

WISE-iEMS

Smart Energy Management Solution

One-stop energy management platform iEMS facilitates low-carbon transformation of enterprises

Solution Suite

980GECOWA00, 980GECOWL00, 980GECOWS00



ADVANTECH

Enabling an Intelligent Planet



Understand WISE-iEMS in 2 Minutes

ADVANTECH 
WISE-IoT

Plan Introduction

The Advantech iEMS intelligent energy management system (iEMS) relies on cloud computing and intelligence integration. It draws support from AI, big data, cloud computing, digital twinning, IoT, and other technologies. It also comprehensively considers fundamental energy demands with digital management, service innovation, and zero-carbon goals that drive low-carbon transformation from a conventional energy system to a low carbon energy system with data at the core. Advantech iEMS helps companies with energy production, energy utilization, and energy dispatch, as well as carbon trading and other domains. Companies that want to measure and track their energy and carbon emissions in line with global goals need to use widely-accepted standards. By doing so, they are more likely to address stakeholder needs and be recognized for their transparency, accountability, and climate leadership. Advantech iEMS intelligent energy management helps achieve those goals.



Closed-Loop Management

Presents a visualization of each point in the energy management flow for a clear view of the process: energy monitoring-measurement-analysis-evaluation.



Energy-Saving Optimization Hierarchy

Includes operational scheduling, loading prediction, dynamic optimal management of air conditioning, and various other approaches to optimize energy usage.



Anomaly Diagnosis

Utilizes machine learning for accurate analysis and quick discovery of anomalies in energy consumption. End user will benefit from optimal energy supply.



Carbon Asset Management

Dynamically monitors carbon emission data from customers as a reference pathway to reduce carbon and energy consumption to help them achieve carbon neutrality goals.

Application Domains

Smart Factory



Real-time monitoring of energy use in a factory is important for optimizing efficiency and consumption. In pursuit of energy efficiency, overconsumption can be compared against set targets and references. This allows for more optimal use of equipment, improves production scheduling, and enhances overall efficiency to achieve energy goals and internal and external performance targets.

Smart Park



An energy control system includes energy monitoring, energy consumption statistics, energy utilization analysis, energy dispatch, energy performance reviews, and more. Doing so can effectively incorporate energy usage analysis into the operations of a smart park. Using technology boosts the benefits a park offers from multiple aspects including energy saving and cost reduction, carbon output minimization, environmental protection, and ease of maintenance.

Electrical Energy



Real-time monitoring and controlling of energy distribution networks is vital for today's grids. Monitoring operations and the status of equipment improves efficiency and enhances maintenance response measures. Collecting electricity utilization data and analyzing the energy behaviors of an enterprise guides customers toward efficient power consumption efficiency and a better balancing of electrical loads.

Catering & Retail



Switching over to digital monitoring is an essential upgrade for catering and retail operations. Managing energy utilization in catering and retail operations improves environmental comfort levels and customer experience while increasing energy efficiency and lowering cost.

