

# Predictive Analytics for TMC systems

## EcoStruxure TMC Predictive Analytics



### How you can maximize economic return on critical machinery assets

Traditional monitoring of critical rotating assets is no longer enough to meet the needs of rotating machinery operators. More than 80% of failures are random, with damage accumulating prior to reaching critical limits that are often “fixed” or constant.

Using cutting-edge predictive analytics, Schneider Electric turbomachinery (TMC) experts can help identify anomalous behaviour early on and advise you on preventive actions. Unique TMC operating models and advanced pattern recognition pinpoint even minor variations that would otherwise be difficult to detect, providing early warning and diagnosis of issues days, weeks or even months before failures occur.

### Benefits

- Help avoid potential damage or equipment failure
- Decrease unplanned outages
- Reduce maintenance costs
- Increase asset utilization
- Extend equipment life
- Optimize operational efficiency
- Maximize economic return

# Asset Performance Advisory Services

Schneider Electric TMC experts are uniquely qualified to analyze and interpret results from AVEVA Predictive Analytics software, which uses machine learning algorithms to learn an asset's unique operating profile during all loading, ambient and operational process conditions.

Historical sensor data from existing machinery is fed into the software's advanced modelling process and compared to real-time operating data, allowing it to identify and flag any subtle deviations in expected equipment behavior.

Schneider Electric TMC engineering consultants will help determine which assets are ideal for monitoring and assist with onsite hardware and software setup. Periodically, a subject matter expert will review system alerts and collect data to provide root cause analysis and fault diagnostics. Detailed reports will help you understand the underlying reasons and significance of any issues, while providing concrete recommendations to prevent machinery damage or significant production interruption.

AVEVA Predictive Analytics uses proprietary Advanced Pattern Recognition and machine learning algorithms. Our TMC experts can create operational profiles with a specific set of inputs and outputs, so they can test how the outputs will evolve in the future through data playback.

AVEVA Predictive Analytics seamlessly integrates with a wide variety of data historian solutions and control and monitoring systems and is deployed on-premise. Highly scalable, the system can be used to monitor a single asset, a specific plant or hundreds of remote assets across multiple sites.

## Typical TMC assets:



Compressors



Turbines



Pumps



Power generators



Motors



Fans and blowers

## Summary:

1

### Historical data

Application learns normal operation from historical data

2

### Pattern recognition

Advanced algorithms automatically create and organize operational profiles

3

### Early warning detection

Deviations from normal operation and possible faults identified and displayed

4

### TMC experts' analysis

Data analysis and reports

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Schneider Electric Industries SAS  
35, rue Joseph Monier - CS 30323  
F92506 Rueil-Malmaison Cedex