PROTECT

AIQ

CORROPIPE

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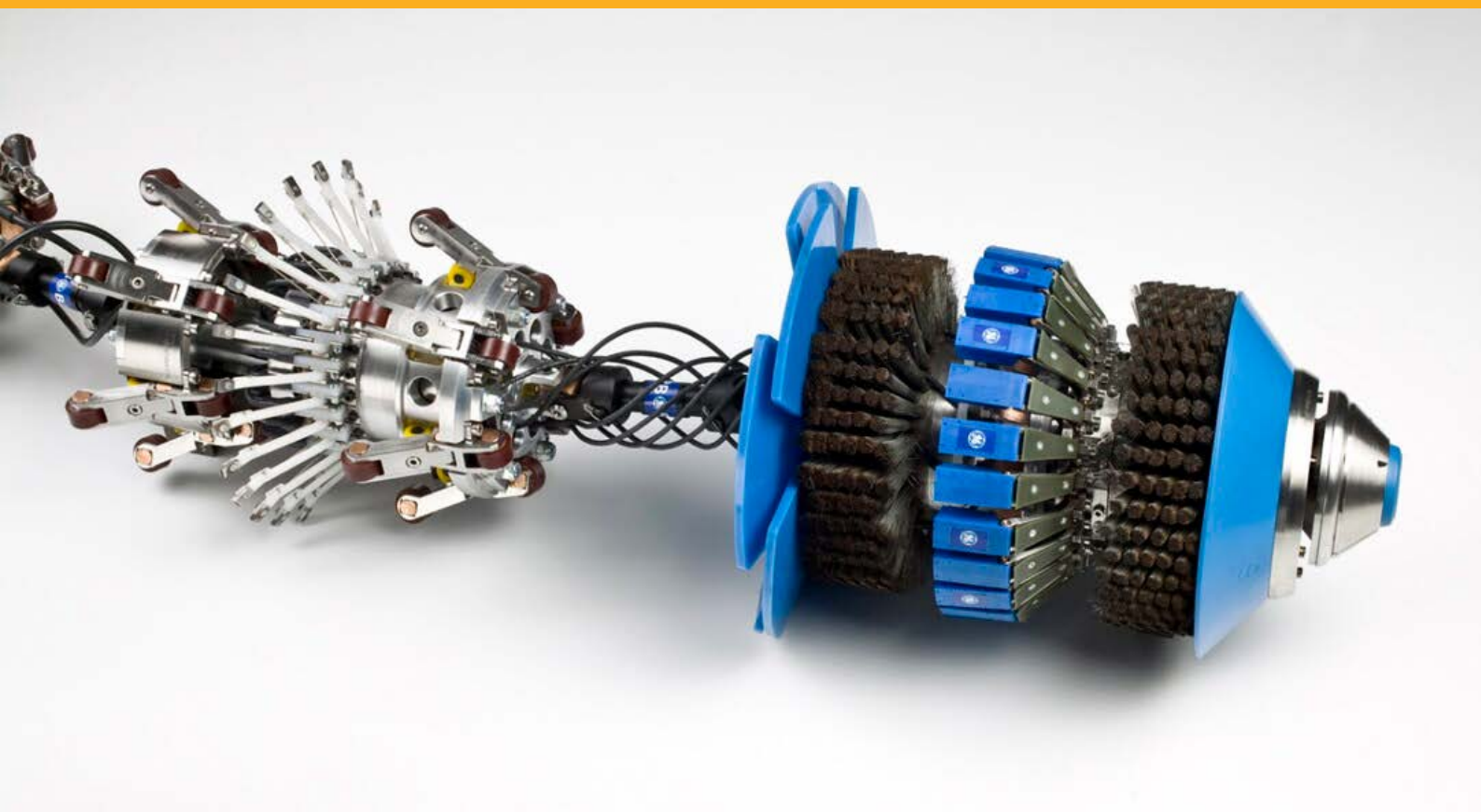
THE CHALLENGE

Corrosion is a major issue for the oil and gas industry; and identifying and detecting corrosion has proved to be demanding in terms of labor and expenses. Left undetected, corrosion will lead to serious safety concerns and environmental damage.

Metals and alloys are the key construction materials used in the industry, making it especially prone to corrosion due to the extensive use of metal components like pipes, valves, and pressure vessels.

Industrial sites, such as those in the oil and gas sector, are therefore in need of regular corrosion inspections to maintain the integrity of the equipment and avoid costly downtime.



Over time, the corrosion of oil and gas pipelines can be detected by In-Line Inspection (ILI) tools. However, corrosion growth rate prediction in pipelines is usually undertaken through corrosion rate models, and for pipeline integrity management and planning purposes, selecting the proper tool and corrosion rate model is extremely important.

Challenges of conventional inspection tools include their typically high cost of conservative corrosion growth rate estimation; the need for more frequent ILIs; and the expense in digging verification excavations.

