

# Shell Corrosion Advanced Risk Modelling and Analytics



Internal corrosion and erosion prediction through advanced data analytics techniques and machine learning

**Shell Corrosion Advanced Risk Modelling and Analytics** makes use of novel data analytics techniques to predict internal corrosion and erosion to better prioritise and target inspection and maintenance activities. By leveraging a variety of collected site data, and with the help of artificial intelligence, **Shell Corrosion Advanced Risk Modelling and Analytics** provides new insights to predict corrosion and erosion and identify degradation before leaks happen. By using **Shell Corrosion Advanced Risk Modelling and Analytics**, operators can lower inspection costs and HSSE risk, minimise cost of related leaks, and safely push production to the limit.

**With Shell Corrosion Advanced Risk Modelling and Analytics, Inspectors and Asset Integrity Engineers can:**

- Reduce and eventually eliminate need for manual wall thickness measurements
- View accurate estimates of material thickness
- Optimise Integrity Operating Windows (IOWs)
- Determine equipment and piping corrosion rate
- Make better use of the inspection data currently collected

**Shell Corrosion Advanced Risk Modelling and Analytics Features**

- Machine learning and data analytics to predict internal corrosion and erosion
- Automated operating data collection for use in prediction models through the Shell Sensor Intelligence Platform
- Feature importance (ranking of corrosion drivers) and model validation
- Multiple corrosion analysis models for inspection, maintenance, and Integrity Operating Windows (IOWs) optimisation
- Broad compatibility enabling deployment on any installation without hardware requirements
- Built on the BHC3 AI Suite – to enable rapid and stable deployment

# Shell Corrosion Advanced Risk Modelling and Analytics Supports the Optimisation of Maintenance Strategy

- Reduce loss of primary containment (LOPC) events and the resulting HSSE risk
- Reduce and eventually eliminate related inspections, reducing cost and exposure hours
- Optimise maintenance strategy, Integrity Operating Windows (IOWs) and processing limits, increasing production margins

