and the shift to remote working, which highlighted that the existing fibre network was not adequately equipped to provide UK-wide connections at the required speeds. This situation has led to several government initiatives, including a target for gigabit broadband to be available to 85% of the UK by 2025 and nationwide by 2030. Similarly, Scotland's R100 programme is committed to providing superfast

broadband to 100% of the country's population. Jason expects that while there may be some tapering in demand from the fibre industry, it will remain strong until 2030, with ongoing demand for support as the sector shifts its focus to network maintenance.

Demand also remains strong from other underground utility sectors as the UK continues to replace old gas and water mains as part of infrastructure upgrades. Modern gas and water mains, typically made from materials like polyethylene (PE) for gas distribution and

PVC or HDPE for water supply, are replacing materials such as cast iron and asbestos cement since they are far less prone to corrosion and leaks.

The water industry, in particular, is rapidly gearing up for Asset Management Period 8 (AMP8), which runs from 2025 to 2030. The Water Services Regulation Authority (Ofwat) expects the sector to spend around £88 billion during this period, which is a record and nearly double the amount spent in the previous period. The delivery of several sustainable energy projects, >



PTX40 Utility Plow/Trencher

including both onshore and offshore wind, has also led to increased demand for infrastructure installation equipment, as generators work to run cables from wind farms to storage centres. In addition to horizontal directional drilling (HDD), Vermeer is seeing increased usage of Direct Pipe equipment. Similar to a small tunnel boring machine (TBM), direct pipe installation combines horizontal directional drilling and microtunnelling techniques to allow for pipeline installation in one run.

In addition to the significant increase in sales of HDD rigs and maxi drills, Jason highlights the growing demand for HDD fluid reclaimers, with the first three Vermeer machines entering the UK market. Reclaimers are designed to collect, filter, and reuse the drilling fluid (often a mixture of water and additives) used during the drilling process. This significantly reduces water consumption and minimises waste disposal costs and environmental impacts.

### An evolving market

Interestingly, Jason points to early signs that utility providers are considering moving away from contractors and starting to self-deliver some elements of their infrastructure. In fact, one of the UK's most highly regarded providers is already actively discussing bringing its HDD work in-house. There are certainly some obvious benefits to no longer being beholden to contractors, not least in enabling providers to have better control—operating to their own programme and standards. The volume of work associated with AMP8, among other projects, means that machines would now be fully utilised, and the operator will benefit from any residual value. Having brought more labour and management back in-house over the past few years, this could naturally progress for more UK water companies moving forward.

### Commitment to service

While recognising that the quality of the company's machines is vital for delivering sustainable efficiency and

residual value for its customers, Jason emphasises that it is Vermeer's unwavering commitment to service that truly differentiates it from its competitors. From its distribution centre in the Netherlands, Vermeer can provide an incredible range of parts and consumables to its UK customers within 24 hours. If a product is not available in Europe for any reason, it can be sourced and shipped from the company's global parts centre in the US.

Vermeer's customers and UK team also benefit from access to a team of product specialists that cover the entire EMEA region, delivering advice and support across the full product range, from drills to tractors. Across the country, Vermeer can generally have an engineer on-site for customers within 2.5 hours of an issue being reported.

With this level of support, it is no surprise that companies such as Wessex Internet, one of the UK's biggest internet providers, now operate over 10 pieces of Vermeer equipment as both companies grow hand in hand.

## Considered growth

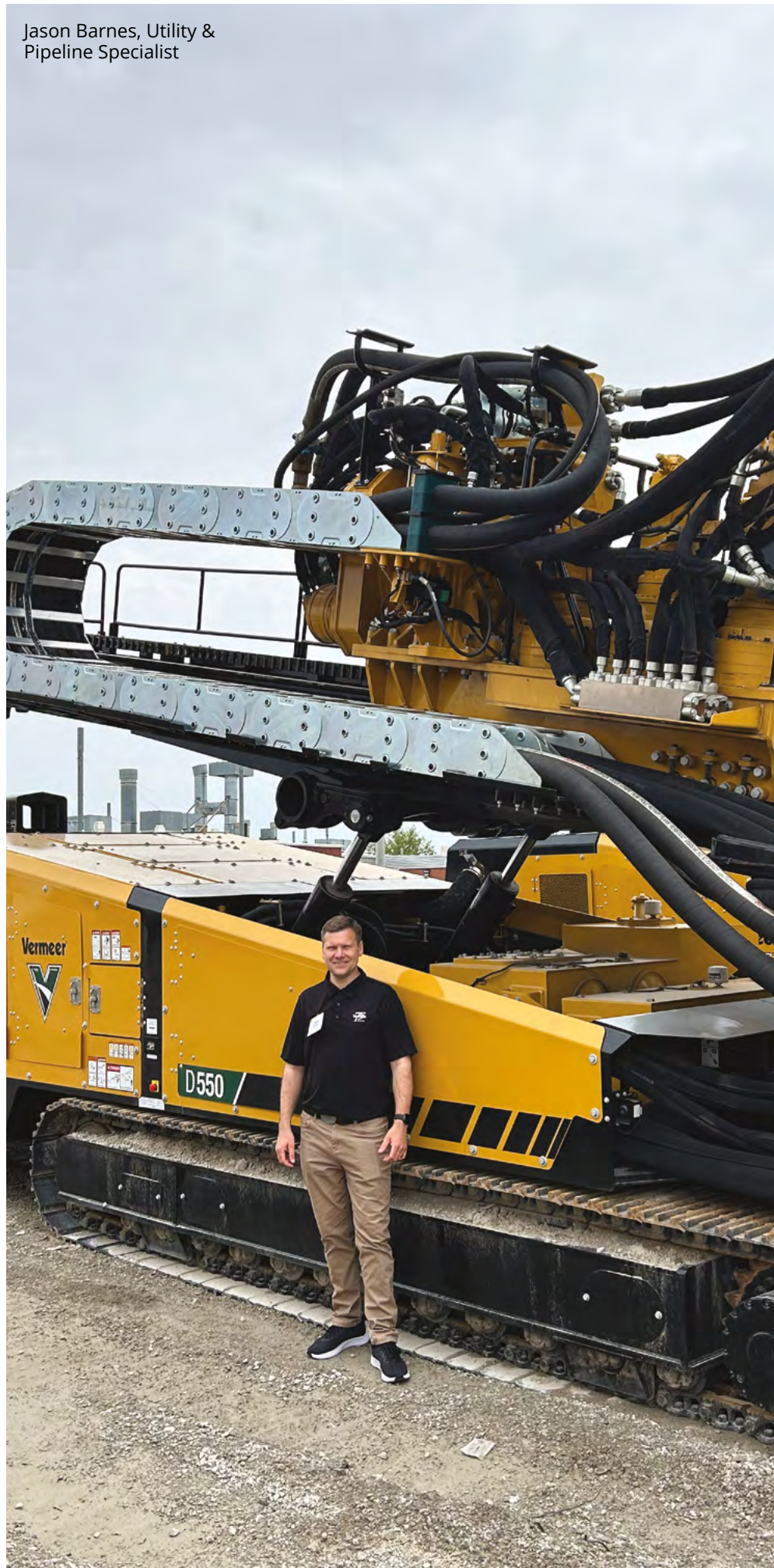
Jason is clear that while a highly dynamic UK utilities market will undoubtedly fuel Vermeer's continued growth, the company is fully committed to ensuring that this growth does not come at the expense of service levels. The company stands on the cusp of rapid expansion, but this will be planned and resourced to maintain these exacting standards.

## Growing trenchless technologies

When asked what can be done to accelerate the adoption of trenchless technologies, Jason acknowledges that while legislative, financial, and social drivers will be important, there is also a need to focus on attracting the right skills and talent into the sector. The reality is that as experienced professionals retire, they are not being replaced by younger individuals who can learn from them while also bringing new skills to the table. Jason feels there is a clear need to focus on communication and education to highlight the wide variety of exciting career opportunities that the sector has to offer. Utility provision is still often taken for granted by most people, and while there is an increasing drive to operate more sustainably and reduce carbon footprints, many people's first reaction remains to dig a hole in the road to install a pipe.

Having spent time with the Vermeer UK team, the company is poised for a period of sustained growth in the UK underground utilities sector. The combination of quality products, excellent service, and highly skilled personnel makes it hard to doubt their ability to leverage this exciting and significant opportunity.

Jason Barnes, Utility & Pipeline Specialist



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# Shenzhen- Jiangmen railway project completes 3,590-meter excavation mission



On Monday 19 August 2024, a significant milestone was achieved by the Shenzhen-Jiangmen Railway project. The subsea high-speed rail tunnel, with a depth below sea level of 106 metres, completed its 3,590-meter excavation mission of the Pearl River Estuary Tunnel. This milestone was accomplished by the Shenjiang 1, a 13.42m super large diameter slurry TBM, developed by China Railway Construction Heavy Industry Corporation Limited.

The tunnel, situated on a crucial 13.69-km segment of the Shenzhen-Jiangmen Railway in Guangdong province, utilised

a combination of mining, and shield tunnelling techniques to navigate complex geological conditions. The shield machine, featuring a cutting diameter of 13.42 metre, traversed 3.59 kilometres from Dongguan to Guangzhou's Nansha district, overcoming 13 different geological strata's and 5 complex formations.

Engineers faced unprecedented challenges, including extreme water and soil pressures at the tunnel's lowest point 106 meters beneath the estuary. The Shenjiang 1, with its capability to withstand pressures up to 10.6 bar, showcased advanced

technologies like high-precision circulation systems and automated pressure sealing.

This remarkable achievement, driven by the dedicated team of China Railway's 14th Bureau Group, will enhance regional connectivity. Once operational, the Shenzhen-Jiangmen Railway will span 116 km, operating at speeds of up to 250 kilometres per hour. It will link the cities of Shenzhen, Guangzhou, Dongguan, Zhongshan, and Jiangmen, facilitating travel between key economic zones and fostering development in the Guangdong-Hong Kong-Macao Greater Bay Area.