THE SOLUTION

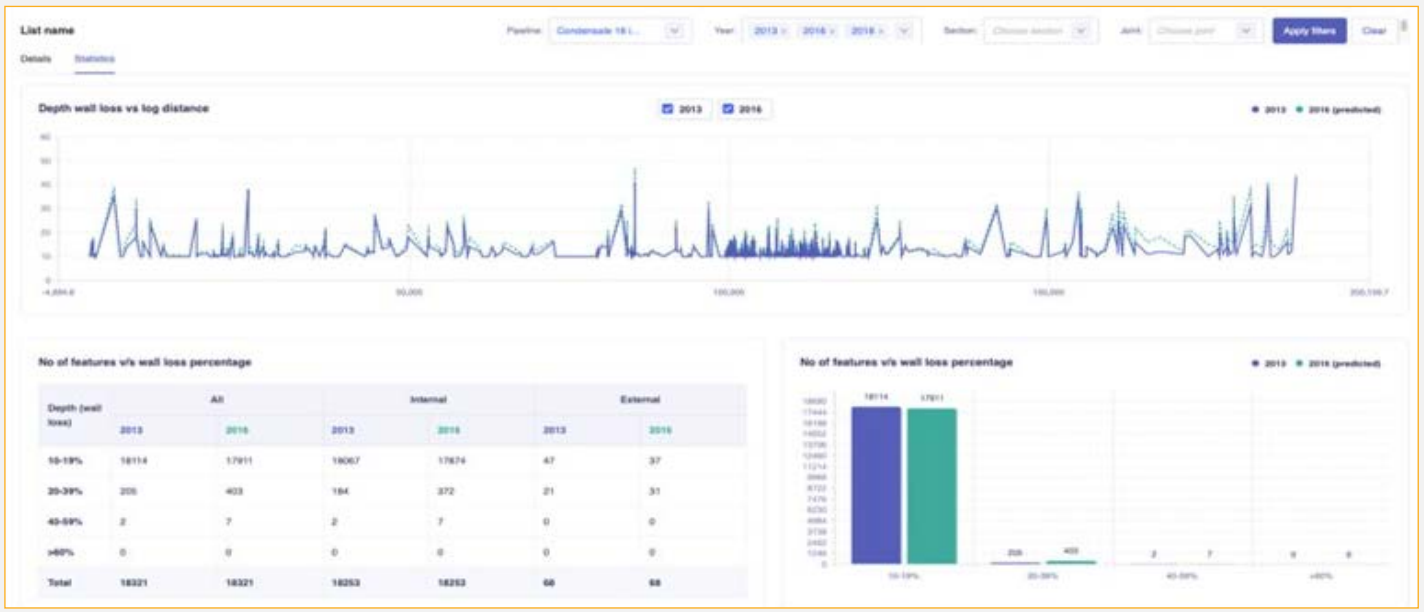
CORROPIPE is a web-based solution that aggregates pipeline corrosion prediction data generated by AI models and the historical data reported from previous inspections, alongside a full display of the pipeline's metadata, geographic position, and working conditions.

The platform provides differentiated functionalities, ranging from data pre-processing, data management, and visualization, to statistics, corrosion forecasting, and assessment on piggable and non-piggable pipelines.

Actionable information is visualized on dynamic smart dashboards, making ILI and inspection data accessible and user-friendly.

IMPLEMENTATION OF CORROPIPE RESULTS IN:

- The ability to integrate new inspections data for all pipelines
- The ability to access aligned and standardized IPs
- Enhancement of the front-end design and improvement of user experience of the application
- Fine-tuning of the corrosion prediction model to enhance its capabilities
- Bringing all parts together, connection to operation system and robustness of the overall solution pipeline including AI solutions and Cloud components



VALUE & BENEFITS

CORROPIPE

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> Helps optimize inspection intervals and reduces OPEX costs by reducing ILI inspections and lowering expensive digging verifications it identifies and predicts key internal corrosion drivers

EFFICIENT INTEGRITY ASSESSMENT

The AI solution will help the end-user understand the key drivers behind corrosion mechanisms, asses the pipeline reliability, recommend repairs, sectional repairs or replacement based on corrosion severity predictions, making scheduled inspections less costly and more efficient.

INTELLIGENT DATA MANAGEMENT

The pipelines' metadata and inspection historical data undergo a thorough cleaning, forecasting and interpolation of missing data, correction of typo inconsistency, inspection data alignment, and matching for proper visualization and investigation.

REALISTIC CORROSION PREDICTION

The AI solution will allow the user to predict the corrosion growth behavior as a function of the pipeline exposure time, predict the corrosion features depth evolution, and predict the corrosion hotspots along the pipeline.

DISCLAIMER

This booklet contains numerical data that has been sourced from our esteemed clients. It is important to note that these figures are provided in the context of their respective business operations and have been shared with us for the purpose of this booklet.

Please be aware that client-sourced data can be subject to various factors that may influence its interpretation.

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