RELINE

Interview
A CONVERSATION WITH CEO, MARC STIEBING

Cradle-to-Grave
LIFECYCLE OF A LINER

Case Studies
CLIMATE-FRIENDLY ON SITE

Corporate Culture
STRONG VALUES, CLEAR STANCE

Trenchless rehabilitation, protecting water

Sustainable solutions for tomorrow's sewer networks

1.3 billion

liters of drinking water seep into the soil every 24 hours in Germany – unused.

Imprint

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Cover image
Andreas Gücklhorn, unsplash.com

Printing
Stober Medien GmbH
Industriestraße 12
76344 Eggenstein

This magazine was produced in the region at the “Stober Medien” printing works to ensure short transportation routes and to support the local economy. Among other things, the company relies on the use of mineral oil-free organic inks and consistent recycling of paper, printing plates, PE film, and wood. Unavoidable CO_2 emissions are offset with targeted programs. “Stober Medien” is also “Blue Angel” and “FSC®”-certified. The “Circle Offset Premium White” paper used for printing is made from 100%-recycled paper, and has also been awarded the “Blue Angel” ecolabel.

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Marc Stiebing (left) and Patrick Heimpold, Managing Directors of RELINE

Dear Reader,

Can trenchless sewer rehabilitation make the world a better place?

For several years now, we at RELINE have been working to find an answer to this question. We see our company as a corporate citizen. Like every citizen, we bear social, ecological, and ethical responsibility as part of society.

This responsibility is not a burden for us, but a conviction. That is why we work on many levels: we develop sustainable water networks with innovative solutions. RELINE is already making a difference by establishing the most environmentally friendly method of sewer rehabilitation worldwide, UV-CIPP. This commitment is based on strong values, which are reflected both inside and outside the company, and a constant willingness to develop further.

This strategy has already taken us to the top of the industry. Pursuing them consistently is a recipe for success in the future. Studies show that sustainability and ethical corporate governance should not only be morally self-evident, but are also becoming decisive economic factors.

So, can trenchless sewer rehabilitation make the world a better place? The answer is yes – but of course not on its own! Genuine transformation at all levels – social, economic, environmental – requires a joint effort. We would like to thank our workforce and business partners who continue to walk this path with us despite the many challenges. And we would like to invite others to join our mission.

In this magazine, you can find out what is already possible today. It will be worth your time – we promise!

Patrick Heimpold Marc Stiebing

5 locations

> 200 employees

> 200 users

Projects in more than 65 countries

> 150 UV systems

Diameters DN 150 to DN 2000

More than 9,000,000 m of installations

45.5 metric tons: weight of the heaviest Alphaliner

About RELINE

RELINE is a world leader in trenchless rehabilitation technology. Founded in 2009 and headquartered in Rohrbach, Germany – in the heart of Rhineland-Palatinate – RELINE is the driving force behind the UV pipelining methodology, the most environmentally friendly method of sewer rehabilitation.

We are the only system provider on the market to supply solutions and expertise for the entire repair process: from the manufacture of glass fiber-reinforced liners to the necessary curing equipment and training courses at our in-house academy.

We are shaping the industry with passion and success, while being aware of our enormous responsibility towards people and the environment this pioneering role brings with it. That is why we act according to ethical values and principles. The focus here is on conserving the valuable resource of water: by developing innovative solutions for sustainable water networks, we are working with our employees and partners to create a better future for everyone.

relineeurope.com

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Picture: netta, adobe stock

Every drop counts

Water is life. But this valuable resource is becoming increasingly scarce. The effects have long been felt here in Europe too. A global water crisis is looming, with fatal consequences. The time has come to finally take effective action!

Find out more about the use of RELINE for water resources in the video

Normally, only the steeple of the church of Sant Romà protrudes from the water of the Pantà de Sau reservoir in Catalonia. In dry years, the water level can drop so low that it is completely exposed

Picture: Iurii Buriak, istockphoto

Picture: Dario Sintoni, istockphoto

Global fresh water consumption increases by just under

1%

every year

The soil is cracked, and nothing is harvested here. Trucks deliver strictly rationed drinking water. Diseases break out and social tensions intensify.

These are scenes straight out of a doomsday movie that are currently taking place mainly in the Global South – although they could also become a bitter reality here in Europe in the medium term. **Water has become a scarce resource in many parts of the world.** A development with fatal consequences. After all, cool water forms the basis of life for people, animals, and plants. It is therefore infinitely valuable – and its value will continue to rise.

Factors such as overexploitation of nature, mismanagement, population growth, increasing energy demand, environmental pollution, and the resulting climate change mean that **around 2.2 billion people are already living without a secure supply of clean drinking water.** Around 3.5 billion people lack access to clean sanitary facilities. And the consumption of fresh water is increasing worldwide – according to estimates by just under one percent per year. At the same time, the Earth's water reservoirs are dwindling.

EUROPE ALSO SITS ON DRY LAND

By 2050, more than half of humanity could be suffering from a lack of drinking water. A global water crisis is looming. And when water is scarce, polluted, or difficult to access, the consequences are often serious, including for health, food safety, energy production, and a peaceful society. **That is why everyone should have access to clean drinking water** and benefit from good sanitation **by 2030**. This is what the UN has set out in the SDGs, the Sustainable Development Goals.

You might think that all this is still happening far away from us. However, the reality is different. After all, as Europeans, we live within and from global relationships, and so the challenges facing the world are also our responsibility. In addition, we in the EU have long been feeling the effects of climate change and the like at first-hand.

Even Germany is now experiencing long periods of drought, but the South in particular is suffering from the heat and drought in summer. Water levels are falling to ever new historic lows, which is having a negative impact on harvests. In many regions, water emergencies are regularly declared, emergency plans and bans are put into effect – such as rationing drinking water.

