



# Predictive asset management solution

Increased uptime of progressive  
cavity pumps



## Predictive asset management for mission critical equipment

Oil and Gas fields target to produce close to capacity. Unplanned downtime due to failure of equipment drives down profitability due to costs incurred through lost production, deferments and expensive repair activities. Oil and Gas companies have typically looked at asset management using the following two layered approach:

- Implementing asset management solutions to track the deployment, operation, maintenance and disposal of assets
- Implementing asset integrity management solutions to mitigate risk of failure, improve availability and reliability with reduced cost

The Oil and Gas industry has access to huge volumes of sensor data, error logs and reports related to asset management which can be analyzed effectively to derive more insights on performance of the equipment.

## About the solution

Leveraging our deep understanding of the industry and extensive experience implementing in asset management solutions, Wipro's industry specific advanced analytics models help our customers predict and prevent failures of critical equipment (such as pumps, compressors) to achieve better control of production and help reduce unplanned downtimes.

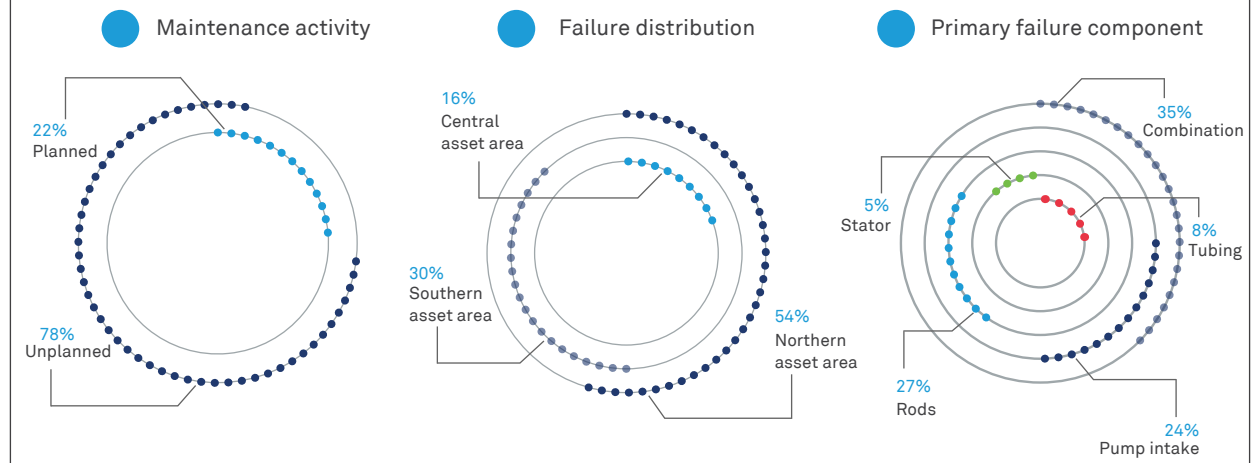
Wipro's Predictive Asset Management (PAM) app captures both historical and real-time data from various sites and assets to help predict the expected duration before failure happens in critical equipment.

## About Wipro's PC pump failure detection model

The Survival model for machines failure is a machine learning technique that aims to understand the pattern of failures for a homogenous group of machines so that suitable and cost effective preventive maintenance can be scheduled.

It also identifies the most probable root causes of failure and allows the user to combine two or more such factors to further perform what-if analysis to simulate their joint impact on failure. Accordingly, the control variables can be monitored for optimum functioning so that chances of failure can be minimized.

## Failure profile

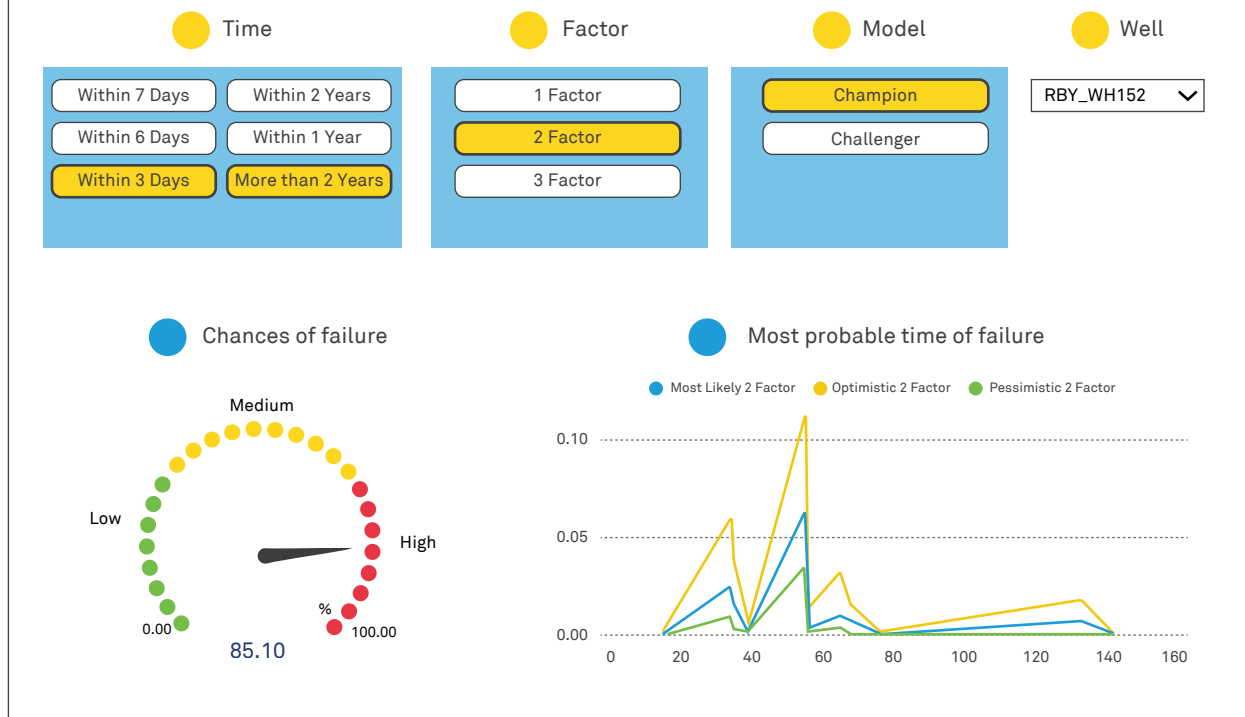


## Key takeaways

- Built on Wipro's Data Discovery Platform (DDP) to help asset managers to accurately view the asset health score across various sites and prioritize preventive actions
- Deployed across several industries such as Oil & Gas, Utilities, Mining and Manufacturing the app has helped to detect equipment failures
- using the appropriate machine learning models for various homogenous groups of machines
- Pre-built models for several equipment classes in the solutions including Progressive Cavity (PC) pumps for oil and gas, centrifugal pumps for water utility, power conductors for electric utility, and heavy duty trucks used in mines



## What-if scenario analysis



### Key benefits

The PC Pump detection model helps identify key drivers of well performance and facilitates the definition of integrated well-delivery and production operations strategies. E&P data analytics workflows are aggregated to add more value across the domain disciplines to identify relationships that would not otherwise be detected, and in a non-subjective manner. Domain and analytics workflows thus complement each other, and when used together, significantly enhance operational decision-making capability.

### Wipro's Data Discovery Platform (DDP)

DDP is an integrated platform that captures and manages data to generate pertinent insights through advanced analytics, offering price, performance and time benefits. It accelerates 'time-to-insight' for an enterprise using pre-built industry apps that enable faster decision making, aided by advanced visualization.



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