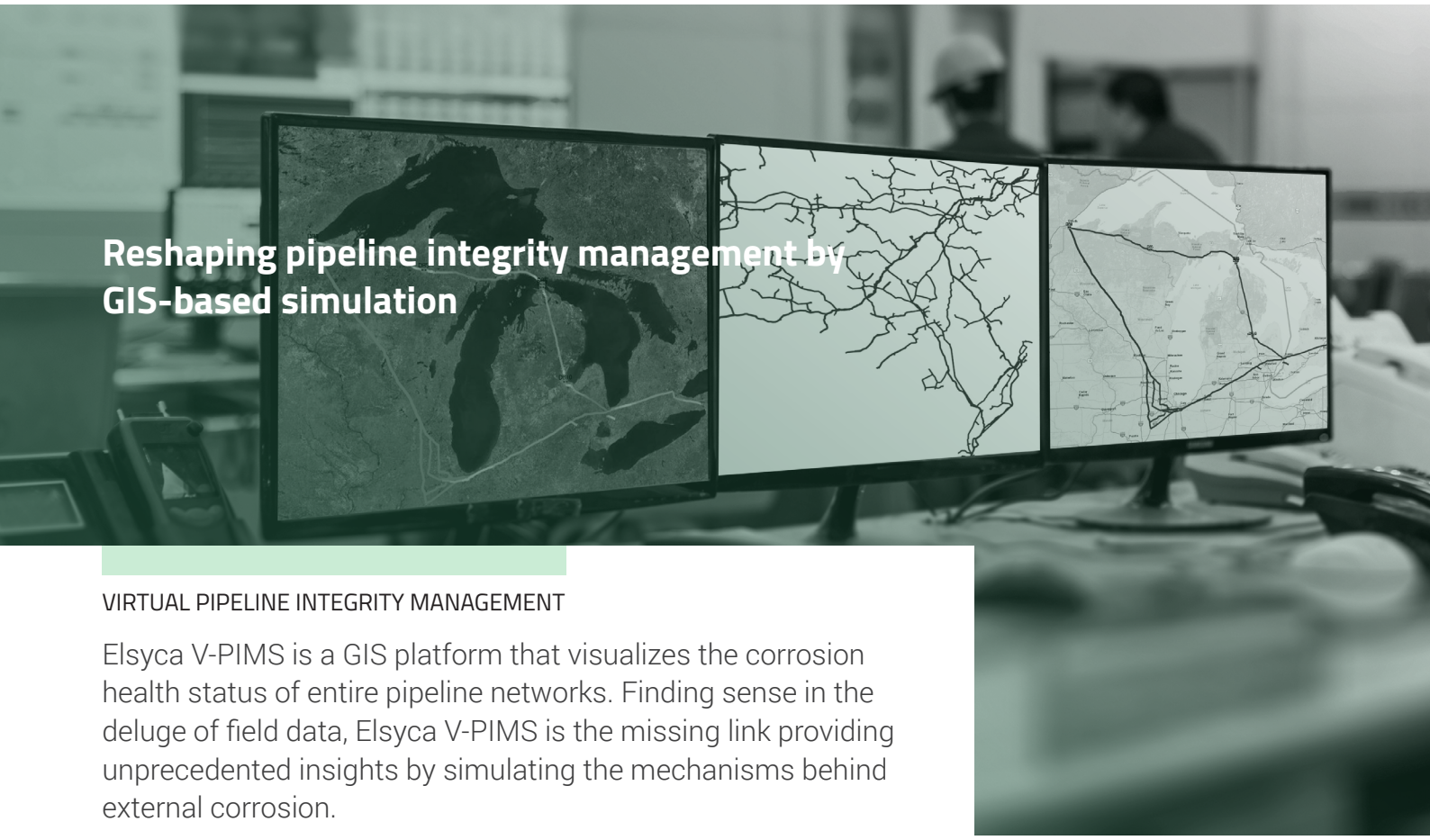
ELSYCA V-PIMS



Reshaping pipeline integrity management by GIS-based simulation

VIRTUAL PIPELINE INTEGRITY MANAGEMENT

Elsyca V-PIMS is a GIS platform that visualizes the corrosion health status of entire pipeline networks. Finding sense in the deluge of field data, Elsyca V-PIMS is the missing link providing unprecedented insights by simulating the mechanisms behind external corrosion.

Key Benefits

Empowering risk management

Built on a GIS database that is linked to mechanistic modeling technology, ELSYCA V-PIMS creates intelligent diagnostics of corrosion integrity of high-consequence pipeline assets. V-PIMS generates automated reports for sharing the corrosion protection performance with HSQ departments and governmental regulators. By simulating CP current distribution, IR-free potentials, coating condition and corrosion rates, high-risk areas are easily identified on the GIS map allowing to prioritize field surveys, to monitor metal loss and to steer operations in the various CP regions.