Sensitive natural areas must be protected – trenchless sewer rehabilitation contributes to this

At the same time, demand is constantly increasing. Opposing developments with dramatic effects: **According to the Intergovernmental Panel on Climate Change, around 44 million Europeans could be affected by water shortages from 2070.** There is therefore an urgent need for action to protect and increase water resources.

SEWER REHABILITATION AS EFFECTIVE WATER MANAGEMENT

Without doubt, one solution here is to modernize the dilapidated pipeline system. **Europe has a sewer network of 3.1 million kilometers in length.** A valuable legacy left to us by our ancestors – after all, it helps us to manage water effectively. This makes it all the more serious to think how carelessly we treat it: the network is 50 years old on average. Cracks and holes are the order of the day.

This problem can hardly be underestimated. **This is because the massive backlog of rehabilitation work encourages leaks.** This means, among other things: groundwater and surface water is polluted, potentially endangering people and the environment. The inflowing water carries the risk of flooding and dilutes the wastewater. Sewage treatment plants are reaching the limits of their capacity, since diluted wastewater has a poor purification efficiency and requires more energy. And: valuable fresh water is lost.

At a time of impending water shortages, the EU, together with Norway, Switzerland, and Serbia, is experiencing a water loss of around 25 percent per year. Focusing on Germany, the picture is just as alarming: around 1.3 billion liters of drinking water seep into the soil every 24 hours – unused.

Without water, no existence on this planet is possible. It is our duty and responsibility to preserve this precious resource for the water cycle. After all: every drop counts.

A CONVERSATION WITH MARC STIEBING, CEO OF RELINE

“Sustainability is the economic factor of tomorrow”

Mr. Stiebing, 2.2 billion people on Earth have no access to clean water. Every year, 11.5 trillion liters are lost in Europe – these are frightening figures.

Absolutely. For this reason, we have defined RELINE’s company purpose as “Innovative Solutions for Sustainable Water Networks”. **It is what drives us every day to develop innovative solutions to rehabilitate sewer networks in an environmentally friendly way.** This is how we effectively protect the precious resource of water.

How is RELINE tackling the challenges of resource conservation and climate protection?

As the world’s leading provider in the field of trenchless sewer rehabilitation, we believe we bear a special responsibility to preserve the planet for future generations. At the same time, we are convinced that sustainability is the economic factor of tomorrow. Consequently, we are investing in environmentally friendly technologies, developing resource-saving innovations, and continuously reducing our emissions. With our UV-CIPP processes, our emissions are already lower than conventional rehabilitation methods – which is why trenchless pipe lining needs to become established worldwide.

How do you see the state of sewer rehabilitation in Germany?

Municipalities are faced with the enormous task of making tens of thousands of kilometers of sewer network infrastructure fit for the future. Over the years, tight budgets, staff shortages, and tendering procedures focused solely on the lowest price have led to a backlog of rehabilitation work. The current repair rate of around one percent per year is not enough. **What we need are investment, a procurement policy focused on sustainability, and long-lasting refurbishment solutions.** This is where trenchless sewer rehabilitation comes into play.

Why is trenchless rehabilitation the method of choice for maintaining the water infrastructure?

This technology enjoys numerous advantages over traditional civil engineering methods – both in terms of climate protection and cost-effectiveness. It is a fast and cost-effective method involving minimal disruption to traffic, residents, or businesses. At a conservative estimate, the useful life of the repaired liners is then at least 50 years. In addition, minimal energy and water consumption, as well as the lowest possible use of materials, combine to protect the environment. These aspects ensure a particularly good carbon footprint. In fact, a study by the renowned Fraunhofer Institute for Environmental, Safety and Energy Technology (UMSICHT) has scientifically proven that sewer rehabilitation using the UV-CIPP process is the most sustainable pipe rehabilitation method on the market.

42 %
reduction in emissions compared to 2020

Marc Stiebing, CEO of RELINE

How do you assess the future relevance of the method for tenders?

The topic of sustainability is also becoming increasingly important in our industry. Factors such as the UN’s Sustainable Development Goals or the ESGs as an ethical compass for companies are accelerating the process. However, the European Green Deal in particular, which aims to achieve carbon neutrality for Europe by 2050, is creating pressure to act. **In future, the carbon footprint of a project will become a key factor in public tenders.** Climate-friendly solutions such as trenchless sewer rehabilitation will then be preferred.

How is RELINE implementing the topic of sustainability for itself?

We see ourselves as drivers of the industry – also in terms of environmental protection. With our new products, we are making a decisive contribution to the climate transition while setting industry-wide standards, and we intend to motivate others to join us. However, this will only succeed if we commit ourselves to a holistic view of sustainability, which also includes ethical and social aspects, for example.
RELINE is part of the UN Global Compact and Science Based Targets initiatives, which create guidelines for sustainable and responsible corporate governance. **As a pioneer and the first liner manufacturer, we have successfully completed the EcoVadis assessment process several times, and we produce internal sustainability reports on a voluntary basis.** In addition, we had set ourselves the target of reducing Scope 1 and Scope 2 emissions by 42 percent by 2030 compared to 2020. RELINE has already exceeded this goal back in 2022. We are proud to actively contribute to a better environment and to be a meaningful and inspiring role model for the industry. In the future, we remain committed to driving sustainable solutions forward and continuing our efforts with consistency and dedication.

You mentioned it: as a company, RELINE relies on a clear system of values.

That is correct. Modern companies have a responsibility to create a better world by pursuing their purpose in line with their economic goals. Strong values, both internally within the company and with business partners, form a clear basis for this process. At RELINE, we focus on trust, integrity, respect, a sense of responsibility, and appreciation.

How does the topic of sustainability affect you personally?

I am a father and I want a future worth living for my children and future generations. This can only be achieved if we all act as efficiently as possible with regard to resources. **For example, more than seven billion people on this planet need access to fresh drinking water.** I am sure that RELINE’s innovations can play a part in meeting this need.

