TRENCHLESSWORKS

THE VOICE OF THE TRENCHLESS COMMUNITY

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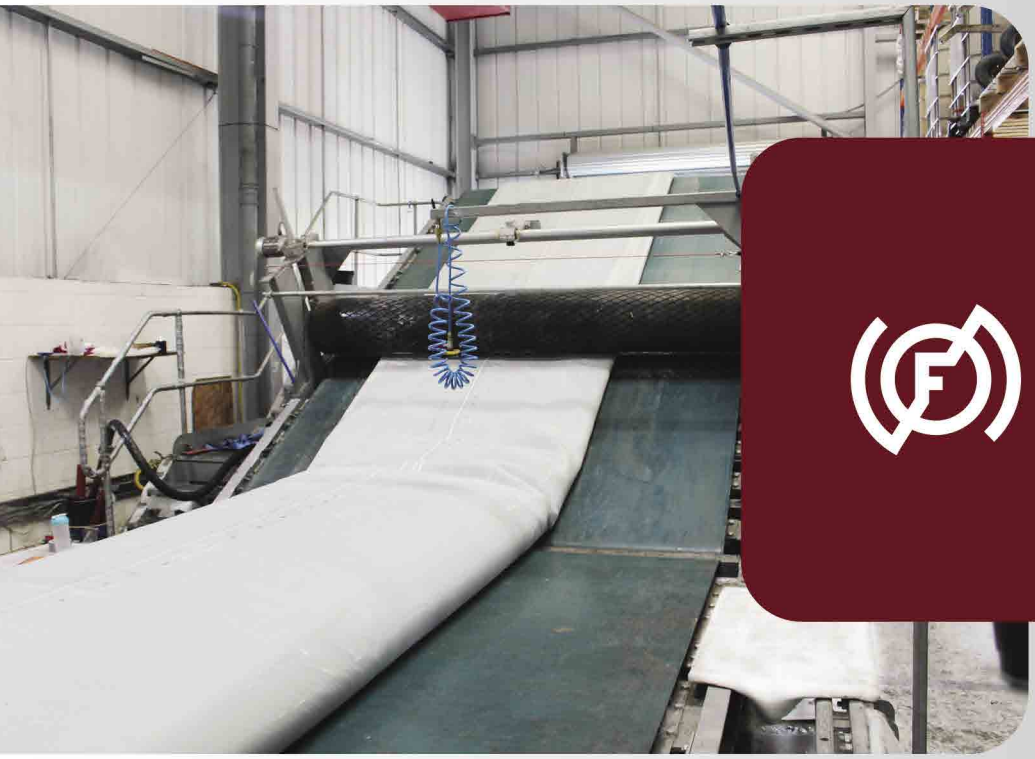

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CHANNELINE
Beyond the Ordinary

Beyond the Ordinary

SPOTLIGHT

Ian Clarke, Editor-In-Chief, Trenchless Works

"There is an old saying in the UK 'It Never Rains But It Pours'. In terms of changes and fluidity in the world at large, stresses on finances and political as well as, for us in the UK at least, Royal upheaval as well as the increasingly impactful effects of climate change this seems to be very much the case at the moment."

There is an old saying in the UK 'It Never Rains But It Pours'. In terms of changes and fluidity in the world at large, stresses on finances and political as well as, for us in the UK at least, Royal upheaval as well as the increasingly impactful effects of climate change this seems to be very much the case at the moment.

Changes are also evident in the lower more practical echelons of the world. The recent International Conference and Exhibition in Helsinki has seen the departure of the Chair of recent years, Jari Kaukonen, and the appointment of the new International Society for Trenchless Technology (ISTT) Chair Keh-Jian (Albert) Shou. Both Mark André Haebler – AATT and Kim Stahlie – NASTT were also appointed as Vice Chair of the organisation. ISTT also appointed a new Board member in Wing Chan of the China Hong Kong Society CHKSTT.

On behalf of Trenchless Works magazine, I would like to welcome all to the fray and look forward to working with you all for the continued promotion of Trenchless Technology for and into the future. I would also like to add my own thank you to Jari for his efforts in supporting the magazine during his tenure. Good luck with your future ambitions and commitments.

Looking more locally to me, there has also been change at the top for the United Kingdom Society for Trenchless Technology (UKSTT). After three years of hard graft Dawn Greig has stepped down from the Chair and handed the reins to Ian Ramsay. Dawn's tenure was highlighted by the fact that, due to Covid, she volunteered to serve for an extra year given the difficulties that Covid lockdowns etc. brought with them, as well as introducing many changes into the UKSTT format. We give her our sincere thanks for her time and efforts on behalf of the UKSTT and the industry as a whole and now welcome Ian on-board. Elsewhere in this issue, Ian has made a start with an outline of where he sees his own tenure aiming for the next two years. Again, we offer the support of the magazine wherever we might be able to assist in promoting Trenchless across the UK.

Finally, just to reiterate something you may also see later in these pages, do not forget to book your day for the forthcoming Roadshow in Warrington, UK, next month, where on 22 November visitors will see business leaders from across the UK's trenchless and utilities sectors at The Park Royal Hotel. The final Roadshow for 2022, this not an event to be missed. Sponsored by Cadent and United Utilities the Roadshow's conference programme will showcase the latest advances in trenchless technologies and techniques.

Ian Clarke

Editor-in-Chief Trenchless Works Magazine

GEBR. RÖDERS AG APPOINTS SENER POLAT AS HEAD OF SALES

Sener Polat, Hans Tidhult, Thorben Hentis

In his new role, Sener Polat will provide strategic guidance in sales and identify new business opportunities based on international growth plans.

Gebr. Röders AG, a leading supplier of needled felt product technologies for several industries in many markets, appointed a head of sales for their entire product range.

“I am really happy and excited to have the opportunity to lead such a fantastic team.” Polat said. “Our team is passionate about continuing to distinguish Gebr. Röders AG as a major supplier of needled felt products to our valued distribution partners. I look forward to working with our product management and marketing, development and manufacturing teams to provide our customers with the highest quality products and service they can expect from Gebr. Röders AG.”

Polat has over 20 years of experience in trenchless technologies and sales. Before joining Röders, Polat spent several years at a pressure pipe manufacturer as director for Business Development for the Caspian and Middle East region.

DON'T MISS NEXT MONTH'S NO-DIG ROADSHOW

2022
NO-DIG ROADSHOW

What do Chris Evans, Kerry Katona and Jessie Lingard all have in common? Give up? Well, they were all born in Warrington, UK! But this commercial hub in the heart of the northern powerhouse is not only a birthplace to the stars, it is also set to play host to the next No-Dig Roadshow which will be held in conjunction with the United Kingdom Society for Trenchless Technology (UKSTT).

Next month, Tuesday 22 November will see business leaders from across the UK's trenchless and utilities sectors descend on The Park Royal Hotel in Warrington for this not to be missed conference and exhibition.

Supported by Cadent and United Utilities and sponsored by iPEK the Roadshow's conference programme will showcase the latest advances in trenchless technology techniques along with updates on latest pressure testing.

As always, a key element of the event is its exhibition. This gives some of the sector's most innovative suppliers including IPEK, CIPP Supplies, Ashtead Technology and Public Sewer Services the opportunity to network and demonstrate their products to a highly engaged and targeted audience.

Looking ahead to the event UKSTT Chair, Ian Ramsay, said: "We are really looking forward to welcoming the UK trenchless community to Warrington for next month's Roadshow. The conference programme is one of the most exciting we have ever put together and the exhibition space features some of the most innovative companies and technologies. If you are interested in seeing the best the UK trenchless sector has to offer it is still not too late to participate or register to attended."

Warrington's excellent transport links and proximity to both Manchester and Liverpool means its likely to mirror the success of previous Roadshows in Dublin, Bristol, Glasgow and Belfast which each attracted over 200 visitors and more than 30 exhibitors. For more information and the full exhibitor list, visit – www.nodigroadshows.co.uk

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NO-DIG ROADSHOW 2022

2022 NO-DIG ROADSHOW

Part of a series of one day seminars and exhbitions providing an insight into the very latest innovations in trenchless technology

Warrington

Tuesday 22 November 2022

Venue: The Park Royal Hotel & Spa, Warrington WA4 4NS

REGISTER TO ATTEND!

The NO-DIG ROAD SHOW is held in conjunction with the UK Society for Trenchless Technology (UKSTT) and Westrade Group Ltd.

An integral part of the event is the exhibition, where several key industry suppliers will be demonstrating products and be available to discuss individual enquiries throughout the day.

The conference programme will showcase the most advanced trenchless technology techniques along with updates on latest pressure testing by United Utilities and Cadent.

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The No-Dig Road Show series is organised by Westrade Group Ltd and supported by the United Kingdom Society for Trenchless Technology (UKSTT)

AWARD-WINNING OHMIC CURING TECHNIQUE FOR MAKING PIPES

Stephen Gordon

Engineering Materials and Infrastructure Systems doctoral student and member of the Louisiana Tech University chapter of the North American Society for Trenchless Technology (NASTT) Stephen Gordon of Shreveport, Louisiana, USA has developed an 'Ohmic Curing Technique for GPC Pipe' to create pipes for underground construction from low carbon emission geopolymer materials.

Geopolymers, green alternatives to cement, are composed of industrial waste and take a long time to cure. The ohmic heating technique decreases curing time by using electricity to heat the geopolymer evenly. The process reduces the time it takes geopolymer materials to dry to a fraction of the time it takes traditional cement to cure. Using this research, crews can replace damaged roadways and rapidly cast pipes with geopolymers faster than with conventional cement methods.

Last spring, Gordon won the Trenchless Research Competition at the 2022 NASTT No-Dig Show for a poster presentation on the novel technique. At the time, the curing process he developed took roughly 30 minutes to complete. Over the last few months, Gordon and his advisor, Dr Shaurav Alam, Assistant Professor of Civil Engineering, Construction Engineering Technology, and member of the Trenchless Technology Center (TTC), have changed the geopolymer mix to cut that time frame in half.

Gordon, Alam, and key members of the Advanced Materials Research Lab at the TTC on Louisiana Tech's campus presented the technique to the U.S. Army Engineer Research and Development Center using a small-scale 3-D printable beam mould also developed in the lab.

"Without the support of Dr Shaurav Alam, Dr John Matthews (Director of the TTC and Associate Professor of Civil Engineering, Construction Engineering Technology, and Engineering and Technology Management), Dr Collin Wick (Associate Dean of College of Engineering and Science Graduate Studies and Research), and the TTC, my research would not have developed into what it is now." Gordon said. "The TTC and the wider College of Engineering and Science at Louisiana Tech University have given me many opportunities to expand and develop as an engineer. It was through the TTC that I was given the opportunity to travel to Minneapolis to attend the No-Dig Show. I am very proud to have won the award for Louisiana Tech University and the Trenchless Technology Center."

"Stephen is always an outside-the-box thinker." Alam added. "We started thinking about the possibilities of geopolymerisation using ohmic curing. His CRAZY mind developed the setup and the fundamental efforts to make it happen. If properly made, this rapid curing geopolymerisation has the potential to reduce pavement construction time by several folds."

"In the time Stephen has been a graduate student at Louisiana Tech, he has been a truly outstanding student that continues to impress with his demeanour, academics, and accomplishments." Wick said. "I am confident that he has a bright future."

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TRELLEBORG ACQUIRES PIPE REHABILITATION MARKET LEADER

Sealing the deal between Trelleborg and IST.

Trelleborg Group has, through its business area Trelleborg Industrial Solutions, signed an agreement to acquire an operation within sewer and drainage pipe rehabilitation. The German-based operation is part of the privately owned company, Innovative Sewer Technologies (I.S.T), and specialises in the manufacture of machinery, robotics, and liners used in trenchless pipe repairs.

This acquisition complements Trelleborg's current trenchless pipe repair offerings with new technology and materials. The operation's head office and manufacturing facilities are located in Bochum, Germany, with sales offices in Europe and the Americas, and a global network of independent distributors.

Andreas Renulf, President of the Trelleborg Seals and Profiles business unit, said: "Part of our strategy for growth is to extend our capabilities in trenchless pipe repairs globally. This acquisition strengthens Trelleborg's position in the pipe repair market, with the addition of Ultraviolet (UV) light curing technology and robotics for cured-in-place pipe repairs. We see synergies in both sales and production, with the operation complementing Trelleborg's existing offering with new technology and solutions, and a strong focus on R&D. This acquisition enables us to enter markets we previously have not had a presence in, specifically large diameter pipes and glass fibre reinforced pipes (GRP). We expect this acquisition to be finalised in the 4th quarter of 2022, with the operation integrated into the Trelleborg Industrial Solutions business area, within the Trelleborg Seals & Profiles business unit."

Jörg Vogt, Managing Director of Innovative Sewer Technologies said: "We are really excited to join Trelleborg. We differentiate ourselves by offering our customers advanced technological capabilities and high-quality products, something that will be enhanced through this acquisition. I am confident we will continue to thrive within Trelleborg."

Aging pipe infrastructure that results in increased risk of both undesirable leakage, inflow and infiltration, is a growing problem in large parts of the world and can cause unnecessary costs and environmental damage. During heavy rainfall inflow and infiltration can lead to increased water flow that requires treatment at a specialist sewage treatment plant.

This results in additional CO_2 emissions and associated costs. If the water flow is too large, the treatment plant may be bypassed, with excess water discharged into natural water courses such as lakes, rivers and the ocean, resulting in environmental contamination.

Trenchless pipe rehabilitation is an alternative to the traditional 'open cut replacement' method of repairing pipes. It allows the faster in-situ rehabilitation of pipes with a pipe-within-a-pipe solution, removing the need for the damaged pipe to be removed from the ground for repair.

HAMMERHEAD® TRENCHLESS OPENS CIPP 'ORDER FULFILLMENT CENTER'

HammerHead® Trenchless has announced the opening of its first U.S. Order Fulfillment Center (OFC) for cured-in-place pipe (CIPP) consumables. The Greencastle, Pennsylvania, USA location will help customers from Ohio to Massachusetts and south to North Carolina receive their CIPP consumable shipments in as little as one day. The OFC also offers same-day pickup to those who prefer to collect their orders at the facility.

The Greencastle OFC has been made possible through a partnership with transportation and logistics provider A. Duie Pyle. A. Duie Pyle is an award-winning, Less-Than-Truckload (LTL) transportation and logistics provider whose Northeast service capabilities have been expanded through its own established partnerships into the Southeast, Midwest, West Coast and Canada.

Paul Waskow, Inventory Control Manager at HammerHead Trenchless, explained how the OFC concept benefits CIPP installers. One is reliable, quick delivery. The OFC shortens shipping routes, reducing exposure to potential mid-route failures and crises that can delay delivery. A prime example is weather.

Waskow said: "A snowstorm in Ohio could delay a shipment from our Wisconsin facilities to a customer in New York. Yet the same storm would not impact delivery from Pennsylvania."

Perhaps even more importantly, Waskow said: "The OFC concept is a 'forward deployment of consumables' that enables more CIPP installers to confidently take on new jobs as they come up. A lot of installers just cannot keep a large enough supply of product on hand to ensure they always have what they need. The OFC improves product availability for them."

Customers within the Greencastle service area will notice minimal change in their ordering experience. "They will simply place their order same as always." Waskow said. "All that is different is quicker availability, knowing they will have the products they need as quickly as they need them."

