Tank Level Forecasting

Cortana Intelligence Suite

Microsoft

The Need for Tank Level Forecasting

Today, most facilities operate reactively to problems in tank levels. This often leads to spills, emergency shutdowns, expensive remediation costs, regulatory issues, logistics, costly repairs and fines.
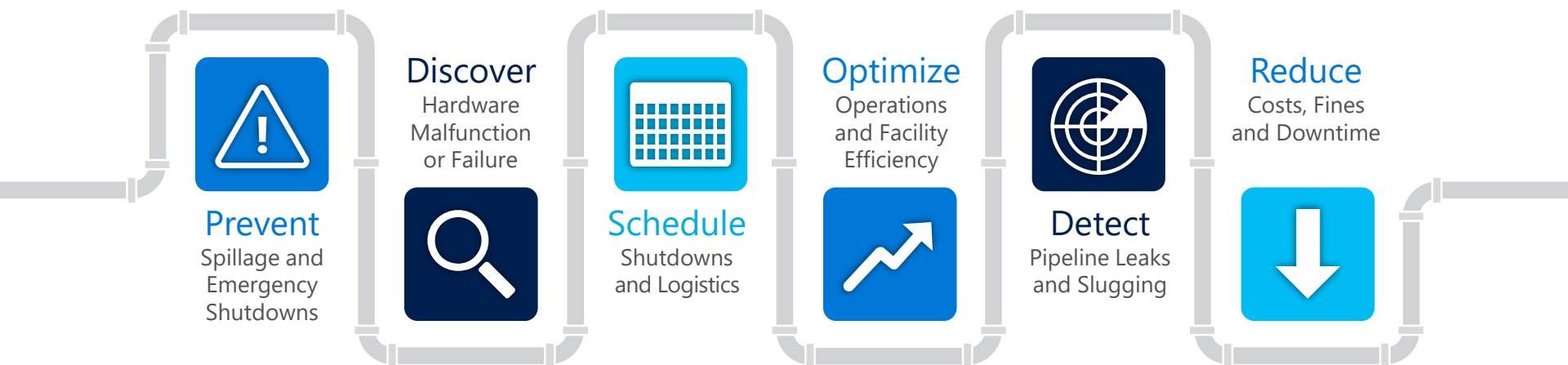
Tank Level Forecasting allows facilities to harness the power of Big Data that is readily available, to manage and abate these and other problems.

Requirements for a Successful Solution

Forecasting is possible leveraging the historical and real-time data available at facilities.

Well Input — **Tank Levels** — **Plant Output**

Benefits of Tank Level Forecasting

Prevent
Spillage and Emergency Shutdowns

Discover
Hardware Malfunction or Failure

Schedule
Shutdowns and Logistics

Optimize
Operations and Facility Efficiency

Detect
Pipeline Leaks and Slugging

Reduce
Costs, Fines and Downtime

Use Cases | Oil & Gas Processing Facility

Spillage and Emergency Shutdowns

Processing Facilities benefit greatly from the ability to be proactive. With foresight, facilities can schedule operations and logistics properly and accurately.

Using historical and real-time data from the customer to model facility operations, we were able to predict a common but unknown question: how long before a tank reaches capacity?

The solution enabled the customer to properly shutdown pipelines at the right time, avoiding oil and water tank spillage, reducing clean-up costs and abating emergency shutdowns.
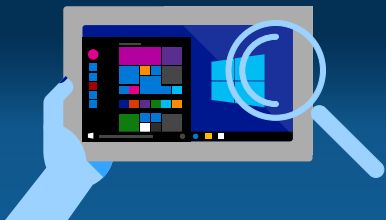
Maintenance and Hardware

The remote location of facilities in the oil industry makes timely access difficult. Alerts are commonly delivered very close to, during or after critical events.

Tank Level Forecasting revealed changes to flow rate alerting the customer to the possibility of excessive slugging, hardware or pipeline malfunction/failure and allowed for scheduled and informed remediation (intelligent remediation).