Taking responsibility …

RELINE believes in having a clear attitude and strong values. As market leader, we combine economic success with responsibility for the well-being of society and our workforce.

Purpose and values provide meaning and orientation in our daily work. They strengthen the sense of community and promote motivation, because everyone is working towards a common goal – conserving water as a resource. This also creates a positive working environment in which employees feel respected and appreciated. Our Code of Conduct ensures that business partners also share our convictions and act accordingly.

All RELINE employees act according to clear principles

Purpose

Innovative solutions for sustainable water networks

Water is the basis of all life. Consequently, our overriding corporate goal is to use innovative solutions for rehabilitating sewer networks around the world in an environmentally friendly manner, and thus protect this precious resource in the long term.

Values

Trust
You can rely on us – this attitude is the foundation for a sustainable corporate culture and makes successful cooperation and business dealings possible.

Integrity
Integrity is an important value for us. Our dealings with business partners and employees are honest, transparent, and ethically correct.

Respect
Our behavior is characterized by tolerance, consideration, politeness, and honesty. We respect all people, regardless of age, gender, sexual orientation, religion, or other characteristics.

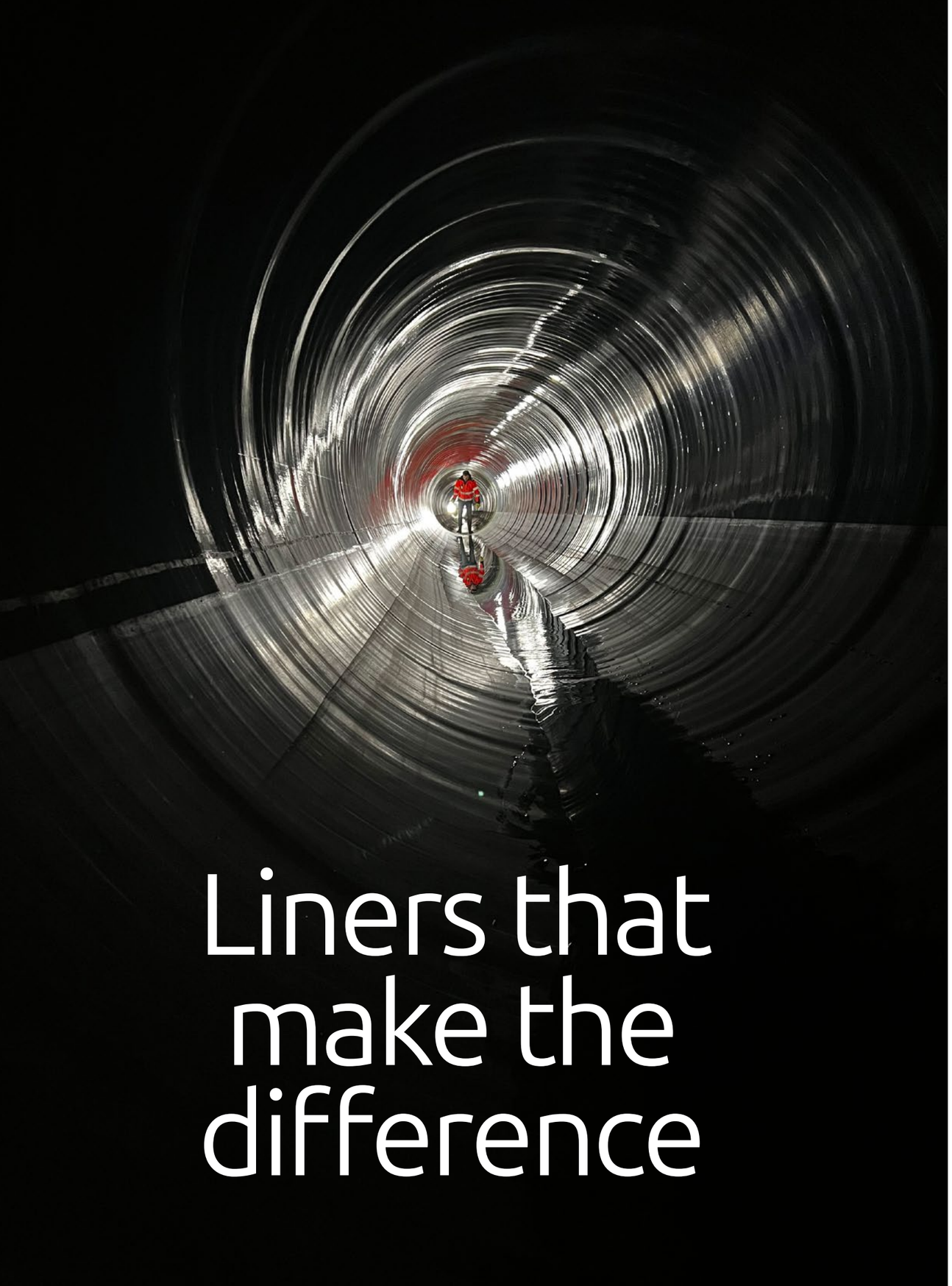
Accountability
We are prepared to perform our duties to the best of our ability. In doing so, we consider the impact of our words and actions on business partners, employees, society, and the environment and show accountability.

Esteem
At RELINE, we show recognition for a person's individual qualities, skills, or achievements and provide constructive feedback. We listen to each other and support each other.

Code of Conduct

Whether environmental protection, ethical business conduct, or social responsibility in areas such as human rights or occupational safety: the Code of Conduct defines clear guidelines as the basis for our business relationships – along the entire supply chain.

… act ethically



Liners that make the difference

UV-CIPP pipe lining is the most commonly used method in trenchless sewer rehabilitation. This makes it all the more important to optimize the lifecycle of a liner from production to disposal in terms of sustainability – transparently, prudently, and with an eye to the future. RELINE and its partners are working on this every day.