The New X40

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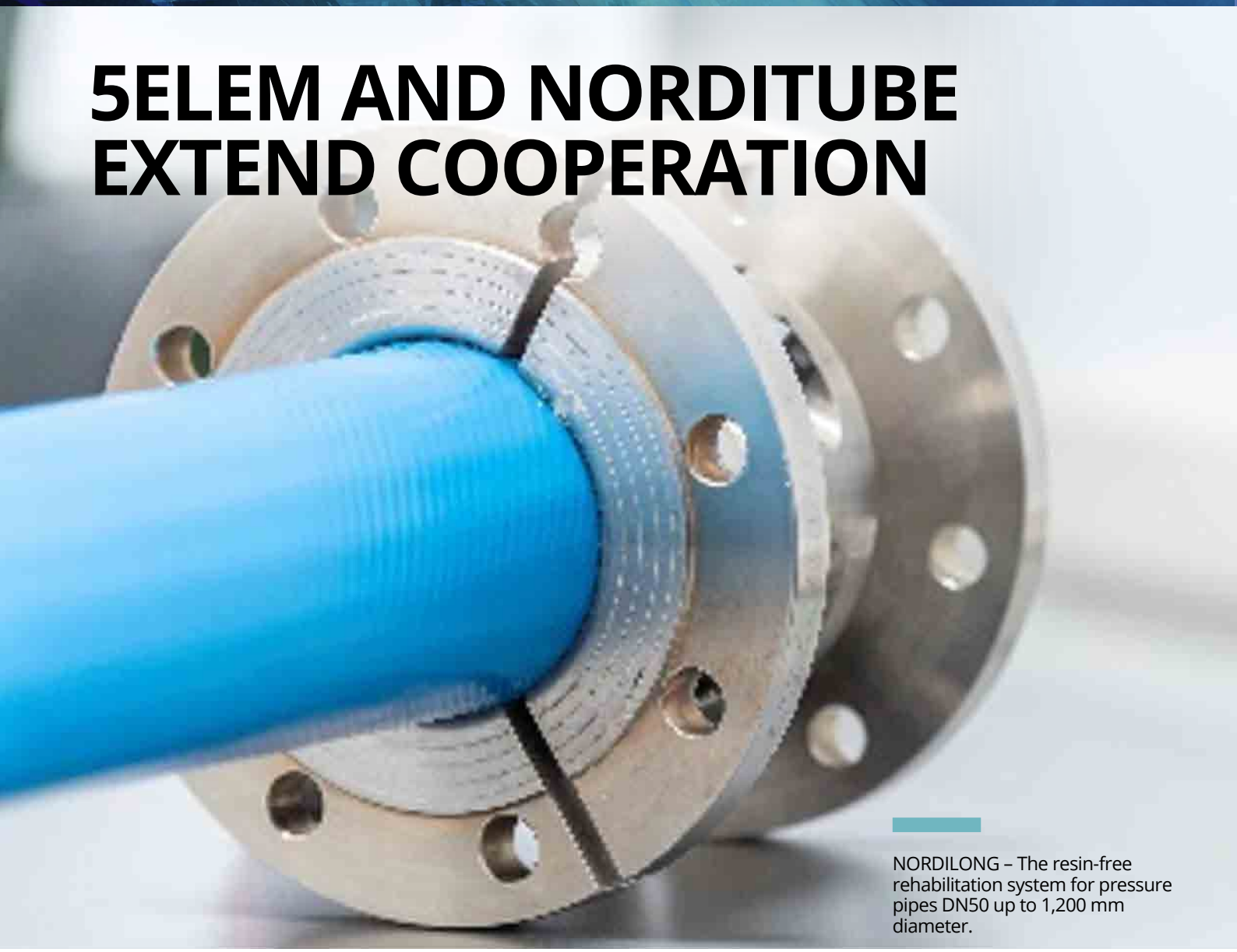
5ELEM AND NORDITUBE EXTEND COOPERATION



NORDILONG – The resin-free rehabilitation system for pressure pipes DN50 up to 1,200 mm diameter.

5ELEM and NordiTube extend their cooperation.

The cooperation of a leading Chinese tech-manufacturer with a leading European pipe rehabilitation technology provider is advancing to the next level.

The signing of a master license for the Chinese market, in July 2020, was the beginning of the strategic partnership between 5ELEM and NordiTube. Now, two years later, 5ELEM has become the main shareholder of NordiTube Technologies SE. Together the two companies will expand their presence and will provide their rehabilitation technologies to customers in all global markets.

5ELEM, located in Jiangsu, China, is one of the leading manufacturers of high-quality woven jacket hoses and rubber covered hoses in the world for a wide range of applications such as firefighting, irrigation, mining, marine, petrochemical, water discharging, manure transfer, fertilizing and shale gas exploration.

NordiTube Technologies has already established a global position as the leading technology provider for trenchless pipe rehabilitation especially for pressure applications, like potable water and gas and has been producing CIPP liners for more than 35 years with its own production site in Belgium. NordiTube's long-standing experience in producing CIPP rehabilitation liners is an optimal condition for the cooperation. >

NORDIFLOW - CIPP Liner for pressure pipes.

NORDILONG is the optimal solution for trenchless pipe rehabilitation of pressure pipes.

PARTNERSHIP

Thanks to the partnership, 5 ELEM and NordiTube are able to offer leading expertise in No-Dig technology production with local know-how and service in all global markets. NordiTube contributes its leading expertise in innovative technologies, comprehensive know-how and proven systems while 5ELEM contributes the hi-tech infrastructure for the production and access to the fast-growing Chinese market.

At the same time, 5ELEM has become a minority shareholder in RTI Austria Group, a leading rehabilitation service provider with international references and partners. This will allow the new 5ELEM – NordiTube Cooperation to support global customers with RTI Austria Group's experienced design and installation teams.

5ELEM and NORDITUBE are now providing the largest portfolio of pipe rehabilitation technologies as solutions to solve problems related to aging pipe infrastructure.

"We are very happy to announce the next step of our cooperation with 5ELEM, which represents an excellent opportunity for us to expand production capacity for NordiTube´s technologies worldwide. The additional production facilities and the additional 5ELEM products, like the High-Pressure Long Distance NORDILONG, will be a perfect complement to our global representation." announced Jan Luksch, Managing Director of NordiTube Technologies SE.

TRENCHLESS TECHNOLOGY INTERNATIONAL SEMINAR 2022 MEXICO

30 November 2022

Westin Hotel, Santa Fe, Mexico

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

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

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TRENCHLESSWORKS

RAUSCH ACQUIRES DART SYSTEMS

Stefan Rausch, Managing Director/CEO of RIG

Rausch International Group GmbH ('RIG'), a Harald Quandt Industriebeteiligungen GmbH ('HQIB') portfolio company, has acquired Dart Systems Ltd ('Dart'). The Founder and Managing Director of Dart, Stuart Arkell, will continue to manage Dart's day-to-day operations.

He will be complemented by Paul White, who joins Dart as Managing Director, amongst others, to accelerate the crawler and rehab business. Paul joins the highly successful Dart team, bringing over 30 years of experience in all aspects of underground utilities, sewer and drainage, in the UK but also in the Middle and Far East regions. The parties have agreed not to disclose further transaction details.

Combining RIG (one-stop-shop portfolio of crawlers, push-rod cameras, leak testing systems, cutters, UV-curing equipment with a global market presence especially in continental Europe and the US) and Dart (push-rod cameras, endoscopes and borescopes with a strong local presence in the UK) offers vast potential, both by selling RIG's product portfolio in the UK as well as selling Dart Systems' products worldwide.

Stefan Rausch, Managing Director/CEO of RIG, said: "Our partnership with Dart represents a further step in confirming our position as an internationally leading group in CCTV inspection and rehabilitation systems. Dart's portfolio meets exactly the requirements of our existing international sales network and with Dart, we have found an ideal platform for our RIG portfolio in the UK. As a joint group and with the support of HQIB, we see ourselves well positioned to continue our successful growth story".

'The combination of Rausch, minCam and Dart creates an international growth platform for CCTV inspection and rehabilitation systems which stand for quality 'Made in UK & Made in Germany'. Rausch, minCam and Dart ideally complement each other through their respective product portfolios and their international sales networks." added Gregor Harald May, Managing Partner of HQIB. "We will support the strategic cooperation through the experience, resources and international network of the Harald Quandt family."

"We are excited about working with RIG. Together, we can offer an unparalleled range of products to the UK market as well as better promote our products internationally. Paul offers a wealth of experience and knowledge to this important role and has an exceptional track record of growing businesses and delivering strategic transformation. His appointment reflects the ambition of Dart and RIG both in the UK and worldwide." said Stuart Arkell, Founder and Managing Director of Dart.

FINDING SOLUTIONS WITH AARSLEFF OY

Choosing a partner with whom you can start looking for the best possible solution to a project is important. Aarsleff Oy offers many different unexplored solutions. In its own factories, it manufactures GRP panels, impregnate lace-fibre hose and felt hose.

The start manhole arrangement in the school yard in Turku.

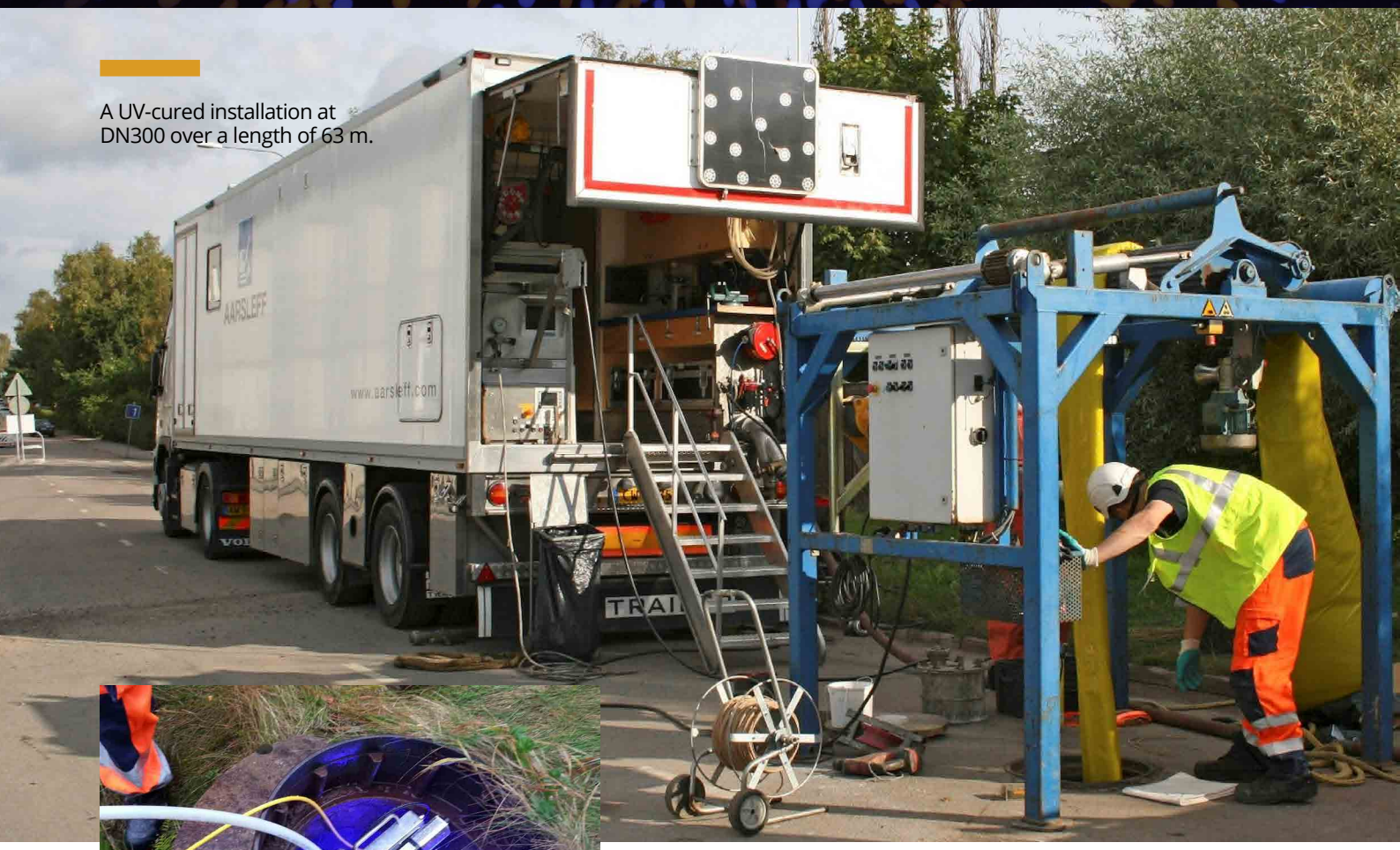
The company use CIPP hoses that are hardened in four different ways. They can be impregnated with three different resins and their frame material can be selected from three different types. With the various combinations of these options, Aarsleff Oy finds the most technically and economically suitable solution for each application. The company is also able to carry out long installations and on pipes with bends or depressions.

TURKU

An example is when Aarsleff Oy renovated the Sikaoja collector sewer near the centre of Turku, Finland. The pipe was 1,800 mm diameter and runs partly under a busy street. There was also a children's kindergarten and a large school nearby. It was decided to carry out the renovation during the school summer holidays, when it was possible to take advantage of the empty school yard and reduce the inconvenience to traffic. A water-fitted felt liner impregnated with polyester resin was chosen. Between 2021 and 2022, a total of 3,094 m was installed in Turku in size ranges from DN1300 to DN1800.

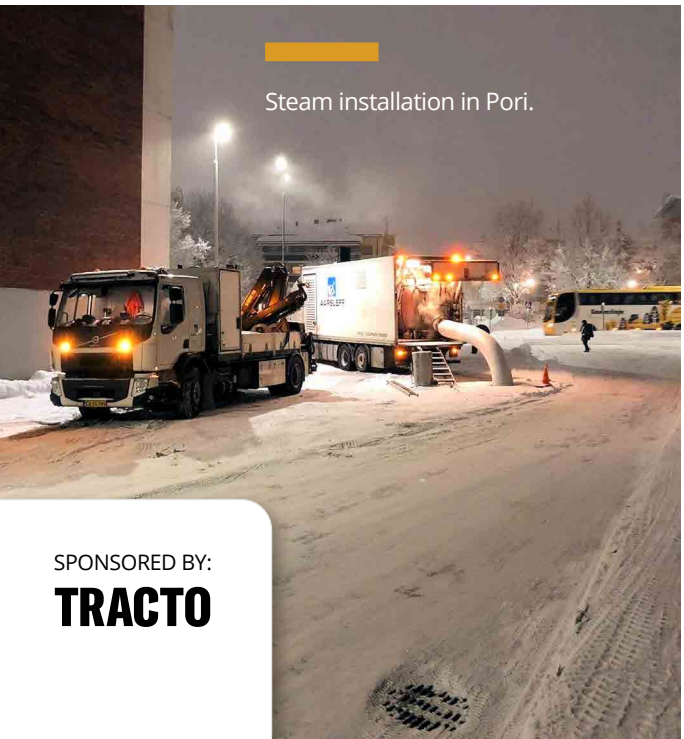
KANGASALA

In Kangasala, Finland Aarsleff Oy renovated a DN225-300 frame sewer located in a quiet detached house area. In this project, the company found the UV-cured liner to be the most competitive and technically the best solution in terms of price, so implemented the project as a UV-hardened fibreglass liner. >



A UV-cured installation at DN300 over a length of 63 m.

LED installation in a DN150 drain branch of a property in Helsinki.



Steam installation in Pori.

