



# ABB Ability™ Genix Asset Performance Management Suite

The next generation of AI-based predictive maintenance, asset reliability and integrity insights

**Predict today, plan for tomorrow**



# Grappling with unpredictable assets

## Unseen flaws can cause failures

You need assets to operate well, continuously, for a long time, to build success.

But performance can be threatened by:

- **Unplanned downtime** – harming productivity.
- **Reactive maintenance** – inducing downtime, and increasing costs.
- **Insufficient technology** – unable to predict maintenance issues.
- **Inadequate data usage** – wasting investment and squandering opportunities.
- **Unknown asset integrity** – risking asset failure, or business failure.

### Asset challenges are beyond the human eye

After few years in operations, assets might present performance and safety risks, if not monitored closely. You need to understand your assets. Poor asset visibility impedes planning, procurement and performance.



### Strong asset performance management will help you:

#### See



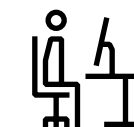
- What is happening?
- Why is it happening?
- What is likely to happen?

#### Understand



- What should you do about it?
- When should action be taken?

#### Prepare



- How do you maximize asset utilization?
- How do you optimize for productivity, safety, quality, and cost?
- How do you predict, schedule and plan maintenance?

#### Self optimize

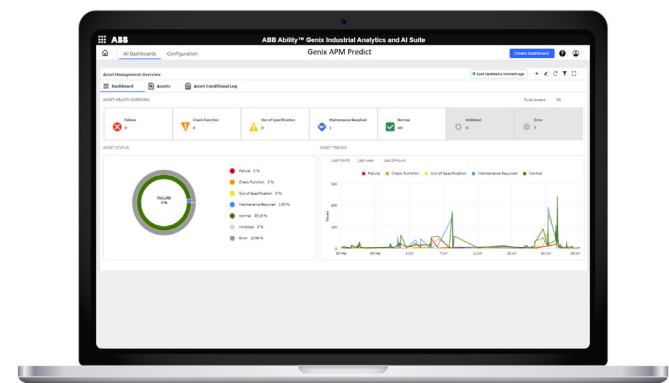


- How do you avoid manual intervention?
- How can I stop failures before they happen?
- How can I support an autonomous maintenance?

# ABB Ability™ Genix APM Suite

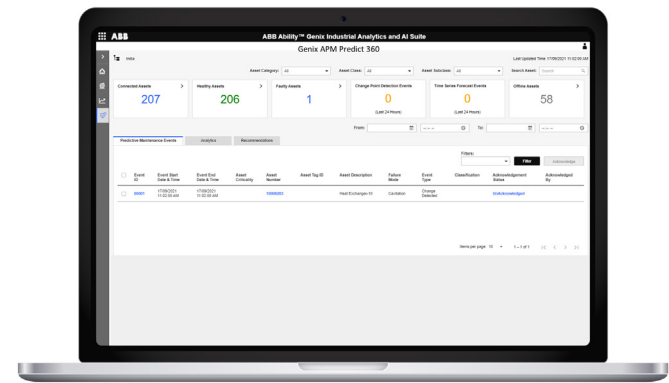
## The solution that sees you succeed

Genix APM is a complete asset performance management solution, providing asset 360-degree actionable insights and expertise powered by predictive and prescriptive analytics to achieve maximum uptime, safety and performance in a cost-effective manner.



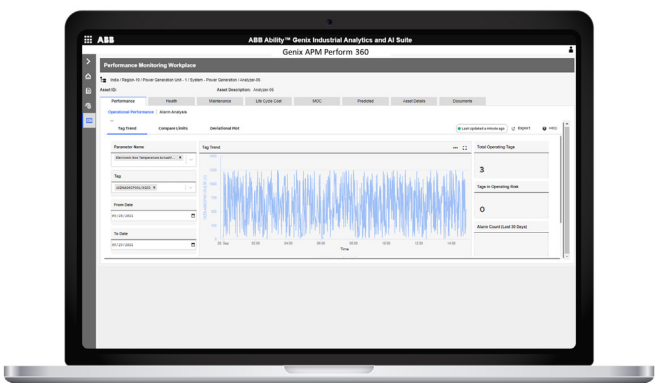
### Genix APM Predict

- Adding Condition Monitoring on the Edge into an existing OT landscape becomes easier
- Start prioritizing maintenance activities based on data
- OT data/sensors to capture additional types of data for higher visibility
- Pre-built asset models to monitor known failure modes
- Maintenance workplace with detailed real-time information