Shopping Mall



Office Building



Science Park



Hotel



Hospital



Campus



Factory / Industrial Park

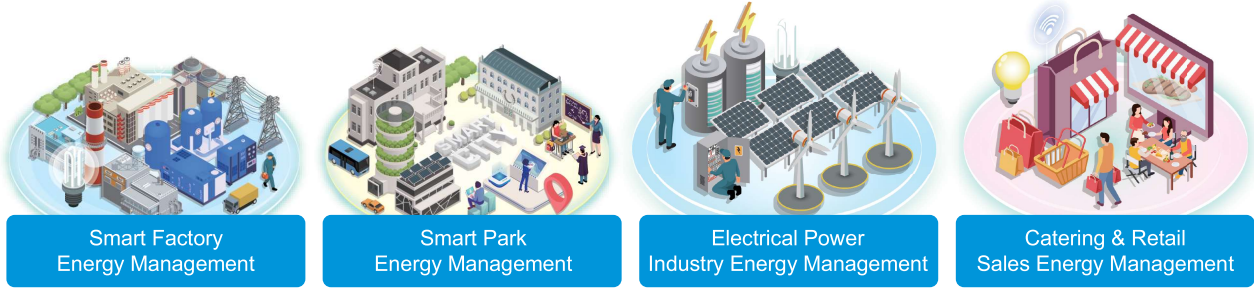


Data Center



Solution Structure Overview

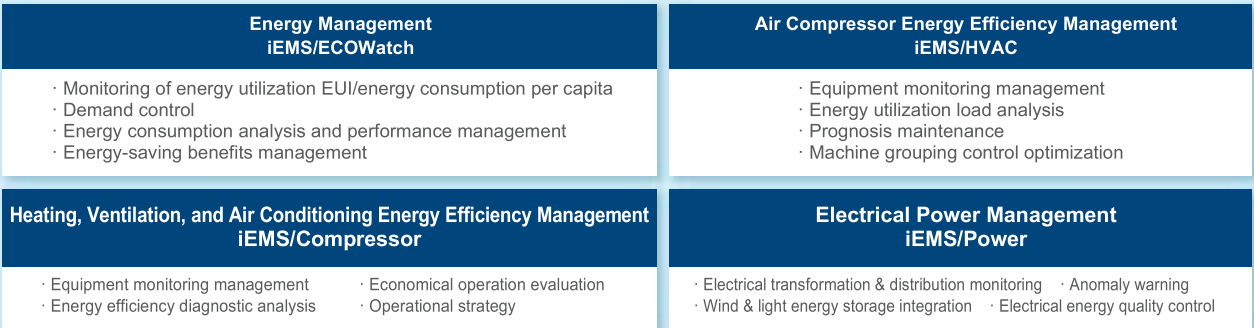
Field Applications



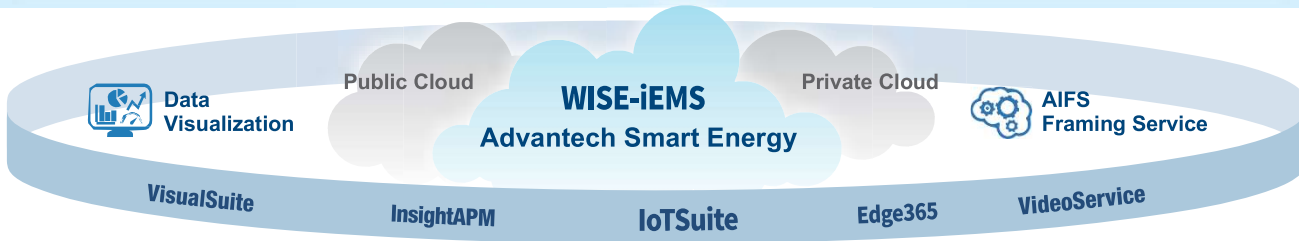
Level 2 SRP Sustainable Management



Level 1 SRP Smart Management



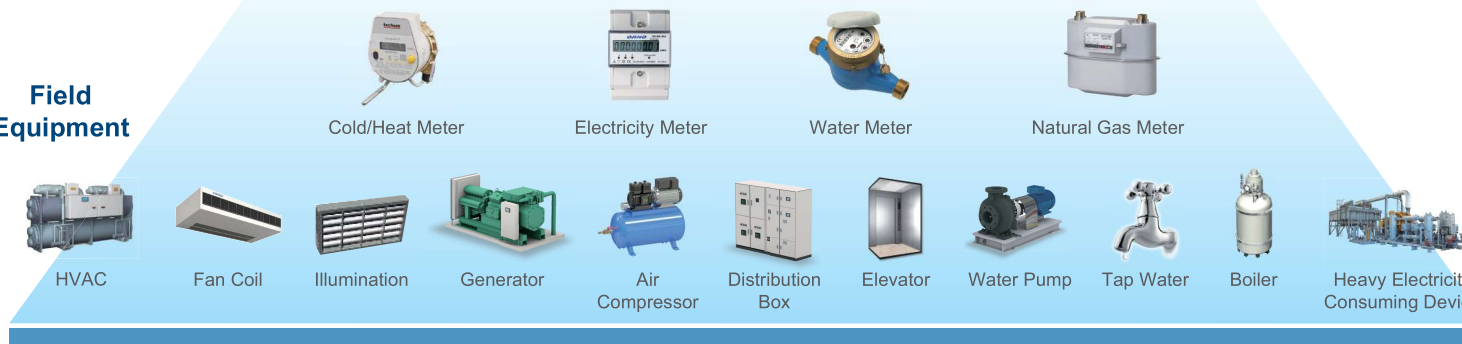
Cloud Platform



Data Acquisition



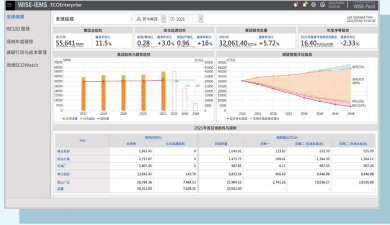
Field Equipment



Industrial APP



Enterprise Energy Saving & Carbon Reduction iEMS/ECOEnterprise



iEMS/ECOEnterprise App is made for monitoring an enterprise's energy saving and de-carbonization values. The App monitors and displays all the critical energy metrics of an enterprise to help businesses devise energy saving strategies and also create reports about their de-carbonization activities. By doing so, they are more likely to address stakeholder needs and be recognized for their transparency, accountability, and climate leadership.



Carbon Asset Management iEMS/CarbonR



iEMS/CarbonR App is designed to meet the ISO 14064-1 standard and can be applied to a variety of industrial scenarios. The App conducts tracking of the overall carbon footprint, carbon emissions, and carbon quota conditions of an enterprise. It also records and quantifies the progress of low-carbon transformation and facilitates carbon asset management with charts, analysis, and evaluation.



Energy Management iEMS/ECOWatch



iEMS/ECOWatch monitors and manages public resources such as water, electricity, gas, and heating in a building. It works closely with building power supply and distribution systems, water supply infrastructures, and air conditioning systems. It features common functions, which enable energy monitoring, real-time alarms, sub-metering, energy consumption analysis, energy consumption statistics, energy consumption ranking, and energy reporting.



