Software for Energy & Materials

From power generation in all its forms to oil and gas – and chemicals to mining – energy and materials companies are balancing the need to produce for today's demand while transforming for a net-zero future. Software designed to focus on asset and operations performance, as well as power orchestration, plays a vital role in helping improve performance and enable more reliable, affordable and viable energy.

See next page for descriptions and links to offerings.

The listed software could support one or more of the three energy trilemma elements. It is indicative and doesn't intend to capture all product-element linkages.

Performance Intelligence

Designed to provide highly accurate data-driven insights and economic impact to optimize equipment based upon thermal performance, which can result in more reliable and affordable power. Insights can be used to improve peak output, reduce turndowns and start faster, which balances demand with grid requirements. Carbon analytics and insights can help identify equipment degradation issues that have a negative impact on fuel consumption and carbon emissions.

Learn more >

APM Health

Visual and digital twin data help operations plan maintenance leading to less unplanned downtime and reduced maintenance spend. By helping decrease production and operating costs, operations can deliver more reliable and affordable energy to the market

Learn more >

APM Reliability

Predictive analytics and diagnostics provide insights to help industrials run more reliable, efficient operations – helping provide access to affordable energy. Proactive maintenance reduces waste, both in materials and emissions associated with maintenance activities. Reducing unplanned downtime directly reduces fugitive emissions in oil and gas operations.

CycleWatch Digital Twins can help confirm startups are occurring as expected. This is critical to enabling both more renewable power generation and reliable generation from thermal plants. Less optimal startups also increase emissions.

Learn more >

APM Strategy

A collection of integrated tools engineered to help enterprises develop a comprehensive asset strategy to decrease operations and maintenance (O&M) expense and emissions that can lead to more affordable, sustainable energy production.

Learn more >

APM Integrity

Designed to help energy companies calculate risk and the remaining useful life of assets to generate, implement, and execute optimized inspection strategies while helping to streamline auditability and compliance governance. Supports planned maintenance activities, which improve reliability and affordability. Contextual awareness through 3D digital twins supports viable production by reducing field travel and associated emissions.

Learn more >

Accelerators*

Pre-configured templates for APM, including asset strategies, digital twins and more are designed to enable faster time to value and a wider deployment across assets. As a result, customers have insights to produce more efficient, reliable power and resources.

Learn more >

Capacity Trader/Dispatch Optimizer

Designed to increase power generators' peak output to quickly respond to decreases in variable renewable generation. This supports more reliable, affordable electricity for end customers.

Learn more >

Industrial Data Diagnostics

Process and asset data quality analysis and performance benchmarking enables industrials to lower their operations and maintenance spend. This enables more reliable, affordable production.

Learn more >

Remote Operations

Remote/mobile access to essential onsite monitoring and control functions helps maintain and troubleshoot operations while reducing costs through staffing flexibility and productivity. Supports access to reliable, affordable energy. Remote connections can reduce staff travel and associated emissions.

Learn more >

Autonomous Tuning

Employs artificial intelligence (AI) to build a machine learning (ML) digital twin model of a gas turbine to find the optimal flame temperatures and fuel splits every two seconds. Optimal combustion reduces fuel consumption and emissions, which supports more affordable and viable power generation.

Learn more >

BoilerOpt

Closed loop system that is designed to improve coal thermal generation. Fuel and emissions are both reduced, helping support more affordable, viable power generation.

Learn more >

Production Planning - Regulated Markets

Improves ability to predict available generation of all fuel types, which helps to minimize reserves of thermal power and fleet CO2. Also helps to prioritize lowest CO2 asset dispatched first to meet demand.

Production Planning - Deregulated Markets

Connects price, generation predictions and weather data to the capacity of the power plant to provide insights for hedging in the day-ahead market. Energy traders can optimize their energy portfolios to help improve affordability. For thermal plants, unifies trading floor to plant, which in turn can provide more reliable power. Supports future investment in renewable generation.

Duct Burner

Designed to automate and optimize deployment of duct burners based on predicted demand. Supports a reduction fuel consumption and thus emissions.

*Accelerators compliment Asset Performance Management software and cannot be used independently.