# Global Energy Company Improves Safety and Asset Integrity with Machine Learning

# **100% accuracy** in predicting equipment failures

## CHALLENGE

Improving safety and asset integrity through digitalization and machine learning.

## SOLUTION

The company began using Aspen Mtell® to monitor 21 assets as the foundation for asset performance management.

## BENEFITS

Using Aspen Mtell, the customer was able to detect and predict a variety of pending equipment failures including:

- All previous historical failures
- An unreported sufur event
- Issues in the lube oil system that went unreported by the DCS
- Column flooding that was not a known issue to staff

**The customer** is a global oil and gas company operating in more than 70 countries focusing on the supply, processing, distribution and marketing of fuel and chemical products. The customer's refining system includes 5 wholly owned refineries in Italy and affiliates in North Europe, the Middle East and Africa.

The customer has an overall initiative to expand the use of machine learning. At one refinery, the organization decided to focus on replacing manual work order systems and failure logs with digital tools that would help improve safety and asset effectiveness. The goal was to better plan maintenance activities and reduce unplanned downtime.

Having used other AspenTech products in the past, the customer determined that considering Mtell as part of this initiative seemed like a good next step.

## A Predictive Maintenance Pilot Program

The customer selected 21 high priority assets, including both rotating and static equipment, to evaluate as a pilot. AspenTech worked with customer staff to create agents to monitor critical machine components and subsystems for anomalies and pending failures.

Analyzing the refinery's historical data, Aspen Mtell was able to correctly identify all reported events – as well as unknown problems. Agents found contamination that hadn't been detected previously. Following this find, the work force's tribal knowledge kicked in and staff recalled that a similar problem had occurred about ten years previously; staff also remembered how they had fixed the problem, but never identified the root cause.

In addition to increasing equipment availability and plant safety, Aspen Mtell helps to expand digital competency and integration through the organization as well as support process monitoring.

**aspentech** | Technology That Loves Complexity

**About Aspen Technology**

Aspen Technology (AspenTech) is a leading software supplier for optimizing asset performance. Our products thrive in complex, industrial environments where it is critical to optimize the asset design, operation and maintenance lifecycle. AspenTech uniquely combines decades of process modeling expertise with machine learning. Our purpose-built software platform automates knowledge work and builds sustainable competitive advantage by delivering high returns over the entire asset lifecycle. As a result, companies in capital-intensive industries can maximize uptime and push the limits of performance, running their assets safer, greener, longer and faster.

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