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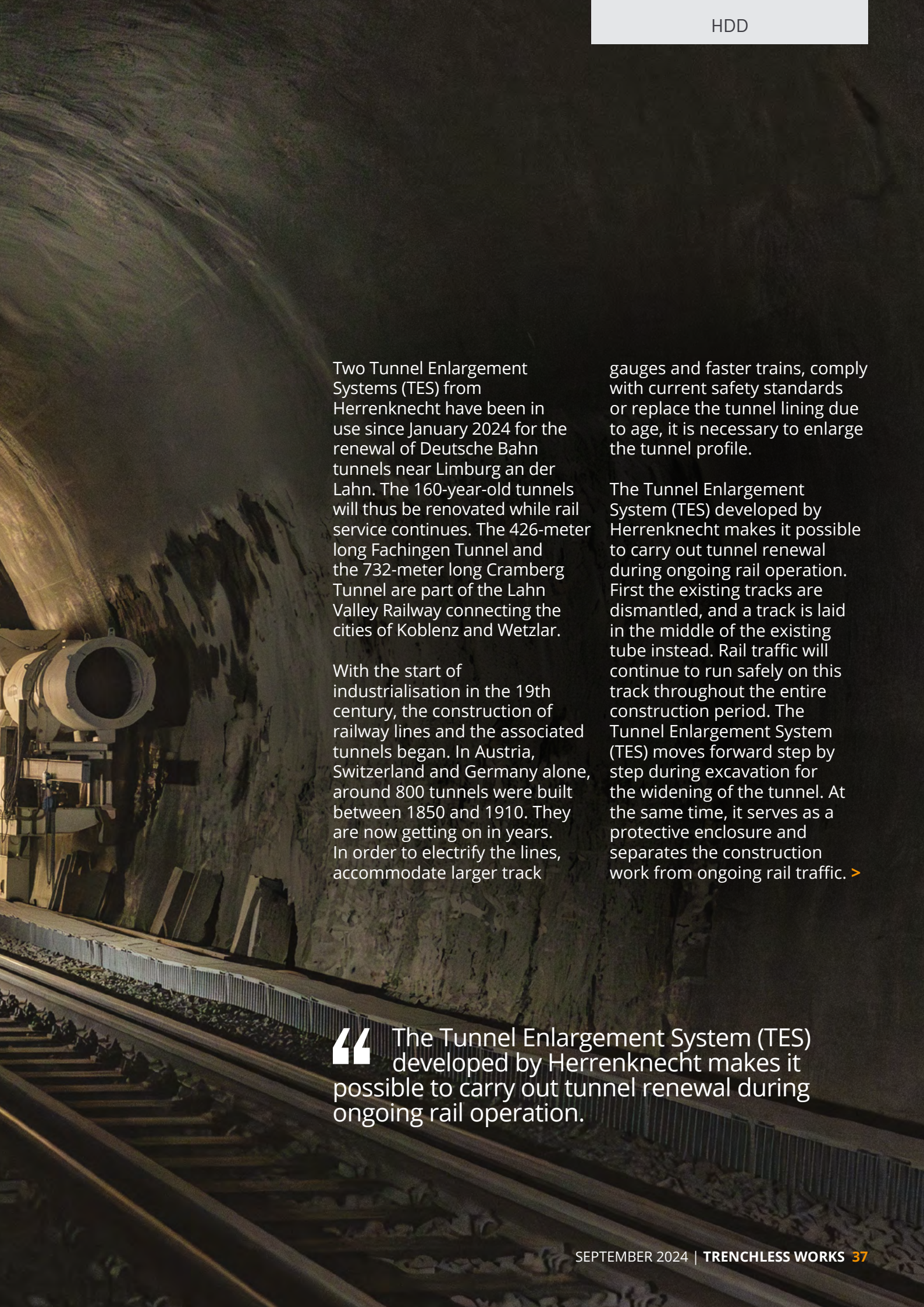


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# Turning old into new



In the second half of the 19th and early 20th centuries, hundreds of railway tunnels were built in Europe. They are largely still in operation today. In the coming decades, a considerable number of tunnels are due for substantial renewal. With the Tunnel Enlargement System (TES), Herrenknecht has developed a solution for enlarging the tunnel profile of old railway tunnels while rail traffic continues to run.



Two Tunnel Enlargement Systems (TES) from Herrenknecht have been in use since January 2024 for the renewal of Deutsche Bahn tunnels near Limburg an der Lahn. The 160-year-old tunnels will thus be renovated while rail service continues. The 426-meter long Fachingen Tunnel and the 732-meter long Cramberg Tunnel are part of the Lahn Valley Railway connecting the cities of Koblenz and Wetzlar.

With the start of industrialisation in the 19th century, the construction of railway lines and the associated tunnels began. In Austria, Switzerland and Germany alone, around 800 tunnels were built between 1850 and 1910. They are now getting on in years. In order to electrify the lines, accommodate larger track

gauges and faster trains, comply with current safety standards or replace the tunnel lining due to age, it is necessary to enlarge the tunnel profile.

The Tunnel Enlargement System (TES) developed by Herrenknecht makes it possible to carry out tunnel renewal during ongoing rail operation. First the existing tracks are dismantled, and a track is laid in the middle of the existing tube instead. Rail traffic will continue to run safely on this track throughout the entire construction period. The Tunnel Enlargement System (TES) moves forward step by step during excavation for the widening of the tunnel. At the same time, it serves as a protective enclosure and separates the construction work from ongoing rail traffic. >

“ The Tunnel Enlargement System (TES) developed by Herrenknecht makes it possible to carry out tunnel renewal during ongoing rail operation.



Train passing through the Tunnel Enlargement System on the Lahn Valley Railway, shortly before the start of excavation work on the Cramberg Tunnel

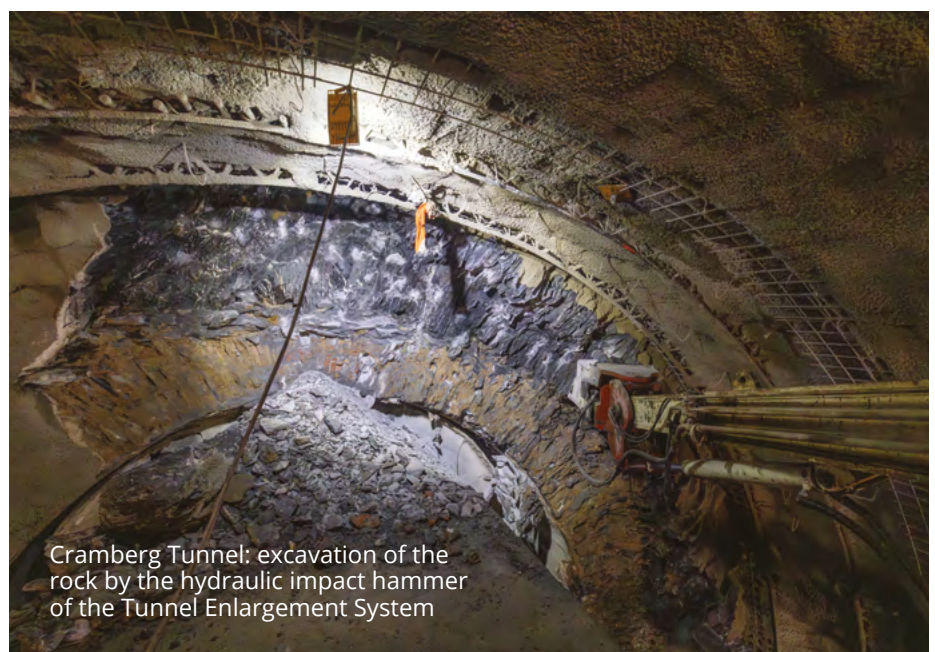
For the two double-track tunnels of the Lahn Valley Railway, the radius of the tunnel cross section will be enlarged by a good two meters, thus achieving dimensions corresponding to current new tunnels.

The approximately 46 meter long, 270 tonne TESs with a diameter of around 12 meter for the Fachingen and Cramberg tunnels run on foundations and rails specially laid in the tunnel. The TESs are equipped for conventional excavation and support work. Depending on the hardness of the rock, excavation is done by chiselling or blasting. First, the old tunnel walls, usually masonry, are broken out. This is followed by excavation of the rock by chiselling or blasting and removal of the material. The excavated material falls to the side of the machine into the tunnel invert and is removed by separate conveyor and loading equipment. After each drilling and blasting round, a shotcrete manipulator applies the temporary shotcrete support. The rock is also stabilised with anchors. Reinforcement mesh and steel arches together with the shotcrete and anchors form the initial support. Once tunnelling with the TES has been completed, the final lining of the tunnel using in-situ concrete is then carried out in a second construction phase.

The TES consists of three parts. The front part of the machine is used for preexcavation protection. It prevents the existing tunnel from collapsing in the area ahead of the respective excavation work or rock falling onto the tracks. The middle section is the carrier for the equipment required for tunnelling: telescopic drill rigs on both sides, hydraulic impact hammer on a central boom with a large radius of action, shotcrete system on a ring guide. The machine has large, retractable working platforms that allow the workers to safely reach the tunnel face and the intrados. The equipment for operating the TES is located in the rear part of the machine. This includes a

hydraulic station to supply the hydraulically driven equipment, a compressor for the supply of compressed air, the electrical system, and material storage.

The design of the TES used on the Lahn Valley Railway incorporated the consortium's experience from previous projects and that of Herrenknecht from the use of a first TES in Spain. Renovation of the 558-meter long Gaintxurizketa Tunnel between Astigarraga and Irun in the foothills of the Basque Pyrenees was completed in March 2024. The renovated tunnel will improve the connection between the Spanish and French rail networks as part of the EU's future Atlantic corridor.



Cramberg Tunnel: excavation of the rock by the hydraulic impact hammer of the Tunnel Enlargement System

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# DCA – setting the standards in HDD

The Drilling Contractors Association (DCA) is a technical association for the horizontal directional drilling industry in Europe. Horizontal Directional Drilling (HDD) has established itself worldwide as a technical and economic alternative for the laying of pipelines, particularly where open cut options would be environmentally damaging, where obstacles would create significant difficulties for the pipelaying contractor and where timely and cost-effective installation is required.

For almost 30 years, the DCA has successfully represented the interests of HDD technology in the areas of technical development, quality assurance, training and further education. Looking at what DCA offers to the industry, we undertook an interview with the organisation's UK Representative and DCA Board Member, Scott Stone (SS).

## When was DCA established?

SS: In December 1994, the then leading companies in the HDD Industry came together and thought it would be a

beneficial to have a Society representing them. They also thought it would be a good idea to have various stakeholders in the industry join, so the DCA has always been open for contractors, clients and suppliers of equipment and other materials suppliers and industry engineers. Most of the companies that were present from the start are still members!

## How many members across how many countries does it have?

SS: Currently DCA has a total of 180 members from 15 different

countries. I was the first country representative (representing the UK) and we now also have representatives from France, Spain, Italy and Denmark.

## Advantages of being a member of the DCA?

The advantages of being part of such an organisation shows you commitment to what the DCA represents and gives clients the confidence that you are working to DCA technical guidelines. Of which the 5th Edition will be available before the end of the year. We are also finding that





clients are now requesting in their project documentation that DCA guidelines need to be followed when executing projects. Furthermore, there is an annual Members forum where topics within the HDD industry are discussed as well as the Annual Congress which is a two-day event at

various European venues all of which are excellent networking opportunities.

#### **How can I get more information on the DCA?**

Additional information can be obtained directly from the DCA website <https://dca-europe.org/>

“ For almost 30 years, the DCA has successfully represented the interests of HDD technology in the areas of technical development, quality assurance, training and further education.



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# Designer Liner project seeks ambitious partner to turn innovation into reality

By Dr Katrina Flavell, Technical Specialist, Clean Water Networks, Yorkshire Water, with contributions from Dr Joe Sanders, Senior Technical Director, RPS, a Tetra Tech company, and Dr Leo Carswell, Head of Technology, WRc Group.



NCC Braider - photo courtesy of NCC

Designer Liner is an Ofwat Innovation Fund project led by Yorkshire Water, with the ambitious goal of designing a potable lining solution fit for a 21st century network. The Innovation Fund was set up by Ofwat, with contributions from each of the licensed water companies being pooled to fund a programme of work. The aim of the fund is to grow the water sector's capacity to innovate, enabling it to better meet the evolving needs of customers, society and the environment. Over its two phases, Designer Liner has secured £3.45 million from this fund.

Stalwarts of the lining and rehabilitation world will undoubtedly say 'This has been done before,' and 'We already have solutions to address this

need'. But the strong support from both Ofwat and water company partners – Affinity Water, Dŵr Cymru Welsh Water, Scottish Water, and Thames Water Utilities – suggests that there is a need for a new way of thinking, and a truly disruptive approach.