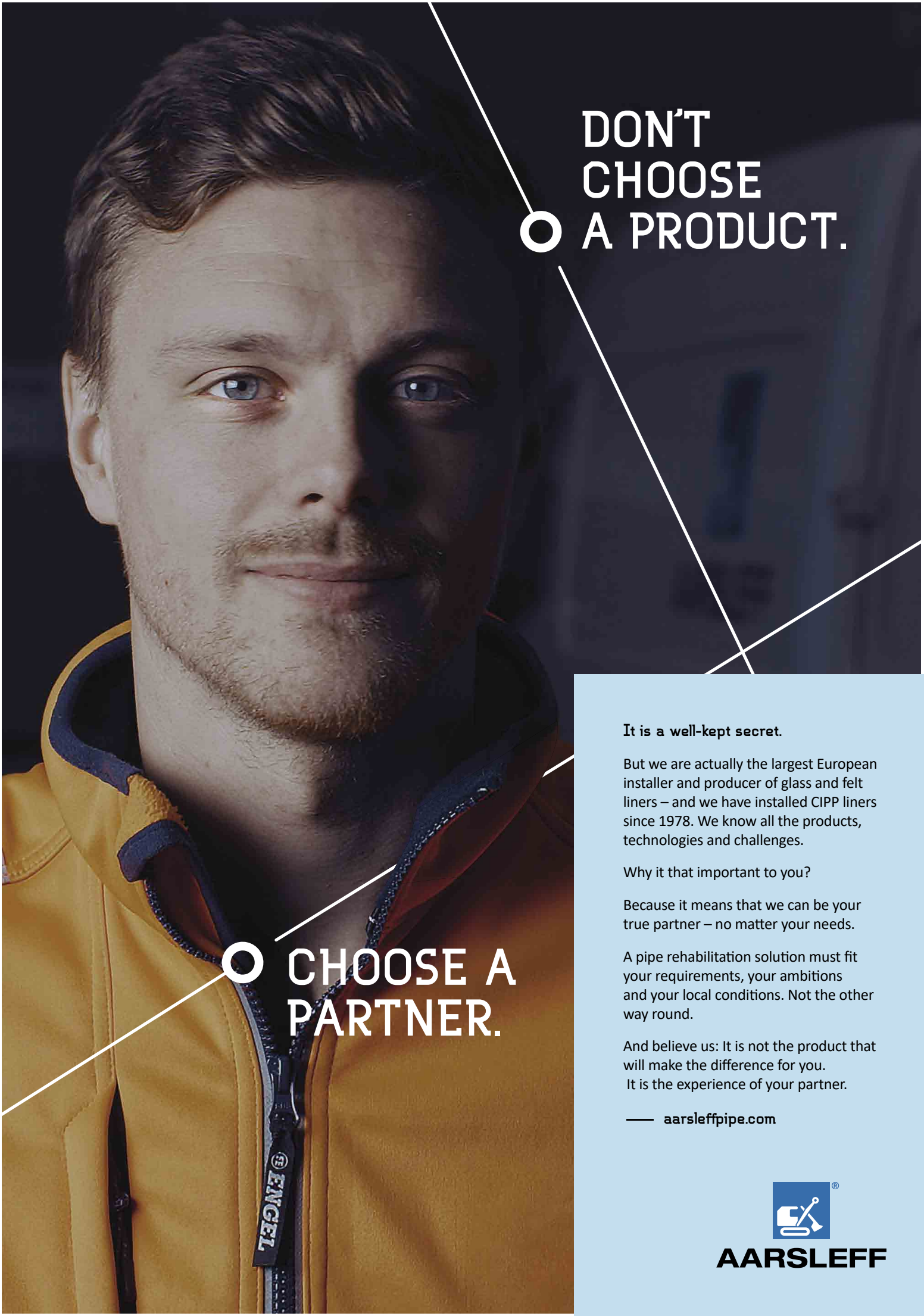
PORI

In the spring of 2022, Aarsleff Oy carried out an extensive project in Pori, Finland during which a total of almost 8,000 m of sewers were renovated. Pipe sizes ranged from 300 mm to 630 mm. Most of the pipes were best suited for steam installations, so almost exclusively the project was competed using steam-cured liners. There were pipes in a wide variety of environments, some in quiet detached home areas, some in busy streets.

Pori is a low-lying coastal region where groundwater is close to the surface and the soil is fine and easily disturbed. Therefore, the liner nozzle is ideal for Pori, and the vapour-hardened resin ensures that the liner hardens over its entire thickness.

LED

Aarsleff Oy also has LED installation equipment that is well suited for smaller installations. With this equipment, the company is able to make high-quality and cost-effective installations, for example, the drains located under houses. LED installations are best suited for pipe sizes of DN100 to DN225.



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It is the experience of your partner.

—— **aarsleffpipe.com**

AARSLEFF®

HOW COMMON SENSE TURNS INTO SUSTAINABLE INNOVATION

Plastic bottles can be recycled into liner felt.

Aarsleff Pipe Technologies (APT), has developed a number of green initiatives over the years that implements and defines a direction for its customers, its employees and for society in general. But, the company says it is not there yet, but is well on its way.

The construction sector is among the world's largest consumers of natural resources and emitters of CO_2. This requires it to take responsibility, to be receptive to new demands and changing expectations and to be able to turn climate challenges into sustainable opportunities.

Being a European market leader in trenchless pipe renewal brings with it a clear responsibility. The company wants to contribute to the green transformation of the construction industry and ensure that the Aarsleff Group has a common approach to sustainability that creates value for customers, employees and society.

Over the years, the Group has launched a number of initiatives to help Aarsleff Pipe Technologies move in a more sustainable direction. Some of the initiatives are brand new. Others are more than 10 years old. But what they all have in common is that they are promoting the green transformation in the construction industry.

Documented CO_2 savings

In itself, the company's CIPP lining method is a very environmentally friendly alternative to pipe renewal by excavation, because it avoids putting the surrounding infrastructure on standby. APT's method also allows it to complete the renovation within a few hours and, using its environmentally friendly LED curing method, ensure a uniform and fast curing of the liner. >

To better measure the impact of its trenchless solution, APT has worked with Sweco, Europe's largest architectural and engineering consultancy, to develop a CO_2 calculation model that shows the CO_2 emissions of an excavation solution versus its trenchless solution. Each time the company prepares a quote for a potential customer, it prepares a specific calculation of emissions and attaches it to the proposal, so the customer can see the actual CO_2 savings for their particular project.

"We know that our customers have ambitious sustainability goals and with our calculator, we can prove that our solution helps them get a step closer to achieving their goals." stated Technical Support Manager at Aarsleff Pipe Technologies, Kristian Hjelm Jacobsen.

"We know that our customers have ambitious sustainability goals and with our calculator, we can prove that our solution helps them get a step closer to achieving their goals."

From Soda Bottles to Recycled Felt

At Aarsleff Pipe Technologies, up to 90% of its felt liners are made from recycled fibres from PET bottles, a type of plastic bottle made from polyester that is typically known as water and soda bottles. The bottles are broken down into flakes, which are melted down and spun into new fibres that are used in the felt liner.

According to Kristian, the use of recycled felt is nothing new. It has been around for many years: "The liner has been part of our standard product range for more than eight years. Some 10 years ago, we started testing the use of PET bottles to make recyclable fibres into felt. We also tested other recycled materials, but found that from a quality perspective, PET bottles gave us the best material compared with virgin fibres." He added: "When we started the project 10 years ago, we mainly did it for economic reasons, and we have to admit that we did not have the same focus on sustainability back then. It was just common sense. But today, we can see that the project serves a greater environmental purpose, and now the price of the recyclable fibres is actually higher than new fibres. We see it as an investment in a more sustainable future."

In addition to the use of PET bottles in the felt liner, five years ago Aarsleff Pipes began testing the use of PET bottles in the resin used to impregnate the liner, so that no wastewater seeps through the liner and into the surrounding environment. The company is currently testing a combination in which 20% of the resin comes from recycled polyester, while the remaining 80% is made from virgin polyester.

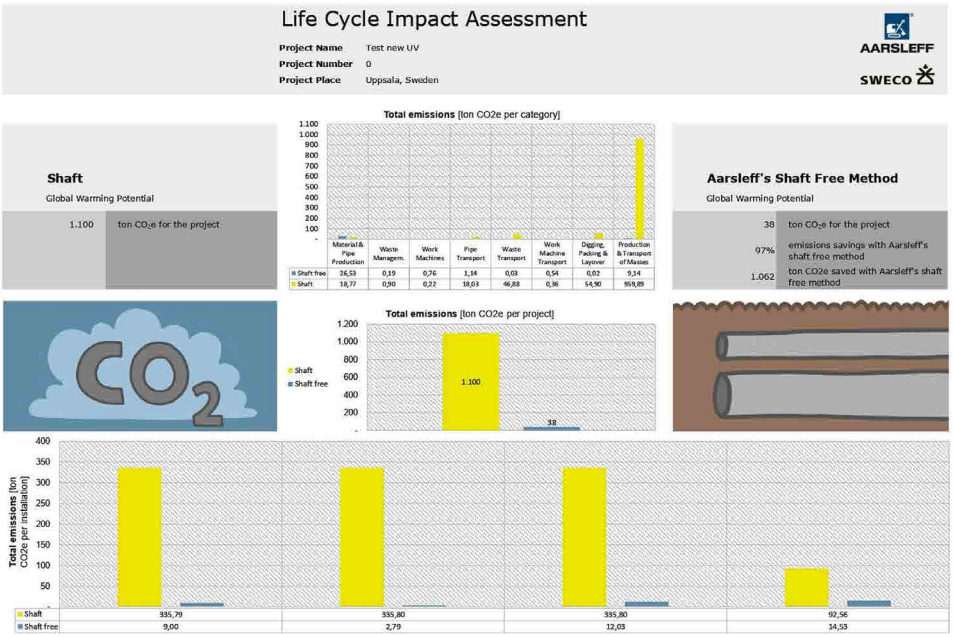
"We need to be absolutely sure of the quality we deliver. We have found that we cannot use more than 20% recycled material if we want to maintain the quality and life expectancy of the product." explained Kristian Hjelm Jacobsen.

Sustainable deliveries

The fact that Aarsleff Pipe Technologies is launching a number of sustainable initiatives itself is one thing. Ensuring that its suppliers are also riding the green wave is another.

New sustainability requirements mean that increasingly operators must be able to document the CO_2 emissions of the processes, materials and supplies of pipe renewal projects. In tender documents, increasingly the industry will start to see sustainability as an important criterion for selection.

Therefore, APT has started developing procedures to increasingly rate suppliers on a number of different environmental factors, so that its deliveries can become increasingly sustainable from cradle to grave. >



However, this is not an overnight process. According to Kristian, examining which national and international tools and standards should form the basis for the measurements and data processing is a very important task: "It is important that we and our suppliers work from the same tools, to make it completely transparent to the customer how the measurements are made. We are worried that, in some markets, models will appear that do not meet international standards, and we want to avoid that at all costs. We need to be able to compare apples with apples and oranges with oranges. It is as simple as that."

Green partnerships

At Aarsleff Pipe Technologies, it is in the process of its green transition, but cannot do it alone. That is why it does not view its work as a delivery either. APT sees it as a partnership, where it and its customers work together to reap the climate-friendly gains in the market.

Kristian believes that knowledge sharing is an important element of this partnership saying: "With more than 40 years of experience in piping technology, we have handled pretty much everything. We have endured many upswings and downturns, experimented and made mistakes, all which we are happy to share. In the same way, our customers have a lot of knowledge that makes us smarter. He concluded: "If we use this knowledge to challenge and inspire each other, we will continuously improve our solutions and strengthen sustainable innovation in the industry."

No Quick Fix

APT knows that the sustainable transformation is not a quick fix that will be completed tomorrow. It is a resource-intense journey that will inevitably involve detours and obstacles along the way.

"The future will probably entail elements in the triple bottom line, social, environmental and economic, becoming more or less equal. For example, we cannot have a sustainability agenda without someone paying for our development projects, and we are realistic about that." said Kristian.

Through the Aarsleff Group ECO Center, established in January 2021, the company is working across business units to increase the volume of innovative, sustainable initiatives. For the benefit of customers, employees and society. It is not there yet, but it is well on its way.

RELINEEUROPE: IN-HOUSE EXPERTISE IN GLASS

RELINEEUROPE opened its 'Glass Center of Excellence' in Rheine in Germany's Münsterland region as far back as late 2020, marking a further milestone in the implementation of its strategy.

RELINEEUROPE can influence each individual glass-fibre when manufacturing an Alphaliner.

Based in the southern Palatinate, RELINEEUROPE, a global system supplier of trenchless pipeline rehabilitation technologies, has been at the forefront of the industry for over a decade. Over the past 13 years, RELINEEUROPE has supplied over 7,000,000 m of its Alphaliner GRP hose liners for trenchless rehabilitation projects in more than 60 countries via its international affiliates. It is a leading provider of UV-light-cured GRP hose liners for use in pressure and non-pressure pipes, producing more than 900,000 m every year.

Its innovative UV Technologies department is also playing a leading role in the curing of UV-light-cured GRP hose liners. RELINEEUROPE claims to be the only company worldwide to have in-house teams developing and manufacturing not only GRP hose liners, but also the UV equipment and accessories required for curing and job site handling.

An Unerring Focus On Quality

Being able to influence the quality of the Alphaliner as early in the process as possible has been RELINEEUROPE's vision ever since it was founded in 2009 and was the motivation behind the launch of its Total Quality Management (TQM) system. Less than a decade later, the company dared to take another key strategic step after an intensive period of development and planning, opening its Glass Center of Excellence in Rheine in the >

"We are an experienced team and have created more than 20 new jobs. Every single square meter of our production and storage space has been carefully planned out and the space is optimally utilised."

Finished glass-fibre fleece ready for fitting inside an Alphaliner.

Münsterland. Nowadays, it manufactures glass-fibre fleeces on three cutting-edge production lines in close consultation with headquarters in Rohrbach. These fleeces go on to be fitted inside the Alphaliners, which are used all over the world, not only the Alphaliner 500G and Alphaliner 1800H but also GRP liners for pressure pipes and those that can handle changes in dimensions. Intermediate products for the AlphalinerPN and the AQUA.UV CIPP (GRP liners for pressure pipes) are also manufactured.

"When the first machine for making glass-fibre fleeces was delivered shortly before Christmas in 2020, we were still smiling about the unused space in our 4,500 m^2 production facility." remembered Barbara Solzbacher, Head of Research and Development, who has been there since day one. "Today, we are an experienced team and have created more than 20 new jobs. Every single square meter of our production and storage space has been carefully planned out and the space is optimally utilised. I am extremely proud that we have been able to turn a vision into reality in just a few months. This ambitious aim has been realised thanks to an aspiring, highly motivated team that is not only pulling together but that wants to develop the Rheine site further."

Realising A Vision

It took just a few weeks to install the first few machines for making glass-fibre fleeces. Since late January 2021, the Glass Center of Excellence has produced up to 7,000 metric tons of fleeces a year, which are sent out all over the world from their home in the northern Münsterland.

"Taking this strategic step of making our own fleeces means that, not only can we exert more of an influence on the quality of our GRP liners right from the get-go, but we can also implement new developments and fine-tune our products much faster." Solzbacher explained. "This clout gives us a significant edge over our competitors. At the same time, choosing the best possible location was also an important factor, because the shortage of skilled labour is a problem for us too. The textile industry goes back a long way in this part of the world and has evolved and become firmly established over centuries."

Rheine is situated in the northern county of Steinfurt, right on the A30 freeway and just under 350 km north of company headquarters in Rohrbach in the Palatinate. Besides its expertise in textiles and scope for expansion, the site boasts ideal infrastructure and, as a logistics hub, enjoys an unbeatable strategic location for bringing in raw materials and sending out its glass-fibre fleeces. In addition to the nearby Mittelland Canal and the good freeway links, it can also make particularly effective use of Europe's largest and most state-of-the-art port at Rotterdam, as well as the seaports at Amsterdam, Groningen, Hamburg, Bremerhaven and Wilhelmshaven.