Valorizing field data

Through comparison with simulation results the quality of the survey and monitoring data is validated and an effective assessment of reported RMU alarms is performed. Combined with soil property data V-PIMS calculates corrosion rates based on the rectifier's current output that is continuously monitored or captured during annual surveys. Elsyca V-PIMS surpasses the conventional approach of data storage and long-term trending.

Anticipating on network modifications

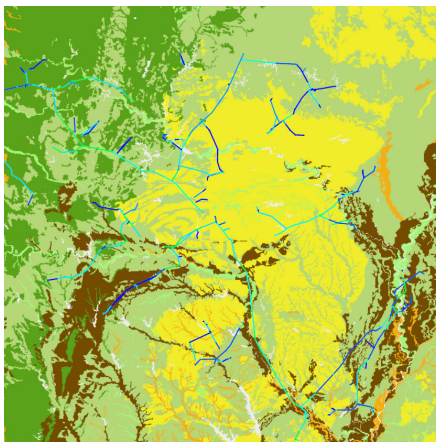
Network extensions or any changes to the existing pipeline and CP system are investigated up-front by running the mechanistic models for various operational and environmental conditions. This allows to identify the options which maximize performance of preventive measures, avoiding uncertainties and reducing unexpected costs in congested areas or when survey restrictions exist due to opposing landowners.

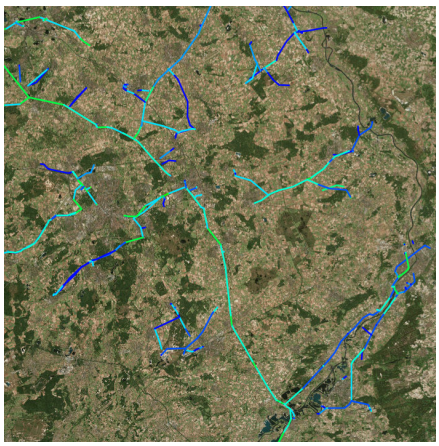
Controlling third party interference

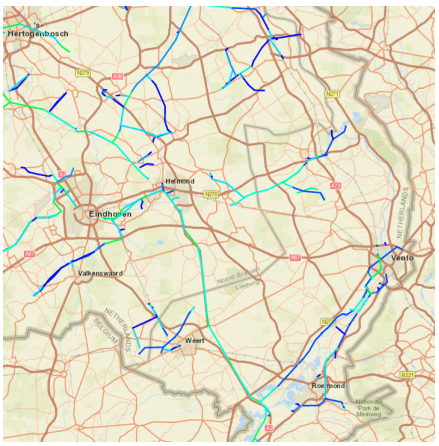
With increasingly complex ROWs threats from third parties are unavoidable and a timely response is required. AC and DC interference from neighboring structures is identified and mitigated upfront justifying the investment costs. Simulations of combined AC current densities, DC fluctuations and CP protection levels provide insight corrosion rates that is hard to obtain from traditional survey techniques.

Proven technology

Developed from scientifically sound principles the Elsyca V-PIMS technology has been adopted by leading companies worldwide in the oil & gas industry. Elsyca V-PIMS provides visionary asset owners the right tools to tackle the big data revolution.







Elsyca V-PIMS Key Features

- GIS based platform compatible with major carthography systems (ArcGIS, OpenStreetMap, GoogleEarth)
- Unlimited in the size of the network, the amount of CP systems and the complexity of neighboring third party utilities
- Simulation of corrosion rates, current distribution, pipeline potentials and coating conditions in presence or absence of AC and DC interfering systems.
- Color scaled visualization of corrosion health status along the pipeline routings for the entire network
- Selection of map overlays for correlating corrosion health simulations with environmental metadata from SUGGRO database
- Comparison with ILI and survey data for root cause analysis of corrosion anomalies
- Importing RMU data for computing the consequences of variations and environmental and operation conditions
- Generation of automated reports in comprehensive dashboards for QC data analysis, statistics, emergency mailing,...
- Staying remotely connected with operational teams through cloud and mobile applications allowing operative and strategic asset management

Thanks to its unique and proven technologies, the use of Elsyca V-PIMS brings an immediate ROI. And should questions arise, Elsyca's support team provides the answers that are needed

V-PIMS enable connecting the dots by visualizing pipeline protection levels between test stations. Remediation till now has been blind and arbitrary, and hoping for the best ... Today we are able to treat the diseases, not the symptoms.

Elsyca V-PIMS unlocks the true potential of corrosion integrity management by valorizing field data through GIS-based simulations.