The ultimate outcome of Designer Liner is to deliver a structural or semi-structural lining solution that is ready to be taken to market with an aspirational lifespan of 100 years. Other performance characteristics are also being carefully considered, including cost, installation time, connections and future repairs. In addition, we are evaluating the feasibility of additional benefits, including healable materials and low-friction surfaces.

Designer Liner is being delivered as a collaboration between water company partners and the National Composites Centre, The Bristol Composites Institute (part of the University of Bristol), the Water Research Centre (WRc) and RPS, A Tetra Tech Company. Dr Joe Sanders from RPS explains what makes the project distinctive:

"This collaboration has brought together both new entrants to the water sector and experienced firms. This provides a unique blend of innovative thinking, underpinned by solid knowledge and experience of the challenges faced by water companies maintaining ageing networks. This approach is truly disruptive. Ofwat has given water companies the freedom to conduct this research: a single entity would have neither the bandwidth nor funding to be able to do this.

"We want this innovation to drive wide-scale transformational change that benefits customers, the market and the environment. The UK has unsustainably low potable network replacement and rehabilitation rates (even with the Ofwat Draft Determination increases), and we need solutions that help us maintain our ageing network cost-effectively. Designer Liner has the potential to do this." >



Designer Liner cross-section - photo courtesy of NCC

This project is not about re-inventing the wheel. Having conducted an extensive global review of existing technologies, we were unable to identify any solutions that met both the requirements confirmed by water company partners and would be suitable for adoption within the constraints of the UK market. However, several solutions came close. The project team will be seeking to engage with the suppliers of these solutions over the next six to twelve-months to see if they would be keen to work with the Designer Liner project to adapt and develop their technologies. Dr Leo Carswell, Head of Technology, WRc talks more about the potential for collaboration with existing suppliers:

“Our findings are based on the opinion of the water industry,

and we know this because we have consulted them. It is important that our research to-date, should be viewed as an opportunity and not a threat.

“However, a lot of the heavy lifting has already been done and we need an industry partner, or partners, with the vision to see the size of the prize and work with us during this current phase of the project to get the final stage of research and materials testing over the line.”

Joe Sanders continues: “We will be looking for commercial partners who want to take advantage of £3.45million worth of world-leading research. We hope that UK funders and regulators see and embrace the potential new technology can bring not just for the UK water industry, but world-wide.”

This collaborative approach is beneficial for three reasons:

1. It allows the very best suppliers and expertise in the lining sector to be part of the new solution
2. It facilitates the rapid turnaround of a ‘Designer Liner’ to market
3. It delivers good value for customers, by not designing from scratch

We have listened to the lining community, and acutely recognise that securing approval for any new lining in contact with potable water under Regulation 31 of the Water Supply (Water Quality) Regulations is both time-consuming and expensive. The project team is focused on ensuring any solution will meet the standards outlined and deliver the highest quality water for customers. But this is also an opportunity to think big and push the boundary of what is possible.

As the project gears up to work with commercial partners, we will be continuing to engage across the lining sector. We will be presenting in December at the National Leakage Conference in Birmingham, and are planning a dissemination event in early 2025, with details due to be published via LinkedIn. Watch this space!



Dr Joe Sanders



Dr Katrina Flavell



Dr Leo Carswell



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# UV-curable GRP liners shown to be most sustainable option

RelineEurope GmbH & IMPREG GmbH draw on independent scientific data to provide proof of sustainability in all areas on behalf of the entire industry.

Independent study shows trenchless sewer rehabilitation using GRP-UV liners to perform best among commonly used methods.

Trenchless sewer rehabilitation with UV-curable GRP liners has the lowest CO<sub>2</sub> emissions of all repair methods for sewer pipes. This is the result of a study by the Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT.

The organisation for applied research has compared three common methods used to rehabilitate sewer systems in Germany. These were the use of concrete pipes in open trench construction, trenchless rehabilitation with temperature-curing synthetic fibre pipe liners, and UV light-curing pipe liners made of glass fibre reinforced plastic (GRP). The project was commissioned by RelineEurope

GmbH and IMPREG GmbH, both leading manufacturers of UV GRP liners.

## Life-cycle assessment reveals significant differences

The study centred on a life-cycle assessment (LCA) that the Oberhausen-based Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT conducted in

DN 400, DN 800, and DN 1200 and the researchers drew the following conclusions. Assuming a sewer length of 50 metres, temperature-cured synthetic fibre pipe relining releases between 43% and 64% more carbon dioxide than a UV GRP relining, while the carbon footprint of concrete pipe installation is between 132% and 339% larger than the UV light-cured GRP pipe liner method. Curing synthetic-fibre pipe liners using heat or steam is particularly resource-intensive. In turn, the colossal carbon footprint of concrete pipes is due to a combination of the carbon-intensive production process, high transport costs, and the need for open trench excavation, which requires the use of heavy machinery for the earthworks and final asphaltting. All these negative factors do not come into play as part of UV GRP relining-based rehabilitations.

### **IMPREG and RELINE see themselves confirmed**

“The message to local authorities, planning offices, and renovation companies is clear,” says Karsten Mueller, CEO of the IMPREG Group. “UV light-cured GRP lining is still the most environmentally friendly and cost-efficient method of bringing damaged sewers back into full working order for 50 years or more. This has now also been confirmed by independent scientific research. UV GRP technology makes a significant contribution to protecting our water cycle and guarding it against harmful influences, which is particularly important in view of climate change. If the industry in Europe were to switch as one from temperature curing to UV curing, the savings would be equivalent to the total annual emissions of Slovakia, and a switch from concrete pipes to UV-cured

“ That two market competitors are working together to have the sustainability of UV technology validated on behalf of the entire industry is a powerful signal.

GRP liners would actually see a reduction equivalent to Spain’s annual emissions.”

The results of the scientific analysis have also confirmed the views of RELINE’s Managing Director, Marc Stiebing. “That two market competitors are working together to have the sustainability of UV technology validated on behalf of the entire industry is a powerful signal,” he adds. “The German sewer network is in a critical state. Exfiltration and infiltration are damaging the environment and placing a massive strain on sewage treatment plants. Around 6,000km of pipes – or around one percent of the entire network – have to be repaired across Germany every year. The sector will only be able to overcome this challenge by working together. The findings of Fraunhofer’s study will further enhance the competitiveness of UV-cured GRP liners on the market. Thanks to its outstanding carbon footprint, UV GRP relining provides a future-oriented solution for sustainable water management, and therefore makes an active contribution to protecting the environment and conserving our resources.”

accordance with ISO 14040. This internationally standardised procedure analyses products and their impact on the environment and examines factors such as carbon footprint along the entire value chain – from raw material procurement through to production, product application, and ultimately disposal.

The study analysed sewer pipes in three common diameters:

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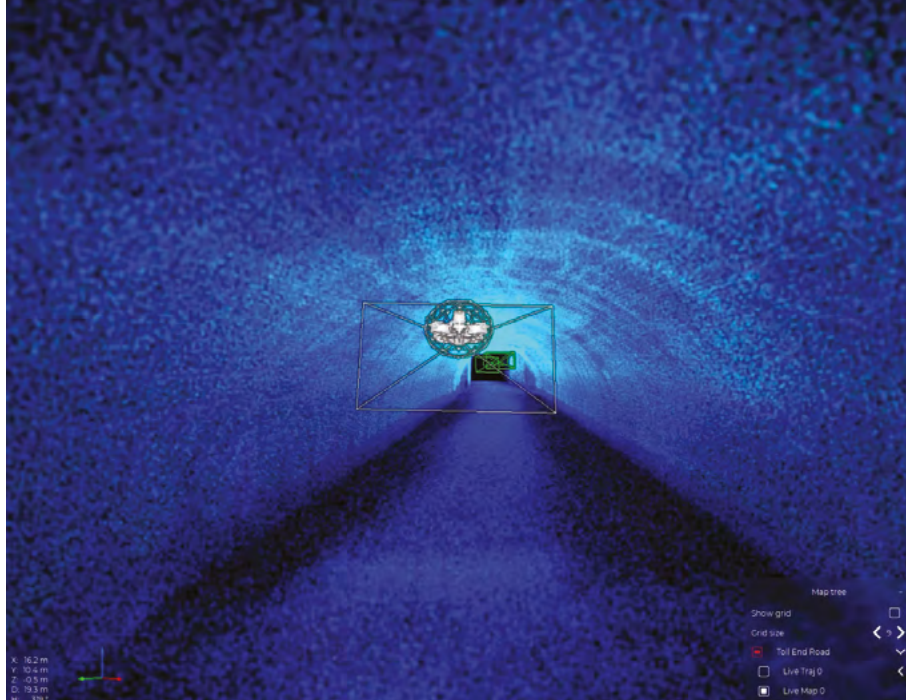
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# Team UAV supports Environment Agency with confined space drone culvert surveys



**Concealed by years of urban development, culverts are often lost and their condition can deteriorate quickly. Finding records and interpreting them from old maps can also often be challenging.**

These types of structures also pose significant challenges for maintenance and safety assessments and traditional methods of inspection can be time-consuming, expensive, and sometimes hazardous, often requiring manual entry into confined and potentially unsafe spaces.

The innovative approach adopted by Team UAV, demonstrates the capabilities of modern drone technology in overcoming these traditional inspection hurdles. It also highlights how the use of drones enables rapid data collection and the ability to access hard-to-reach areas, providing unprecedented insights into the health and integrity of critical infrastructure.

## The challenge

The core challenge involved accurately determining the culverts' locations beneath built-up areas and conducting thorough inspections without compromising safety. This

required a non-invasive yet highly detailed and precise surveying method, capable of navigating the challenging environments of confined space water culverts.

Given the critical role these culverts play in urban drainage systems and their impact on public safety and infrastructure integrity, the urgency for a non-disruptive, accurate, and safe inspection method cannot be overstated. The approach must not only safeguard the safety of the personnel involved but also ensure the continued functionality and reliability of these essential urban infrastructure components.

## The solution

To meet these challenges, Team UAV used a specialised confined space drone equipped with a LiDAR sensor, a 4K camera, and ultra-bright LED lighting surrounded by a collision-tolerant cage that allows the drone to get up close visual data and dense point clouds

from a single flight. The solution involved a comprehensive survey process, integrating above and below-ground data to create a detailed assessment of the culverts.

## Initial planning & stakeholder liaison

In the preparatory stages of the project, Team UAV dedicated significant effort towards comprehensive initial planning and establishing effective communication channels with key stakeholders.

This foundational phase was characterised by a strategic approach that involved in-depth consultations, close liaison with the Environment Agency, and other pertinent stakeholders directly impacted by or involved in the project.

The objective during this period was to foster a collaborative environment and secure a consensus on the project's scope, objectives, and anticipated challenges.

The initial planning stage commenced with a thorough analysis of the project requirements, facilitated by engaging discussions with the

Environment Agency. These dialogues were crucial in gaining insights into the environmental considerations, regulatory framework, and specific concerns that could influence the project's execution. Team UAV also conducted a site recce before the task.

By understanding these elements, Team UAV was able to anticipate potential obstacles and integrate solutions proactively into the planning process.

### LiDAR & photogrammetry integration

The drone's LiDAR sensor provided critical data from within the culverts, capturing their intricate details and generating accurate 3D models. Simultaneously, drone-based photogrammetry surveys above ground mapped the surrounding area in incredible detail.

By merging these datasets, Team UAV produced a comprehensive point cloud, showing the culverts below ground as well as the above-ground features such as roads and buildings where the culverts were beneath. Thus, the culverts' positions were confirmed, and a detailed

and navigable 3D visualisation of the environments was offered, facilitating a holistic understanding of the culvert systems.

