
CONNECTED ASSET LIFECYCLE MANAGEMENT

ABB Ability™ Ellipse® APM

Asset performance management,
from field data to fleet optimization.



Utilities rely heavily on their field assets

to serve their primary purpose: delivering power to their customers safely, reliably and economically.

Failure of these critical assets has significant financial, legal and safety implications for utilities and creates economic challenges for the customers they serve.

In today's environment, utilities face many challenges, including aging assets, stagnant budgets, new operating risks resulting from distributed energy resources and a workforce in transition. Utilities need to take advantage of advances in predictive and prescriptive analytics in order to meet the expectations of high reliability in spite of these challenges.

ABB Ability™ Ellipse® APM, formerly known as Asset Health Center, is a solution designed to provide health and performance insights to prevent critical asset failures while optimizing asset lifecycle costs. The solution enables utilities to leverage their online and offline data to drive

more intelligent, risk-based approaches to asset management in alignment with industry standards such as ISO 55000 and PAS 55.

As a proven leader in both electrical systems engineering and asset management process innovation, ABB stands ready to support your transformation to smarter asset performance management. Ellipse APM can either be installed on premise or delivered as a service via the Microsoft® Azure® cloud and combines ABB's unparalleled technical expertise with collaborative asset performance management workflows on a world-class, secure and extendible analytics platform.



Everything you need to manage asset health cost-effectively

Get the bigger picture from the myriad sources of asset data available today, and know where to focus your in-depth engineering analysis and scarce field resources. Ellipse APM collects your data via standard and secure interfaces, and ABB's embedded asset models help interpret the available data to provide new insights. These models not only consistently identify degrading conditions, asset risks and their relative importance, but also provide expert recommendations and priorities for resolution, analysis and mitigation.

Ellipse APM supports an engineering evaluation workflow, including notification of key new information, visualization of core data by asset type, equipment assessment documentation to add context to the data, and initiation and tracking of work in common enterprise asset management (EAM) systems. In addition to the embedded ABB models, Ellipse APM's Open Model Interface (OMI) enables partners, customers and other providers to add additional asset models or connect to Azure Machine Learning and leverage statistical modeling.

Effectively address known risks

Early identification of changing and degrading conditions is only the first step in an effective asset performance management program. Ellipse APM's issue tracking ensures that identified risks are reliably mitigated and resolved. The solution highlights key actions that are at risk and tracks the completion of the important actions in the EAM system. It also provides tools for resolving identified risks before they materialize.

Repair and replace priorities

In addition to resolving issues identified through predictive asset analytics, utilities have much more to accomplish on a daily basis, such as regulatory inspections and maintenance. Most utilities find more work in the backlog than resources to complete it. How do you decide where to start in order to have the most significant impact on overall risk? Though a maintenance prioritization algorithm, Ellipse APM provides a suggested order that enables a risk-optimized maintenance schedule.

With limited capital budgets, utilities also have to make choices related to long-term spending:

- Considering all pertinent factors, which projects provide the greatest risk reduction?
- Which aging equipment effects can be mitigated more cost-effectively?
- Can additional capital expenditures be justified to the regulator or other stakeholders?

The core building blocks of Ellipse APM, which include a replacement priority algorithm, lay the foundation to help answer questions like these and support better decision making.



Putting it all together

in a collaborative environment and modular architecture for effective change management.

Leading analysts recommend that the most effective adjustment for achieving financially-optimized asset management starts with a focused scope (one asset type, one facility, etc.) and scales to benefit the entire fleet with prioritization across asset types, locations and other classifications. As an example, Ellipse APM currently supports tens of thousands of assets including transformers, circuit breakers and station batteries in a single instance at a leading US utility delivering power to customers across 13 states.

Ellipse APM can be delivered as a service via the Azure cloud, or installed on premises. Its scalable architecture allows new users to be up and running within hours to support quick returns on effort and low-risk pilots. The application meets core IT requirements such as cyber security, single sign-on and standardized integration to common third-party systems. It is also extendible so that analytics can evolve with the maturity of your asset management program. Extensions may be added by the user and maintained with commonly-available skillsets (Microsoft Azure) or with your existing reporting tools (on premise), avoiding the need for specialized platform training.





