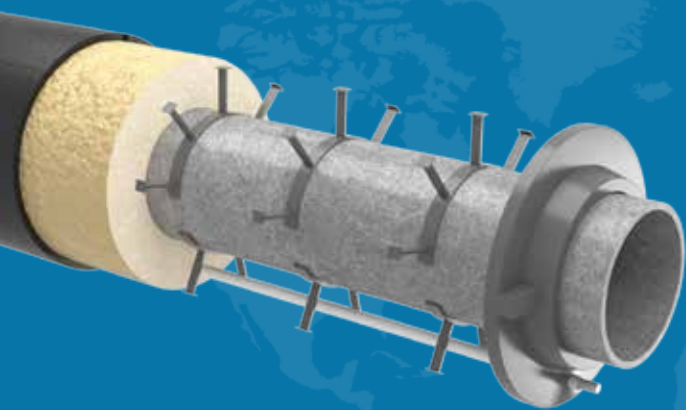# Scan‖TECH

Industrial Pipe Solutions Worldwide

RetroFit

Managing the life cycle of oil and gas pipelines with retrofit

Wouldn't it be perfect to have a detection system to monitor your entire system of pipelines?

Remote sensing
One cable, one monitor.
Local temperature or strain.

What lies beneath the surface - the eye cannot see

Principles of retrofit
Improve lifetime performance of your pipeline.

Millions of kilometres of pipelines are used to move crude oil from wellheads to processing facilities, export terminals and onwards to refineries. These pipelines have to cross remote and hostile areas, often with extreme temperatures and weather conditions.

The pipeline operating company is required to monitor mechanical loads, pressure changes, corrosion rates etc. to evaluate the risk of pipeline leaks. Thus, the pipelines must be perfectly designed to meet these challenging operating conditions.

Therefore, oil and gas pipelines require continuous monitoring during their operational life. In the event of imminent failure, the operator has to identify the critical component and its exact location before a minor spill turns into a major disaster.
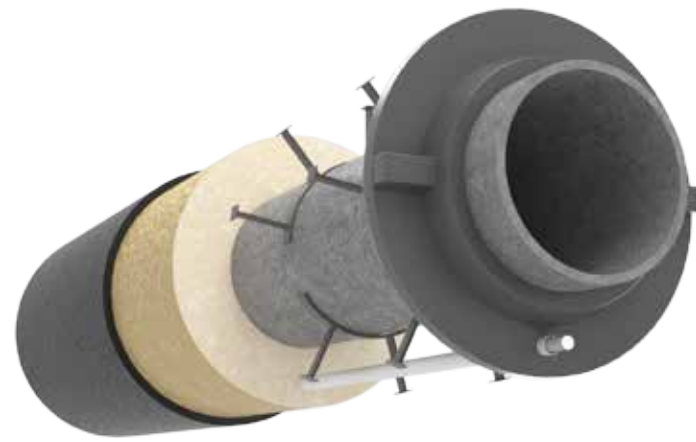
Patent pending

Retrofitting by ScanTECH

ScanTech offers best in class on-site retrofitting of oil and gas pipelines which meets the continuously changing requirements, and ensures safe operation.

Based on the industry standards EN253 and EN489, our retrofit technology is the closest one can get to factory insulation with embedded state-of-the-art technology leak and 3rd party damage detection using fibre optic technology. Scantech is using ISO 14001 for factory made parts.

A supremely efficient layer of PUR insulation incorporates fibre optic cables that will give a warning to a control unit and the hard and sturdy HDPE casing will then contain leaks in 6 meter sections thanks to the patent pending design. This giving operators time to react.

On site thermal and fibre optics cables
Combines key benefits from four technologies

- The optic fibre continously monitors, in real-time.
- The jacket pipe contains occuring leaks.
- The insulation keeps the fluid at the right temperature.
- Intrusion alarm if 3rd party damages the jacket.
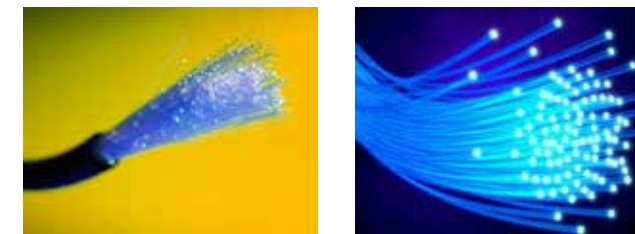
Cutting edge fiberoptic cables. Unlimited options.