The data could then be interrogated on a desktop computer, laptop or VR headset, where the user is placed inside the structure.

### Detailed visual inspection

The technology allowed for the capture of high-definition video revealing intricate details of the culvert interiors that are crucial for a comprehensive assessment. The visual data collected can provide clear evidence of structural dilapidations such as cracks, erosion, and other signs of wear that could threaten integrity.

Additionally, the inspections highlighted potential hazards, including water flow disruptions and the presence of obstructions like debris and sediment build-up, which pose risks to the culvert's functionality and overall safety.

By employing this advanced drone technology, Team UAV significantly reduced the risks associated with manual entry

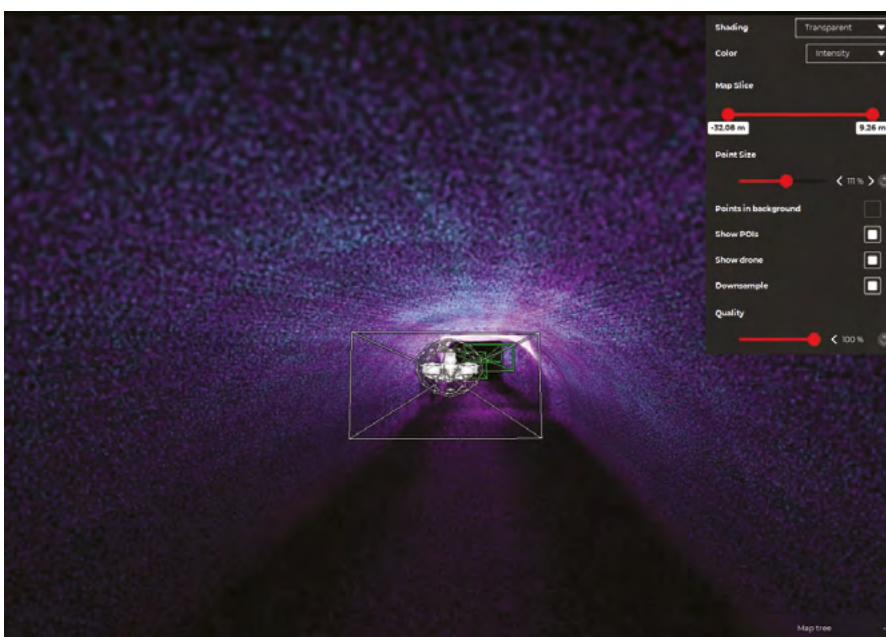


into these confined spaces, streamlining the inspection process while ensuring thoroughness and safety.

### Advantages over manned entry

The traditional method of manned entry for confined space inspections is fraught with hazards, potentially exposing inspectors to dangerous conditions and requiring significant safety measures. Compared to this approach, Team UAV's drone-based method offered numerous advantages:

**Enhanced Safety:** The drone inspections significantly reduced the risk of potential injury by eliminating the need for personnel to enter confined spaces. >



### Comprehensive Data

**Collection:** The combination of LiDAR and high-definition video provided a level of detail far beyond manual inspections.

### Efficiency and Accessibility:

Drones quickly cover areas that are difficult or dangerous to access, saving significant time and resources.

**Predictive Maintenance:** High-resolution imagery and accurate 3D models support the early identification of potential failure points. Dense point clouds show the positions of faults in an easy-to-navigate way, reducing the time needed in the data review and reporting phase of the process.

**Cost-Effectiveness:** Drone inspections lower the overall cost by reducing the need for manned entry and the associated safety preparations.

### The importance of experienced pilots

The pivotal role of highly experienced pilots in the successful execution of the project cannot be overstated. Team UAV prides itself on having a cadre of seasoned pilots with thousands of hours of flights behind them. Their unparalleled expertise and proficiency in operating the confined space drone were instrumental in ensuring the collection of high-quality, actionable data.

Team UAV's skilled professional pilots possess an in-depth understanding of the drone's capabilities and leverage this knowledge to execute flights with precision and efficiency, even in the most challenging environments.

Their adeptness at manoeuvring the drone through intricate confined spaces is a testament to their extensive training and



experience. This skill set is not only essential for capturing detailed visual data but also for maintaining the highest standards of safety during operations.

The complex nature of the confined space inspection required a nuanced approach to navigation, where every movement and adjustment needed to be calculated with the utmost precision to avoid obstacles and ensure comprehensive coverage of the inspected area. Moreover, the success of such drone-based inspection services relies on the operator's ability to adapt to varying conditions and make real-time decisions that could impact the outcome of the mission.

The pilots' familiarity with the operational environment, coupled with their quick thinking and problem-solving abilities, played a crucial role in overcoming these challenges during the flights. Their capacity

to anticipate and mitigate risks not only safeguarded the integrity of the drone and the safety of the operation but also ensured that the data collected met the highest standards of quality and reliability.

### Conclusion

Team UAV's use of confined space drones represents a significant advancement in the inspection and management of confined spaces.

By harnessing drone technology, utility providers can now achieve accurate, safe, and efficient inspections, ensuring the longevity and reliability of their essential assets.

This project not only highlights the potential for modern technology to enhance infrastructure maintenance but also sets a precedent for future applications in various sectors, promoting safety, sustainability, and operational efficiency.

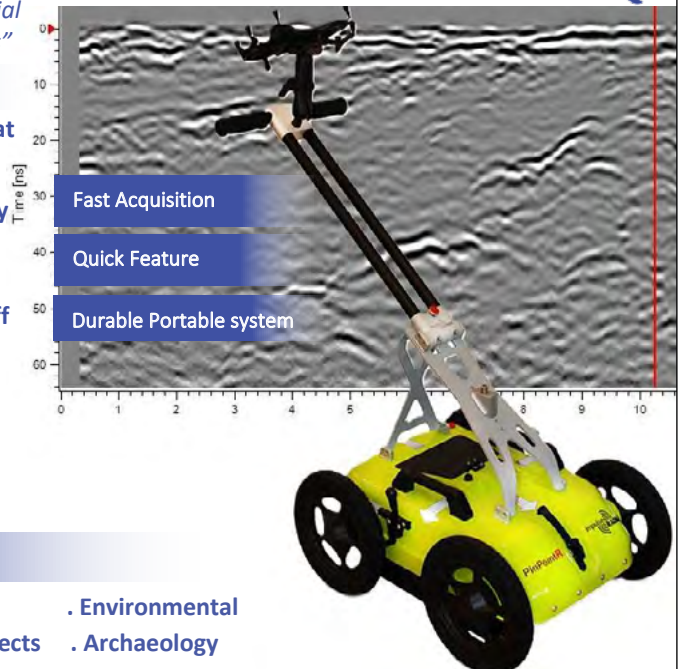
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# Securing water supplies for future generations



Sunbelt Rentals, the UK's leading provider of rental equipment, has joined forces with the Strategic Pipeline Alliance (SPA) and Anglian Water on an ambitious £350 million infrastructure project.

As the UK faces increasingly unpredictable weather patterns and record-breaking temperatures, the urgency to secure sustainable water supplies has never been more pressing. At the forefront of this effort is Sunbelt Rentals, the UK's leading provider of rental equipment, who has joined forces with the Strategic Pipeline Alliance (SPA) and Anglian Water on an ambitious £350 million infrastructure project. This monumental endeavour aims not just to address the immediate challenges posed by climate change but also to ensure that future generations have reliable access to water.

The project, which involves the installation of a staggering 330 km of new water mains, is a bold response to the growing disparity in water availability across the UK. By channelling water from the wetter regions in the north to the drier, more vulnerable areas in the east, this initiative is set to redefine the country's water distribution landscape.

However, the scale and complexity of the SPA project have presented significant logistical challenges. Connecting 330 km of mains pipe safely and efficiently requires not only innovative technology but also meticulous planning to maintain the integrity of the pipeline and minimise the risk of leaks. This

is where Sunbelt Rentals has stepped in, bringing with it an arsenal of innovative solutions and a wealth of expertise.

## Equipped for success

Understanding the enormity of the task at hand, Sunbelt Rentals worked closely with SPA to identify and deploy the most effective equipment and support systems. Central to this effort has been the McElroy Tracstar 900i Butt Fusion Machine, a powerhouse of engineering designed to fuse large-diameter polyethylene (PE) pipes with precision and efficiency. Capable of handling pipes ranging from 324mm to 900mm in diameter, the

Tracstar 900i automates much of the fusion process, drastically reducing manual labour and boosting productivity. Its patented centreline guidance system ensures even force distribution across joints, while an integrated data logger records key metrics, guaranteeing compliance with industry standards and providing full traceability.

To further streamline operations, Sunbelt Rentals introduced the McElroy MegaMc PolyHorse, a sophisticated pipe-handling system that can hold enough pipe for a full day's work. This not only accelerates the welding process but also enhances safety by minimising the need for heavy machinery on site. With the PolyHorse, the number of operatives required has been reduced to just one, enabling up to 14 pipes to be welded per day – a significant increase from the four per day achieved through manual methods.

### **Creating optimal working conditions**

In a project of this magnitude, maintaining optimal working conditions is crucial. Sunbelt Rentals' bespoke 20ft welding containers have been instrumental in this regard providing a clean, waterproof environment by protecting against the elements. With extendable sides to accommodate both equipment and personnel, integrated LED lighting for extended working hours, and the ability to move the entire unit around the site with ease, these containers are a testament to Sunbelt Rentals' commitment to operational excellence.

Additionally, to facilitate the movement of large strings of pipe across the site, Sunbelt Rentals supplied approximately >





300 pipe support rollers. These rollers have been critical in reducing drag and ensuring the smooth progress of each 1 km strand of pipeline.

### Commitment beyond equipment

Sunbelt Rentals' contribution to the SPA project extends far beyond the provision of equipment. Recognising the importance of safety and efficiency, the company has delivered tailored training sessions to ensure that all operatives are well-versed in the safe operation of the machinery. Furthermore, a preventative maintenance programme has been implemented to mitigate the risk of unplanned downtime, ensuring that the project continues to run smoothly.

Jon Sparkes, Director of Utilities at Sunbelt Rentals, reflects on the project's success: "This project has allowed us to demonstrate our expertise and commitment to our customers

on turnkey projects like the SPA and has been a significant test for the new McElroy 900i butt fusion equipment. We will continue to support the SPA and their construction partners as they progress through the remaining phases of the polyethylene pipelines."

### Building resilience for the future

The SPA project is not just about laying pipes, it is about

building resilience. The solutions provided by Sunbelt Rentals have been instrumental in maintaining project momentum, underscoring their critical role in one of the UK's most ambitious water infrastructure projects. As climate challenges continue to escalate, such forward-thinking collaborations are essential in ensuring that the UK's water supply is not just secured for today, but for generations to come.







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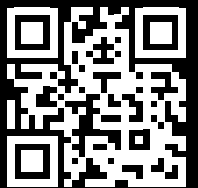
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# Ovarro-Northumbrian leakage trial achieves nightline target

Northumbrian Water, which supplies water to 2.7 million people in north-east England, is aiming for an 8% reduction in leakage in AMP8 - 2025-30 - with a long-term target of 55% by 2050, from its 2017/18 baseline, writes Paul Holt, Ovarro leakage product specialist.

The company's revised draft Water Resources Management Plan 2024 says innovation is key to achieving its goals, and pledges to use new technology to make its network smarter to identify leaks more quickly.

