

LeakVISION

The In-Pipe Leak Visualisation System

Now Available on SynthoCAM™ and SynthoTRAX™



SYNTHOTECH



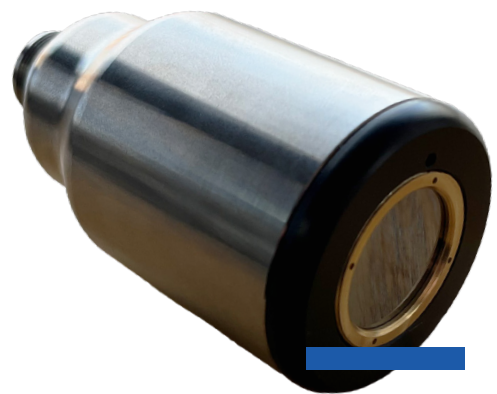
www.synthotech.com
www.syno-vate.co.uk



Introducing LeakVISION

LeakVISION™ is the world's first patented in-pipe infrared leak detection sensor. Developed for use on either push rods or robotic platforms, it can be used under live conditions on pressurized pipes containing gas or liquids. Initial development has concentrated on low pressure gas pipes, specifically indicating the presence of leakage from pipeline features such as joints, connections, fittings and defects.

The system has been developed over the last few years by a consortium led by [Synovate](#) including [Synthotech](#), [Northern Gas Networks](#), the [EIC](#), [ROSEN](#), [The Technology Partnership](#), [University of Leeds](#), [iTouch Reporting Systems](#), [National Gas Transmission](#), [Digital Catapult](#), [DNV](#) and [Cadent Gas](#).



High definition thermal image sensor locates leakages

Within the gas distribution industry and energy sector [LeakVISION](#) addresses the challenges of the traditional “above ground bar holing” method. This technique can often produce inaccurate results, causing unnecessary excavation and reinstatement works to be carried out. The application of the technique can also be physically demanding and can cause unwanted strains or injury to operatives performing the work.

Within the water industry [LeakVISION](#) aims to address the challenge of locating XYZ co-ordinates of leaks through complex joints, allowing pin point in-pipe leakage repair rather than costly external pipe repair.

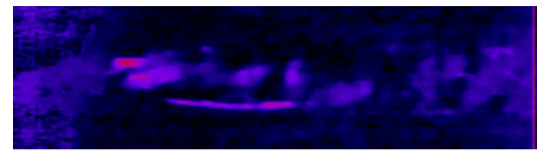
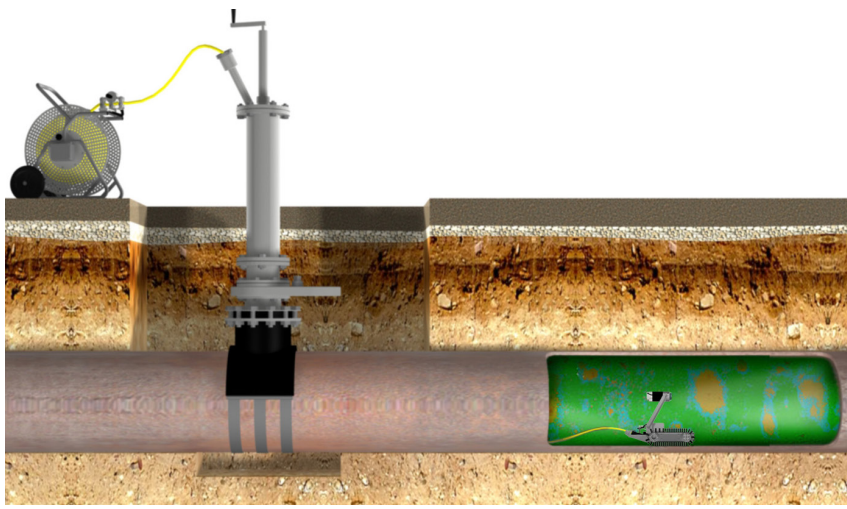
The [LeakVISION](#) solution can increase productivity by locating underground leakage both reactively and proactively. The complex underground gas network creates a challenging environment to find the exact location of underground leakage.