By using forecasts, intelligent shutdowns and intelligent remediation can be performed to minimize impact on productivity and operations
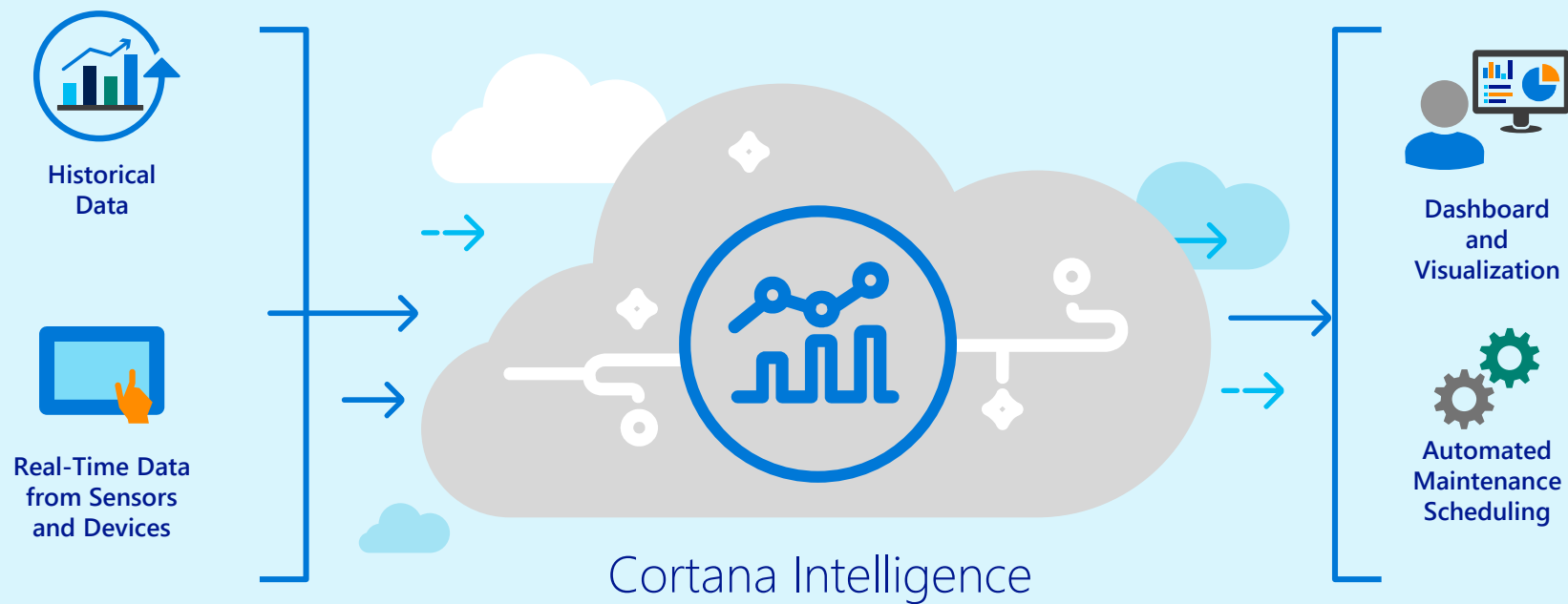
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Solution Overview

Tank Level Forecasting helps to moderate costly critical problems and prevent emergency shutdowns by alerting to potential spillage, hardware malfunction/failure, pipeline leaks and slugging. Forecasts can be used to schedule maintenance increasing hardware life and reducing visits to remote locations.

Cortana Intelligence Suite offers advanced capabilities in the oil, gas and petrochemical space for data ingestion, storage, processing and advanced analytics that allow our customers to build scalable, robust, real-time forecasting solutions.

Historical Data

Real-Time Data from Sensors and Devices

Cortana Intelligence

Dashboard and Visualization

Automated Maintenance Scheduling

Data ▸ Intelligence ▸ Action

Who Benefits from Tank Level Forecasting?

Maintenance
- Proactively schedule maintenance
- Plan intelligent shutdowns and remediation

Corporations
- Visualize facility performance
- Reduce costs due to spills and unscheduled maintenance

Facilities
- Optimize operations
- Prevent spills and emergency shutdowns