AI Driven Energy Management for Airports

Maximize Energy Efficiency and Improve Electrical Reliability

Application Guide

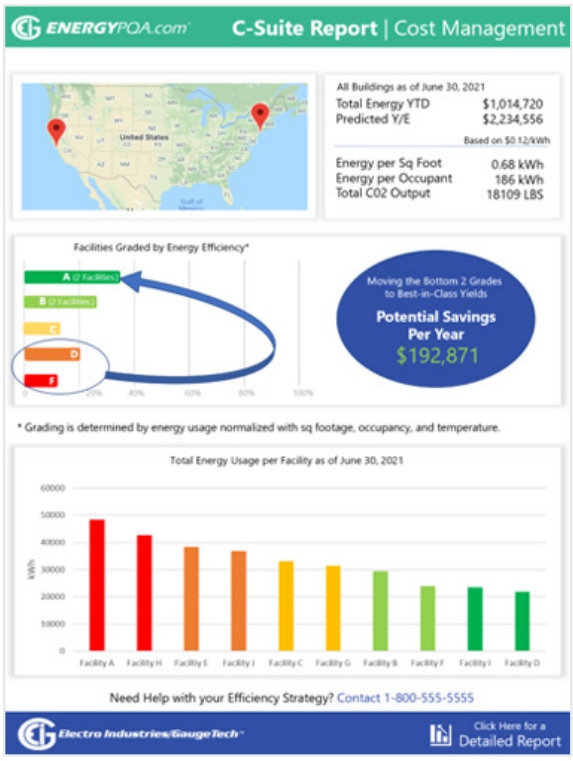
- Identify the Most Energy Wasteful Facilities and Circuits to Maximize Energy Efficiency Improvements
- Reduce Costs with AI-based Predictions
- Drive Energy Conservation Behavior from Airport Tenants
- Automatically Grade Facilities and Circuits Using Deep Power Quality Insights to Improve Electrical Reliability
- Manage All Commodity Usage

Identify Wasteful Facilities and Circuits to Improve Energy Efficiency

Airports consume up to 180 million kWh in electricity each year. The airport terminal consumes about 60% of that usage. Poorly performing facilities use up to seven times more energy than highly energy efficient ones. Increasing a terminal's energy efficiency is not only beneficial for an airport's bottom line but it also helps to reduce the airport's carbon footprint. EnergyPQA.com® transforms traditional energy management by identifying the most energy wasteful facilities and circuits to maximize energy efficiency improvements.

- Automatically grade facilities and circuits for energy efficiency using smart analytics.
- Identify least efficient facilities and the potential savings from improving them.
- View facility circuits most in need of improvement.

Since energy efficient buildings can consume up to 85% less power, identifying poorly performing facilities and circuits is essential to reduce airport energy use and costs.

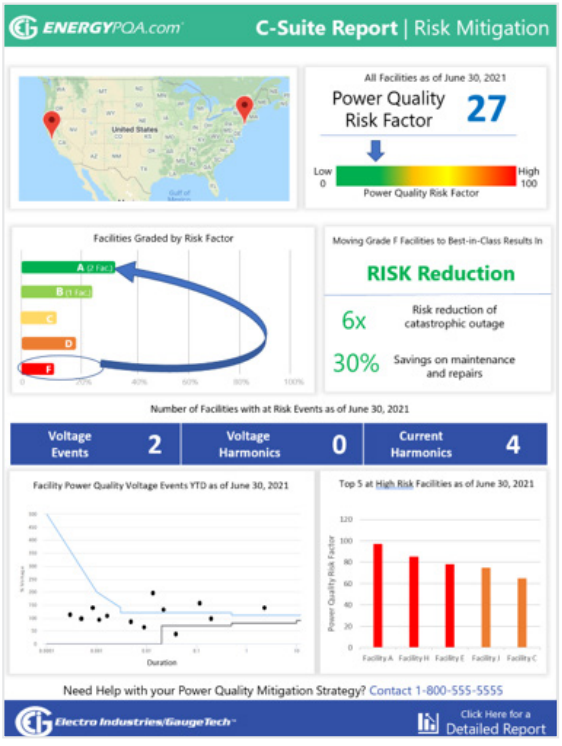


View Facilities Graded for Efficiency

Grade Facilities and Circuits to Improve Electrical Reliability

Industry studies show that up to 40% of all downtime is power quality related and that 80% of these issues originate within the facility. Airports cannot function without reliable power. The EnergyPQA.com® system provides comprehensive power quality analysis for all metered areas of the airport.