[LeakVISION](#)'s technology makes use of thermography to analyse and highlight leakage by directly scanning the pipeline and pinpointing the area. This provides improved decision making and very precise targeted remediation, reducing the impact to the environment and road users by minimizing and even preventing excavations.

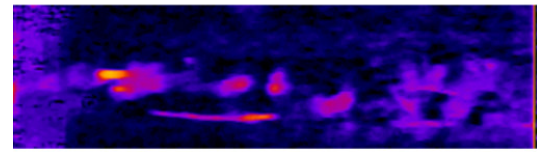


A **LeakVISION** scan highlights the internal features to give an area of interest. This allows teams to make informed and targeted repair over replacement decisions with pin-point accuracy the first time. A typical scan of a leaking joint is shown below. The brighter areas indicate a higher likelihood of leakage, whilst darker areas highlight a lower leakage likelihood.

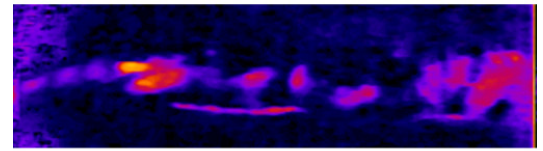
A **LeakVISION** inspection collects large amounts of data. The team have developed a risk model that can use site and network data to help manage pipeline risks in a different way to traditional risk based prioritisation systems for gas mains replacement.



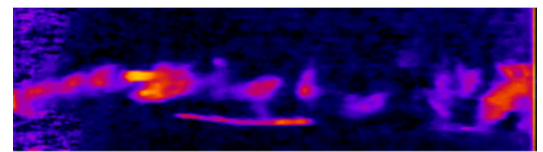
Leakage rate 0m³/h



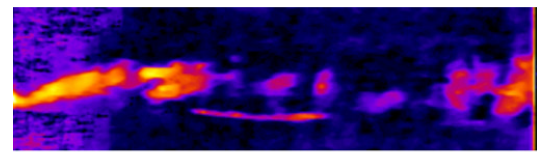
Leakage rate 0.12m³/h



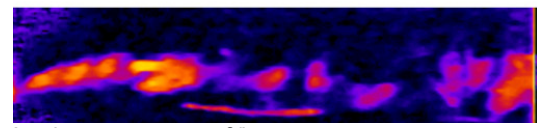
Leakage rate 0.24m³/h



Leakage rate 0.36m³/h



Leakage rate 0.48m³/h



Leakage rate 0.54m³/h



Environmental

Reduced need for excavation and reinstatement, with the potential to lower emissions if leak detection is improved and fixed quicker.



Societal

A decrease in excavations means less street work and disruptions, as well as the minimisation of return call outs.

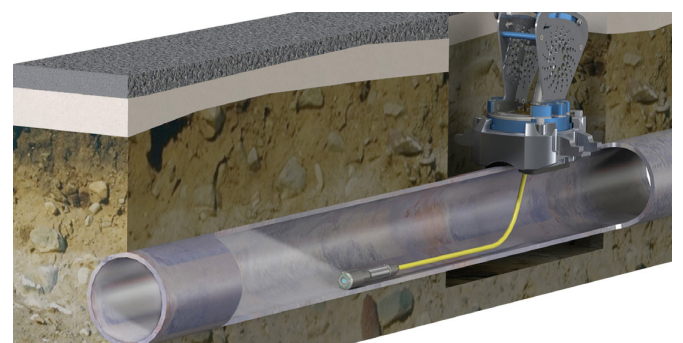


Financial

Reduced need for excavation to assess pipes in difficult to reach places, as well as reduced costs through less labour required.

LeakVISION's technology is flexible for the application needed. The thermal image sensor can be inserted into a pipe via a robot base or push-rod camera system using an insertion system depending on the pipe configuration and operational requirements.

The **LeakVISION** system also comes equipped with a display monitor for live pipe viewing.





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