

# Provision of Pipeline Smart Monitoring

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# Scope



Provide an added Module that provides troubleshooting for the potential locations of faults and losses:

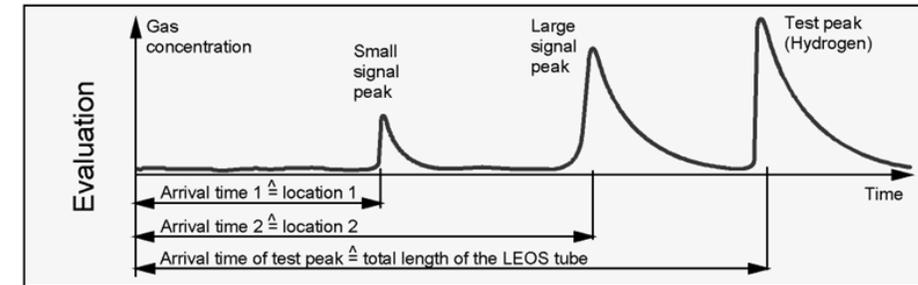
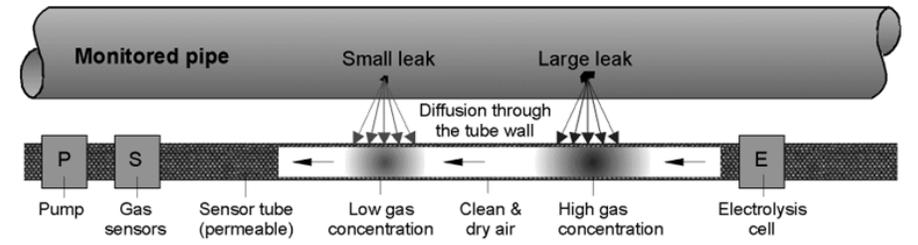
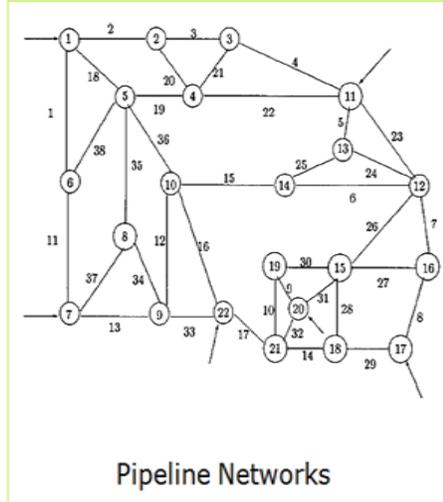
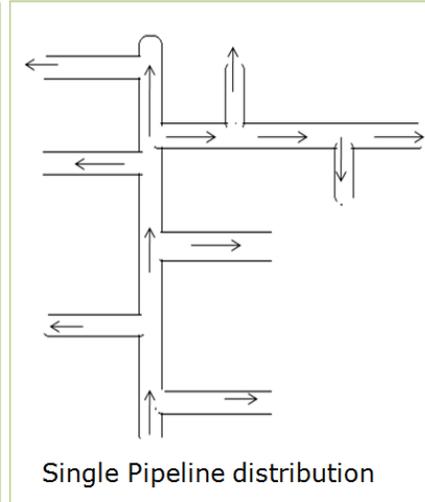
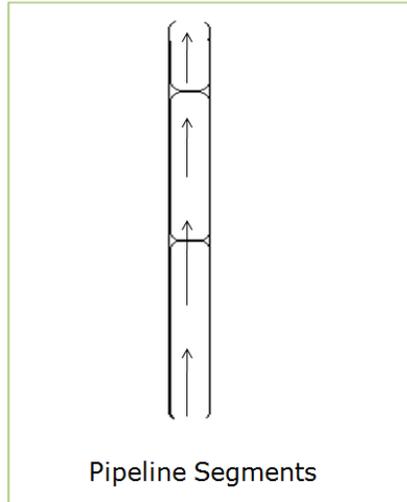
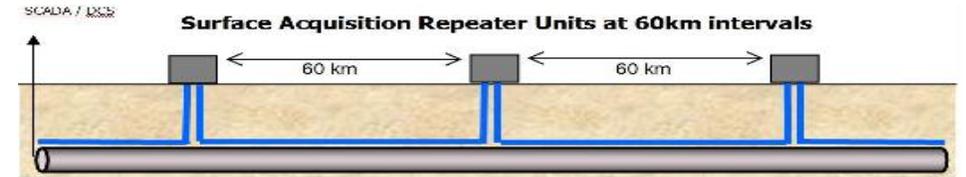
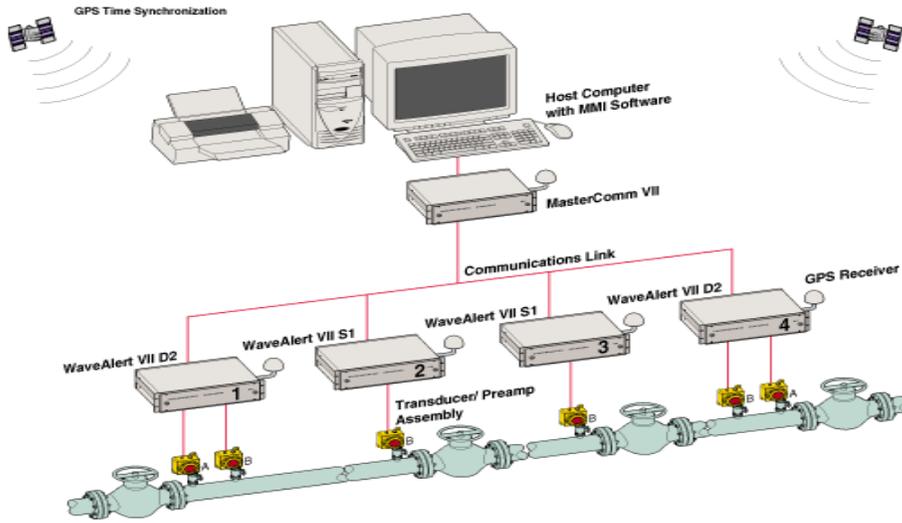
- Software-based method and Hardware-based method. Both methods can be implemented as per pipeline operators requirement to continuously and non-continuously monitor. Further, the system can be divided into software based method and hardware based method.