BASIC MATERIAL PRODUCTION

The Alphaliner from RELINE consists of several high-quality components. Special e-CR glass fibers and a resin designed for UV light curing form the basis for the GRP technology used. In addition, various types of films are required, which are essential for production, storage, and installation.

Complex glass-fiber fleeces are produced at the plant in Rheine

Glass-fiber fleece

In our “Glass Center of Excellence” at Rheine in the Münsterland district, up to **7,000 metric tons of glass fiber fleece** are produced annually on three modern production lines. These are a key component in the production process of pipe liners, as they are characterized by their **toughness, strength, and durability**. The glass-fiber fleeces are further processed by our RELINE team at the Rohrbach headquarters.

The melting process in glass fiber manufacture involves high temperatures and is therefore energy-intensive. We are currently examining the use of natural fibers as a resource-saving alternative. Until then, we are taking several measures to offset the environmental impact: among other things, our ISO 14001-certified supplier sources electricity from renewable energies. RELINE also relies largely on **solar or wind power** for its in-house systems.

THE PRODUCTION STATIONS

Glass-fiber fleece Supplied from the Rheine plant in the region

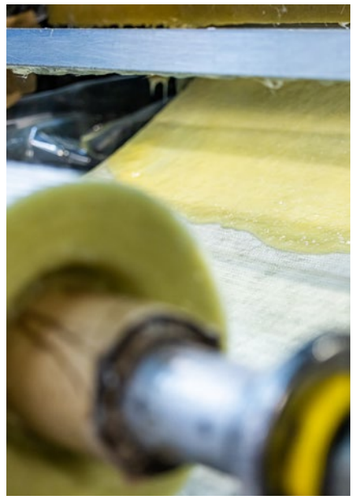
Reaction resin Supplied from European plants

You can find out all about RELINE’s fiberglass production in this video

Reaction resin

When manufacturing a pipe liner, a reaction resin is cured together with the glass fibers to ensure the necessary structural resilience, leak-tightness and chemical resistance of the liner.

The resin used in our pipe liners is produced synthetically using chemical processes – a process that consumes a large amount of resources. RELINE is therefore working hard to optimize this step of liner production in an environmentally friendly way. For example, we are investigating the use of **organic resins and rPET** (recycled polyethylene terephthalate) **as a sustainable alternative** to fossil raw materials. Our modern resin mixing system and an improved impregnation system reduce material waste and optimize the utilization of resin material. We make sure that our suppliers come from the EU and can provide evidence of sustainability certificates, or at least the use of renewable energies.



The impregnation unit evenly saturates the GRP fabric with reactive resin

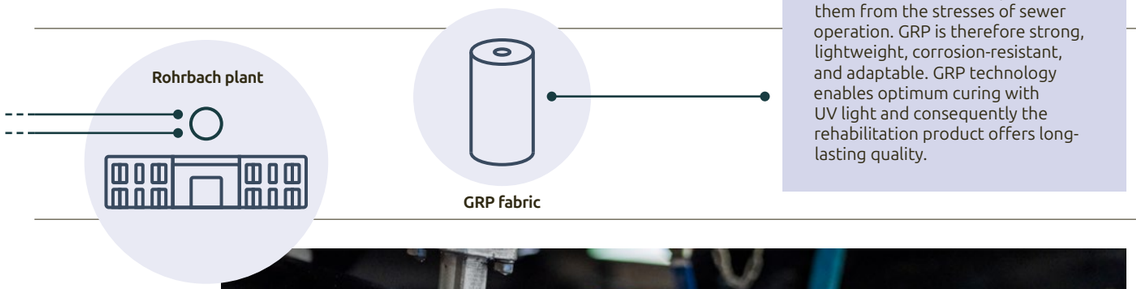
Impregnated GRP fleece

Before the actual liner production, the glass-fiber fleece produced in Rheine is pre-impregnated with resin in a special process at the **Rohrbach site**. The two components, UV light-curing reaction resin enriched with additives and special e-CR glass-fiber fleece, interact with other additives to form the as yet non-cured **glass fiber-reinforced plastic** or GRP for short. After a defined period of storage in order to achieve the required resin viscosity, the impregnated GRP fleece can be further processed.

The environmental impact of the impregnation and production processes is low, regardless of the material used. The energy requirement is also low and is covered by renewable energies.

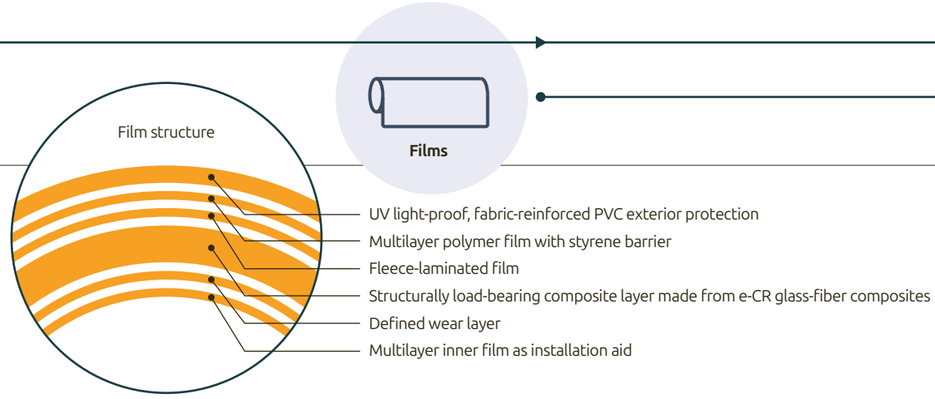
GLASS FIBER-REINFORCED PLASTIC

GRP is one of the most versatile composite materials. It is used successfully in numerous sectors such as the aircraft, automotive, shipbuilding, and wind turbine industries. Glass fibers take on the main load under mechanical stress (e.g. tensile or compressive forces); the resin transfers the forces between the fibers and protects them from the stresses of sewer operation. GRP is therefore strong, lightweight, corrosion-resistant, and adaptable. GRP technology enables optimum curing with UV light and consequently the rehabilitation product offers long-lasting quality.