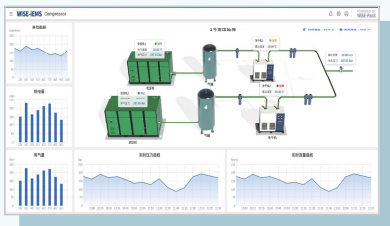
HVAC Energy Efficiency Management iEMS/HVAC



iEMS/HVAC App combines digital technologies such as artificial intelligence, cloud computing, IoT, and digital twinning with our professional knowledge and experience. It provides a "one-stop" energy efficiency management solution through lean control, equipment management, anomaly detection, and energy efficiency diagnosis and analysis. This gives users a clear optimization strategy to achieve outstanding energy saving results.



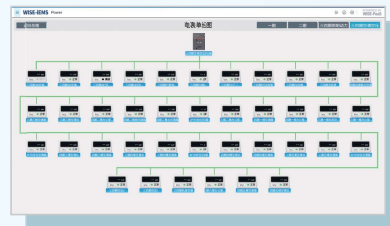
Air Compressor Energy Efficiency Management iEMS/Compressor



iEMS/Compressor monitors the operating status of air compressor systems within the factory in real-time and allows remote automatic inspection that enhances work efficiency. iEMS/Compressor App accurately analyses gas production and consumption, resulting in a rapid identification of problems. The App integrates data to carry out numerical analysis, helping users to find the causes of wasted energy through a visual data dashboard for optimal scheduling.

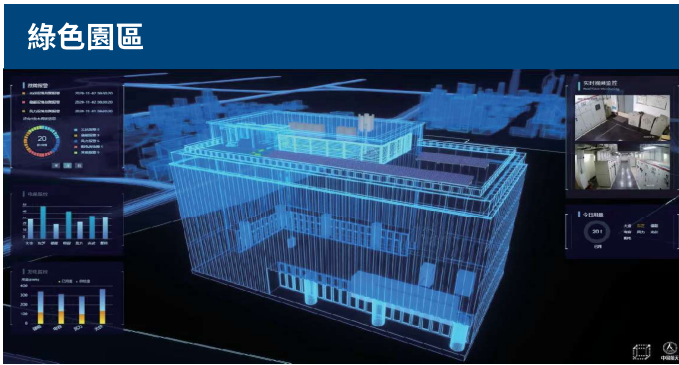


Electricity Management iEMS/Power



The iEMS/Power App monitors all aspects of power source, storage, and distribution in real time. Throughout the power supply chain, the App can monitor distributed energy resources in real time. The App can also detect power outages and improve the maintenance response times. Through the analysis of electricity consumption data, energy consumption can be optimized.