Provide a 3D mapping of all their pipelines with GPS location of all points;

Provide a pipeline integrity prediction module which uses the frequent inspection data;

Provide a valve integrity predictive module which uses the frequent inspection data.

# Pipeline Configurations



Vapor Sensing method

# Provide an added Module that provides troubleshooting for the potential locations of faults and losses



The Software based methods often loosely referred to as rely upon field measurement and instrumentation. Algorithms within the systems provide an estimate of the sensitivity that can be expected given the type of instrument used, and given the engineering factors and operational environment of the pipeline.

The information required are flow, pressure, temperature and other data provided by a SCADA system.

## Advantage

- It is simple to implement
- Cost effective

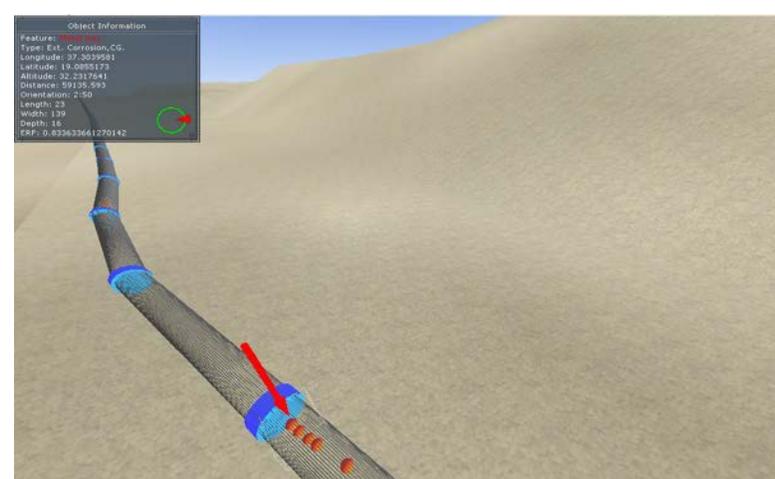
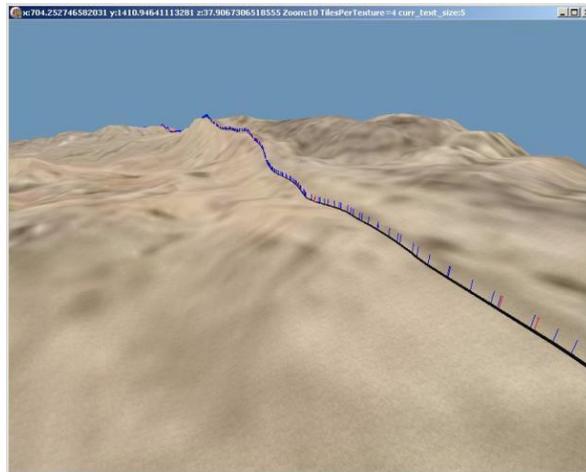
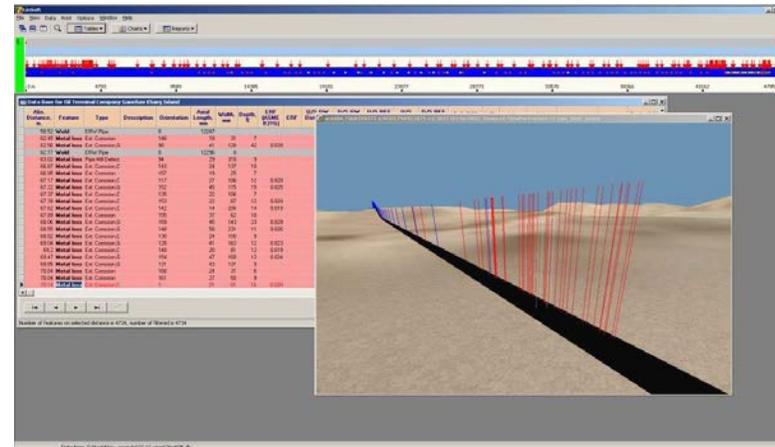
The hardware-based methods is a hardware devices that used to assist the detection and localisation of a leak, faults and loses. The hardware devices can be installed along the pipeline or as a tools for routine inspection and survey. We are able to provide solutions along the lines of:

- Acoustic emission system
- Gas sampling devices
- Pressure wave detectors
- Chemical based system
- Inteligent pigging

## Advantages

- Good sensitivity to leak
- Very accurate in leak locating

# 3D Mapping



- Carry out a pipeline pigging run which provides a 3D and digital mapping of the pipeline system. With a baseline of the current status and can be used in the on-going monitoring and analysis of the system.

# Predictive Modules



An initiative to use 'big data' for qualified analysis of pipelines



Dedicated to applicable codes / standards and linear degradation mechanisms



PIMS wants to start with a small group of key accounts to ensure real result



Objective is to reduce expenditure in inspection while improving the integrity of pipelines