The In Line Inspection (ILI) technique provides unparalleled inspection accuracy in steel and dense material pipelines. The smallest corrosion, pitting or erosion is immediately detected and measured in relation to the pipelines integrity.

If your pipeline is:

- Old and/or very corroded: Choose ILI.
- In need of very accurate/detailed inspection: Choose ILI.
- Externally inaccessible and requires full inspection coverage: Choose ILI.
- Borderline and/or close to de-rating/decommissioning: Choose ILI.
- Without launcher/receiver facilities: Choose ILI.
- Non metallic pipelines, such as HDPE: Choose ILI.

There are techniques that may have higher ‘through pipeline’ speed than ILI, but when it comes to inspection accuracy the ILI tool can provide owner or operator with the best remaining thickness data available. The inspection principle used in the ILI system is based on the original IRIS system developed under Shell in 1979. The system consists of a horizontally placed ultrasonic transducer contained within the centre body of the ILI tool.

The transducer sends its sound waves horizontally where they hit a 45° rotating mirror, which then directs the sound waves perpendicular towards the pipe wall. Every time the signal hits a surface a proportion of it will reflect back to the transducer the same way it came. The difference in time between the sent and received signal allows the computer to calculate the time of travel which is then converted to distance and the measurement recorded.

These measurements are made by the transducer approximately 800 times per second. The mirror rotates twice per second, allowing 400 measurements around the circumference of the pipe in a single revolution. This allows for thickness measurements as little as 1mm apart.

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