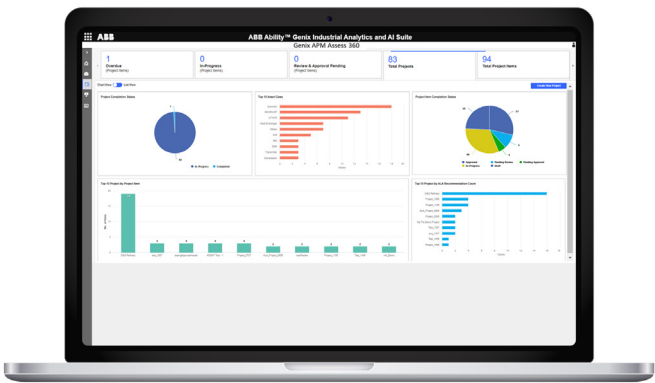
### Genix APM Predict 360

- Testing, training and deploying predictive & prescriptive models deploying becomes collaborative
- Capture & codify the knowledge of experts to increase outcomes
- Self-service fault modeling throughout asset life cycle, rule-based and AI/ML
- Library of configurable asset models with pre-built dominant failure modes
- Events management, fault monitoring tools with recommendations



### Genix APM Perform 360

- A holistic view of asset performance, health, maintenance schedules, lifecycle cost becomes possible
- Connect APM, work, operations management to realize more value
- OT/IT/ET contextualized data + derived or predicted parameters
- Parametrized asset templates 40+ pre-built performance models
- 360° view of Performance, Health, Maintenance, Life Cycle Cost, etc. reveals correlations, changes practices



### Genix APM Assess 360

- Software support tool makes asset life assessment studies more accurate
- Find opportunities for optimum investment planning
- Pre-defined damage mechanisms for Failure Mode and Effects Analysis
- CAPEX profiling, manual data capture for integrity tracking
- Design history, operational & maintenance history