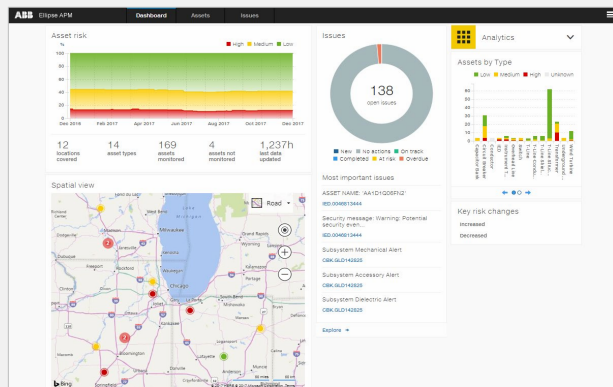
An essential part of your business.

The benefits of asset performance management are well documented:

- Increased reliability by identifying, prioritizing and resolving risks before they materialize
- Lower maintenance costs by reducing ineffective time based practices and expensive failures
- Lower capital expenditures by getting longer economical life out of existing assets
- Structured knowledge capture that facilitates job transitions
- More efficient compliance management through lean workflows and embedded reporting

Better still, Ellipse APM is the most proven and efficient asset performance management solution available on the market. Its speed of implementation and extendibility allows you to start lean, experiment and learn, and accelerate your organization’s digital transition while savings are materialized.

Sample dashboard



Sample Duval triangles

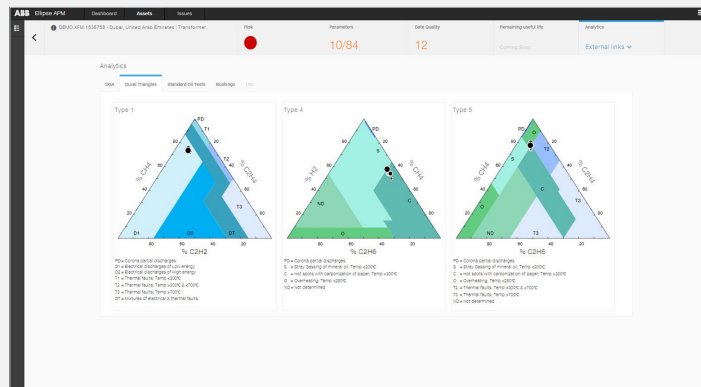
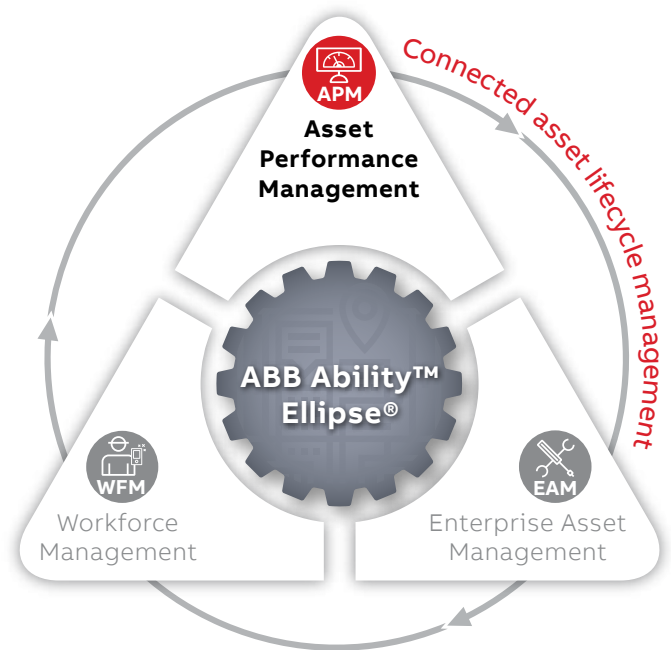


ABB Ability Ellipse

Connected asset lifecycle management

Ellipse APM is a key component of ABB Ability™ Ellipse®, the premier connected asset lifecycle management solution that unifies world-class functionality of enterprise asset management (EAM), workforce management (WFM) and asset performance management (APM). Combined, Ellipse allows for the orchestration of priority, process and people across an organization and enables peak operational performance and continuous process improvement in line with ISO 55000 best practices.

Implementing Ellipse APM as part of a comprehensive asset management strategy enables cross-functional visibility, consolidated reporting, improved workforce productivity and reduced down-time. Ellipse APM is available as SaaS or on-premise deployment and can be implemented with Ellipse EAM or integrated with other EAM systems.



Working together to work better.

Communication and connection between the three cornerstone functions of Ellipse drive continuous, successful operations.



—
abb.com/enterprise-software
info.pges@abb.com