All components of a liner are subject to rigorous quality control

Our employees are the guarantee for the highest quality standards in the winding process

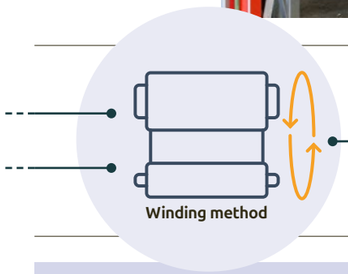


Protective films

The Alphaliner from RELINE is based on a **multi-layer film structure**. The PVC exterior protection is UV light-resistant, fabric-reinforced, and can be used either as integrated anti-slip protection or integrated preliner. A transparent, stretchable polymer film (PE-PA) with a styrene barrier function protects against solvent loss. The statically load-bearing composite layer of e-CR glass fibers has a wear layer that **can withstand the most severe chemical and mechanical loads**. The inner film (PE-PA) with styrene barrier serves as an installation aid and is removed after curing.

The Alphaliner features a defined abrasive layer that is at least three times thicker than the expected abrasion level over its entire life cycle. All suppliers of our inner film are based in the EU, obtain their electricity from renewable energy sources and have a sustainability certificate. Part of the liner's black outer film is **already made from recycled material** that is obtained from recycled plastics. Using recycled materials is not yet possible for the fabric-reinforced blue outer film. Research is ongoing here to find substitutes. Our efforts also focus on the further use of the outer film offcuts.

Liners of all sizes are produced at the Rohrbach plant



The Alphaliner

THE WINDING METHOD

As soon as the required resin viscosity has been achieved, the resin-impregnated glass-fiber fleece is wound into a seamless hose in combination with the corresponding films in a continuous, endless production process. The glass-fiber fleece is applied directly to an inner foil used as an installation aid. Thanks to this special combination, a wide variety of liner types can be produced, each with precisely defined properties. The method also allows production in theoretically unlimited individual lengths. In practice, Alphaliners are produced with individual lengths of up to 600 meters.

The multi-layered structure of the Alphaliner, in combination with the appropriate installation equipment, enables technically optimal, economical and sustainable solutions for the **rehabilitation of circular, oval, square and custom profiles in pressure and non-pressure pipes.** To date, more than 9,000,000 meters of Alphaliner have been produced at RELINE and successfully installed by pipe rehabilitation companies.

600 m
Alphaliners can be produced in one piece

Transportation to the construction site

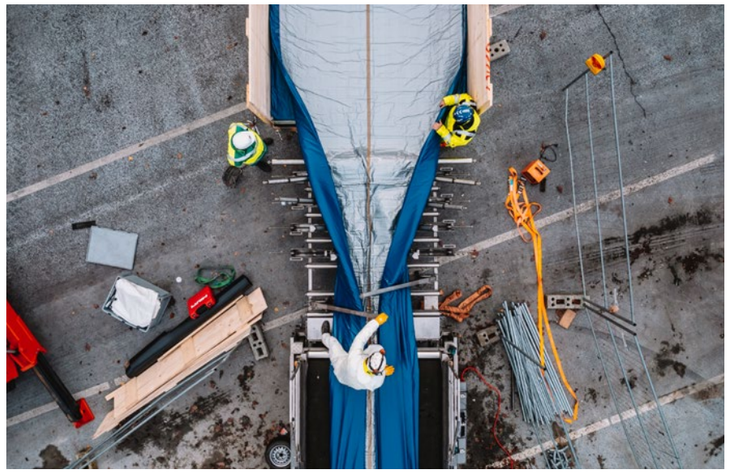
Once the liner has been produced, it is folded and packed in a wooden crate for transportation. These crates offer numerous advantages when it comes to transporting pipe liners. They protect the liner from damage, deformation and the effects of weather; what is more, they are reusable, making them a sustainable packaging solution.

Due to the specific density and flexible design of the pipe liners, a significantly larger amount of material can be transported per transport vehicle compared to concrete pipes, as there is no unused space. Furthermore, plastic systems only **weigh a fraction of what a concrete pipe does**, which facilitates both transportation and installation. This leads to a lower carbon footprint, cost savings, and **more efficient logistics**.

In cooperation with the pipe rehabilitation companies that carry out the installation, we are working on minimizing journeys, using UV curing systems located in the region wherever possible, and relying on alternative drive concepts when operating the UV curing vehicles.

90 %
less weight compared to concrete pipes

Around 8,000 crates are delivered from the Rohrbach logistics center to customers all over the world every year



The liner is pulled into the old pipe for installation via a conveyor belt

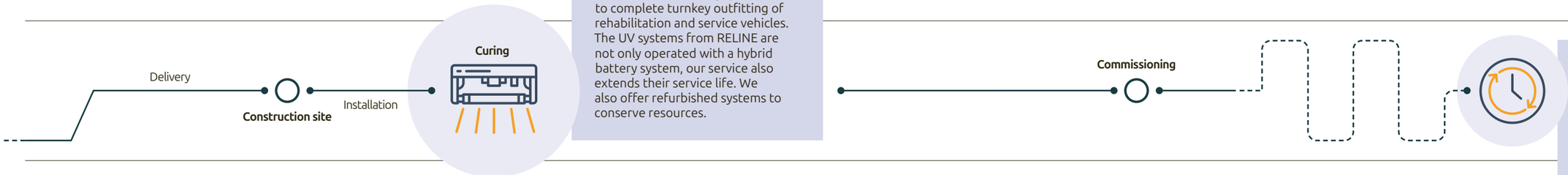
CURING BY THE UV SYSTEM

The UV curing system is used after the liner has been inserted into the damaged sewer and positioned correctly. As soon as the liner has been calibrated and is in contact with the sewer wall, the UV light source of the curing system is pushed in and activated to cure the resin by irradiation. Once the reaction resins have cured completely, they no longer interact with their environment.

