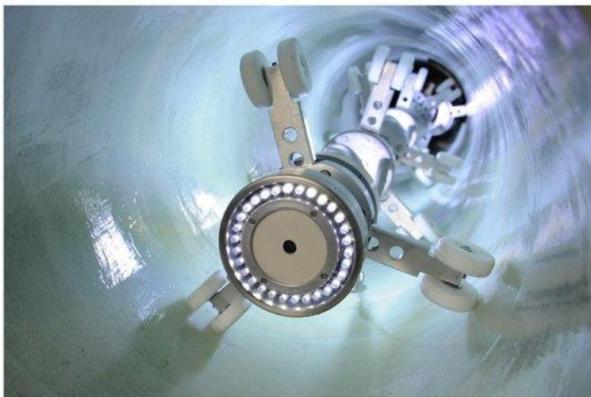


Pipeline Rehabilitation Services

'No-Dig' or Trenchless Technology is the discipline of installing, repairing or renewing underground pipes, ducts and cables using techniques that minimise or eliminate the need for excavation. At Applus+, Pipeline Rehabilitation Division offers a wide-range of cost-effective and innovative solutions for pipeline repair and rehabilitation, using No-Dig technology. With a presence in all GCC countries, Applus+ is the preferred solution provider for the inspection and rehabilitation of pipeline assets. Providing tailored solutions to the Oil and Gas and Utilities Industries, we utilise the latest technologies for the inspection and rehabilitation of both gravity and pressurised pipelines, including non-invasive 'in-line' under pressure leak detection, and condition assessment of process water, potable water, treated sewage effluent and sewage pipelines.



THE Applus+ SOLUTION

With our Pipeline Inspection and Rehabilitation Technologies, Applus+ provides our clients with a combination of technical and commercial benefits. This is achieved by providing the most comprehensive range of No Dig pipeline investigation, repair and rehabilitation services.

Projects are planned by experienced managers and implemented via skilled technicians, ensuring the implementation of best practices.

CCTV Inspection, Inclination and Deformation Measurement

Whether it is asset inspection or detailed condition assessment, Applus+ has a wide range of specialist CCTV equipment and software available, supported by well-trained, highly qualified and experienced engineers responsible for condition assessment defect classification.

CCTV Inspection

A CCTV inspection of a pipeline is a quick and cost effective way to visually identify any



potential or existing problems that are not always immediately obvious. Remotely controlled robotic camera equipment can inspect pipes with varying diameters from 80 millimetres up to 2,600 millimetres.

Pipeline Condition Assessment

For utilities with aging pipeline infrastructure challenges, Applus+ provides condition assessment technology to quickly understand the structural strength of buried assets and optimize rehabilitation and replacement programs.

Non evasive under pressure leak detection and CCTV Inspection

With a wide range of technologies, Applus+ provide leak detection, pipewall thickness and HD quality CCTV images, providing significant information for decision-making regarding pipeline renewal, with no disruption to supply.

LED and UV GRP Cured In Place Pipe (CIPP) Lining

CIPP lining is the leading solution for trenchless rehabilitation of broken, cracked, and leaking pipes. With a design life of greater than 50 years, the no-dig technology creates a new pipe within the old by the insertion of a resin impregnated glass reinforced liner. The CIPP linings, which are manufactured in quality controlled conditions, are cured insitu using the latest LED and UV technology. The seamless, durable pipe lining can be used for both gravity and pressure pipelines ranging in diameter from DN100 to DN1800.

Localised Repairs

In circumstances that it is not necessary to excavate or line the entire length of a pipeline, Applus+ offer a range of No Dig systems that only repair the areas that require rehabilitation, including GRP 'Patch Repairs' and mechanical seals for the sealing of pipe joints. The GRP patch repair system is the leading worldwide trenchless solution for structurally rehabilitating gravity pipelines of all materials.

Target customers

The main objective of pipeline rehabilitation is to prevent pipeline failure, minimise potable water loss and mitigate infiltration into sewer networks.

Key customer benefits

Significant investment in critical infrastructures such as water, sewerage and gas requires that these buried assets constantly require inspection and rehabilitation to ensure the expected life expectancy of the asset is achieved.

The challenge of repair and rehabilitation of underground infrastructures cannot be underestimated. The range of Trenchless technology services provided by Applus offer municipalities, commercial, residential and industrial clients many advantages for the inspection, assessment, repair and maintenance of underground utility systems.



Trenchless technologies are environmentally friendly, faster and more economical than traditional open-cut methods and present a significant reduction in disruption to the surrounding environment.