Applications



Solution

Advantech iEMS organically integrates various subsystems including distributed photovoltaics, wind power generation, power storage, air conditioning, heating, illumination, elevators, IT equipment, and more. This is part of a smart and unified platform to realize precise control of energy in a green park. With a reasonable amount of photovoltaic storage and an energy utilization strategy, realizing reductions in peak energy loading is achievable.

Application Benefits

- Energy utilization in parks – Annual electricity consumption has been reduced by approximately 36000 kilowatt-hours per building.
- Social contribution – Annual CO2 emissions were reduced by 33.6t per building.
- Park operation – Construction operational efficiency was enhanced by 20%.
- Park service – Complaint rate dropped by 40%.



Scan the QR Code to learn more case details



Solution

Advantech iEMS integrates existing independently operated subsystems to realize an integral energy consumption management platform. With a criticality index, statistical analysis, edge computing, and real-time monitoring, energy use can be better analyzed. Additionally, from an energy efficiency point of view, high energy consumption areas can be determined and solutions devised. Factory management optimization enhances efficiency and realizes energy savings while achieving emission reduction goals.

Application Benefits

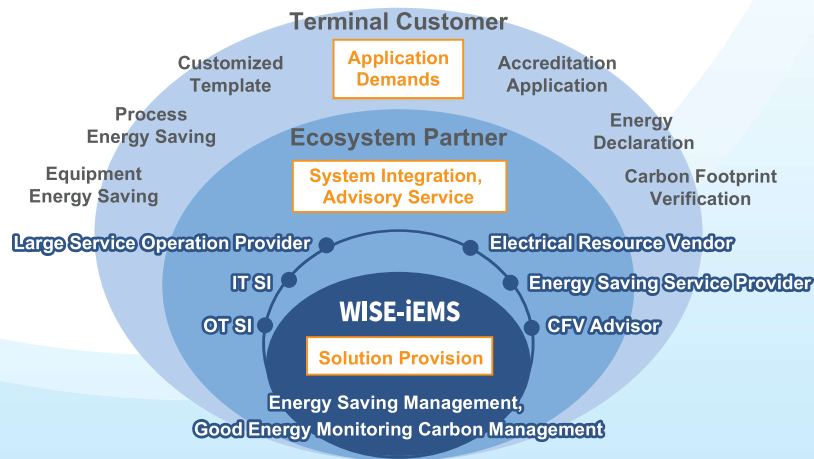
- Enhancement of equipment efficiency and resource utilization rates.
- Monthly power consumption drops of between 15-30%.
- Reduction in service cost, operation cost, and equipment failure rates.
- Analysis of power consumption and identification of unreasonable electricity usage
- Adjustments of the amortization ratio according to department.



Scan the QR Code to learn more case details

ADVANTECH WISE-iEMS Advantech Smart Energy Partner Ecosystem Collaboration

Collaboration Partner Rights & Interests



Technical Support

Provides holistic solutions and technical support by professional technical teams.

Project Support

Provides dedicated customer managers for guiding important projects.

Sales Support

A competitive product price structure with a healthy profit margin facilitates sales of the iEMS plan.

Training Empowerment

Develops dedicated online/offline industrial eco-training. All online courses are released to the public in the Advantech training center.




Marketing Empowerment

Provision of marketing resources and development of brand awareness. Marketing activities are jointly launched.

Open Ecosystem

Provides integrated and open collaboration for joint innovation, business opportunity sharing, and shared prosperity with partners.

Subscription Information

Advantech Smart Energy Solutions	 iEMS/HVAC	 iEMS/ECOWatch	 iEMS/Compressor
	 iEMS/Power	 iEMS/CarbonR	 iEMS/ECOEnterprise

Available Configurations

Edge Smart Collection Channel	ESRP-IEMS-ECU1051 ECU-1051, WISE-EdgeLink, VPN		WISE-EdgeLink WISE-InsightAPM/VPN
	ESRP-IEMS-ECU1251 ECU-1251, WISE-EdgeLink, VPN		WISE-EdgeLink WISE-InsightAPM/VPN
Edge Smart Controller	SRP-IFS210-D36TAE ADAM-3600, Linux Kernel 3.12 RT, WISE-EdgeLink		WISE-EdgeLink
Edge Smart Server	WA-SU2483G-750HA01 UNO-2483G, Microsoft Windows 10 Pro 64-bit WebAccess/SCADA 5000 tags		WebAccess/SCADA



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