CONTOUR PIPE INSTALLATION ON THE STEEP SLOPE OF PUIJO

The aqueduct to be renovated on the slope of Puijo was a DN300 SG pipe built in 1966, with a length of 123 m. It serves as a supply line for the Puijo II top water tank. During the day, this water tank distributes water for consumption in several districts of the city. The water supply to be renovated was a significant main line and water is supplied through it, for example to the Kuopio University Hospital. The aqueduct was in fairly good condition, but the owner wanted to renovate it to ensure operational reliability. A particular challenge for the renovation was the fact that the pipeline was located on the steep Puijo slope, at a slope of about 45°.

A particular challenge for the renovation was the fact that the line is located on the steep Puijo slope, at a slope of about 45°.

JOHAN LUNDBERG OY

”In the first phase, Johan Lundberg Oy’s (JLOY) tasks included evaluating possible methods and suitable materials, assessing the cost of different no-dig options, making a recommendation for renovation and pipe material, and risk assessment. The aim was to get a view on the best way to renovate the aqueduct. Once the renovation method had been decided, JLOY drew up a construction plan and acted as a construction consultant, making all the necessary documents in Finnish and English for invitations to tender. During the construction phase, the company also acted as the client as a technical supervisor.” said Sari Pietilä, an expert at JLOY.

”At different stages of the project, we were in contact with both domestic and international experts, material suppliers and contractors. Communication was handled smoothly through my extensive international network, which is a result of working in the field since the 90s.” added CEO Jukka Huusko.

For the client Jani Liukkonen, Kuopion Vesi Oy was asked to comment. He was asked, ‘What was it like working with JLOY’s experts throughout the project?’ He replied: “In my opinion, two of the most important things in a consultant’s work are to stick to schedules and know their own role in the project. JLOY’s experts performed these perfectly. They were also easy to approach on any issue. They did exactly what they were asked to do. Although the schedule of the project was tight in terms of preparatory work, JLOY took care of things quickly and on time. Throughout the project, JLOY’s experts had the right kind of approach for their work, which allowed the client to take it easy when faced with a new and unfamiliar renovation method. >

Left: JLOY's Jukka Huusko talks with the contractor at the construction site.

Right: Jani Liukkonen at the construction site

He was further asked: How did the project succeed? He replied: "The project was a great success. The team of the contractor Pollex Ab was nice and businesslike, and the work was really professional. Each employee had their own role and responsibility, due to which the work progressed seamlessly forward. I really appreciated the fact that they told me what was going on at which stage and why."

Jani Liukkonen concluded saying: "This project gave Kuopion Vesi Oy a lot of valuable knowledge and experience in unexplored methods. I believe that this and other ways of renovating the unexplored method will increase in Kuopio in the future as well. Many thanks again to Pollex Ab and JLOY for the whole project Success. Hopefully, we will continue to work together in the future."

For the contractor Pollex AB, a member of No-Dig Alliance, Tobias Wingqvist said: "We are very pleased with the progress of the project, it was carried out in the best possible way and all parties were very professional. The preparatory work carried out by Johan Lundberg Oy and Mestar Kuopio Oy was thorough and laid the foundation for a smooth installation. Pollex AB is satisfied to have completed its first form pipe installation in Finland!"

Pollex AB's equipment.

FIRST DRINKING WATER MAIN SPRAY LINING IN AMP7

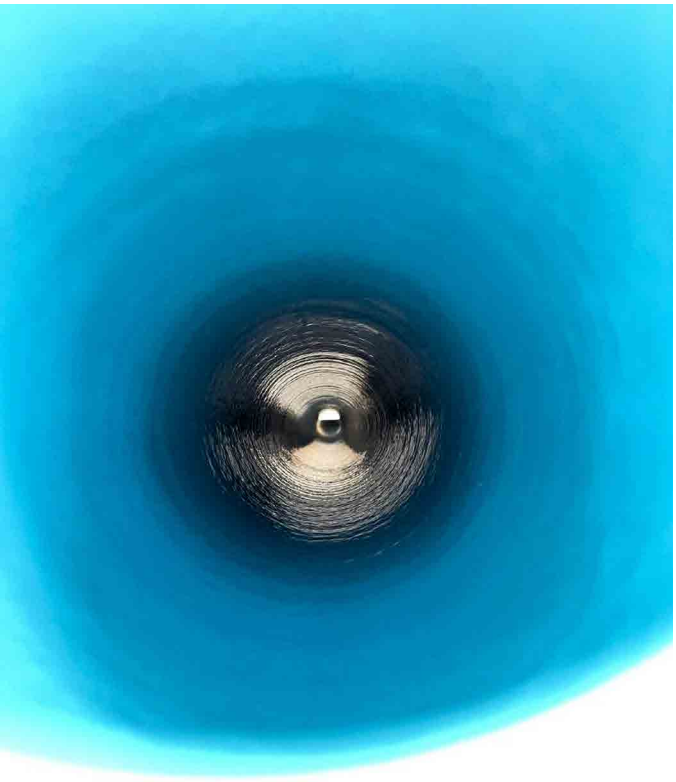
Before spray lining.

Morrison Water Services, a part of M Group Services' Water Division, is working in partnership with Yorkshire Water to deliver a drinking water spray lining programme, believed to be the first of its kind across the water sector in AMP7.

Targeting structural and water quality issues within the existing pipework, spray lining is part of a £2 million programme targeting 14 km of pipework over the coming year for Yorkshire Water.

Spray lining provides significant reductions in carbon, cost and time. It also reduces the disruption for customers, by reducing the time and extent of streetworks needed for pipework excavations and traditional replacement schemes.

The use of spray lining on this programme is anticipated to reduce cost and embedded carbon both by up to 60% and reduce the amount of time on site by three quarters (75%). The reduction in excavation, lifting and plant movement is also safer for operatives on site. >



After spray lining.

Morrison Water Services is the only contractor in the UK accredited to carry out spray lining on the drinking water network. It is also accredited to provide the service on the wastewater network.

Once completed, the next generation of lining materials will ensure the pipe network has a design lifespan of another 50 years.

Insitu spray lining is a method of lining pipes with a thin layer of resin which is centrifugally sprayed on to the inner surface of a cleaned pipe. The lining materials applied have a design life of up to 50 years, are approved under Regulation 31 of the Water Supply (Water quality) Regulations 2016, which ensures the standards of chemicals and construction products used on the drinking water network in the water industry.

Spray lining is only undertaken after the suitability of the pipe has been confirmed through investigation. Each application is subject to a bespoke technical approach and all the work is audited through and end-to-end quality plan.

Chris Raper, Head of Programme Delivery for Morrison Water Service Yorkshire Water P4Y contract, said: "In the demanding environment of AMP7 the continued asset health deterioration from an ageing network of clean and wastewater infrastructure pipelines, there is an urgent need for an alternative to traditional pipeline replacement. Spray lining offers one such cost effective and sustainable solution. Our industry-leading use of spray lining delivers best value for our clients and reduces the carbon footprint of the programme which is better for us, our client and the environment. Completing our works more quickly also reduces the inconvenience and cost of streetworks needed for excavations and more traditional methods of pipe replacement."

Chris added: "Our leading position in the use of this technology in the water sector reflects our capability, end-to-end quality control commitment and the expertise of our people. The benefits of the materials and the quality of our application have been proven over many years and we are pleased to be able to using this innovation for the benefit of our clients and the customers they serve."

Nathan Sunderland, Yorkshire Water's Asset Planning Manager, said: "We are delighted we are able to begin our lining programme, working in partnership with Morrison Water Services. Having lining as an alternative to mains renewal will contribute towards hitting some challenging performance commitments, as well as achieving our financial and carbon targets. We look forward to using this technique for the remainder of AMP7 and beyond."

Morrison Water Services will be tracking the benefits for clients and the environment throughout the delivery of this programme.

Andy Taylor, Atkins Global.

HOW RATS CAN HELP DEVELOP SEWER REHABILITATION SCHEME

"RATS (Rehabilitation Automation Tool for Sewers/Stormwater) is a digital tool to automatically develop sewer and drain pipeline rehabilitation schemes from coded CCTV survey data to significantly reduce the time and cost of this activity."

Andy Taylor from Atkins Global recently presented 'How RATS can help develop sewer rehabilitation scheme' at the International No-Dig Conference and Exhibition in Helsinki.

RATS (Rehabilitation Automation Tool for Sewers/ Stormwater) is a digital tool to automatically develop sewer and drain pipeline rehabilitation schemes from coded CCTV survey data to significantly reduce the time and cost of this activity. It has been developed to accept .XML files from Wincan software or Excel files. Based on the coded data, RATS recommends appropriate forms of sewer rehabilitation, such as full length reline, patch repair, re-round and reline, and excavation. For anomalies or complex combinations of defects, the survey is exported for Engineer Review.

RATS was originally developed in accordance with the UK Manual of Sewer Condition Classification (MSCC), but has been configured to the North American Pipeline Assessment Certification Program (PACP), for which there are several differences in relation to coding and scoring, together with the use of imperial units.

By using RATS, various clients have been able to quickly and accurately scope gravity pipe rehabilitation schemes to expedite their asset improvement process through a prioritised programme of interventions to reduce risk of failure and inform business planning. Furthermore, with the increasing squeeze on resources across engineering, RATS and other digital applications are now being regarded as a way to overcome the skills shortage.

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UPGRADING WATER AND SEWER NETWORKS FOR NURMIJÄRVI, FINLAND

Preparing the site for the new pipe installation.

Nurmijärvi Water is responsible for water supply in the municipality of Nurmijärvi, Finland from water production to the treatment of sewer water through water supply and sewer water collection. The municipality of Nurmijärvi is located in Uusimaa, about 30 km from Helsing.

Nurmijärvi Water has 350 km of water supply network and 300 km of sewage system. The waterworks has two wastewater treatment plants and 6 water intake plants in active use. In 2021, the volume of domestic water pumped has been 2.3 million m^3 and the invoiced water volume has been 1.8 million m^3. The invoiced amount of wastewater has been 2.1 million m^3 and the amount of treated wastewater 3.1 million m^3. There are 6,700 customers who have joined Nurmijärvi Water, which has a population of about 39,000 out of the municipality's 44,000 inhabitants. >

The new pipe being installed during the pull-in operation.

Varying sites needed to be prepared for the different projects in hand.

Nurmijärvi Water actively uses No-Dig methods in its water supply network renovation. In autumn 2022, three separate projects are due to be underway, all of which are renovating the water supply network using No-Dig methods. At the time of writing, two projects were just starting and one of the projects was in the final stages of work.

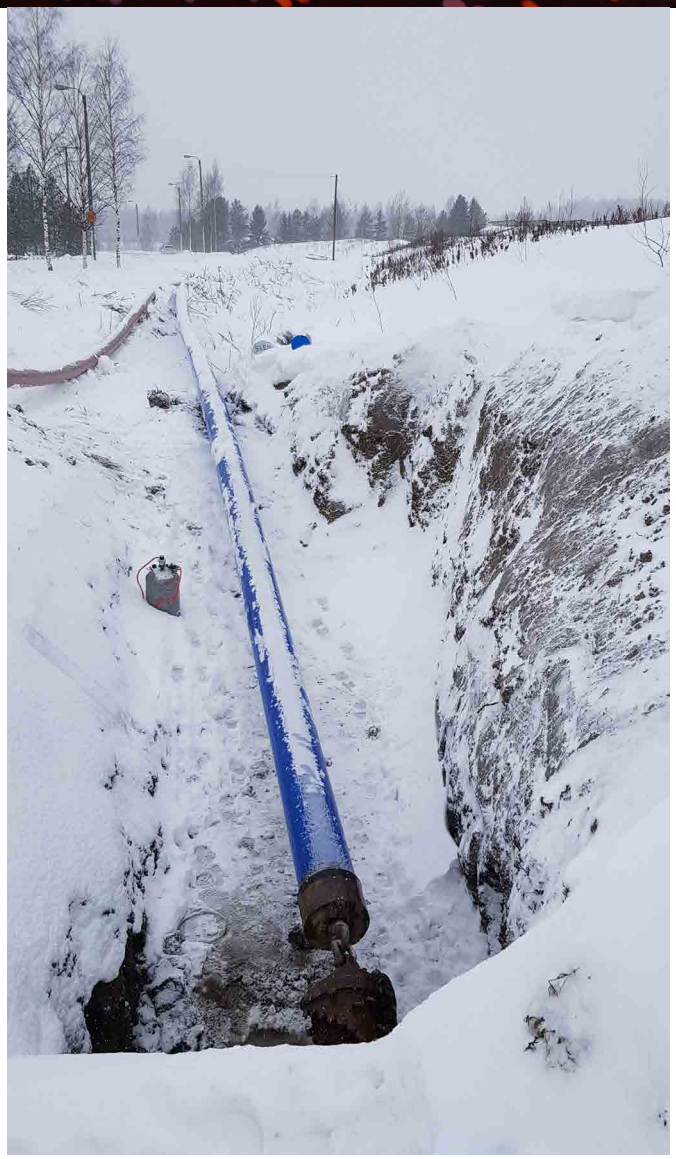
Aqueduct Renovation between Nummenpää water intake and Klaukkala

This project has consisted of three separate projects, the first part of which was built in 2019. In total, this project has covered a total of 9 km of renovation of the 1972-constructed DN250 and DN300 asbestos-cement main aqueduct, in addition to which the DN225 PVC pressure sewer has been renovated over 2.3 km and 5.2 km of new distribution line has been renovated and partially built. The new pipe sizes for the main aqueduct are DN280 and DN315, the pressure sewer DN315 and the distribution line DN110. For the directional drilling sections, a PAS1075 type 3 pipe has been used for the aqueduct. A PE 100RC pipe has been used for pressure sewers and sections that can be opencut. The junctions of the trunk main and the distribution pipes have been excavated and connected to the new main.

Renovating the main aqueduct at Valkoja and Väinöläntie

This project will renovate one of Nurmijärvi Water's most critical main water pipes and also a wastewater sewer for part of the way. The renovation of the 1968-constructed DN200 asbestos-cement pre-pipeline will ensure the water supply by duplicating the main water supply from the new artificial groundwater plant which is under construction. The project involves renovating the DN400 aqueduct with the No-Dig methods for 1.5 km and digging some 340 m, DN315 pipe will utilise No-Dig methods over some 430 m, DN280 pipe will No-Dig methods over 180 m and opencut will be used over 520 m. >

Different weather conditions needed to be addressed by the contractor during the various projects.



In addition, the project will pass beneath state-owned roads, the largest of which are Mt130 (Hämeenlinnantie) and VT3 (Hämeenlinnanväylä). These underpasses total about 130 m. The renovation of the wastewater sewer is 380 m away by open cutting alongside the aqueduct.

For the aqueduct, a PAS1075 type 3 pipe has been used for directional drilling sections. In the under-passing of roads and on sections excavated open, a PE-100RC pipe is used. The under-passing of the larger roads (the Mt130 and VT3) is to be carried out by directional drilling using steel pipe and the smaller road underpass will utilise push drilling. The connection points of the trunk mains and domestic pipes are undertaken by digging and connected to the new main.

Renovation of the water supply at Kuonomäentie

The distribution pipeline on Kuonomäentie, in the Nurmijärvi town plan area, is DN150 asbestos-cement pipe. The pipeline in question is not the main water supply or a very large pipe in its size class. Despite this, the multiple leaks in the pipeline have had a significant impact on residents. In addition, the wastewater drain and stormwater drain in the area are in a state needing renovation. The renovation of the aqueduct over a distance of 290 m will be carried out using directional drilling to install DN160 PAS1075 type 3 pipe. The wastewater drain (DN300 concrete) and stormwater drain (DN400 concrete) will be lined. Also in this project, the junctions of the trunk pipelines and service pipelines will be completed using digging to connect to the new main.