Providing everything from a single source: RELINE is the only GRP pipe liner manufacturer to develop and produce complete systems and the equipment in-house, from UV curing systems to complete turnkey outfitting of rehabilitation and service vehicles. The UV systems from RELINE are not only operated with a hybrid battery system, our service also extends their service life. We also offer refurbished systems to conserve resources.

Piece by piece, the UV system moves through the fitted liner and cures it

Every liner installation is a team effort by experts



Installation

The preparation for installation involves high-pressure cleaning and possibly milling work. A camera inspects the condition of the sewer. The Alphaliner is then inserted into the old defective pipe using a cable winch and, if necessary, a conveyor belt. The liner, which is fitted using air pressure, is cured with a UV light source and special UV emitters installed on it. The old pipe performs the function of the mold – no bonding takes place.

The people responsible check the curing process and document it online. This is followed by a leak test and taking a construction site sample for quality testing. Once the connections to the building have been opened using a milling robot, they are proficiently connected to the shaft and the lateral inlets. **The result is a new, continuous and socketless pipe** that flexibly compensates for movements such as soil subsidence or angular deflections as well as defects in the old pipe thanks to the new pipe's elasticity.

Clean, safe, fast, sustainable: Pipe lining using the UV-CIPP method is not only particularly economical, but **also demonstrably the most environmentally friendly method of sewer rehabilitation** compared to conventional civil engineering methods – according to a study by the Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT. It is possible to rehabilitate several hundred meters of sewer pipe in one working day, allowing the pipe to be put back into operation within a very short time. **The trenchless method allows traffic to continue flowing**, largely protects local residents from construction site noise and dirt, and reduces the harm to creatures living below ground.

Experience the installation of a RELINE Alphaliner in the video

Function and operation

The pipe lining process prevents the exfiltration of water and **thus protects the soil and groundwater against potential contamination**. At the same time, the infiltration of groundwater and stratum water is prevented, which reduces the excessive load on the sewage treatment plants.

A key aspect of sustainability is the service life of the rehabilitated pipes. The longer they can be used, the fewer resources and energy are required for maintaining them. Pipe liners have an estimated depreciation period of 50 years, although experts expect the useful life will be significantly longer because of the high safety reserves.

Pipe liners also **score positively in terms of microplastic pollution.** A study by the Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT in 2021 already showed that the abrasion of plastic pipes in the sewerage system is "rather low" compared to the total amount of microplastic emissions.

Another advantage is maintenance: rehabilitated sections with pipe liners have a smooth, jointless surface that minimizes deposits. This means that the flushing intervals can be extended, and the amount of cleaning work is considerably reduced.

END-OF-LIFE

At least 50 years – this is the conservative estimate of how long a pipe liner will last. If necessary, a new liner can be pulled into the damaged one, which would extend the useful life by a further 50 years. Once the repair potential has been exhausted, the defective pipe liner can be removed trenchlessly.

Excavated material should be recycled wherever possible, for example by being crushed into building materials that can be used as a filling material for mortar or in road construction. Only when recycling is not possible do we resort to incineration, for example in waste-to-energy plants. Fully cured materials are disposed of with the residual waste, while incompletely cured substances are labeled accordingly, and disposed of separately.

Together with partner companies, RELINE is constantly working to extend the service life of liners and to recycle an increasing proportion of rehabilitation products.

Pioneer in transformation

If sustainable action is to be more than just words, it must stand up to critical scrutiny. We take our responsibility seriously: our business practice is based on international standards and scientific expertise. In doing so, we are playing a pioneering role with a lighthouse function for the entire industry.

Trenchless pipe liner or conventional civil engineering? For a long time, anyone faced with the question of what method to employ in their rehabilitation project had to make do with a minimum amount of reliable information as the basis for decision-making. **Recently, this situation has changed fundamentally thanks to the independent lifecycle analysis (LCA) by the renowned Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT.** The study covers the entire manufacturing phase from raw material extraction, production, and transportation through to installation and commissioning (cradle-to-gate). For the first time, it makes it possible to compare different repair methods according to measurable criteria on the basis of the common sewer diameters DN 400, DN 800 and DN 1200.

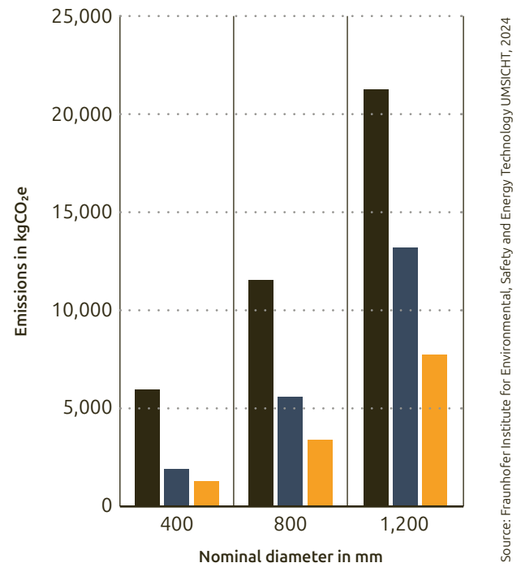
GRP LINERS AS ECOLOGICAL FRONTRUNNERS

The result: **Rehabilitation with UV-curing GRP inliners performs significantly better in all relevant categories than the conventional approach of replacing concrete pipes.** For example, the CO_2 equivalent of the trenchless alternative with a pipe diameter of 400 mm is only around a quarter of that of open trench excavation. In the case of concrete pipes, fossil fuel consumption is even around four times higher for the DN 400 sample construction site used as the basis. The UV method also delivers a superior environmental balance compared to felt inliners.