As a result, Northumbrian Water is undertaking a range of feasibility studies and trials ahead of AMP8, including one with Ovarro. The results will be used to inform future leak detection investment and strategy.

## The solution

In November 2023, Northumbrian Water partnered with technology company Ovarro to trial LeakNavigator, an end-to-end, fixed-network leak detection service. The three-month trial covered the Fish Quay district metered area (DMA) in the town of North Shields, which serves nearly 1,400 properties via 17km of water main.

Northumbrian Water set a target for the trial to achieve a historic nightline minimum of 7.6m<sup>3</sup>/h, maintaining this level after project completion.

The LeakNavigator package comprises a fully-managed analytics platform, acoustic dataloggers from Ovarro's Enigma range and access to its in-house leakage expertise. The service identifies points of interest (Pols) on behalf of water companies and directly alerts field technicians via a mobile app, reducing the need for in-house data analysis.

The LeakNavigator end-to-end service includes a pre-assessment of the targeted DMA by Ovarro's leakage analysts, and ongoing data analysis once the loggers are in operation.

Thirty-six loggers were installed for Northumbrian Water's trial, a combination of models Enigma3-BBs and Enigma3hyQs. Both models are correlating acoustic loggers, fitted with a sensitive hydrophone sensor to measure the sound generated by leaks, usually overnight, and feed data into the analytics system.



Ovarro Enigma Leak loggers installation

The Enigma3hyQ is typically installed on a hydrant or valve. The Enigma3-BB is installed on a property meter box chamber, which simplifies the process, as meter boxes are easier to reach than hydrants. It also provides more network access points to the network, increasing logger coverage.

The loggers were selected due to ease of deployment and proven capability in finding leaks on plastic pipes – an enduring challenge for water companies, as sound does not travel well on plastic. As more ageing metal pipes are replaced with plastic, the scale of this challenge is set to increase.



Enigma3hyQ (Separate Hydrophone)

In week one of the trial, when PoI follow-up visits did not result in the expected number of leaks being found, Ovarro arranged additional training for technicians. Engineer Paul Holt spent two days onsite, closely guiding the Northumbrian Water team through the end-to-end LeakNavigator process. After training, the technicians picked up more leaks, much faster.

## Results

Five sizeable leaks were found during the trial, with a conversion rate of 80%. They included a major leak found on an 8-inch (203mm) PVC water main.

Northumbrian Water's normal detection techniques for the DMA had not found the leak, which was estimated to have been running for approximately 12 months. Flow data shows the leak was losing at least 5.5l/sec water, which is 475 m<sup>3</sup>/day, and would have amounted to 171 megalitres over 12 months.

A second large leak was found on a business customer's private pipe. Once both leaks had been repaired, the target nightline figure was achieved, and as of July 2024, had been sustained.

Andrew Blenkarn, Northumbrian Water's technical policy manager, said: "The purpose of the Ovarro trial was to understand what our options are to deliver leakage reduction in AMP8 and to explore the feasibility of permanent logging. For us, the technology was quick to deploy and proven to work, delivering excellent results.

"I was particularly impressed that it found the big leak on the PVC main, which would not have been found otherwise. Leakage had been increasing for a while in this area and the leak had not been picked up by normal methods.

"Overall, we got down to the historic minimum level we were aiming for and had confidence that if any leaks did break-out in future, we would have been

“As leakage gets more difficult to drive down, permanent logging, particularly on plastic, becomes more of a viable option for the future. For Northumbrian Water, leakage will remain a big focus, and this is just the start of our efforts to drive down levels in AMP.



able to respond to them quickly, if the loggers were kept in.

"As leakage gets more difficult to drive down, permanent logging, particularly on plastic, becomes more of a viable option for the future. For Northumbrian Water, leakage will remain a big focus and this is just the start of our efforts to drive down levels in AMP8."



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# Ramping up for AMP8

## Skilling up to meet future challenges

By Frank Reilly – JBP Trenchless Training Director



Frank Reilly  
Director JBP's Trenchless,  
Training Programme

Leading up to a series of recent meetings with water utilities, contracting companies, and sector associations in the UK I had cause to review published articles on preparations being made for the Asset Management Period 8 (AMP8). AMP8 will kick off in 2025 and cover the regulatory cycle for the water and wastewater sector in the UK for the next 5 years, until 2030.

AMP8 represents a significant increase from the previous period, with an expected outlay of £96 billion compared to £51 billion for AMP7. This presents both opportunities and challenges to all stakeholders in the supply chain, but perhaps most especially the 16 utilities and their supporting contractors, to meet the AMP8 objectives of delivering improved sustainability, greater resilience and efficiencies, and enhanced customer satisfaction. In my brief review of published articles and papers on preparations for AMP8, one recurring topic that received a significant amount of focus was the need to skill up to meet the challenges of this next regulatory cycle. And it was apparent that

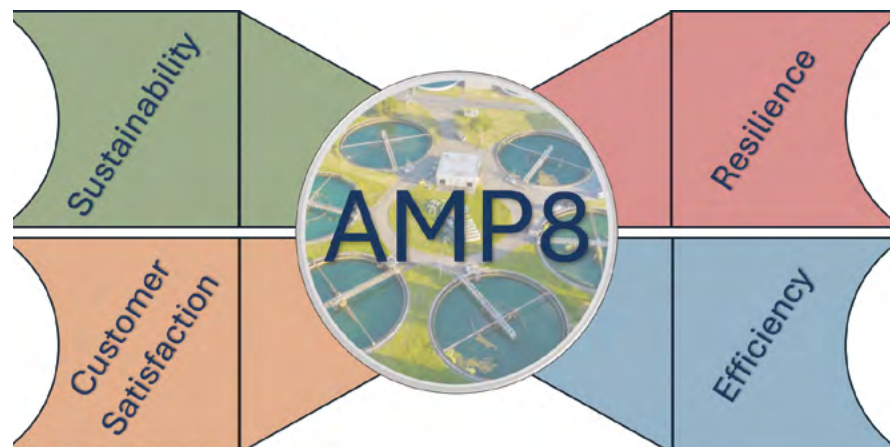


this need exists at several levels and across various stakeholders in the supply chain.

Water utilities and larger contracting companies have already put plans in place to address the issue of training and skilling up to meet the challenges of the next five years and beyond. Water utilities are increasing their entry-level recruitment through apprenticeship schemes and expanding the use of their training academies for internal training. They are also

reaching out directly to colleges and universities for new recruitment, becoming more involved in supporting career advice initiatives.

The UKSTT, through its technical and education committee, is launching at No-Dig Live 2024 a new initiative – “New to Trenchless Industry Network” aimed at attracting new professionals of any age to the trenchless industry and will provide opportunities for acquiring knowledge across the technologies and networking. >





The National Association of Drainage Contractors (NADC) has, since 2021, sponsored the DrainSafe Approved Drainage Contractors scheme, together with associated training programmes, to train, improve competencies, and raise standards for contractors working across the sector.

There are many initiatives, including JBP's own programme of trenchless training courses, that are already in place. I don't think it is unfair, however, to say our industry is characterised by a somewhat traditional mindset, with an historical focus on hardware and materials and their application, and perhaps for good reason. The new kid on

the block is the digital revolution and it is upon us now. It will play an increasingly important role in the mix of tools deployed to achieve the resilience, efficiency, and sustainability goals enshrined in AMP8 and deliver much-needed improvements in customer satisfaction.

To leverage the opportunities, water utilities and contractors will need to reflect the challenges of this rapidly developing digital revolution in their staff development and training strategies. Training providers, too, will need to come forward with new and innovative courses to help deliver these new skill sets.

While the focus of this article has been on the UK and AMP8, I am sure many of the issues covered will

resonate elsewhere. There is an urgent need for a joined-up conversation among all stakeholders on this important topic of training to meet future challenges in water and wastewater asset management and trenchless use. To this end, I am pleased to inform you that JBP will be hosting a roundtable discussion as part of its Trenchless Training Programme at No-Dig Live 2024, with a panel of experts drawn from across the sector. We will attempt to share insights from the discussions in this space in one of the next issues of Trenchless Works.

Next Issue: Applied Trenchless Workshops and Training for the Middle East.



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Ian Ramsay, Chair, UKSTT

# A message from the Chair

Well as the year progresses at least we have had reasonable weather or should I say reduced rainfall. This will give temporary relief to the network, but considering the bigger picture the whole lack of investment within the water and waste water networks are not going away. There is a new Government and with all their other issues, the wastewater networks don't seem to be high on their list of priorities. OFWAT seem keen on fines due to pollution issues and highlighting the issues with lack of investment. Not sure yet of the timescales but there are a lot of rumblings.

At UKSTT, we feel very strongly about this and along with other likeminded organisations are discussing making a presentation/lobbying to Government flagging up and discussing in more depth the lack of investment and the technologies, skills existing giving long term economic advantages and long-term cost savings. This is in the planning stages so watch this space. Interestingly the water quality in Paris is also being questioned and races during the Olympics have been delayed because of this. Not only does this show that other countries have an issue, but their investment in infrastructure and innovation is questionable. It is only when it effects day to day that out of sight out of mind mentality changes.

Another passion of mine is to support young and new to the industry engineers. A lot of us in the past have had mentors who supported us and guided us through our careers. It is essential to ignite the passion, fuel innovation and people who care and make a difference. The UKSTT, through our Technical & Education committee, Iain Naismith and Silvana Alfieri are setting up a programme to provide a platform for new to the trenchless industry, this will be launched at No-Dig Live. This programme will support and help anyone new to the industry, get a better insight into the technologies, systems, and hurdles with the aim of growth and engagement. I think this has been lacking in the past and to have a definitive programme with structure will be a massive benefit for the industry. Please keep your eyes open for information and if you would also like to support or get involved, make sure you come to No-Dig Live and contact the UKSTT for details.

We are all looking forward to celebrating everything and everyone in our industry at the UKSTT Gala Dinner and Awards Ceremony on the 2 of October during No-Dig Live 2024. Thank you to all who entered and good luck to all the finalists.

Ian Ramsay, Chair, UKSTT

# UKSTT New to Trenchless Industry Network

UKSTT is delighted to announce a new initiative “UKSTT New to Trenchless Industry Network” due to launch at No-Dig Live 2024.



The future is trenchless – but with a skills gap and an aging workforce, it is essential to energise those new to the industry to ensure that trenchless technologies continue to develop successfully. The UK Society for Trenchless Technology sees an opportunity to further support and develop this demographic, starting with the New to Trenchless Industry Network.

Our goal is:

To engage with and support those individuals new to the trenchless industry to develop an enhanced understanding of trenchless technologies, a connected community and increased awareness of learning opportunities to solve the trenchless challenges of the future.

Silvana Alfieri, programme lead for the UKSTT New to Trenchless Industry Network, explains why she believes this new programme within the UKSTT is so important: “The construction and utility industries are facing an aging workforce and skills gap all around the world and unfortunately, we are not immune from those challenges here in the UK. I wanted to create a space where those new to the

trenchless industry can connect with each other and learn about the innumerable aspects of trenchless technologies.

In my experience, groups like these are extremely important to empower those newer to the industry. As a young professional and new to the trenchless industry myself, I view this network as an excellent opportunity to widen my knowledge and understanding of trenchless technologies, both through a focus on skills needed in the industry and building relationships with others. This is essential as we will continue to be faced with the pressing challenges of ageing infrastructure and climate change in the future and trenchless technologies are an integral solution.”