HUGE CHALLENGE MASTERED HAND-IN-HAND

At this point, the river Eder had to be crossed through extremely complex ground with 120 m long culverts.

When successful and reliable machine technology is combined with effective teamwork, impressive results can be achieved. This was the case in Frankenberg, a town in Hessen, Germany, during the trenchless installation of supply lines through six 120 m long culverts underneath the river Eder, which was carried out by the experienced German construction company Ernst Ochse GmbH using a GRUNDODRILL 18ACS from TRACTO.

New supply lines had to installed under the river Eder near Frankenberg in order not to clash with the planned foundations of new bicycle bridges. Three utility companies were affected by this and commissioned Ernst Ochse GmbH from Burgwald in Hesse, which has been known for many years as a specialist for the installation of supply lines. Energiegesellschaft Frankenberg mbH (EGF) is a regional energy company not far from Bad Wildungen which supplies residents with water, natural gas and ecological electricity. The same applies to Energie Waldeck-Frankenberg GmbH, which supplies 90,000 households in the region. For both energy suppliers it was their task to install high-voltage power lines. The third client, Deutsche Telekom, was involved in the drilling of 6 culverts with a length of about 120 m under the river Eder. Important communication lines were to run through one of them.

Solid preparation for rapid implementation

In the course of the preparations, Günter Ahlborn, a site manager for many years, made the clients aware that he suspected rocky subsoil under the Eder. Also, before the project began, TRACTO was already on board with Manuel Pohl, Sales Manager for the Central Region, and Uli Koch, Team Leader STS Application Technology, and supported their long-standing client. They >

Perfect teamwork: Ochse GmbH and TRACTO worked hand-in-hand on this project.

The culverts under the river Eder led through alternating soil layers including Alluvial loam, gravel and also large boulders.

The secret weapon for alternating and rocky ground – the All-Condition-System Grundodrill 18ACS.

immediately called in Dan Lingenauber from the Geoservice department, who assessed the geological conditions. It turned out that the bore would indeed lead through alluvial clay with gravel as well as through large boulders.

This allowed product specialist René Schrinner to determine the appropriate machine technology for this task and he chose the HDD rock drilling rig, a GRUNDODRILL 18ACS with twin rods and a push-pull force of 180 kN. An IADC 547 roller bit with 6½ in (165 mm) diameter was used for the pilot bore. The expanding process was carried out with 14 in (356 mm) and 18 in (458 mm) diameter rock-reamers. A 440 mm diameter stepped reamer was used for the cleaning run and to pull-in the pipe. In the end, there were three 160 mm diameter HDPE protection pipes for high-voltage lines in each of five bore channels, and in the sixth culvert there was sufficient space for three 150 mm diameter protection pipes, into which the communication lines were pulled.

Everything went smoothly thanks to the excellent preparation work, as Manuel Pohl explained: “This project is a great example of how the customer, contractor and TRACTO’s team work hand-in-hand.” It is very important to him that TRACTO is not simply a supplier of technology for trenchless construction, but also offers a complete package enriched with numerous services.

Fast start thanks to TRACTO Finance

Ernst Ochse GmbH had bought a new rig only two years ago, but it was not suitable for the rocky ground the company faced here. >

"The basis for the successful implementation of this project is the proven technology of the GRUNDODRILL 18ACS"

Nevertheless, the construction company was able to accept the order quickly because they were able to hire a GRUNDODRILL 18ACS, including the necessary tools from TRACTO Finance. This meant that no large investments were necessary and the construction company was able to start the project promptly and complete it profitably.

According to Günter Ahlborn, it was also important that the first drilling operation was supported by TRACTO's HDD application engineer, who instructed site manager Matthias Koch and his colleagues. In the course of the bore task, not only skill but also a lot of patience was required. "At times it took over an hour to complete three metres. So, the 6 culverts, each with a length of 120 m, were a real challenge, even for professionals like ourselves." explained Ahlborn.

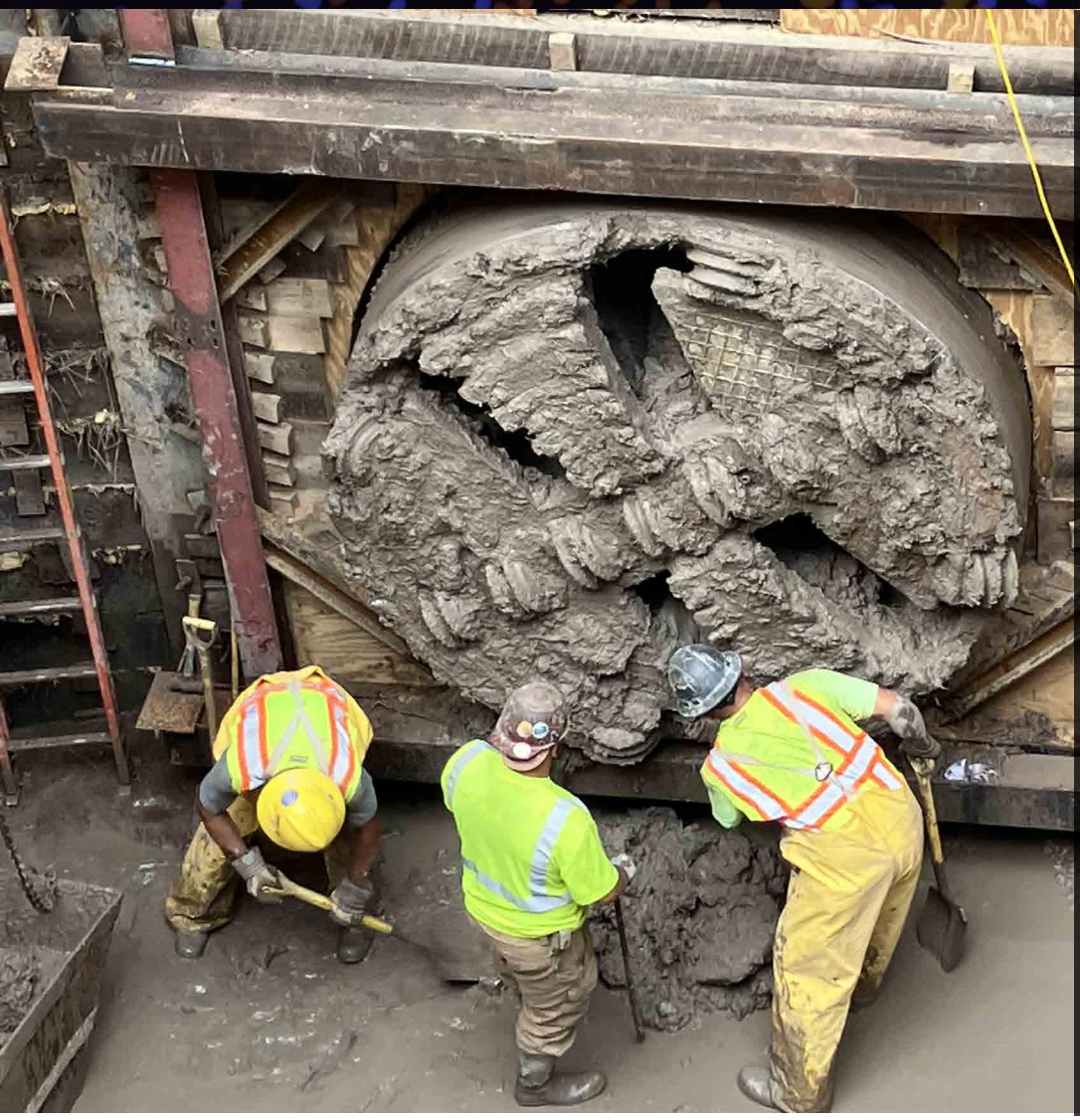
Success factors: technology, teamwork and know-how

Taking a closer look at the riverbanks and the river Eder itself, under which the culverts run, it becomes obvious that there was absolutely no alternative to a trenchless installation and also to ensure everything went smoothly for the fauna and flora. The basis for the successful implementation of this project is the proven technology of the GRUNDODRILL 18ACS. Equally important is the know-how of the individual parties involved, which successfully interlocks in all phases of such a complex project, as was the case here between the client, the construction contractor and the geologists, product specialists, sales colleagues and application engineers at TRACTO; or as Günter Ahlborn put it, briefly to the point: "Nothing could have gone any better here."

DIFFICULT MICROTUNNELING CONQUERED IN MILWAUKEE

Holing out on the Milwaukee project.

Super Excavators Inc. (SEI) of Menomonee Falls, Wisconsin, USA recently holed out on target after battling very challenging conditions along a 1,670 ft (509 m) alignment on a project in Milwaukee. After launching the Akkerman SL74C MTBM setup to install 72 in (1,830 mm) diameter RC pipe, obstructions and mixed-face conditions caused significant horizontal and vertical deviations at the face. >



Inspecting the cutterhead after holing.

"The new DTA was critical for the successful completion of the alignment. Not only did the alignment have to stay within a grade tolerance, the MTBM needed to intersect a manhole at the mid-point of the drive."

The Akkerman SL74C MTBM just prior to launch.

The skilled operators at SEI quickly took notice of these inconsistencies through MTBM data as well as telemetry information provided by the Akkerman AZ100 Total Guidance System (TGS). Site personnel quickly reacted and halted their advancement to assess the situation.

In many cases, encountering obstacles in mixed-face conditions is detrimental to the project and will result in a rescue plan. Due to the quick actions of the operator, SEI was able to work with Akkerman engineers to develop an approved DTA update that incorporated a slight horizontal and vertical curve to purposefully control an alignment correction.

The new DTA was critical for the successful completion of the alignment. Not only did the alignment have to stay within a grade tolerance, the MTBM needed to intersect a manhole at the mid-point of the drive. Since the AZ100 can be dynamically programmed, the new DTA allowed SEI to successfully navigate the obstacles with an approved and controlled alignment correction that minimised pipe stresses and jacking forces.

PIPELINE ASSESSMENT FOR IRISH WATER AND JERSEY

Electro Scan (UK) Ltd. deployed advanced machine-intelligent technology to evaluate 37 km of sewers throughout the Republic of Ireland working in partnership with McAllisters Group.

Electro Scan (UK) Ltd recently announced the completion of 37 km (121,000 ft) of sewer main inspection project for Irish Water, working in partnership McAllister Group. Commencing work in May 2022, the project inspected sewers in Cavan, Donegal, Galway, Kerry, Kilkenny, and Mayo counties in the Republic of Ireland.

Electro Scan deployed a suite of mobile solutions to complete this project, including its ES-600 van system to enable long distance on-road surveys and its ES-400 Push Reel solution used for hard-to-reach areas that other technologies cannot typically reach.

The project was awarded to Electro Scan (UK) Ltd after completing a project for McAllister Group in Oranmore for Irish Water.

“McAllister was delighted to continue a great working relationship with Electro Scan to deliver this package of work.” stated Ross Orderely, Project Manager, McAllister Group.

“McAllister and Electro Scan crews have been working together to tackle any issues on site which may arise.” continued Orderely. “With Electro Scan’s state of the art equipment and McAllister’s local knowledge, the project went very well. We look forward to working together on future projects.”

Like the UK, the EU has experienced massive flooding due to excessive wet weather events. Traditionally relying on Closed-Circuit Television (CCTV) cameras, industry veterans have long acknowledged the limitation of using CCTV equipment to properly locate sources of infiltration or certify pipeline repairs and rehabilitation as leak-free.

Since superficial cracks cannot be differentiated from cracks that go completely through a pipe wall, CCTV cameras are also not able to properly evaluate joints for water tightness, requiring newer innovative technologies to replace visual-based techniques. >

Electro Scan (UK) Ltd. travelled throughout the Republic of Ireland to assess 37 km of Irish Water's sewer network.

Once a promising technique to standardise CCTV observation codes, Artificial Intelligence (AI) still cannot properly assess the performance of pipelines as only the interior of the pipe is reviewed, representing less than 20% of the total pipe.

In contrast, Electro Scan's machine-intelligent technology automatically scans 360° of full-length pipes to pinpoint all leakage points, in addition to estimating each leak's severity stated in litres per second or gallons per minute.

Also, by geometrically profiling pipe wall defects, proper asset plans can be created to rank and prioritise critical assets, including the type of repair needed.

The team at the start of the project comprised of Brad Weston (MD UK), Adam Clarke (Head of Water Projects), Chris Chesworth (Senior Technician) and Chris Fisher (Technician) had various meetings and successfully pass performance and safety audits. Once certified, Chris Chesworth and Chris Fisher completed the remainder of the project.

Traveling the whole of Ireland during this project, Electro Scan completed the project on time and on budget, working with McAllister Group.

Jersey

Electro Scan (UK) Ltd has also been awarded a 12 km inspection project for the Government of Jersey, Channel Islands, after a competitive tender to evaluate Clay, Concrete, and Cured-In-Place Pipe (CIPP) for leaks not found or recorded by legacy Closed-Circuit Television (CCTV) cameras or Acoustic sensors.

A key aspect of the project will be the evaluation of a pressurised fire suppression network supporting the island's above-ground fuel depot.

The project in Jersey is expected to be completed by the end of the year and will be overseen by the Department of Infrastructure, Housing & Environment, Operations & Transport.

"Everyone knows that utilities cannot manage what they do not 'see' and cannot manage what they do not 'hear'." stated Brad Weston, Managing Director, Electro Scan (UK) Ltd. "So, Electro Scan is delighted to be returning to the Channel Islands with its advanced technology." >

Jersey is the largest of the Channel Islands with a population of nearly 110,000.

Jersey's population is nearly 110,000 spread across 118.2 km^2 of land, or about 0.7 times the size of Washington, D.C. in the USA.

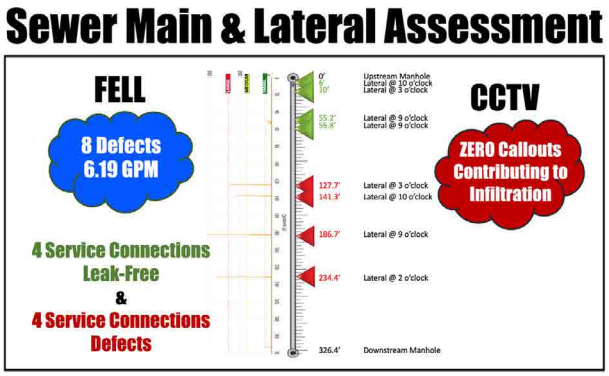
Not part of the United Kingdom (UK) or European Union (EU), Jersey is a separate possession of the Crown, known as the British Isles.

While high-resolution CCTV cameras were traditionally used to inspect sewage and stormwater pipes for defects, their inability to determine if cracks go through pipe walls has limited its ability to tell whether cracks or joints leak. A key contributor to tidal infiltration and wet weather infiltration.

CCTV's failure to certify repairs and CIPP lined pipes as watertight is another major concern for water companies.

Finally, if service connections have leaks, for example where homes connect to the local sewer, water companies that use CCTV cameras may inadvertently give ratepayers a 'clean bill of health' for their sewers. Only to later find that rainwater was able to enter the sewers via undetected leaks, overloading the network, causing sewer back-ups, overflows, and residential flooding.

Since AI programs utilise the same frame-by-frame video files produced by the most advanced CCTV cameras, once promising AI programs have fizzled in popularity due to their lack of actionable and value-added data. >



FELL-based Inspection Finds & Measures Infiltration Missed By CCTV.