- Automatically grade facilities on best to worst power quality risk.
- Identify specific circuits in worst facilities to provide simple meaningful actions to improve reliability and safety of the power system.
- Gain deep insights into all aspects of the facility's voltage reliability and power quality with extensive dashboards and customizable reporting.
- Easily view power quality waveforms, voltage sags and swells, current faults, THD, power factor, and limit alarms.
- Receive email alerts on all power quality events to take action before problems escalate and damage equipment or cause a power outage.

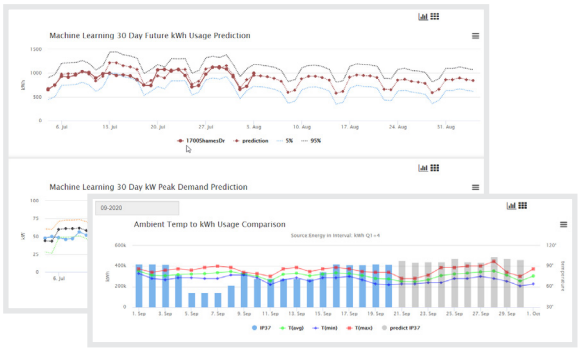


View Facilities Graded for Power Quality

Reduce Costs with AI-based Predictions

The EnergyPQA.com® energy management system's AI-based energy predictions provide insights into building energy trends into the future. By looking at future predictions, an airport facility manager can then be proactive to make sure that energy reduction programs are successful. The system uses historical energy readings and future weather forecasts to provide usage and demand before they occur, at all metered points.

- Accurately predict demand and energy usage into the future with advanced AI and machine learning.
- Take action on peak demand predictions in advance of penalty.
- View airport energy dashboards that detail energy usage and demand across facility areas and provide insightful predictive analysis.

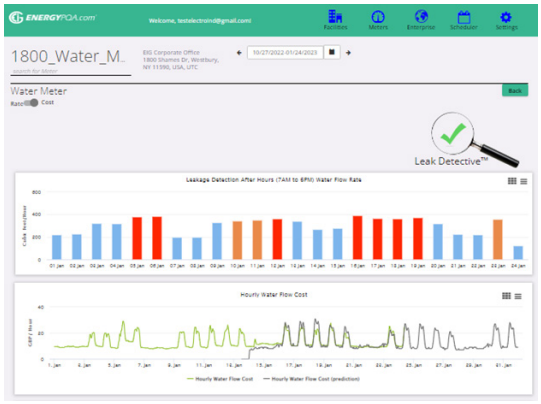


Use Artificial Intelligence to Predict Energy Usage into the Future

The system emails notifications of new predicted peak demand up to three days in advance. Since demand charges can be as high as 50% of a facility's actual energy bill, this information can yield significant savings. Use the EnergyPQA.com® energy management system's predictive energy usage dashboards to judge the success of demand mitigation efforts.