We hope that this network will help those new to the industry navigate the ins and outs of trenchless technologies and help you develop professionally. Whether you want to gain further certifications, learn more about the variety of trenchless technologies within the industry, access mentorship, or meet others new to the industry, the UKSTT New to Trenchless Industry Network is the right place to start getting involved.

**Ian Ramsay, Chair of UKSTT explains why he sees this new initiative as being so important for the trenchless industry**

“Young engineers are the heart of the industry and the future. The UKSTT’s mandate is to develop the education and growth within the trenchless industry. By engaging with its young and developing enthusiasm, mentoring and passion we are making a difference and sustaining benefit for the long term. This initiative is fundamental to this, and I am proud to be part of the team.” We’ve got a lot of exciting plans for the UKSTT New to Industry Network here’s what you can expect:

- A community for those new to the trenchless industry to facilitate networking and learning opportunities through bimonthly meetings and summits at UKSTT events
- Mentorship and connections with experienced professionals in the industry
- Highlighted training and continuous education opportunities to enhance skills and learning
- Fun social events with other peers in the industry

## Want to learn more about the UKSTT New to Trenchless Industry Network?

Stop by the UKSTT stand 108 at No-Dig Live, and join the launch of the network in the No-Dig Live conference area, next to the UKSTT stand on Tuesday 2 October at 10:30 am.



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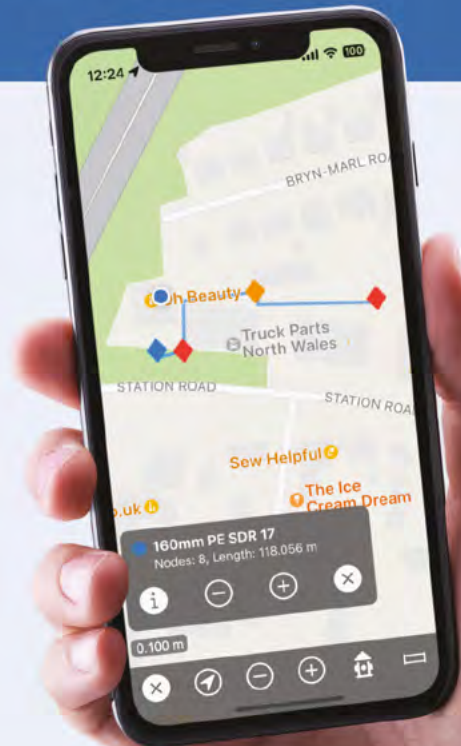
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# NO-DIG EVENTS

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## TRENCHLESS MIDDLE EAST 2024

5-6 November 2024

Jumeirah Beach Hotel, Dubai  
[www.trenchlessmiddleeast.com](http://www.trenchlessmiddleeast.com)



## TRENCHLESS ASIA 2025

21-22 May 2025

KL Convention Centre, Kuala Lumpur, Malaysia  
[www.trenchlessasia.com](http://www.trenchlessasia.com)



## NO-DIG ROADSHOW SERIES 2025



## TRENCHLESS MIDDLE EAST 2025

Kingdom of Saudi Arabia 2025



## EUROPEAN NO-DIG 2025



## TRENCHLESS MIDDLE EAST 2026

Dubai 2026



## EUROPEAN NO-DIG 2026



## NO-DIG LIVE 2026

29th September – 1st October 2026  
NAEC Stoneleigh Park, Warwickshire



## TRENCHLESS ASIA 2026

Bangkok, Thailand



## NO-DIG ROADSHOW SERIES 2026

# FUTURE EVENTS

TRENCHLESS VIETNAM | TRENCHLESS PHILIPPINES

NO-DIG SOUTH AFRICA | TRENCHLESS GERMANY







International Society  
For Trenchless Technology

## SOCIETY NEWS

ISTT News brought to members by Trenchless Works



Keh-Jian (Albert) Shou,  
Chairman, ISTT

# A message from the Chair

Dear ISTT members

You may be aware that we have many national, regional, international No-Dig events approaching, so please do not forget to check the ISTT event calendar on the ISTT website. As you may remember, since late last year, I have attended the No-Dig events in Berlin, Jinan (China), Baotou (China), and Paris. Good news is that we will soon have the 1st No-Dig Asia Pacific, to be held in Hong Kong during 31 October to 1 November 2024, an Asian regional event with a technical conference and exhibition. Currently we have received 35 more technical papers, and we will deliver the ISTT Albert Shou Scholarship to the students of the awarded papers for the first time, so I am confident this event will be a good one.

Through the regional events, Trenchless Latin America, European No-Dig, No-Dig Turkey, ITTC, and the 1st No-Dig Asia Pacific, the organising societies successfully attracted the spotlight by integrating the governing sector, consultants and contractors. Suppliers in trenchless business also created more cooperation between the affiliated societies in their region. Obviously, the demands and challenges in different regions also create different good opportunities.

I strongly suggest you consider attending the regional No-Dig conferences as it will be the major trend in the next few years.

I would like to remind you that we will have our Trustees meeting in early October, it was delayed due to many reasons. However, I appreciate all who seriously make our budget plan and sustain our financial condition. In addition, we will hold our International Council Meeting and deliver the ISTT awards during Trenchless Middle East in Dubai. We will soon have more new ISTT educational webinars, please do not forget to check the notice and register on the ISTT website. Our new website is now under an overhaul process, it has been tested on schedule and will open to the members in late October. ISTT keeps improving our services to our affiliated societies, please feel free to give us your precious comments or suggestions.

With My Best Wishes!

Keh-Jian (Albert) Shou  
Chair, ISTT

# ISTT supports No-Dig Asia Pacific International Conference and Exhibition



By Trevor Gosatti, Executive Director, ISTT



The China Hong Kong Society for Trenchless Technology (CHKSTT) recently announced that they are holding the first No-Dig Asia Pacific International Conference and Exhibition 2024 in Hong Kong over 2 days on the 31 October 2024 and 1 November 2024. The event will be held at the Hong Kong Polytechnic University and will provide a programme of keynote speakers and a strong range of technical papers on various streams highlighting trenchless technology.

## ISTT supported event

The ISTT strongly supports this event and sees it as an important event in the Asia Pacific region. A number of internationally renowned speakers from Hong Kong

Event Name:  
**First No-Dig Asia Pacific  
International Conference  
& Exhibition 2024**

Date:  
**31 October – 1 November  
2024**

Venue:  
**The Hong Kong  
Polytechnic University,  
Chiang Chen Studio  
Theatre (Core A)**

Type:  
**Conference and  
Exhibition**

and the surrounding countries will participate. ISTT Affiliate Societies in the region have shown strong support for the event and will be in attendance.

## Stopover before Trenchless Middle East?

We suggest those heading to the Trenchless Middle East 2024 event in Dubai plan a stopover in Hong Kong on route to Dubai and attend this technical conference.

## Register now!

Interested attendees should register soon as strong interest has been indicated already and numbers will be limited. There is also a limited number of exhibitor and sponsorship opportunities available for interested parties. Further information can be found at the Events page at [www.istt.com](http://www.istt.com).



#H22\_NO-DIG-LIVE  
#VISIT\_US



**LONGO** Euroservice from Conversano, Italy, and **ZENNER Ventilatoren Werke** from Olbernhau, Germany, have opened up a new perspective for the suction excavator market with their strategic partnership. The decades of experience of both companies have raised the technology to a new level. **ZENNER Ventilatoren**, known for its robust & highly efficient suction excavator fans, which are used in over 2000 RSP suction excavators worldwide, was a long-standing supplier of RSP Germany until the end of December 2023, when the cooperation ended.

[longoeuroservice.com](http://longoeuroservice.com)  
[zenner-fans.com](http://zenner-fans.com)

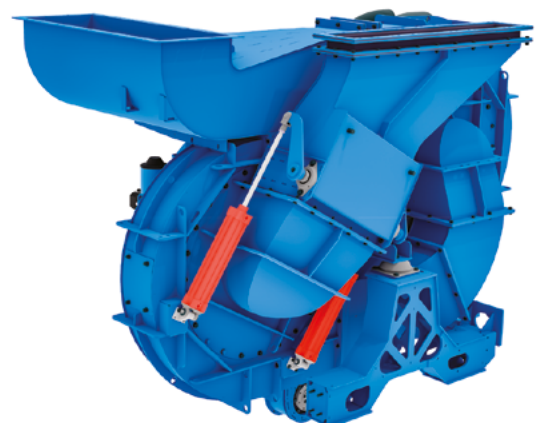


Free to explore new avenues, an alliance was quickly formed with **LONGO** Euroservice. This partnership now enables faster development of innovative technologies and an expanded global service network that offers customers quick access to spare parts, including a planned online shop for original parts & spare parts for existing suction excavators. A highlight of this collaboration is the launch of the new **LONGO** Rhino Z Pro with the proven and optimised DV2 suction excavator fan from **ZENNER Ventilatoren**. This machine combines decades of technical expertise with state-of-the-art technology, resulting in a significant improvement in suction performance and operating efficiency, which are so important on the construction site.

Vito Longo and Ulf Zenner will be present in person at no-dig Live 2024, stand H22, to present this innovative suction excavator and to be available for interesting discussions. In addition to these technical advances, the partnership also opens up new opportunities on the global market. **LONGO** benefits from **ZENNER's** world-renowned reputation & distribution network, while **ZENNER** extends its reach through **LONGO's** strong position in the international market. The common goal is to accelerate cross-country research and development, integrate new technologies, create continuous improvements to existing products.

The combination of quality and innovation catapults both companies into a leading position in the global suction excavator market and sets a new standard in the construction and civil engineering industry. The combined expertise enables the companies to offer their customers individually customised solutions and first-class service that significantly increases the efficiency of civil engineering projects.

Visit us at no-dig Live 2024, where the **LONGO** Rhino Z Pro with the optimised DV2 suction excavator fan will be on display. We are ready to show you innovative solutions that will take your projects to a new, affordable and low-maintenance level.



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NO-DIG LIVE

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

# Trenchless Middle East 2024

By Trevor Gosatti, Executive Director, ISTT

As mentioned in last month's edition the ISTT looks forward to the fast-approaching Trenchless Middle East 2024 Conference and Exhibition to be held at the Jumeirah Beach Hotel, Dubai, UAE on the 5-6 November 2024. Trenchless Middle East 2024 (TME) is an ISTT supported event that is extremely important for the region.