"Everyone knows that utilities cannot manage what they do not 'see' and cannot manage what they do not 'hear'." stated Brad Weston, Managing Director, Electro Scan (UK) Ltd. "So, Electro Scan is delighted to be returning to the Channel Islands with its advanced technology."

In contrast, Electro Scan's machine-intelligent, non-acoustic, non-visual technology is unaffected by water levels inside of pipes, grease, tides, groundwater conditions, noise, silt, or visual impediments. Instead, automatically geocoding and measuring all pathways where water can flow in or out of a pipe.

As a result, Electro Scan's technology provides unambiguous and unbiased leak detection and is able to certify that repairs do not leak. Critical for managing pressurised and gravity pipelines.

Jersey is the largest and southernmost of the UK's Channel Islands, with elevations ranging from sea level to 143 m (469 ft) above sea level.

On 10 October 2008, Jersey recorded its highest tide with a height of 12.3 m (40.45 ft), with Super Tides sometimes lasting up to five consecutive days at a time and routinely reaching 11 m (36 ft).

By comparison the Bay of Fundy on the Atlantic coast of North America, between the Canadian provinces of New Brunswick and Nova Scotia, and the US state of Maine, is known for having the highest tidal range in the world reaching 14.5 m (47.5 ft).

Uxbridge, UK-based Drain-IT will provide a jetting van to support Electro Scan's work while in Jersey.

MWS HELPING SOUTH WEST WATER REDUCE LEAKAGE

Morrison Water Services (MWS), a part of M Group Services' Water Division, has secured a new framework contract with South West Water to help further reduce leakage.

Morrison Water Services is helping South West Water tackle leakage

This is Morrison Water Services' first leakage detection framework contract and its first framework contract with South West Water. Initially the framework contract is for three years, with an option to extend for a further two years.

Morrison Water Services has teamed up with digital leakage detection experts Aqualogic to use the iQuarius digital detection system to identify network and customer leakage. This technology has the capability to feed additional data streams into our existing leakage detection network modelling technology.

Leakage detection is a key focus for Morrison Water Services. Combined with its established repair and maintenance capabilities, this means it can now provide a comprehensive range of services across all elements of operational leakage.

Reducing water lost through leakage is a key priority for the water industry to meet regulatory targets and address the challenges of climate change which is making water an increasingly scarce resource that needs to be carefully conserved.

South West Water is now finding and fixing up to 2,000 leaks a month, using the latest artificial intelligence (AI) and satellite technology alongside a growing number of leak detectors, now up to more than 140. >

"This framework partnership with South West Water is testament to the advances we have made in the leakage arena over recent years. We are extremely proud to be supporting South West Water in further reducing leakage and look forward to introducing leading-edge innovation to leakage detection to ensure both current and future regulatory requirements are achieved. "

The company is also working closely with customers to detect and repair leaks on their properties. Around 30% of leaks occur on customer-side pipes.

Over the life of the contract, Morrison Water Services will be transitioning to a more sustainable delivery model through the use of electric vehicles and HVO fuels to align with both Morrison Water Services' and South West Water's environmental, social and governance (ESG) commitments.

Local apprenticeship and graduate training schemes will also be set up to bring new employment to the region and develop the skilled experts of the future. All apprentices carry out a local community project during their time on our Apprentice Development Scheme.

Murray Powell, Contract Director of Morrison Water Services, said: "This framework partnership with South West Water is testament to the advances we have made in the leakage arena over recent years. We are extremely proud to be supporting South West Water in further reducing leakage and look forward to introducing leading-edge innovation to leakage detection to ensure both current and future regulatory requirements are achieved. This award is yet a further example of our expanding portfolio of expertise and services we can offer across the water industry."

Jason Harvey, Head of Leakage for South West Water, said: "Finding and fixing leaks continues to be a priority for South West Water. We are using the latest technology, our expert colleagues and partners to fix up to 2,000 leaks each month. This partnership will help deliver further water loss reduction through an efficient blend of traditional and state-of-the-art leak detection methods alongside the exciting prospect of working with an established and growing team of recruits, trainees and apprentices". A number employees have transferred to Morrison Water Services as a result of this contract award.

2023

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NEW SEESNAKE® MICROREEL™ APX™ WITH TRUSENSE®

Utilising the new SEESNAKE® MICROREEL™ APX™ on site.

RIDGID®, part of Emerson's professional tools portfolio, recently introduced the SeeSnake® microReel™ APX™ to optimise inspections. Engineered with a lightweight, compact profile for easy portability, the microReel APX features bright LED lights with high colour accuracy and auto-flip imagery delivering crisp, detailed images and ensuring upright viewing angles in a variety of pipe conditions. Paired with TruSense® technology, this tool delivers what is claimed to be the industry's best in-pipe image.

The microReel APX is the most recent camera reel from RIDGID to offer TruSense technology to help plumbers better pinpoint problem areas in-pipe. It also comes with a built-in kickstand for in-field versatility with multiple configurations for optimal operation.

TruSense establishes a two-way datalink between the camera head and a connected RIDGID SeeSnake. >

The SEESNAKE® MICROREEL™ APX™ operating with the WI-FI enabled monitor.

Wi-Fi-enabled monitor

With TruSense, advanced sensors on the camera head convey information about the in-pipe environment, while the HDR image sensor expands the camera's dynamic range, allowing a greater ratio of bright and dark areas to be displayed at the same time without reducing visibility. This delivers superior clarity and detail with fewer blown-out areas and sections of the pipe that are too dark to see. TiltSense™ measures the camera's angle and, when connected to a SeeSnake series monitor, the camera can convey the camera's degree of tilt on the monitor, giving professionals a useful indicator of the pitch of the camera in-pipe.

"The RIDGID SeeSnake microReel APX is our latest and most portable camera reel to offer TruSense technology, giving plumbers the enhanced data capabilities they need to diagnose issues." said Laura Wolverton, marketing director, underground technologies, RIDGID for Emerson. "RIDGID has been a leader in diagnostics for over 25 years, making camera reels built to last no matter how harsh the jobsite environment." All RIDGID SeeSnake reels come with the RIDGID Full Lifetime Warranty.

UNDERGROUND UTILITY DETECTION STANDARD CHANGES – EVERYTHING YOU NEED TO KNOW

By Andy Gundry, Head of Utilities and Neil Gregory, Head of Client Engagement – Utilities at Plowman Craven

Night-time surveying with an EM system.

Earlier this year the standard relating to underground utility detection, verification and location was updated. Called PAS 128: 2022, this British Standards Institution (BSI) Specification moves the 2014 standard forward and defines the way underground utilities should be mapped. With an emphasis on enhanced accuracy, anyone involved in the planning and design of construction and infrastructure projects needs to be aware of the update and what is now required. Here we set out how the changes are impacting the market. >

GPR surveying underway.

"It is worth noting that the standard updates have been undertaken to improve the quality of surveys for both new and existing underground utilities. This is not just because accuracy is more helpful in the design, planning and delivery phases – reducing conflict, delay, unnecessary work, damage to third party assets, utility service disruptions and redesigns – but also because health and safety is a key consideration."

PAS 128: 2022

PAS 128 is the UK standard for surveying existing utilities and their surface features as well as planning for new infrastructure. It applies across the country, whether that is urban or rural areas, in public places or on private sites.

It is worth noting that the standard updates have been undertaken to improve the quality of surveys for both new and existing underground utilities. This is not just because accuracy is more helpful in the design, planning and delivery phases – reducing conflict, delay, unnecessary work, damage to third party assets, utility service disruptions and redesigns – but also because health and safety is a key consideration.

Clients, architects and contractors have duties under the Health and Safety Executive 'Avoiding danger from underground services' guidance known as HSG 47. Clients must make reasonable enquiries about underground services and pass relevant information to the designer and contractor. This is usually based on a PAS 128:2022 QL-D utility record search (desktop search) and potentially a QL-C site reconnaissance survey (visual inspection).

Designers in turn have a duty to reduce or 'design out' the risks arising from damage to underground services. Then, contractors must identify potential hazards, assess risk and put safe systems and clear communication in place for their employees, which also safeguards against damage to essential services. This will be based on the findings of the QL-D and QL-C as well as a PAS 128: 2022 QL-B or QL-A surveys for the benefit of safety.

Key updates – 2022

The survey process remains very much the same, but with more comprehensive desktop utility record searches leading to on-site visual inspections to geophysical techniques to detect underground utilities to verification through observation, excavation or exposure. In short, data accuracy has become more prominent and there is more consistency with less room for interpretation. >

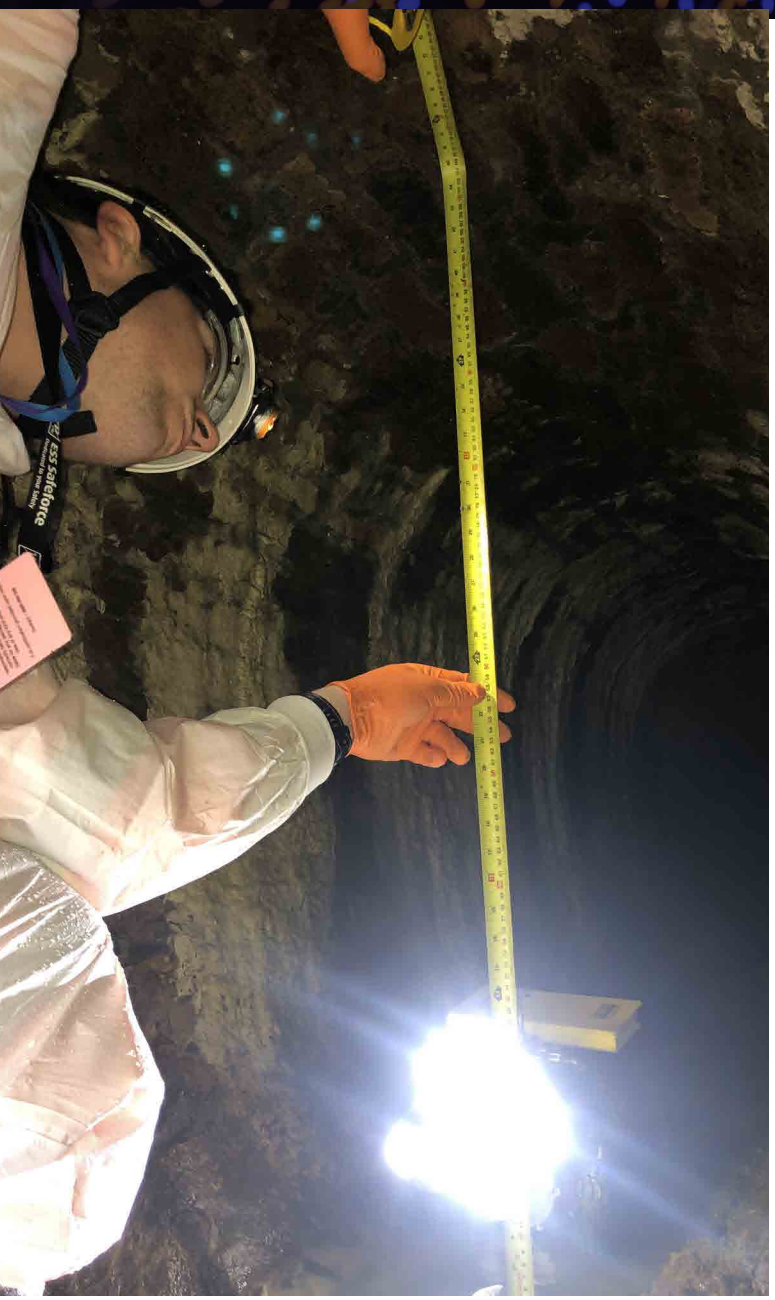
Vehicle-mounted GPR allows for larger area coverage on surveys where applicable.

So, what are the changes? In undertaking the surveys, more detail is now specified on the search method and methodology:

- Incorporation of new technology to include GPR arrays and their use in reconnaissance route mapping prior to Type B survey works
- Addition of guidance on training and qualifications of practitioners – every survey practitioner should be qualified to level 3 or 5 NVQ in underground utility mapping
- Greater emphasis on the importance of GPR post processing by suitably trained operatives and the recording of all raw data regardless of the post processing requirement
- Updates to the application of post processing in detection surveys – M3P/M4P replacing M3/M4
- New guidance on the technical factors that dictate the effort required for a detection survey – 2 geophysical methods/full coverage of sites/ recording of all raw data regardless of the post processing requirement
- Sharing of data in one large data base (NUAR) National Underground Asset Register has been encouraged – this is to update or improve any known utilities in any location where only statutory, often inaccurate, records are available

It is also worth noting that the 2014 standard referred to utility assets up to 3 metres deep but this has been removed, with the implication therefore is that it applies to any depth. Further, PAS128 2022 applies regardless of where these utilities are located (e.g., in urban or rural areas, in the street, or on private sites such as hospitals or airfields). It is critical that anyone involved in the planning and design of construction and infrastructure projects is familiar with the updated standard.

The good news is that all of the changes will have positive impacts on the industry. For example, while the technology guidance still lists the same two general methods of detection – Electromagnetic Location (EML) survey and Ground Penetrating Radar (GPR) – it has made GPR data collection and interpretation compulsory across specific environments such as busy urban or congested City areas. This is good news because historically GPR has not always been included in the due diligence phase despite enabling a larger data set for highly congested areas, which brings with it better results, more confidence in the data, lower risk and enhanced H&S information. The standard also stipulates GPR array systems which adhere to the highest PAS levels as standard (M4P). >

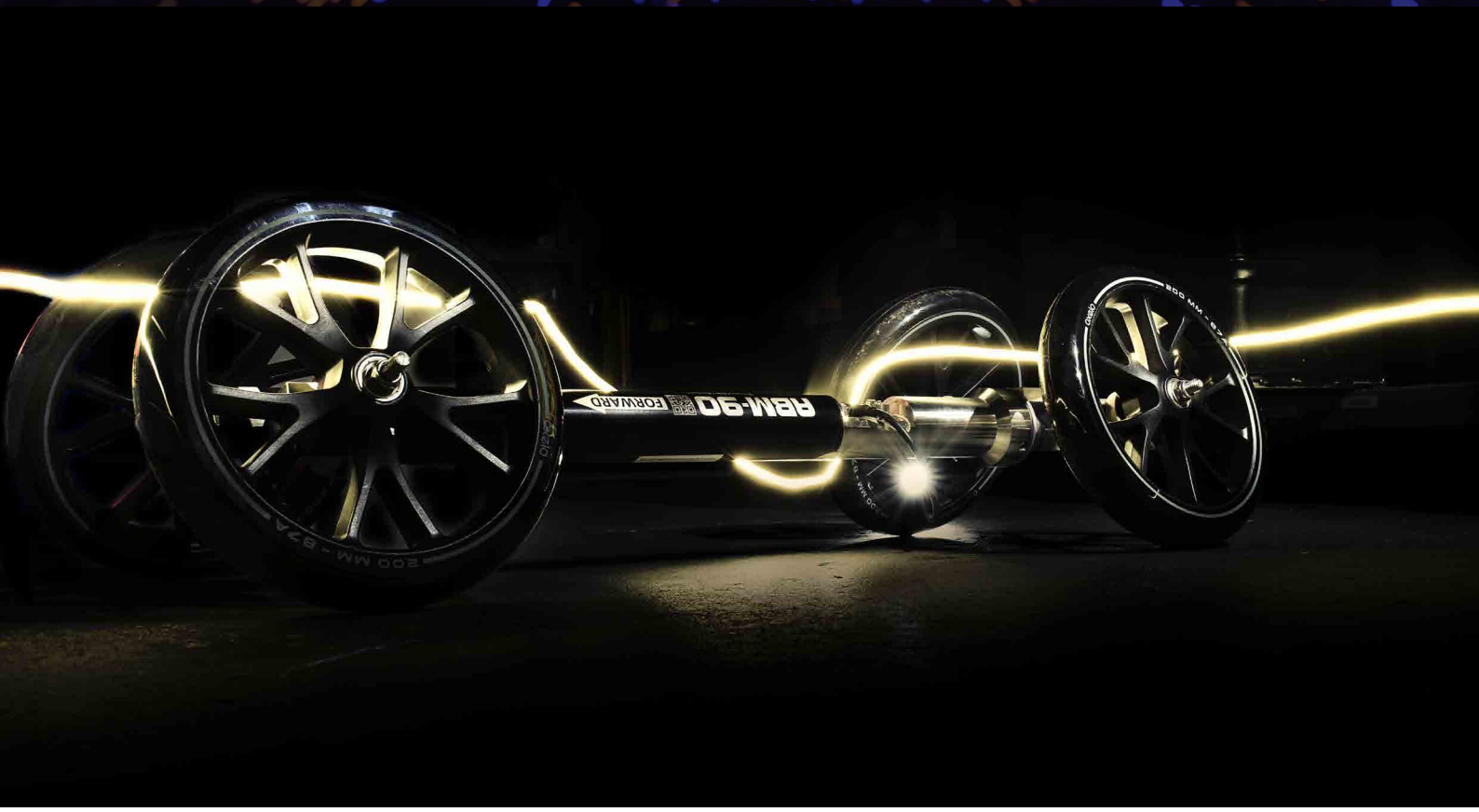


From manual measurement to the latest technology, new standards are more rigorous, demand more accuracy or data collection as well as reporting.