CO_2 footprint

Comparison of emission values of concrete, felt liner and glass liner on a sample construction site

*Software tool for calculating the CO_2 footprint of the company SPHERA



Source: Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT, 2024

Everyone at RELINE is helping to shape a greener future

This environmental advantage can be explained by several factors: Even the production of concrete pipes is particularly energy-intensive. **In addition, in contrast to the conventional method, trenchless sewer rehabilitation does not require any costly earthworks or asphalting, thereby saving energy, water, and material.** Another advantage is the speed of the method – shorter construction times and simpler logistics mean fewer emissions. Last but not least, the pipe liner has a useful life of at least 50 years, making it an intelligent infrastructure investment with an eye to the future.

CLEAR GUIDELINES FOR OUR SUSTAINABLE ACTIONS

As a declared goal of the global community, sustainability is increasingly being anchored in policy – for example in the form of the United Nations' Agenda 2030 or the European Green Deal, which aims to achieve carbon neutrality by 2050. **Important tools for guiding this process are the 17 Sustainable Development Goals (SDGs) and the ESG criteria based on them.** Divided into environmental, social, and governance topics, they establish clear guidelines for an ethically sound and long-term business strategy aimed at conserving resources, along with evaluation of the strategy. **We are committed to both frameworks and align our activities with them.**

AN OUTSTANDING COMMITMENT

This commitment is also reflected in the **award of an EcoVadis medal for sustainable management**. RELINE was the only liner manufacturer in the world to successfully complete the demanding evaluation process several times, placing it in the **top 35 percent** of all companies evaluated. In all four areas examined – environmental protection, work processes and human rights, ethics as well as sustainability in the supply chain – we also outperformed the average for the entire wastewater disposal industry.

SETTING THE COURSE TOGETHER

One reason for this is certainly that we as a company act with foresight and keep an eye on the big picture. We know: **Today's recommendations for action are tomorrow's legally binding standards and laws;** in the future, tenders will also be largely aligned toward ecological criteria. The entire industry is undergoing a transformation process in which RELINE is acting as a **role model and pioneer – along the entire value chain**. Only a clear commitment to sustainability on the part of all stakeholders can effectively equip the water infrastructure to meet future challenges.

Case Studies

Location:
Unna railroad station, North Rhine-Westphalia

Duration of the installation:
Three working days during a dry weather period

Length of the liner:
120 meters

Field of application:
Rehabilitation of a combined wastewater sewer under the station tracks

Thanks to in-depth expertise and strong partnerships, the job was a success despite the difficult environment

Unna – non-pressure pipe rehabilitation in sensitive terrain

It was a tricky task: a combined wastewater sewer had to be rehabilitated under the tracks at the railroad station in Unna (a city in North Rhine-Westphalia, Germany) – with **restricted access and a 12-degree change of direction along the route**. As this change of direction lay within the station site, it would not have been possible to make an excavation here. Overall, holding back the wastewater – and thus personnel safety – posed the biggest challenge to rehabilitating the existing profile.

With the UV light-curing Alphaliner 1800H-UP from RELINE, a trenchless rehabilitation without excavations was achieved in the sensitive railroad area. The high-tech RE4000 UV system from RELINE significantly accelerated the curing of the liner, while minimizing the time during which the wastewater had to be diverted. The challenging solution was achieved through precise cooperation between several specialist companies, including DIRINGER & SCHEIDEL Rohrsanierung and SMG Bautenschutztechnik.

Location:
Island of Juist, Lower Saxony Wadden Sea UNESCO World Heritage Site

Duration of the installation:
2 weeks

Length of the liner:
235 meters

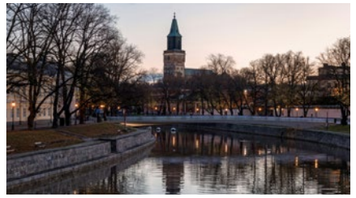
Field of application:
Wastewater pressure pipeline DN 450 with pressure level PN 10

The compact transport dimensions of the Alphaliner facilitated the pipe repair in the UNESCO World Heritage Site

Juist, one of Germany's East Frisian islands – minimally invasive pressure pipeline rehabilitation in a fragile nature reserve

The DN 450 wastewater pressure pipeline which carries the wastewater from the island of Juist to the sewage treatment plant was badly damaged, and no longer operational. With the Alphaliner PN, the rehabilitation could be carried out almost trenchlessly – **a decisive advantage for the car-free island, which requires special protection as an ecologically sensitive UNESCO World Heritage Site**. Due to strict regulations, the ferries were only allowed to transport vehicles weighing up to 7.5 metric tons; this meant precise planning and exactly coordinated material deliveries were required. **The restoration was completed with just four excavations, without extensive earthworks.** This minimally invasive approach preserved the fragile natural landscape.

Thanks to perfectly coordinated processes, the project in south-western Finland was carried out quickly, reliably, and on time

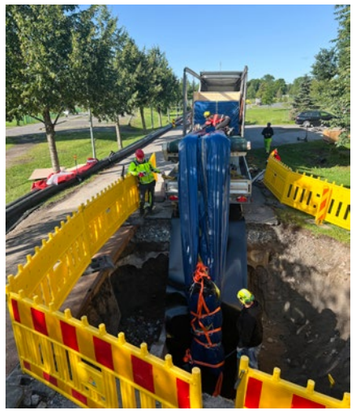


Location:
Turku, Finland

Duration of the installation:
40 days

Length of the liner:
More than 1,000 meters, consisting of 10 Alphaliner1800H

Field of application:
Rehabilitation of old pipes with dimensions DN 1600 / wall thickness 18.4 and DN 1800 / 20.5



Turku – a logistical tour de force

Turku is the oldest city in Finland, and a pioneer in sustainable urban development. **In a record-breaking project, ten GRP liners with a total weight of 212 metric tons were produced within just 40 days and delivered on time to the construction site 2,000 km away** – a milestone for trenchless pipe rehabilitation. Thanks to the partnership between EEROLA OY and RELINE, the entire planning and implementation was seamless. The liners were installed using specially developed equipment such as the RE4000 UV curing system and a specially adapted conveyor belt. This meant that the first part of the project was not only completed efficiently, but also in an environmentally friendly manner.