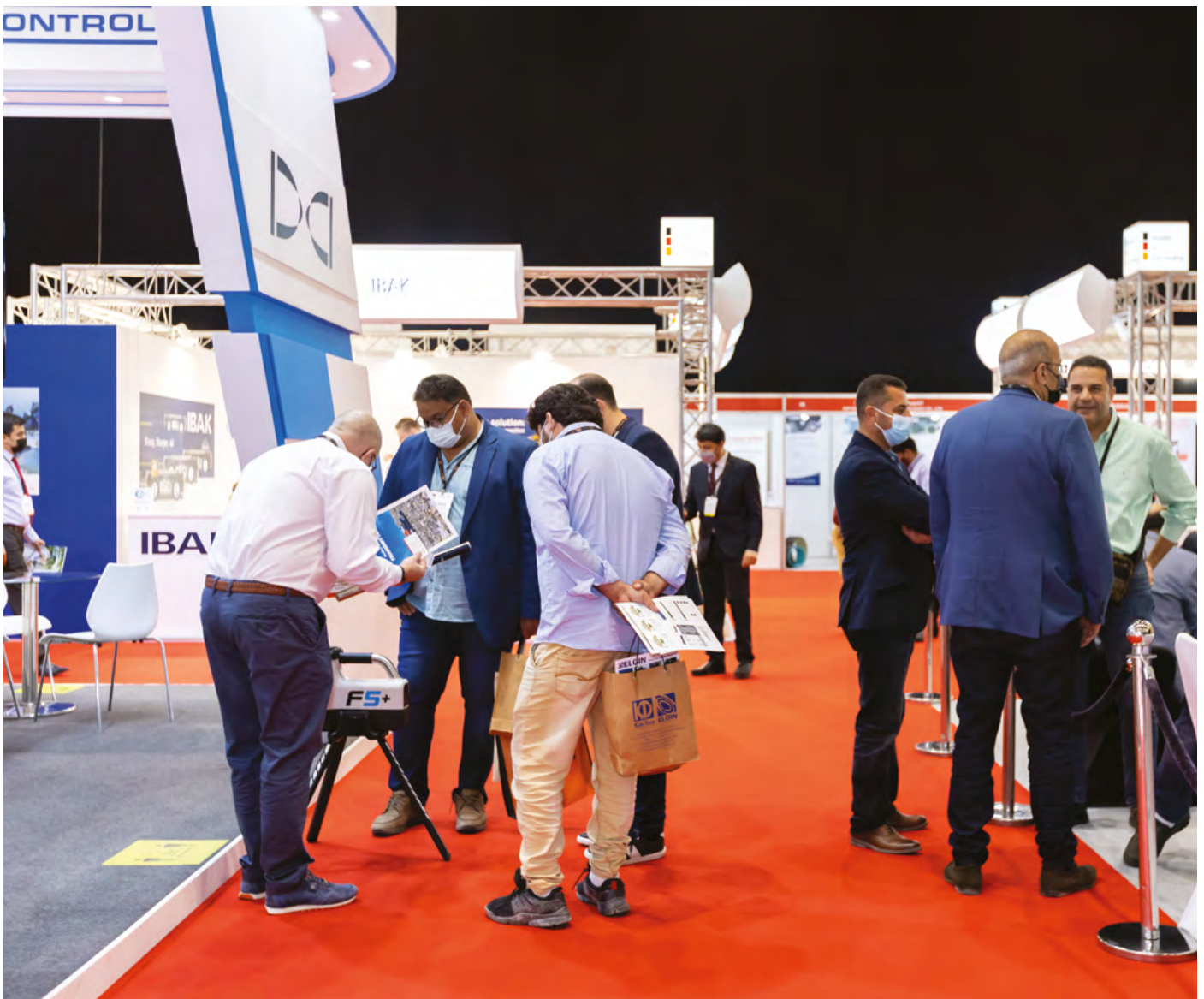
The ISTT is planning several events around TME and encourages the ISTT Affiliate

Societies and their members to take the opportunity to attend TME and be involved in the ISTT events. The planned events are:

1. The ISTT International Council Meeting to be held on the 4 November 2024.
2. The ISTT Chair's Reception incorporating the ISTT Awards on the evening of the 4 November 2024
3. ISTT Website Training
4. ISTT Strategic Planning session

## Sponsorship opportunities for the chair's reception

As detailed above the ISTT Chair's Reception incorporating the ISTT Awards is scheduled to be held on the evening of the 4 November 2024 at the stunning Floor 24 Function area at the Jumeirah Beach Hotel, Dubai. There is still several sponsorship opportunities available to support this event and be exposed to ISTT networks for your business. If you have any interest in sponsoring this event, please contact [info@istt.com](mailto:info@istt.com).





# TRENCHLESS MIDDLE EAST 2024 DUBAI, UAE

Jumeirah Beach Hotel  
5-6 November 2024

13th Exhibition & Conference on Trenchless Technology/NDRC

## Register Now!

Trenchless Middle East is the region's only event focused entirely on the use of Trenchless Technology/NDRC (Non-Disruptive Road Crossing). The two-day event will showcase international machinery, products, and methods, attracting top quality audiences from around the Middle East.

### Reasons to visit Trenchless Middle East 2024

- Discover solutions to the Dh80 billion being invested in Dubai's sewerage system
- Cutting-edge technology
- Networking opportunities with industry thought leaders
- Two-day conference programme
- Live demonstrations
- Market insights from the Middle East
- Professional development opportunities
- JBP training sessions



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# Advancing Trenchless Technology in Asia

Key innovations and trends from No-Dig Asia Pacific International Conference and Exhibition  
31 Oct and 1 Nov 2024, Hong Kong

Cities in Asia Pacific have the largest water mains rehabilitation programmes in the world. Much of the work is done in an urban busy environment. Installing and rehabilitating pipes and cables beneath the streets by trenchless means require novel techniques and much planning and liaison with the local authorities.

Delegates to this conference will have an opportunity to learn about innovations and case studies on pipe jacking, CIPP, HDD and rehabilitation works from over 20 renowned local and international experts in the field, including Mr. Andy Chi Chung LOK, Assistant Director / New Works, Water Supplies Department, HKSAR; Mr. Ying Keung LAI, Ch Engineer / Consultants Management, Drainage Services Department, HKSAR; Ms. Sanhe LU, Vice President, Qingdao Institute of Surveying and Mapping, China; Prof. Hiroaki MORITA, Chairman, Japan Society



for Trenchless Technology / Professor, Nihon University, Japan; and Prof. Albert SHOU, Chairman, International Society for Trenchless Technology.

In addition to acquire new knowledge and skills from the informative and engaging speakers, the conference also provides exhibition booths to showcase your products as well as networking opportunities in this region.

We look forward to welcoming you all in the trenchless world to participate in this highly commendable event.

Details can also be found from the following CHKSTT online link: <https://www.chkstt.org/?chkstt=EVENT%20CALENDAR>

Interested parties, please contact our Conference Secretariat via: - Email: [CHKSTT24@nhetravel.com](mailto:CHKSTT24@nhetravel.com)





# Trenchless Middle East 2025

## Kingdom of Saudi Arabia

Dates to be announced soon

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



# Trenchless Asia 2026

## Bangkok, Thailand

Dates to be announced

### Trenchless Asia is landing in Bangkok, Thailand in 2026!

For details regarding sales and sponsorship opportunities please contact Trevor Dorrell on: [tdorrell@westrade.co.uk](mailto:tdorrell@westrade.co.uk) or +44 (0)1923 723990



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



# Professor Dr.-Ing. Dietrich Stein



With deep sadness we announce the loss of our founder and partner Prof. Dr Dietrich Stein at the age of 86. Engineers around the globe are thankful for his dedication to the inventions in the fields of sewers, waste disposal, and other from his extraordinary vision, his engineering genius and his unshakable belief in the importance of his contributions that clashed with opinions that were not well founded.

His courage questioned the lack of sound reasons behind the ways in which sewers were designed, built and managed in order to improve them for society. He was the one who drew attention to the state of the sewer networks and brought them to the public attention despite considerable political and academic resistance.

See also "Causes of leaks and ways of remedying them", source: Report of the Abwassertechnische Vereinigung e.V. No.37 (1986).

His work in bringing the importance of wastewater collection and wastewater discharge facilities for environmental and water protection as well as for the safety of the functioning of modern industrial society in the public eye formed the basis for the development of a service sector for the maintenance of sewer systems, which is now worth billions. Overcoming the sceptics and building up this industry was achieved through an academic lifetime that can only be regarded as extraordinary. Prof. Stein created the knowledge and understanding base of the industry with his six specialist books, including: "Maintenance of sewers" 1st to 4th editions, 52 book chapters, 189 publications, 274 scientific lectures and hundreds of studies and expert opinions, are thus inseparably linked to everyday pipeline construction and maintenance.

With the establishment of the teaching and research area "Construction and Rehabilitation of Supply and Disposal Pipelines", initially with a focus on "Sewerage Technology" at the Ruhr University Bochum, Prof. Stein succeeded for the first time in establishing this discipline as part of the university landscape of the Federal Republic of Germany. His commitment in this field was confirmed by his appointment in 1991 as a university professor and head of the "Pipeline Construction and Rehabilitation" working group.

His work was continuously characterised by extensive cooperation and close collaboration with the industry,

for example through the development and testing of construction and rehabilitation methods, the handling of construction tasks and the development of pipes of all materials. As a sworn expert of the Bochum Chamber of Industry and Commerce and not the least since 1994 as a partner in an engineering office bearing his name (now STEIN Ingenieure GmbH), he has succeeded in binding many of his employees to this office on a long-term basis. This personnel stability with a beneficial symbiosis of younger and older, experienced and at the same time committed employees is largely responsible for the fact that under his management a high-performance team of currently over 60 employees with specialists in all disciplines of pipeline construction and maintenance.

His groundwork has played a significant role in the considerable share of current sewer rehabilitation programs in the total construction output in Germany, with investment programs running into billions. In 1989, thanks to Prof. Stein's initiative, a new funding priority "Technologies for the rehabilitation of leaking sewers" was set up by the Federal Ministry of Research and Technology with the aim of developing efficient methods for detecting and repairing damage in leaking sewer systems. This enabled the various interests of local authorities, industry and research institutions in Germany to be united and focused on solving technical problems and birthing patents and licences. >





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Prof. Stein was a key initiator of the IKT - Institute for Underground Infrastructure (IKT, an affiliated institute at the Ruhr University Bochum based in Gelsenkirchen) and headed it from its foundation in 1994, initially as Managing Director and until 2000 as Institute Director. Prof Stein played a key role in bringing together the leading construction industry, wastewater associations in the region, pipe manufacturers, sewer rehabilitation companies, the city of Gelsenkirchen and the university with the support of the state of North Rhine-Westphalia to form an effective alliance.

Always open to new developments, Prof Stein was never satisfied with what he had achieved. He inspired his staff with his ideas and enthusiasm. His intensive penetration of research and teaching was enthusiastically received by the students. Every year, Prof Stein supervised many dissertations and theses and was the supervisor for 19 dissertations and co-supervisor for many more. Students and doctoral candidates appreciated this personal commitment.

With equal enthusiasm, he endeavoured to pass on his findings and research results to engineers already in the profession, but also to incorporate them into standards and regulations to facilitate their implementation. From 1984, he headed the ATV working group "Rehabilitation and renewal of sewers and drains" until, thanks in part to his commitment, a new technical committee ES 8 was established for this topic in 1999 with him as chairman and a total of 8 working groups. Numerous national and European standards and guidelines were also developed under his leadership and

with his co-operation. The Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall (DWA) leaflet series M 143, with a total of 20 leaflets, has attracted particular attention among experts and practitioners.

His scientific esteem was also reflected in his appointment to numerous committees and bodies of industry and professional associations as well as honorary posts.