That said, GPRs and the processing of the resulting data requires a significantly higher investment, which may force smaller companies towards less regulated standards due to cost. Plowman Craven is fully supportive of the advancement of best practice, but it needs to be accessible and viable for projects of different sizes.

More stringent rules now apply around what information is provided. For instance, deliverables need to be clearly explained in terms of the survey type, how many methods were used, reporting including statistics, dates when drawings were requested and when a response was provided clearly dated, and details of equipment calibration. As practitioners, we now have an obligation to hold data for greater periods of time and make this available to our clients upon request, this is inclusive of all RAW data obtained on site.

Last but not least, the use of multi array antennas aid better understanding of the sub-surface environment including the detection of voids, buried structures/chambers, underground storage/attenuation tanks and former/buried foundations. This, coupled with the use of intelligent software packages (AI supported processing tools), allows practitioners to gain a better understanding of the sub surface. >



The Reduct system for in-pipe measurements.

Conclusion

The new standards are more rigorous, demand more accuracy or data collection as well as reporting. This can only enhance the benefits PAS 128:2022 brings including:

- More effective planning and safer execution of street works, civil works and ground works.
- Providing clarity about the approach to surveys and a consistent approach to data capture.
- It enables better informed decisions using more complete, up-to-date, and accurate data. This helps ensure the safety and timely progress of projects.
- It can help prevent or reduce conflicts, delays, unnecessary work, damage to third party assets, utility service disruptions, redesigns, personal injuries and loss of life.

In response to the changes, Plowman Craven has invested in the latest technology to meet the revised M3P and M4P PAS levels enabling it to provide fast, safe and non-invasive surveys whilst maintaining highly accurate and comprehensive deliverables to clients. Mobile GPR allows it to complete feasibility studies early in the project lifecycle, which aids route mapping, allows designs to be adjusted to avoid underground anomalies and generally makes the process smoother.

The last decade has seen a dramatic increase in the volume of utilities related construction work for maintenance, enhancement and new development purposes. This has brought with it more risk, for those carrying out work on or near underground services, so any standard that helps safeguard them and eliminates risk across the entire project at the same time is very welcome. Surveys done correctly and to a high standard and carried out early in the design process deliver a significant return on investment every time.

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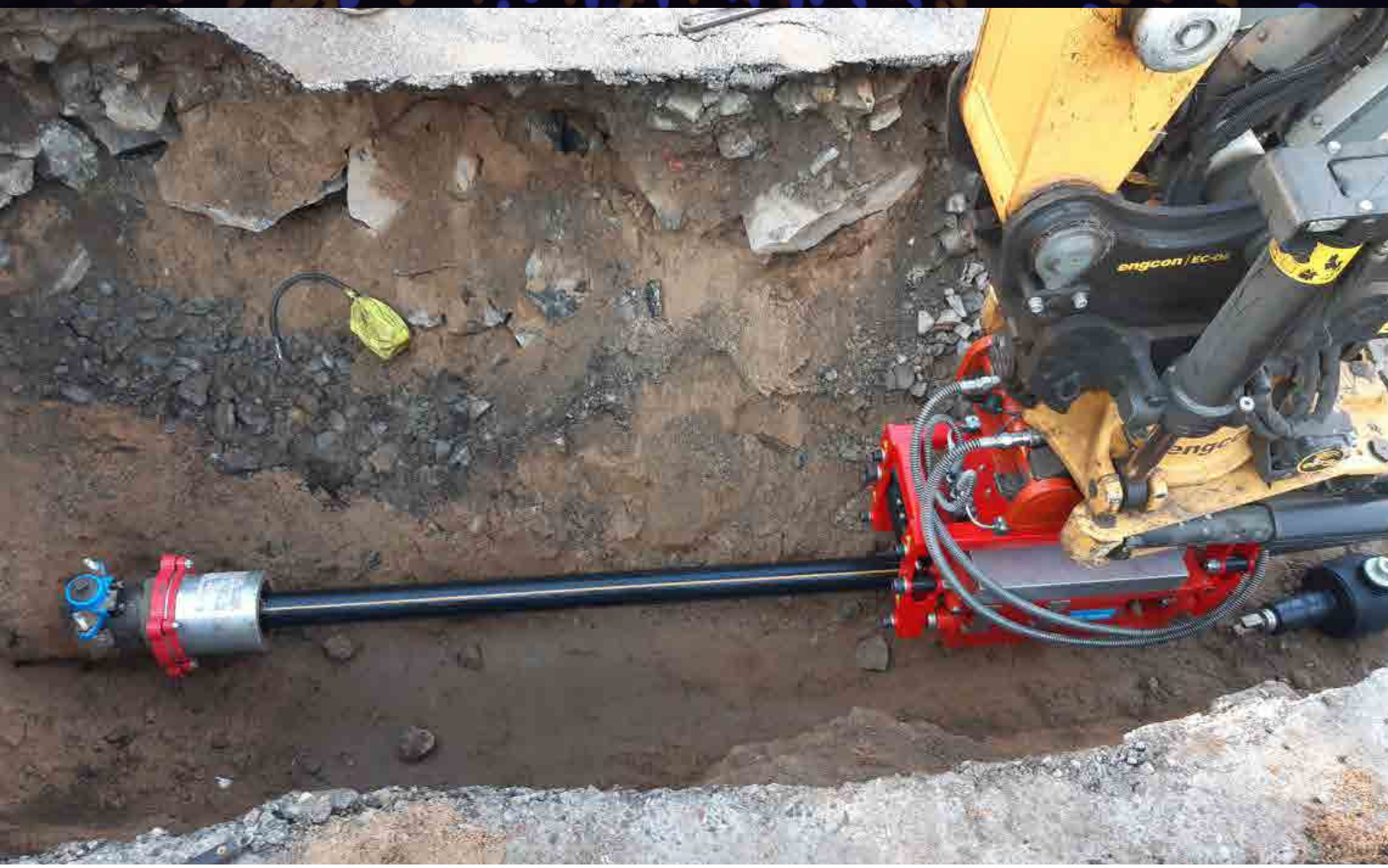
STEVE VICK INTERNATIONAL SUPPORTS VARIOUS PROJECTS

SVI supports a pipe installation in the distillery.

Steve Vick International (SVI) which has traditionally been renowned for providing products and services to the utilities industry has branched out into new markets. In August 2022, the company supported Frogmech Ltd with a unique and exciting project at an alcohol distillery in Selby which is owned by the Yorkshire-based agribusiness SEDAMYL.

From its Yorkshire base, SEDAMYL converts wheat into a range of products, including gluten, starch, alcohol for food and beverages and wheat feed. Headquartered in Saluzzo, in the Piedmont region of Italy, SEDAMYL remains one of Europe's industry leaders, supplying and selling ingredients to the major industries throughout the continent.

Frogmech Ltd approached SVI with a requirement to install 600 m of 75 mm diameter twin wall PE pipe onto pipe racking ranging from 2 m to 11 m in height, all within a day. The pipe was essential to the distillery operations for carrying chemicals from the chemical storage >



SVI PPP in use with NCC & Pollex Sweden.

area to various plants on site where the chemical is needed so shut down was not an option.

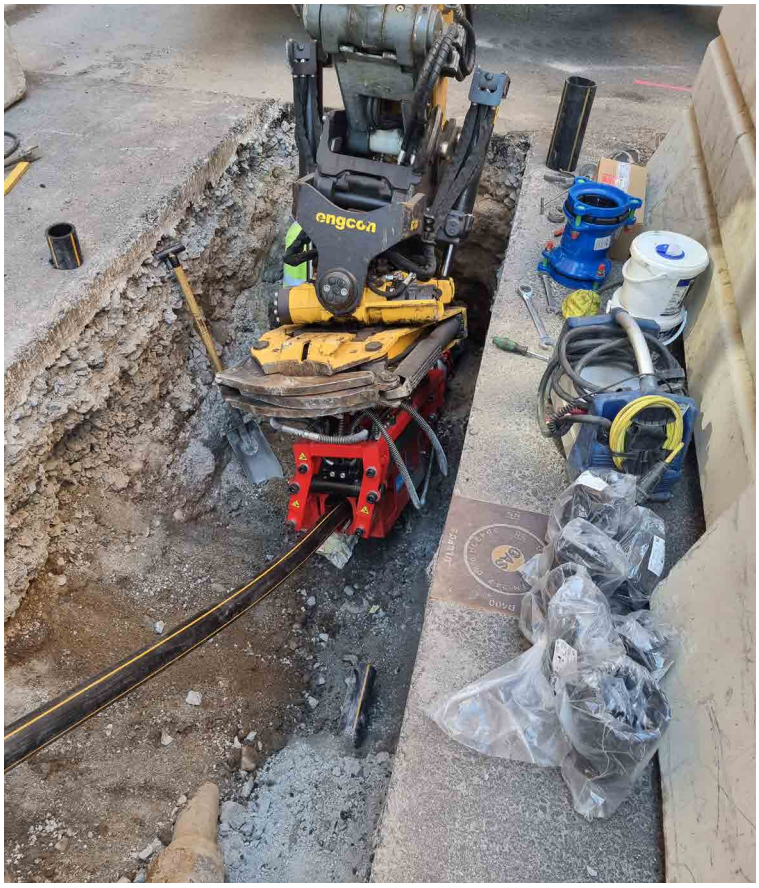
From a health and safety perspective, manual handling of pipe is unacceptable, therefore Frogmech Ltd approached SVI to find a safe solution for its pipe handling requirements, enabling it to manoeuvre and accurately position the pipe onto the raised purpose-built racking. The SVI technical support team provided on-site training and guidance throughout the installation.

SVI supplied a hire solution to meet the requirement on time and to budget which included the SVI 125/160 Pipe Coil Trailer and the Perpetual Pipe Pusher. The 125/160 Pipe Coil Trailer is designed to safely transport and dispense coiled PE pipe and it can handle coils of PE with a diameter from 40 mm up to 160 mm. It can accommodate a 100 m coil of 160 mm diameter or a 150 m coil of 125 mm diameter.

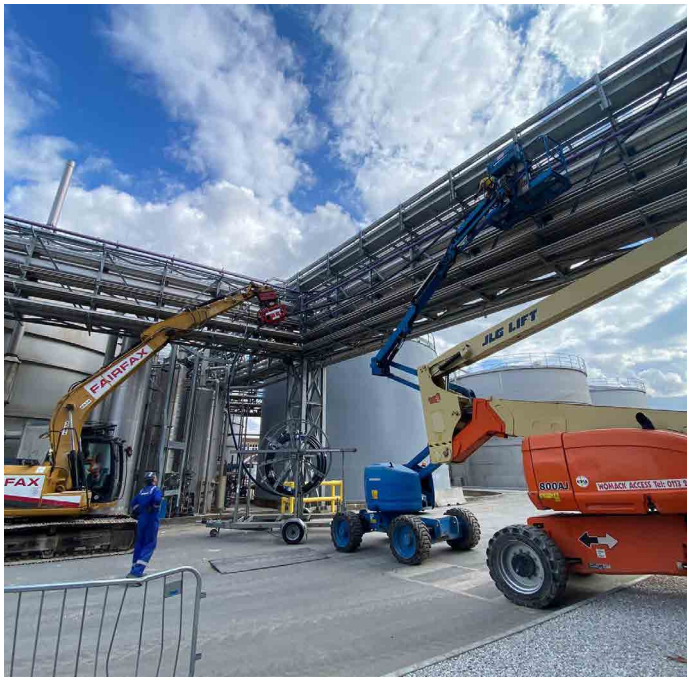
The SVI trailers are designed with safety as the number one priority. The unique central drum design ensures the pipe is dispensed or recoiled smoothly and quickly. The whole operation can take place from ground level and there is no need for operatives to put hands within the rotating drum at any stage. The coil is restrained within a steel cage to prevent it 'springing away' and pipe is restrained during transport and dispensing. The trailers are robust in construction, the maintenance requirements are low, and the trailers can be towed by a typical long wheelbase vehicle.

The 50/90 and the 125/160 pipe coil trailers form part of a larger range of trailers available for purchase or hire from Steve Vick International.

The Perpetual Pipe Pusher is an excavator attachment used to continuously insert PE from 63 mm o.d. (2 in i.d.) diameter up to 180 mm o.d. (6 in i.d.). >



SVI Perpetual Pipe Pusher in use with NCC & Pollex



Installing the distillery pipes.

Attached to the quick hitch or standard bucket pins of an excavator, the Perpetual Pipe Pusher is designed to grip the PE and insert the pipe. Once positioned the machine remains anchored to the excavator arm and firmly in place. The pipe is then inserted by the hydraulically-driven, rubberised rollers.

The entire operation is controlled from the safety of the cab, avoiding the need for operatives to handle the pipe. This safety feature, plus the efficient insertion speed made the Perpetual Pipe Pusher the perfect tool for this unique project.

Mark Metcalfe, Installation Manager, Frogmech Ltd commented: “SVI understood our requirements and provided us with a safe, speedy solution to enable us to safely install the required PE pipe to the racking high above the ground. Without the hire of this equipment, we would not have been able to install the pipes which are essential to the distillery operations.”

Further to this, following a visit to NCC and Pollex in Sweden, Steve Vick International was successful in exporting a Perpetual Pipe Pusher to the Swedish company which they are using in their live gas mains insertion programme.

NCC and Pollex have inserted more than 2 km of mainly 180 mm and 125 mm diameter PE pipe both in empty host pipes and by live mains insertion. Erik Nilsson, Site Manager at NCC and Pollex, commented: “We appreciate the benefits of worker safety when using the pipe pusher and the speed of insertion.”

With pushing speeds of 25 m/minute and feasible insertion lengths in excess of 300 m at one time, the SVI Perpetual Pipe Pusher is a fast and efficient system for inserting PE pipe in either coils or butt fused sticks. It requires just a one-stage set up for the entire insertion operation and the pushing force can be reversed if required. No increase in normal trench size is required and shells are not required for different pipe diameters.

