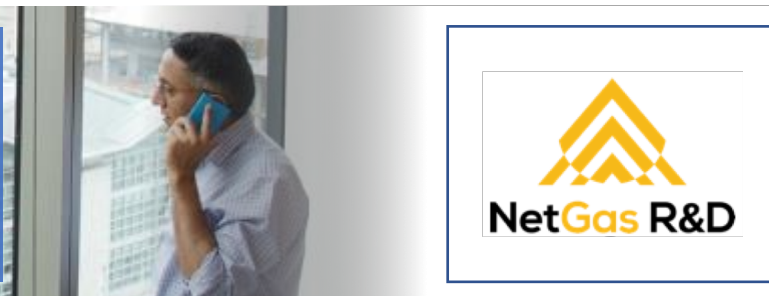


NetGas R&D

DictumPro



In industrial processes, more than 70% of events are categorized as surprises, operators are not prepared to deal with and turn off the process. Losses are more than significant.



Challenges

Process & equipment operation optimization is critical, affecting directly revenue & costs. Consequently, equipment & process performance are critical, yet not monitored and predicted.

Even though the data quantity gathered from process & equipment are huge and increasing rapidly, trips, failures & shutdowns are frequent inducing significant losses..

For many years, market studies by ARC, Gartner, Forester, Frost & Sullivan, IHR and many more show these challenges remaining, despite technology advances.



Ideal Solution

Real-time performance is monitored vs. actual & predicted performance expectations.

Anomalies, trips & failures are predicted and explained in real-time, soon enough to give the maintenance teams the necessary timeframe needed for intervention preparation to minimize the losses. Prescriptions of operation in abnormal conditions are automatically issued.

The rate of acquisition of predictive maintenance systems and hunt for use cases for process issues hasn't diminished since many years. HSE and asset integrity assurance are still among top three challenges in all complex industries.



Desired Outcomes

Real performance is monitored and predicted in real-time, unexpected events are predicted and explained in real-time, operational prescriptions are issued for the respective event, risks are monitored in real-time.

Number of critical events is decreased dramatically, losses are minimized, revenue is increased.

Any demonstration of predictive maintenance systems starts with the requirement for scenarios relevant for the audience's industry and brought up case, and ends with the question: "If I know what will happen to me, how shall I know what to do about it?"



Intelligent Operations Management Assistant

Process & equipment real-time performance improvement

Real-time anomaly detection in process and equipment performance and functionality.

Degradation and failure mode signature determined prediction of process performance and reliability problems.

Detecting or predicting the occurrence of unexpected failures & process disruptions

Monitoring of large number of processes and equipment, with real-time capture of anomalies.

Dynamic criticality and risk determination, ranking and display in real time.

Causal analysis with determination of degradation and failure modes in automatic iterations.

Prescribing optimal alternative prevention and contingency actions

Determination of alternative prevention and contingency actions under consideration of the standard regulation and procedural framework and current operational constraints .

Issue operational prescriptions in order to avoid or delay the appearance of a disruption.

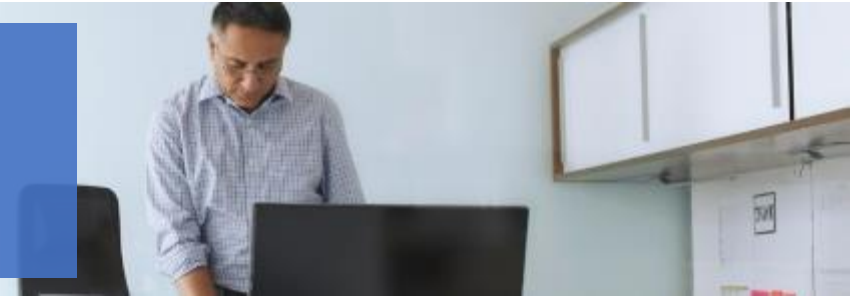
Maintenance campaigns optimization

Prescribe different optimized preventive maintenance interventions based on the actual condition of the equipment.

Group the interventions in order to minimize the number of shutdowns.

The management of a refinery declared that, after implementing the NetGas DictumPro reduced the operational problems by 25-30% annually, reduced costs in operations and maintenance by 5-10% annually and improved asset condition by 35% annually.

NetGas R&D DictumPro + Microsoft Azure Platform



Process operation optimization, predictive maintenance and maintenance campaigns optimization.

Solution Alignment

NetGas R&D + Microsoft Azure Big Data Processing

Process operation monitoring and optimization.
Anomalies, trips and failures monitoring and real-time operational risk management.
Process uptime and equipment lifetime are maximized.
Costs and losses are minimized.



NetGas + Microsoft Azure AI

Anomalies, trips and failures are predicted with enough time ahead in order to be able to take the necessary measures.
AI and analytical capabilities of Azure Platform delivers a high accuracy predictions and high speed real-time intelligent models execution.



NetGas + Microsoft Azure Big Data & AI

When disruptions are detected or predicted, operational prescriptions are issued. Operators will be able to still operate the process even in an under-performant mode of operation, minimizing the losses and costs in the end.

