

A blue-tinted photograph of a PipeMonit Swarm sensor unit installed inside a pipe. The unit is a cylindrical device with several green and yellow sensor modules mounted on its internal structure. Wires connect these modules to a central hub. The background shows the rough, textured interior of the pipe.

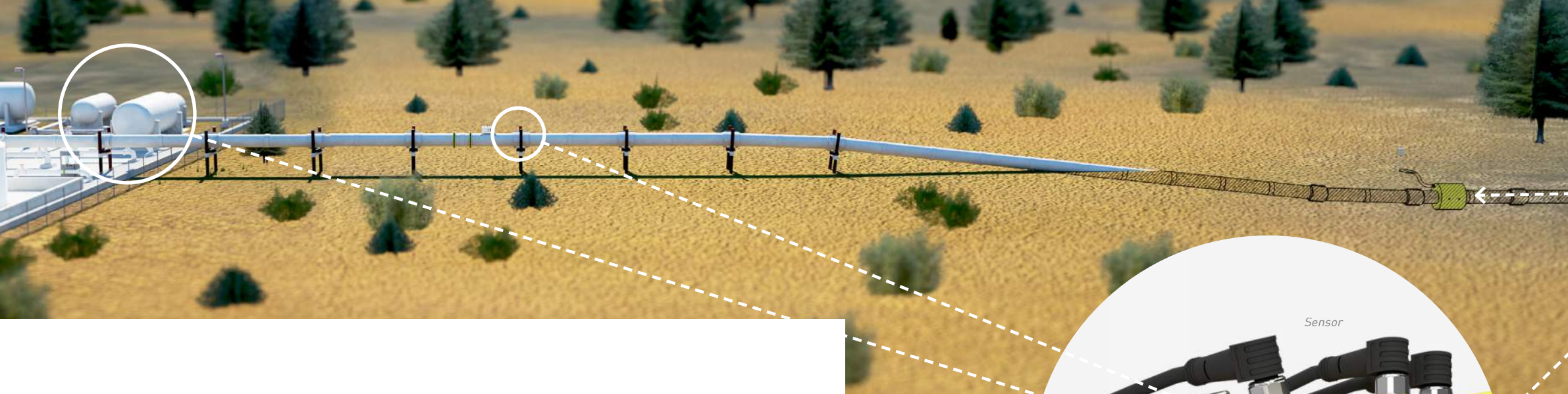
PipeMonit® Swarm

World leading real-time erosion and corrosion monitoring system.

We provide the industry's most accurate wall thickness measurements.

PipeMonit® Swarm is a high resolution ultrasonic erosion and corrosion monitoring tool which provides quick response to wall thickness changes in pipelines and vessels. It is non-intrusive, and installed and operated without interfering with production.

- Cost efficient.
- Approved for Hazardous zone 1 T4 operation.
- Non-intrusive.
- Highly accurate wall thickness measurements.
- Accurate wall loss history.
- Fast, simple and maintenance free installation.
- Retrofittable, easily relocated.
- Wired and wireless integration to DCS/SCADA.

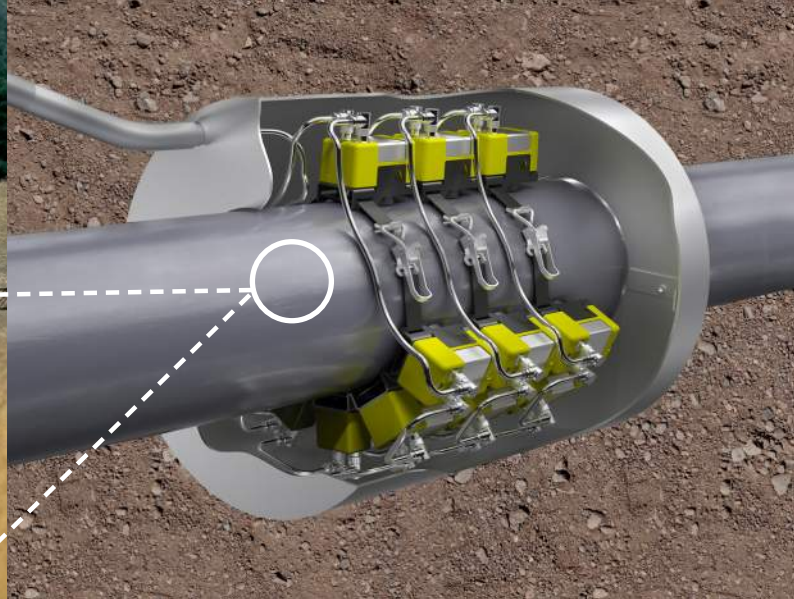


The PipeMonit® Swarm systems consist of multiple non-intrusive sensors can be configured and installed on bends, straight pipe, a weld, a T-piece, a vessel or a tank. The sensors measure wall thickness as a function of time, providing market leading resolution on wall thickness.

Swarm is the market leading non-intrusive corrosion and erosion monitoring system, providing wall loss resolution better than 0.1 mills or 2.5µm.

The high resolution gives swift detection of corrosion and erosion rate change, and this data enables valuable decision making data for the end user.

A world class corrosion monitoring system is an investment in improved economy, prolonged asset life and safer operations.



Data collection and integration

PipeMonit® Swarm can be configured as a manual system or a fully integrated system via wire or wireless. The wireless integration options are ISA100, WiHART, Lora along with GSM and WiFi. The wired systems have standard output Modbus TCP/RTU and Ethernet. For the manual option data can be downloaded through a PDL (Portable Data Logger) via Bluetooth.

Applications

Wall loss monitoring is important for verification of the integrity of pipeline assets, and as a provider of meaningful decision support data.

Swarm's unique design allows for installation on critical areas such as top of welds, heated weld zones, elbows and T-pieces to monitor and detect:

- Selective weld corrosion.
- Heat-affected zone (HAZ) corrosion.
- Erosion and corrosion on elbows and T-joints.

Installation and Maintenance



Swarm offers simpler, faster and safer installation than any competing systems:

- Clean the pipe surface. No need to remove solid coatings.
- Position the Swarm and engage the locking mechanism, no gluing or welding required.
- Connect the Swarm to a data logger or junction box.
- Connect the Portable Data Logger and verify successful installation.
- Fit a Swarm protection cover.

Single sensors are replaceable. The entire Swarm unit can be adjusted or relocated by the operator. Install Swarm, monitor your pipeline and improve your asset integrity management.



Erosion

Erosion monitoring of critical infrastructure on offshore oil & gas infrastructure.



Corrosion

Real time corrosion monitoring with Swarm.



Sensorlink.no/topside

Some key advantages of the Swarm monitoring tool:

- Autonomous system with internal processing and data storage capability.
- Standalone system or online and wireless option is available.
- Accurate erosion/corrosion feedback increases the service life of pipelines.
- Real-time feedback on the effectiveness of corrosion inhibitors makes a significant OPEX saving.
- Accurate wall loss history enables reduced inspection and intelligent pigging activity.
- Accurate and direct sand erosion monitoring.
- Monitoring of selective weld corrosion and heat-affected zone (HAZ) corrosion.
- Fast and maintenance free installation.
- Being retrofittable, the Swarm can be relocated without expert support.
- Approved for ATEX/IECEX/CSA zone operation.



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