Sustainability

as a voluntary commitment

Our headquarters in Rohrbach, Rhineland-Palatinate

With an analytical eye for detail, we have created an environment at our sites that respects nature and makes it easier for employees to organize their everyday work with a clear awareness of ethical and ecological imperatives.

A dedicated charging infrastructure is available for electric vehicles

WE PROMOTE THE WATER CYCLE

As dedicated pioneers in water protection, we set a good example: **Gravel-covered evaporation areas on the roofs of our buildings support the natural water cycle.** For the same reason, we have deliberately decided against sealing the ground in our parking areas. The use of gravel allows rainwater to seep away.

FORWARD-LOOKING WASTE MANAGEMENT

The best waste is waste that is not produced in the first place. **Consequently, RELINE relies on a comprehensive waste prevention strategy, including monitoring in all areas of the company.** We regularly analyze our processes in order to optimize our waste streams.

Environmentally friendly cleaning methods and the use of reusable packaging are also a matter of course for us. Hazardous waste, on the other hand, is precisely tracked and disposed of properly.

In the Administration and Development departments, paperless processes, the use of durable office materials, and simulations instead of physical tests in product development are important components when it comes to reducing the amount of waste.

And finally, we also train our workforce in the responsible use of valuable resources.

SPACE FOR BIODIVERSITY

RELINE creates oases for flora and fauna – in the middle of an industrial area. Green spaces between and on top of our buildings establish conditions that promote a rich diversity of species. **At the same time, the green spaces bind CO_2, have a pleasant cooling effect, especially in the summer heat, and make it more enjoyable to linger there.**

CLIMATE-FRIENDLY, CUSTOMIZED MOBILITY

The RELINE company premises are located just a few hundred meters from the Rohrbach railroad station, and are also ideally connected to the public bus network. This means that many RELINE team members no longer need to drive their own petrol or diesel cars. In addition, the company's own subsidy program supports the switch to a zero-emission electric car. **As part of Fair Working Conditions, we have also created far-reaching opportunities for mobile working** – eliminating the need for travel.

COHERENT HEATING CONCEPT

A pellet heating system provides the necessary heat in offices and break rooms. Green gas ensures the best possible carbon footprint when operating the regenerative post-combustion plant. The hot exhaust gases generated here are used to heat the production hall via a heat exchanger.

CERTIFICATIONS AND PARTNERSHIPS

Solutions for greater future viability are developed in close cooperation across departmental boundaries

RESPECTFUL INTERNAL COMMUNICATION

How we speak reflects how we think and what is important to us. That is why we have developed guidelines for respectful internal communication. They form a central point of reference for how we deal with one another at RELINE. These rules are not set in stone; they are more of an invitation to shape our cooperation in a participatory way.

CERTIFICATIONS, RATINGS, AND INITIATIVES

We want to continue with our development. That is why we undergo external sustainability assessments and join initiatives with an ecological focus.

Not only has RELINE **passed the demanding EcoVadis evaluation process** (more on this on page 23), we are also certified as "WRc Approved" by the Water Research Center, which is based on the UN's Sustainable Development Goals. The internationally recognized test assesses the suitability and performance of products and services in the water and wastewater sector.

RELINE was also the first company in its industry to join the Science Based Targets Initiative (SBTi) in 2022. Its targets, aligned with the requirements of the Paris Climate Agreement, serve as a clear roadmap for companies to reduce emissions.

A vision for tomorrow

We have made a start – true to our mission of “Innovative solutions for sustainable water networks”. But anyone who, like RELINE, understands this mission as a generational mission also knows: it is only with clear goals, an open commitment to continuous development, and cooperation between everyone responsible will our descendants have a secure future.

Nobody is perfect. This makes it all the more important to follow a clear vision and work on continuous improvements – especially when it comes to sustainability. After all: sustainability is a crucial aspect of social and economic stability. Numerous studies show: **companies that are committed to the principles of the green economy are companies with a future.** This also reflects our conviction.

Thanks to the valuable cooperation with its partners, RELINE will continue to develop innovative solutions for sustainable water networks that protect this precious commodity, conserve resources, and effectively reduce emissions. **With this in mind, one of our declared goals is to make the pipe lining method carbon-neutral by 2050.**

We need to make a real and lasting impact. But only together can we create awareness and ultimately make a real difference. Consequently, we are proud of the ongoing commitment of our employees, business partners, and customers. We also appreciate the openness of local authorities, engineering offices, and construction companies worldwide. They are all successfully driving this mission forward day by day.

However, this path can only be successful if politicians increase their influence. There are numerous opportunities to act more sustainably, particularly in the refurbishment sector. Expected special investments are a unique opportunity for states and municipalities to sustainably modernize their water infrastructure. Crumbling pipelines, water loss, and hygiene risks highlight the urgent need for action – currently, around 25% of water is lost through leaks in the network.

Now is the time to make investments future-proof: through technologies with a low carbon footprint, long service life, and efficient use of resources. Sustainability criteria, CO_2 accounting pricing, and life cycle costs should play a greater role in public procurement.

We are ready! With low-carbon UV liner solutions and technological expertise, we’re working together with municipalities and planners to shape a powerful, climate-resilient water infrastructure – to protect water and soil: sustainable, efficient, and innovative.

Our promise: as a leading global company in trenchless sewer rehabilitation, RELINE will use its voice. Together with our strong network, we will work hard in the years and decades to come to shape a successful and sustainable future. We are thus following the much-cited idea: **what we do today determines what the world will look like tomorrow.**

RELINE

OUR PURPOSE

Innovative Solutions for Sustainable Water Networks