PRESSURE IS ON FOR HYDROSTATIC PIPELINE TESTING

Pressure test operator with hydrostatic test pump carrying out final checks prior to pressure test.

"Serious injuries to a young woman in Cropston, Leicestershire, UK the consequence of a hydrostatic pressure test going wrong, should be a wake-up call to the water industry." said Tony Kitchen, technical director, Ant Hire Solutions.

In August 2022, a 30-year-old woman was taken to hospital with serious leg injuries after an explosion damaged a road in the village of Cropston, north of Leicester. Two employees of a water industry contractor also sustained injuries. >

Pressure test operator with hydrostatic test pump carrying out final checks prior to pressure test.

While Health & Safety Executive enquiries and a full investigation are on-going, initial reports indicate that a pressure test was being undertaken on a pipeline when an uncontrolled burst occurred.

Hydrostatic pressure testing is a highly specialised process and is required to test joints and connections where new pipelines are installed. The test is carried out by applying pressures to the pipeline, using water as the test medium, to assess the quality of the installation and ensure a leak-free system.

It is imperative that water companies and their contractors are all working to best practice standards and guidelines to ensure air is totally or virtually eliminated from the pipeline during testing. By applying the relevant standards and guidelines rigorously, risk is mitigated and can be eliminated.

The potential energy contained in compressed air is substantially greater than water. Should a pipe fail with air entrapped, the impact is substantial due to the rapid release of this stored energy.

As seen at Cropston, such failure poses an extreme health and safety risk and can cause extensive and costly infrastructure damage above the surface.

The key standard and information and guidance note (IGN) for hydrostatic pipeline testing are:

- British Standard - EN 805:2000 Water supply - requirements for systems and components outside buildings
- Water UK - IGN 4-01-03 Issue 2 Guide to pressure testing of pressure pipes and fittings for use by public water suppliers

Avoiding a repeat of the tragic incident at Cropston will require a tightening up of practice across the sector, and water companies and main contractors need to review the capabilities of their pressure testing service providers. Some of the questions that should be asked include:

- Is pressure testing being undertaken in line with the prevailing standards?
- Prior to a test, are there tools available that can estimate ramp-up times compared with air content, to ensure a test can be abandoned before any safety breaches occur?
- Whose equipment is being used, and how is it maintained?
- What data is being collected and is the technology being used capable of measuring air content?
- Will pressure test data be analysed in real-time to ensure potentially dangerous or ineffectual tests are abandoned?
- Can data records and certificates be accessed at any time, and does the platform display all the critical data? >

An Ant Hire Solutions field specialist delivers client technical instruction and support.

Digital technologies, like Ant-Hire's Pipeline Installation Performance Evaluation tool 'PIPE' are continually being enhanced, which allows for granular test data to be captured on multiple parameters accessible by the client. These include water leakage, trapped air, pressure and temperature.

Going further, the record of individual contractors, and even operatives, can also be analysed, identifying potential needs for targeted training and skills enhancement to ensure safety and improve the productivity of individuals and teams. Contractors following procedures correctly are more likely to get pressure testing right, building resilience in the network from the outset.

Analysis of Ant-Hire Solutions' data for 2019-2021 identified that 54.4% of UK water company pressure tests passed first time, with 10% stopped for safety reasons. Water leakage was identified in 18.5% of cases.

Adherence to best practice and a commitment to improving performance can deliver multiple benefits for utilities and contractors. While the health and safety benefit cannot be overstated, the reputational risk of all companies involved is also at stake.

Further, if a pipe is prepared properly in readiness for a test, with all air extracted, hours can be shaved off a pressure test, compared with a test where air is present. Other benefits accrue for those companies operating at the highest standard, including extended pipeline lifespan, reduced water loss due to leakage, and the lower carbon footprint around those two indicators.

Greater resilience in the network can be achieved by engaging the pressure testing contractor at the earliest possible stage of the design process for new pipelines, helping avoid pitfalls and keeping project costs down.

In the wake of the Leicestershire incident, Ant-Hire is already seeing an uptick in downloads of its Experts Guide to Pressure Pipeline Testing. This 12-page document includes a planning checklist, equipment guide, air content management guide, assessment criteria for datalogger capability and risk management checklist.

This shows that there is already an appetite for getting the process right. Now water companies and contractors need to ensure their operatives and managers are resourced to do the job at the highest possible standard.

This can be achieved by giving them access to training to continually build skills, and by ensuring that the time is available to carry out best practice working. It also means identifying those service providers with a proven track record of operating to the highest possible standards. Ant-Hire Solutions best practice guide can be accessed at: https://www.anthire.co.uk/take-control-of-leakage/#ebook.

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www.trenchlessmexico.com

TRENCHLESS ASIA 2023

17-18 May 2023

Kuala Lumpur Convention Centre, Malaysia

www.trenchlessasia.com

INTERNATIONAL NO-DIG MEXICO 2023

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

17-19 October 2023

Expo Santa Fe, Mexico

www.no-digmexico.com

TRENCHLESS EGYPT 2023

Part of the Trenchless Middle East Portfolio

November 2023

Cairo

www.trenchlessegypt.com

INTERNATIONAL NO-DIG DUBAI 2024

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

16-19 November 2024

Dubai World Trade Centre, Dubai

t: +44 (0)1923 723990 e: trenchless@westrade.co.uk w: www.westrade.co.uk twitter: @WestradeGroup

ISTT International Society for Trenchless Technology

SOCIETY NEWS istt.com

ISTT News brought to members by Trenchless Works

A MESSAGE FROM THE CHAIR

Keh-Jian (Albert) Shou,
Chairman, ISTT

Dear ISTT Members

It is a pleasure to be elected as the new chairman of ISTT. My dream came true, though the challenging journey is ahead of me.

I believe trenchless technology will see more demand in the post pandemic era; in addition, the energy crisis and climate change also make the trenchless market more prosperous. This may be optimistic, but we must prepare ourselves accordingly.

ISTT is owned by the Affiliated Societies. I will try to make the management team provide good service to you. However, your involvement and contribution are also critical to make our Society a success. As you may know, we have three major channels: Communique for announcements through our Executive Director, Peter Smeallie, LinkedIn as social media for updated information, and Trenchless Works as an official online magazine. I hope that you will all take full advantage of them.

Over the past year, as you may know, we have updated our technical guidelines, i.e., the beta version (charts and descriptions), we will keep updating it based on your feedback. We have 13 more ISTT educational webinars on record, that you could replay in the member-only space. We will keep hosting webinars, with different cutting-edge topics and different levels. In addition, we are planning to create Youtube features and a Youtube channel.

For the member's affairs, we will not only develop new affiliated societies, but also provide better services to our members. We plan to have a corporate member subcommittee, that can communicate with the international corporate members directly. In this way, we can more effectively integrate our members from different sectors. About the events and grant programmes, I hope that we will have more regional No-Dig events to make our Affiliated Societies stronger. Through reasonably distributed grant programmes, I hope that we can also help to develop new societies in the emerging market regions.

Finally, I would like to let you know that I am ready to contribute myself to this family of trenchless technology. Please feel free to let me know if you think I can help.

With my best wishes,

Keh-Jian (Albert) Shou

Chairman, ISTT

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INTERNATIONAL NO-DIG 'FINNISHED' UP A MAJOR SUCCESS

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The beautiful Finnish capital, Helsinki, proved to be a fantastic host city for the 38th International No-Dig exhibition and conference with the event drawing representatives from a hugely diverse range of geographies and disciplines.

In addition to providing direct access to the burgeoning Finish and Scandinavian markets, the International No-Dig exhibition, held in the internationally renowned Messukeskus Exhibition Centre, provided an outstanding stage to showcase the very latest in trenchless innovation. Amongst the impressive array of stands was Picote Solutions, which took the opportunity to launch the company's prototype Mega Miller machine in its home country. This fast and highly powerful machine looks set to be a game changer for both clean and wastewater pipes. Other products launched into market in Helsinki included GEONEX's steerable system which took pride of place alongside the company's range of horizontal hammer boring rigs. In the spirit of this global event, it was great to once again see exhibitors prompting their products and services live from the event via Trenchless Works TV and a range of far-reaching social media channels.

International No-Dig 2022 also boasted one of the most comprehensive conference programmes ever curated for the No-Dig sector, which was reflected in the high levels of attendance. Each of the three days offered two conference tracks ensuring that there really was something for everyone. >

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"I would like to take this opportunity to thank our sponsors Picote Solutions, Geo Nex, Lännen Alituspalvelu and Pekka and Trelleborg. Without their support it would not be possible to stage such a world class event."

Speakers and panels presented and discussed a range of technological, environmental and social developments which are driving the sector forward at a remarkable pace. Amongst the range of topics discussed were Microtunnelling, Pipe Jacking, Cured-In-Place-Pipe (CIPP) rehabilitation, Horizontal Directional Drilling, Inspection and Surveying and other Rehabilitation options. Moderating the sessions were some familiar and highly regarded figures including Dr Declan Downey, Dr Samuel Ariaratnam and Kyoko Kondo.

For the first time ever, International No-Dig Helsinki also delivered a dedicated student programme, the highlight of which was a series of trenchless technology masterclasses introducing young engineers to the basic principles and fundamental economic and environmental benefits of these rapidly developing technologies. Students also had the chance to learn about vital supporting technologies such as geotechnical and condition assessment surveys.

Commenting on the event Westrade's managing director, Paul Harwood said: "Firstly, I would like to take this opportunity to thank our sponsors Picote Solutions, Geo Nex, Lännen Alituspalvelu and Pekka and Trelleborg. Without their support it would not be possible to stage such a world class event. I would also like to join everyone in thanking the Finnish Society >

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of Trenchless Technology (FiSTT) and the International Society of Trenchless Technology (ISTT) for their support in delivering such a well-attended and well-received event. Deserving of a particular mention are the recent past chair of ISTT Jari Kaukonen and chair of the FiSTT, Pertti Leppänen. Both were excellent hosts and made everyone feel extremely welcome in their country's capital."

The global trenchless community can now turn its attention to South America and International No-Dig 2023 which will take place at the Expo Santa Fe Expo centre in Mexico on 30 November.

For more information, please Email pharwood@westrade.co.uk.

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TRENCHLESSWORKS

NO-DIG TURKEY 2022

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

Istanbul Lutfi Kirdar International Convention and Exhibition Centre

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

SU YÖNETİMİ ÖDÜLLERİ
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2022

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second edition

EUROPEAN NO·DIG 2023

Conference ITALY

25 may - Segrate (MI)

★ CALL FOR ABSTRACT OPEN https://s1.easyabstract.it/congress/NODIG2023

Topics

The scientific articles submitted should fall under the following topics:

A. Preliminary investigations
B. Laying pipes by Horizontal Directional Drilling
C. Microtunnelling
D. Relining
E. Safety on working sites
F. The Trenchless Technology energy saving and environmental impact
G. Materials

★ **Final date for Abstract submission:**
30 November 2022

Organized by

ITALIAN ASSOCIATION FOR TRENCHLESS TECHNOLOGY

In cooperation with

AKATED TSITT · GSTT TRENCHLESS MADE IN GERMANY · IbSTT Asociación Ibérica de Tecnología SIN Zanja · UKSTT

The Second Edition of the European NO DIG Conference will take place as part of the First Edition of ITALIA NO DIG LIVE.

For more information:
www.iatt.it - iatt@iatt.info - phone +39 06 39721997

24-26 MAY

Italia NO DIG LIVE 2023

PARCO ESPOSIZIONI NOVEGRO (MI)

istt.com

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Web: www.ukstt.org.uk

NORTH AMERICAN SOCIETY *FOR* TRENCHLESS TECHNOLOGY

TRENCHLESS TIMES

APRIL 30-MAY 4 | PORTLAND, OR

NASTT 2023 No-Dig Show

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

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GREEN BELOW.

EDUCATIONAL & NETWORKING OPPORTUNITIES AWAIT

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

- **Engaging networking programs & events**
- **Prestigious industry related awards**
- **Technical papers & presentations**
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NETWORKING EVENTS | EXHIBIT HALL | TECHNICAL SESSIONS

Visit **nastt.org** and **nodigshow.com** to learn more

Upcoming CONFERENCES, COURSES & EVENTS

November 7-8
16th Annual Western Regional No-Dig Conference
Concord, California, USA

November 8
New Installation Methods Good Practices Course
Concord, California, USA

November 14-15
6th Annual Northeast Regional Chapter Trenchless Conference
Portland, Maine, USA

November 16-17
HDD Good Practices Course
VIRTUAL

November 30
International Trenchless Seminar
Santa Fe, Mexico City, Mexico

December 14-15
Pipe Bursting Good Practices Course
VIRTUAL

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

April 15-17, 2024
NASTT 2024 No-Dig Show
Providence, Rhode Island, USA

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

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

Ralston Young Trenchless Achievement

Applauding savvy members under 36 who have demonstrated excellence early in their career by making valuable contributions to the trenchless technology industry, achieving noteworthy professional success, and actively participating in NASTT or its regional or student chapters. **With their talent and ability, these impressive people are the future of trenchless.**

Eligibility: *Nominees must be current NASTT members holding membership for a minimum of 2 consecutive years. Nominees must be under 36 at the time of nomination. Student members are not eligible.* **Application deadline is November 30, 2022.**

Visit nastt.org for more information

SOCIETY NEWS

UKSTT

ukstt.org.uk

Society News brought to members by Trenchless Works

GETTING THAT FEELING OF DÉJÀ VU

Ian Ramsay, Chair, UKSTT

It is déjà vu and I am really honoured to be the UKSTT chair again. Dawn, the previous chair, did an amazing job during very difficult times due to COVID. Not only did she revitalise the Society, increase membership but also introduced some fantastic new initiatives and marketing ideas. Supported by Lynn who has also been incredible over the last few years, I am stepping into the post at an exciting time.

I want to build on the sound foundations Dawn and Lynn have started. The sub committees are the heart of the society covering the Membership Services, Technical and Education and Finance. These working groups look at every aspect of the Society from Roadshows to Masterclasses, marketing, membership liaison, website updates and technical enquires. We have around 3 Masterclasses per year and 3 Roadshows. These are important as they are an opportunity to educate and engage/network with both the current membership and potential new ones.

We have increased the number of Patrons and I feel that it is important to work with them to find out what they can get out of being a Patron and what we can offer through the membership. Technical Evenings, Events and Roadshows focused towards what they need are the way forward.

I also know that the number of women in trenchless has grown. In the UK we have world class female engineers, managers, consultants etc. This needs to be highlighted and we are engaging in a series of interviews and pod casts to allow them to have a voice and talk about their journey.

Mental health in the work place is also a key issue. Trenchless is no exception. The UKSTT is working with an expert in this field and we plan to highlight various aspects and ideas that will help the membership working with their teams.

I also want to thank Linda Lamb for all the hard work and real difference to the UKSTT team she has made, working alongside Lynn.

It is going to be an exciting next 2 years and I am looking forward to the hard work and great council team.

Great to be back.

Ian Ramsay

EVENTS AND MEETINGS

2022

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

November 8: UKSTT Energy & Communications Masterclass
The Woodland Grange Conference Centre,
Leamington Spa, Warwickshire
Details from: www.ukstt.org.uk

November 22: No-Dig Roadshow 2022
Warrington. UK
Details from: www.nodigroadshows.co.uk

November 30: Trenchless Technology International Seminar
Westin Hotel, Santa Fe, Mexico
Details from: www.trenchlessmexico.com

2023

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

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

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

November 2023: Trenchless Egypt 2023
Cairo
Details from: www.trenchlessegypt.com

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

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

2024

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

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