Technical information
How does retrofit work?

Patent pending

Hostpipe section with spacers, fiberoptic cable and endseals installed. Ready for jacket.

Jacket installed. Ready for PUR.

On-site PUR foam installation according to industry standard.

Our business partners delivers high quality and state of the art solutions. Constant real-life, pin point accuracy and as a bonus 3rd party damage alerts.

"This system can save the world from another environmental disaster"

Anders Østerballe MD, ScanTECH

Recent development
Our value proposition - definitely a cost effective alternative to replacing your pipeline.

Our retrofitting solution provides a solution that will reduce the OPEX and therefore pay for itself within few years after installation, both for oil and gas pipelines. ScanTECH's on-site retrofitting principles with injected PUR insulation and the protective casing in permeable HDPE, permits building 100% water tight series.

The insulation keeps the heated fluid efficiently, with low thermal losses along the whole run of the retrofitted pipeline.

With our state-of-the-art mobile equipment, a complete pipe run including bends, elbows, valves and more can be on-site retrofitted anywhere around the world.

On-site PUR foam mobile unit.
Fully self-sufficient and self supported.

Benefits

Depletion of conventional oil reservoirs is leading to the extraction of heavier oils. Some reservoirs are even based in cold weather locations where the pipelines are exposed to extreme cold weather conditions. Oil Viscosity, which is the key physical property for pipeline design, increases significantly due to gradual cooling down along the pipe-run. Pipelines, that originally were optimally designed to transport less viscous oils, may face flow

problems today if the feedstock varies significantly.
The main current drag reduction techniques involve viscosity reduction, and are mainly classified into thermal heating or dilution and water emulsion. Emulsion and dilution reduce viscosity by adding up to 30% volume of water or other chemical diluent, leading to decreased oil throughput, and require additional auxiliary facilities. Thermal methods, on

the other hand, permit full use of the pipe capacity to transport the oil, but require continuous costly heating.

Benefits:
- Saving OPEX
- 24/7 monitoring
- Reaction time during leaks
- 3rd party intrusion alarm

Every project is unique - let us take a look at your problems and provide a tailored solution...

Final words of wisdom...

Extending the life cycle of an existing pipeline

In most cases, retrofitting can efficiently extend an older pipeline's life cycle by providing a reliable on-site installed option. Because every case is unique, ScanTech provides customized on-site retrofitting solutions with no requirement to shut down the supply in the pipeline, and within tight deadlines.
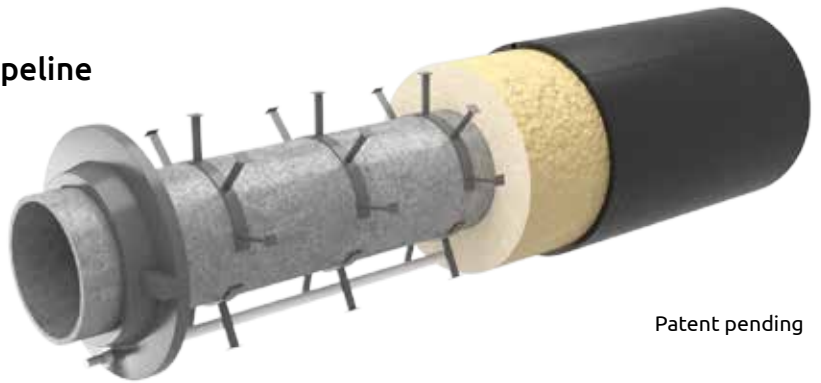
Patent pending

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ScanTech proactively addresses both quality and environmental concerns from component manufacturing to installation. ISO 9001 and ISO 14001 standards are the basis for the manufacture of all parts in pipe components and systems delivered by ScanTech.