



# Asset Performance Management (APM)

Monitor and supervise T&D assets, to maximize business outcomes through improved reliability and greater availability with less O&M costs.

<b>Predictive</b>	Failure Detection	Diagnostics	Alert Management	Machine Learning Algorithms Predictive	Maintenance Support
<b>Asset Health</b>	Maintenance prioritization ranking	Reduced cost and risks	Wide application range	Remaining Useful Life	Based on in-house info or international standards

- Cloud-based**
- Scalability
  - Cybersecurity
  - Modularity
  - Platform independence
  - Based on development standards: Python, HTML5, libraries, etc.

## APM Predictive Monitoring

Advanced Condition Monitoring.

### Leverages existing instruments

- No additional sensors required
- Monitoring based on existing instruments

### Machine Learning

- Machine learning algorithms
- Multivariable analysis
- Empirical models trained with historical data

### Versatile

- Applicable to any equipment, model, and manufacturer
- Customizable models

### Early warning

- O&M Cost Savings
- Highly secure and reliable
- Customizable alert rules

### Any unexpected process data detected

- Detect deviations from expected process data
- Real time data is compared to model predictions

### Adding value to traditional maintenance systems

- Complimentary to other maintenance systems
- Consistent with other monitoring techniques

# APM Asset Health

Assets Health Index calculation allows optimizing Life Cycle Cost (LCC) by redefining maintenance plans and prioritizing investment decisions.

## Health Index Analysis

- Based on equipment typology and available data
- Considers Maintenance, Inspection and Operations data
- Customizable models

## Maintenance Optimization

- Based on health index and failure modes criticality
- Maintenance resources are allocated according to a rational prioritization

## Risk Matrix

- Definition of failure modes
- Criticality analysis based on failure effects and probability
- Integration of historical data of maintenance

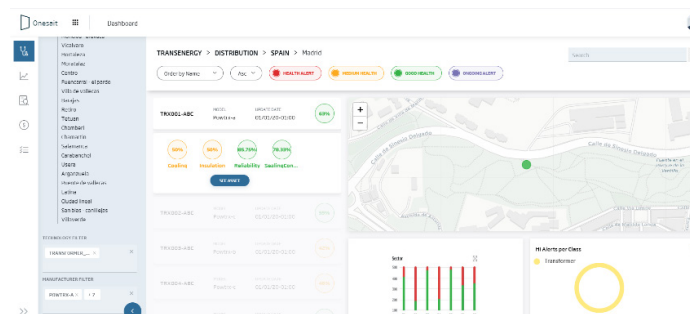
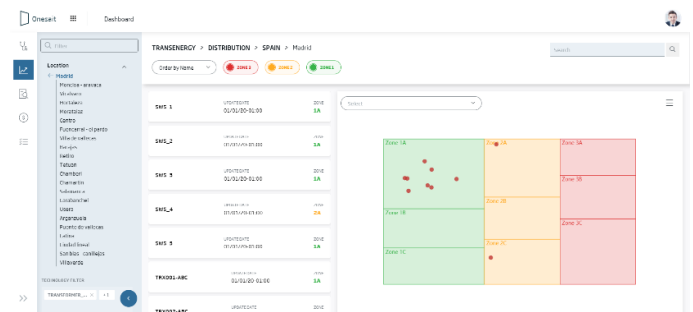
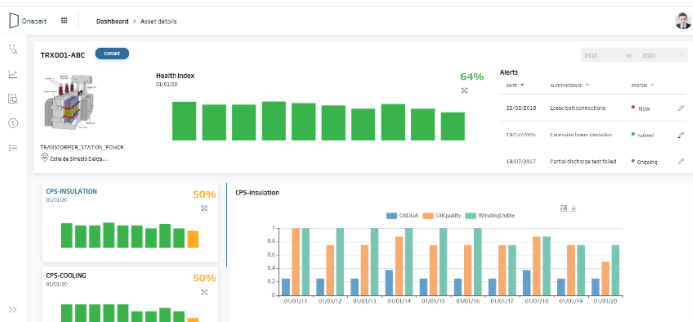
## Life Cycle Cost (LCC)

- Remaining life can be determined based on Health Index
- Allows taking and prioritizing decisions regarding equipment replacement

APM is a comprehensive and modular solution to monitor assets and facilities, in utilities and other industrial companies.

It integrates the whole performance of the installation on a common and unified vision, from asset to fleet level, covering both health and performance perspectives.

Onesait APM for T&D is made up of two modules - Predictive Monitoring and Asset Health.



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