### Examples are

- Vice President of the International Society for Trenchless Technology (ISTT, London) and Head of the "Utility Corridors" Working Group of the ISTT
- Head of the "Research and Development" working group of the German Society for Trenchless Construction and Maintenance of Pipelines (GSTT, Hamburg)
- Member of the Expert Commission on Sewerage Technology NRW, appointed by the Ministry of Education, Science and Research of the State of North Rhine-Westphalia
- Member of the project group "Soil and groundwater hazards from building materials - analysis, assessment" of the German Institute for Building Technology, Berlin
- Member of the Board of Directors of the Institute for Mining and Energy Law at the Ruhr University Bochum
- Member of AGI Arbeitsgemeinschaft Industriebau e.V., "Sewer Rehabilitation" working group, founding member and board member of Güteschutz Kanalbau e.V. (until April 1996)
- German member appointed by the Federal Ministry of

Education, Science, Research and Technology in the COST Action C3 "Evaluation of Urban Infrastructure Networks"

- German representative on the European Committee for Standardisation (CEN/TC 165 /WG 22 (Drain and Sewer Systems Outside Buildings)
- Member of the Editorial Board of the technical journal "Trenchless Technology Research"
- Member of numerous committees for the preparation and organisation of national and international specialist congresses and symposia
- Member of Agenda 21 NRW, core working group "Climate Protection and Sustainable Mobility", appointed by the Ministry of the Environment, Nature Conservation, Agriculture and Consumer Protection of the State of North Rhine-Westphalia (MUNLV)
- Member of the VpA Water Management Advisory Board

A special honour for Prof. Stein was the commissioning of his engineering office to accompany and support the State Environmental Agency of North Rhine-Westphalia in the examination and evaluation of the concepts for the operation and maintenance of the 55 km long "Emscher sewer" regarding disposal safety. This once-in-a-century deep gravity sewer project of the Emscher Genossenschaft was a construction project of unusual dimensions, even by international standards.

Prof Stein was one of the increasingly rare figures of integration at the Ruhr University Bochum as well as in his engineering office, and during his professional life he launched initiatives and

strategies that will endure well into the future.

His employees particularly appreciated his expertise, his straightforwardness in decision-making and his comprehensive advice. He was regarded by them as an unrivalled role model when it came to formulating and precisely presenting technical contexts. But it was not only his technical commitment that should be emphasised in this sense: The highest principles for him were a well-functioning, productive team and unrestricted enjoyment of the task.

Prof Stein was a scientist with ideas and drive and at the same time an excellent teacher in the auditorium. One of his most remarkable skills, however, was recognising tried and tested but forgotten wastewater technologies from the 19th and early 20th centuries and modifying and implementing them to meet the ecological requirements of the 21st century to create pioneering developments. When he was awarded the Federal Cross of Merit in 1999, this ability in particular was honoured, as were his achievements in the international recognition of German wastewater technology, the promotion of international scientific cooperation and the integration of East German wastewater technology.

His work was characterised by the tireless search for progress and innovation in the field of urban infrastructure and the global view of pipeline construction and maintenance. In particular, he focussed on the combined installation of supply and disposal lines and the joint operation and maintenance of all supply and disposal networks through the use of utility corridors. In this context

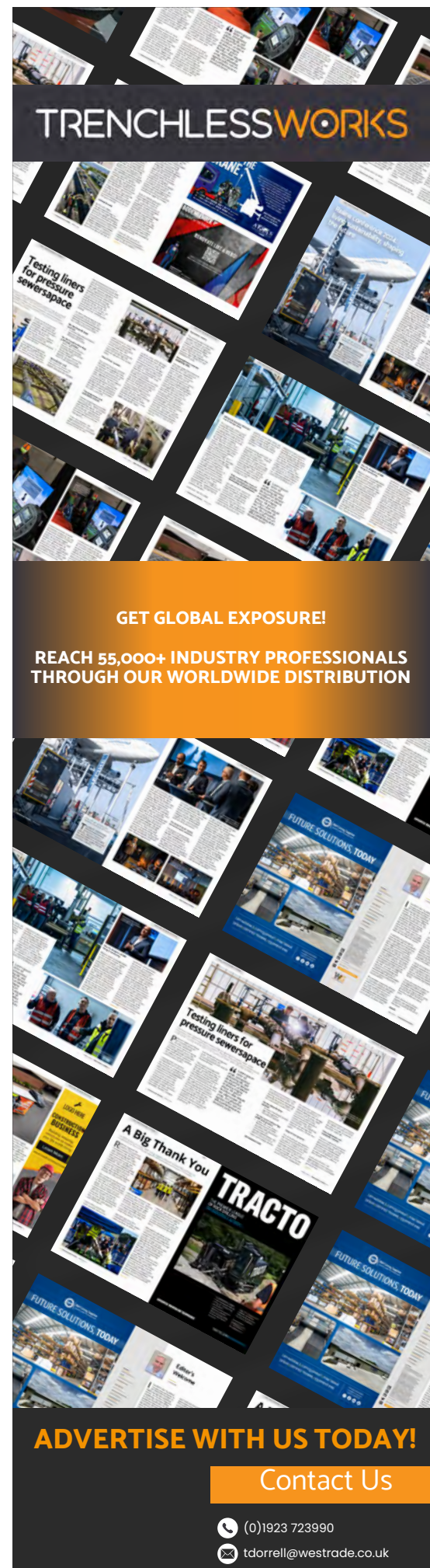
and on the basis of a joint research project led by him, the specialist book "Der begehbare Leitungsgang" (The accessible utility corridor) was created as a suggestion for all engineers and network operators who are looking for alternatives to conventional pipe installation. The book was translated into Chinese in 2023.

His latest interdisciplinary research and development work on relieving our road networks and solving internal and inter-company logistics tasks by means of automated general cargo transport via underground pipelines (CargoCap) is expected to make an important contribution to the necessary structural change in urban agglomerations. The innovative CargoCap system, developed in interdisciplinary co-operation with economists, lawyers and engineers, offers far-reaching development potential for the industry involved in both the construction and operation of these systems. Even though CargoCap has not yet found any practical application, the topic is still so important that CargoCap was presented at the United Nations in Geneva and in the German pavilion "Future City" at the Expo in Dubai.

With the loss of Prof Stein, the professional world will miss its initiator and pioneer for the construction and maintenance of our increasingly important infrastructure facilities in the age of climate change. We owe him a great deal and will honour his memory.

---

Robert Stein



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NO DIG LIVE 2024

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International Society  
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# AFFILIATED SOCIETIES

ISTT Affiliated Societies around the world



## Austrian Association for Trenchless Technology (AATT)

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



## Brazilian Association for Trenchless Technology (ABRATT)

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



## Australasian Society for Trenchless Technology (ASTT)

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Web: www.astt.com.au



## Bulgarian Association for Trenchless Technology (BATT)

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



CHINA HONG KONG SOCIETY FOR TRENCHLESS TECHNOLOGY

## China Hong Kong Society for Trenchless Technology (CHKSTT)

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



## China Society of Geology - Trenchless Technology Committee (CSTT)

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



## Chinese Taipei Society for Trenchless Technology (CTSTT)

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Zhongzheng Dist, Taipei City, 100  
Taiwan  
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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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Web: www.czstt.cz



## Danish Society for Trenchless Technology - NoDig Infra (DKSTT)

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



## Finnish Society for Trenchless Technology (FISTT)

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



## French Society for Trenchless Technology (FSTT)

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



## German Society for Trenchless Technology (GSTT)

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



## Italian Association of Trenchless Technology (IATT)

Via Ruggero Fiore, 41 Rome Italy  
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## Iberian Society for Trenchless Technology (IBSTT)

C/ Josefa Valcarcel, 8 - 3a  
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Web: www.ibstt.org



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**Latin American Society for Trenchless Technology (LAMSTT)**

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Phone: +57 1 8764675  
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Web: www.lamstt.org



**Malaysia Association for Trenchless Technologies (MATT)**

No 44, Jalan Dungun, Damansara Heights, Kuala Lumpur 50490 Malaysia  
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**North American Society for Trenchless Technology (NASTT)**

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83A Srednyaya Str., Odessa 65005 Ukraine  
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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



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# NASTT UPCOMING EVENTS

## October 15-16

Western Regional No-Dig Conference  
Pomona, California, USA

## November 14

RMNASTT Trenchless Elevated 2024  
Sandy, Utah, USA

## October 23

Southeast Regional Conference  
Atlanta, Georgia, USA

## December 12

Gas Distribution Good Practices  
Virtual

## October 28-30

No-Dig North 2024  
Niagara Falls, Ontario, Canada

## March 30 - April 3, 2025

NASTT 2025 No-Dig Show  
Denver, Colorado, USA

## November 11-12

8th Annual Northeast Regional Chapter Conference  
Sturbridge, Massachusetts, USA

## October 27-30, 2025

NASTT 2025 No-Dig North & ISTT International No-Dig  
Vancouver, British Columbia, Canada

## November 13

CIPP Good Practices  
Virtual

## March 29 - April 2, 2026

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

For more information and the latest course offerings, visit <https://nastt.org/training/upcoming-events/>

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## EVENTS AND MEETINGS

### 2024

#### October 1-3 No-Dig Live 2024:

Featuring the UKSTT Annual Dinner & Awards Ceremony  
NAEC Stoneleigh Park, Warwickshire  
[www.nodiglive.co.uk](http://www.nodiglive.co.uk)

#### October 17 Grabenlos 2024 in Austria:

Kitzmantelfabrik in Vorchdorf, Vorchdorf, Austria  
[www.grabenlos.at/de/grabenlos-2024.html](http://www.grabenlos.at/de/grabenlos-2024.html)

#### October 23-24 No-Dig Turkiye 2024:

Featuring 8th Water Loss Forum  
WOW Istanbul Hotel and Convention Center  
[www.nodigturkey.com](http://www.nodigturkey.com)

#### October 31-November 1 First No-Dig Asia Pacific International Conference & Exhibition 2024:

Chiang Chen Studio Theatre, The Hong Kong Polytechnic University  
Email: [CHKSTT24@nhetravel.com](mailto:CHKSTT24@nhetravel.com)

#### November 5-6 Trenchless Middle East 2024:

Jumeirah Beach Hotel, Dubai  
[www.trenchlessmiddleeast.com](http://www.trenchlessmiddleeast.com)

#### November 28-29 First Ecuadorian Congress of Trenchless Technology:

Convention Center - Hotel La Quinta by Wyndham  
Quito, Ecuador  
Email: [dir.ejecutiva@lamstt.org](mailto:dir.ejecutiva@lamstt.org)  
<https://1ercongresoecuadorianotsz2024.lamstt.org/en/>

### 2025

#### January 11-12 Italia NO-DIG Live 2025:

Parco Esposizioni Novegro (Segrate - Milan)  
Email: [iatt@iatt.info](mailto:iatt@iatt.info)  
[www.iatt.it/en/home-page/](http://www.iatt.it/en/home-page/)

#### February 5-6 The Finnish No-Dig Conference 2025:

Vanajanlinna, Hämeenlinna, Finland  
Email: [info@fistt.fi](mailto:info@fistt.fi)  
<https://fistt.fi/save-the-date-5-6-2-2025-fistt-kansallinen-vuosikonferenssi-2025/>

#### April 23-25, 28th International Trenchless Technology Conference:

Suzhou International Expo Center, China  
[www.cstt.org.cn/](http://www.cstt.org.cn/)

#### May 21-22 Trenchless Asia 2025:

Kuala Lumpur Convention Centre, Malaysia

#### October 2 No-Dig Roadshow and UKSTT Awards:

Location to be confirmed  
[www.nodigroadshows.co.uk](http://www.nodigroadshows.co.uk)

#### October 27-29 International No-Dig 2025:

Vancouver Convention Center  
Email: [info@istt.com](mailto:info@istt.com)

#### November 5-6 No-Dig Turkey 2025 Conference and Exhibition:

WOW Convention Center  
Email: [yturun@akated.com](mailto:yturun@akated.com)  
[www.nodigturkey.com](http://www.nodigturkey.com)

#### Autumn 2025 Trenchless Middle East 2025:

Kingdom of Saudi Arabia

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