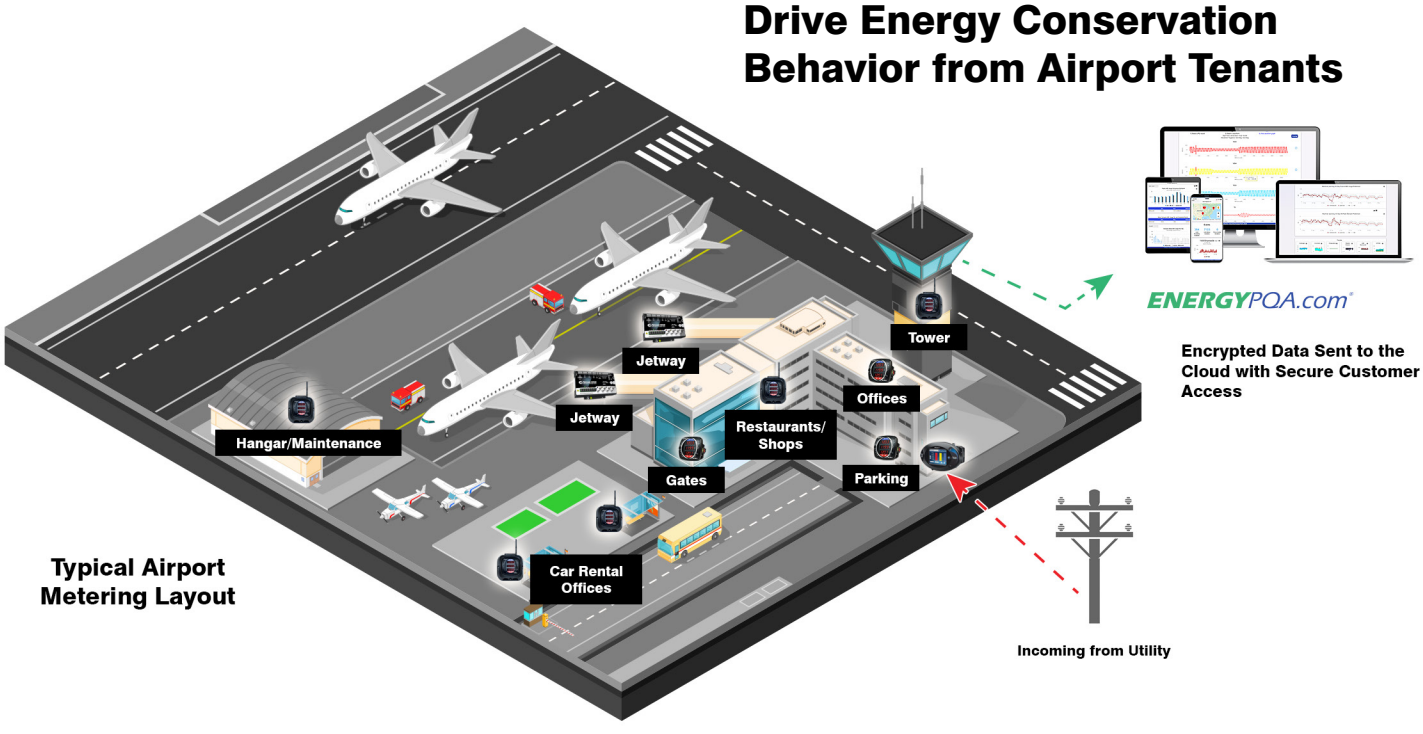
Manage All Commodity Usage

The EnergyPQA.com® system allows you to track all commodity usage in one place, eliminating the need for discrete systems for water, air, gas, electric, and steam (W.A.G.E.S.) usage. View detailed usage and commodity cost dashboards. Trend commodity usage within a building and compare use between airport buildings. With the unique Leak Detective™ feature, be alerted to air and water leaks, allowing timely action to save resources and money. Generate reports for all W.A.G.E.S. commodity usage.



W.A.G.E.S. Dashboard

Drive Energy Conservation Behavior from Airport Tenants



Typical Bill of Materials

Cloud-Based Energy Management Solution

EnergyPQA.com® - AI Driven Energy Management System, providing energy analytics and predictions, reducing costs, and improving power system reliability

Ordering Part #: ENERGYPQA-1Y
Learn More: https://www.electroind.com/products/energypqa-com-energy-management-system/

Critical Load Point

Nexus® 1500+ - Advanced Power Quality Meter
Example Installation: Utility Entry Points, Critical Loads, High Power Sensitivity Points

Ordering Part #: Nexus1500+-D2-60-20-V3-X-X-X-X
Learn More:
https://www.electroind.com/products/nexus-1500-power-quality-meter-with-phasor-measurement-unit/

Large Loads (400 A or more)

Shark® 250 - Cyber Secure Power and Energy Meter
Example Installation: Typical Building Loads, Substations, Control Panels

Ordering Part #: Shark250-60-10-V2-D2-INP100S-X-X
Learn More: https://www.electroind.com/products/shark-250-power-meter/

Economical WiFi Submeter

Shark® 200S - Advanced Data Logging WiFi Submeter
Example Installation: Administrative Offices, Shops

Ordering Part #: Shark200S-60-10-V33-WIFI
Learn More: https://www.electroind.com/products/shark-200s-100s-multifunction-wifi-electric-submeter/

Wideband Frequency (20 to 500 Hz)

Nexus® 1450 - Power and Energy Meter
Example Installation: Jetway Loads, Control Panels

Ordering Part #: Nexus1450-D2-60-V2
Learn More: https://www.electroind.com/products/nexus-1450-cyber-secure-power-quality-meter-with-multiport-communication/

Engineering Services

Contact EIG's highly experienced engineers, with a variety of skills in the fields of electrical engineering, software engineering, and meter engineering, to assist in the design, commissioning, start-up verification, and certification of installations. Our team will help you get your project up and running, and ensure its success.

Electro Industries/GaugeTech™

Contact EIG at:
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Application page link:
www.electroind.com/energy-management-for-airports/