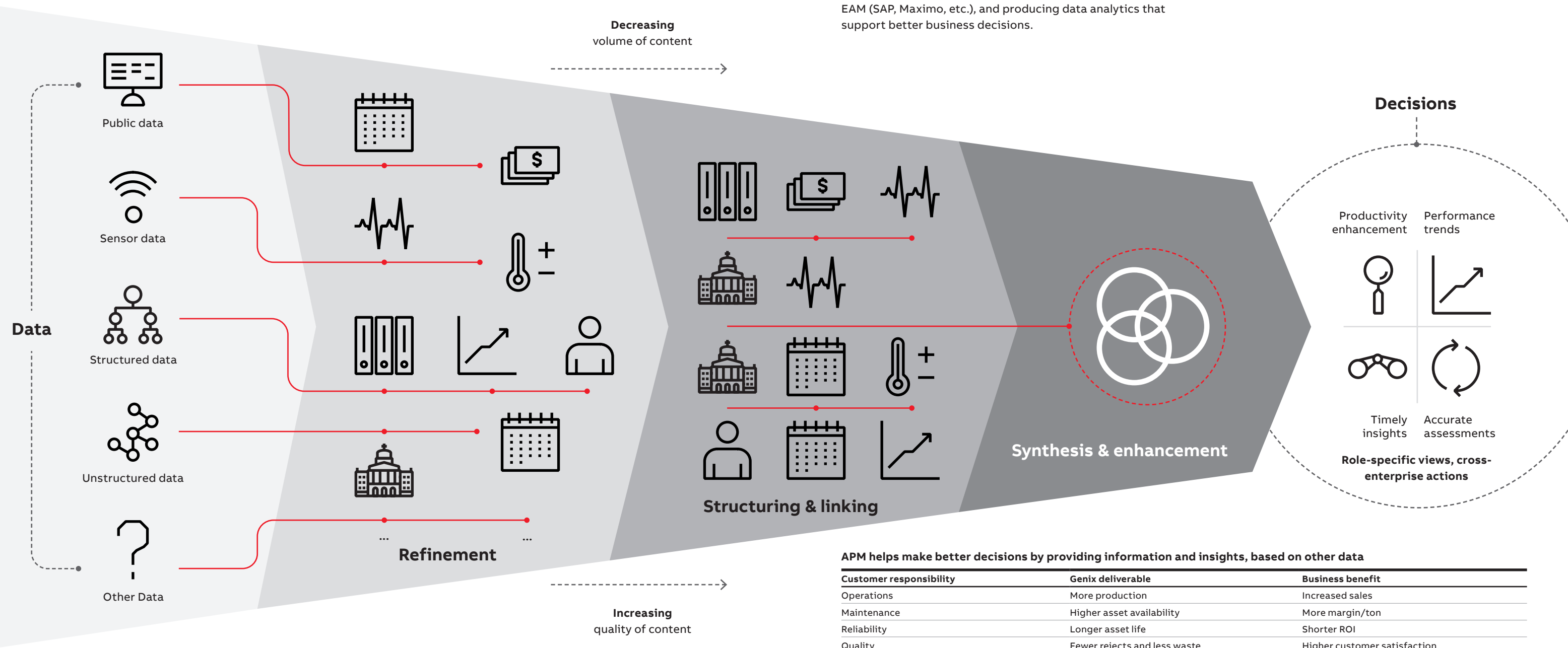


# Higher visibility into all asset aspects

## How Genix APM generates insights

The need for a holistic view and control of disparate data, to convert data into insights

Genix APM works by collecting, integrating and contextualizing data from multiple sources, such as CMMS, EAM (SAP, Maximo, etc.), and producing data analytics that support better business decisions.



APM helps make better decisions by providing information and insights, based on other data

Customer responsibility	Genix deliverable	Business benefit
Operations	More production	Increased sales
Maintenance	Higher asset availability	More margin/ton
Reliability	Longer asset life	Shorter ROI
Quality	Fewer rejects and less waste	Higher customer satisfaction
Engineering	Improved process visibility	Better process design
Digital transformation	Predictive maintenance	IoT efficiencies
Health, Safety & Environmental	Increased productivity and compliance	Reduced costs and risk
Human resources	Simplified knowledge transfer	Faster onboarding and upskilling
Supply Chain Management	Detailed asset life and integrity information	Improved capital decisions
Management	Better operational efficiency	Higher predictability and profit potential

# Asset Performance Management cases

## Operational and financial opportunities

### Asset Condition monitoring for electrical assets at a bioproduct mill

- Results achieved with deterministic rule-based models.
- The bigger the project, the greater the value.
- Leverages machine learning and outcome-based models.



Availability

2 electrical failures prevented per year:  
2 x 4 hours x \$94k/h =

**\$752 K**



Maintenance cost

Reduced by scheduling interventions based on asset condition:

**\$58 K / year**



Extended equipment life

Additional savings from replacing equipment at the right time:

**\$58 K / year**



### Predictive maintenance program in mining

- Results achieved with rule-based maintenance-oriented algorithms for asset monitoring.
- Expect bigger gains when integrating more data sources and applying more advanced machine-learning models.



Predictive notifications

**42** early warnings within **60** days, triggering **88** maintenance work orders to solve issues  
**> 6'000** asset program has been extended to **12,000 assets**



Estimated savings

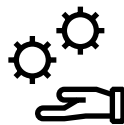
**846** man-hour savings in spare parts and other material costs;  
**\$5M**



Prevented losses

If no actions were taken, unrecoverable lost production of **4.6** million tons of ore valued at **\$276M** would have occurred

### Asset life assessment study in chemical industry



Extended operations

Identified equipment that can be fit for purpose until **2040**



Reduced OPEX, optimized CAPEX

Improved understanding of aging asset condition and strategy planning  
**< 1 year payback**



Reduced HSE incidents & downtime

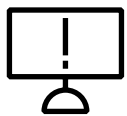
Addressing asset condition, reliability, obsolescence, maintainability using Remote Insights app AR technology





## Global maintenance process re-organization across 26 hydropower sites

- Results achieved with deterministic rule-based predictive analytics.
- Expect bigger gains, when integrating more data sources and applying machine learning models.



Early notifications

Critical failure warning and health diagnostics for

**> 600 assets**



Performance

Increased generation capability up to

**10%**



Maintenance cost

Fleet maintenance savings up to

**2%**

## Develop a vision for your operation

Do you see opportunity to improve?

With a wide range of pre-built capabilities, the ABB Ability™ Genix APM Suite is a rapidly deployable solution that allows for analytics and AI-driven abilities to be introduced quickly to your reliability and maintenance teams.



— Reduce maintenance cost by

**15%+**



— Reduce downtime by

**5%+**



— Rationalize spare parts inventory by

**30%+**



— Increase machine life by

**25%+**



— Increase overall productivity by

**8%+**

Talk to your ABB representative today to build a Genix APM solution for your operation.

**Predict today, and plan for tomorrow.**



The ABB Ability™ Genix Asset Performance Management Suite is built on the ABB Ability™ Genix Industrial Analytics and AI Suite. ABB Ability™ Genix is a solution for digital transformation, which draws on ABB's deep domain knowledge, and offers several pre-built, industry-specific, next-generation digital capabilities such as a model fabric for rapid development, deployment of analytical models, and system twins for integrity monitoring.

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