iFactory

Solution Ready Package

Factory Energy Management Solution

Centralized Monitoring and Data Acquisition for Energy Efficiency Optimization

SRP-IFS400

IoT.SRP
Solution Ready Package

- Intuitive browser-based graphical dashboard
- Energy consumption statistics and analysis
- Smart management platform for easy maintenance

ADVANTECH
Enabling an Intelligent Planet

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WISE-PaaS

www.advantech.com/srp/EMS
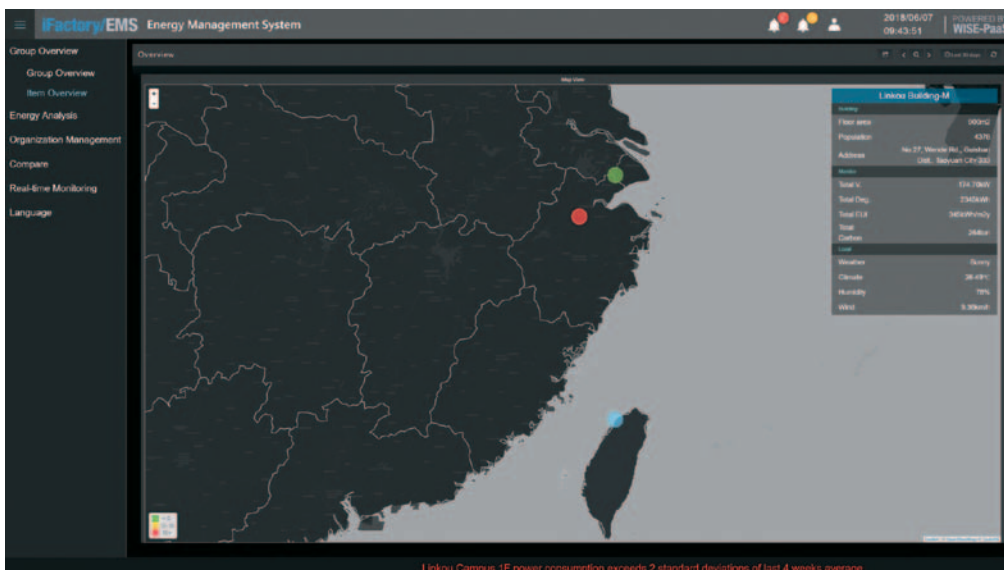
System Introduction

For manufacturers facing the prospect of a future global energy shortage and increasing environmental concerns, energy conservation has become a key principle in lean manufacturing and an important indicator of corporate social responsibility. By collecting data from all energy-consuming machines and equipment and generating detailed analysis reports, Advantech's energy management solution enables managers to identify excessive energy usage and implement improvements that increase energy efficiency.

WISE-PaaS/Dashboard

1 **Focal Point for Facility and Equipment Energy Consumption**
- Power consumption of each equipment
- Four-week performance analysis for production lines
- Four-week performance analysis for facility

Energy Management System Home Page
- Facility geographical distribution map and operation status by color
- Current status overview of specific facility building

Building Energy KPI

Building Real-time Energy Peak (Unit:KW)

Building	Actual	Target
AKMC	▼ 2383	2400
Donghu	▼ 963	1000
Neihu HQ	▲ 867	800
Linkou-M	▲ 673	650
Linkou-E	▼ 503	600

Energy Index by Production

Factory	Elec.(kW·h)	Work Hours(Hr)
CTOS Factory (Kunshan)	▼ 2285	800
CTOS Factory (Linkou-M)	▼ 987	700
Kunshan Factory	▲ 852	1000
Linkou-M Factory	▲ 679	300
Donghu Factory	▼ 553	1000

Energy Index by Organization (Unit:kW·h)

Building	This Month	Same Time Last Year
Linkou SMT-A	▼ 2389	2400
Linkou SMT-B	▼ 993	1000
Linkou SMT-C	▼ 1389	800
Linkou SMT-D	▼ 893	650
Linkou SMT-E	▼ 803	600

Green Energy Generation (Unit:KW)

Building	This Month	Same Time Last Year
AKMC	▼ 2383	2400
Linkou	▼ 963	1000
Linkou SMT-A	▲ 867	800
Linkou SMT-B	▲ 673	650

Linkou Campus 1F power consumption exceeds 2 standard deviations of last 4 weeks average.

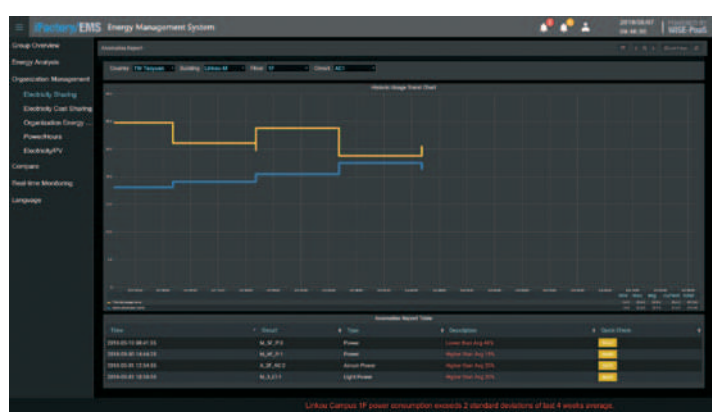**2 Interactive Dashboard for Energy Management System Solution**

- Main menu for quick search

3 Energy Consumption Analysis

- Seven-days comparison analysis
- Energy usage by equipment
- Actual energy usage vs. target usage
- Power consumption contribution by equipment

4 Group Overview with Key Performance Scorecard

- Comparison of peak energy usage in facility
- Ranking of energy consumption for individual equipment item
- Organizational amortization
- Performance index for energy generation
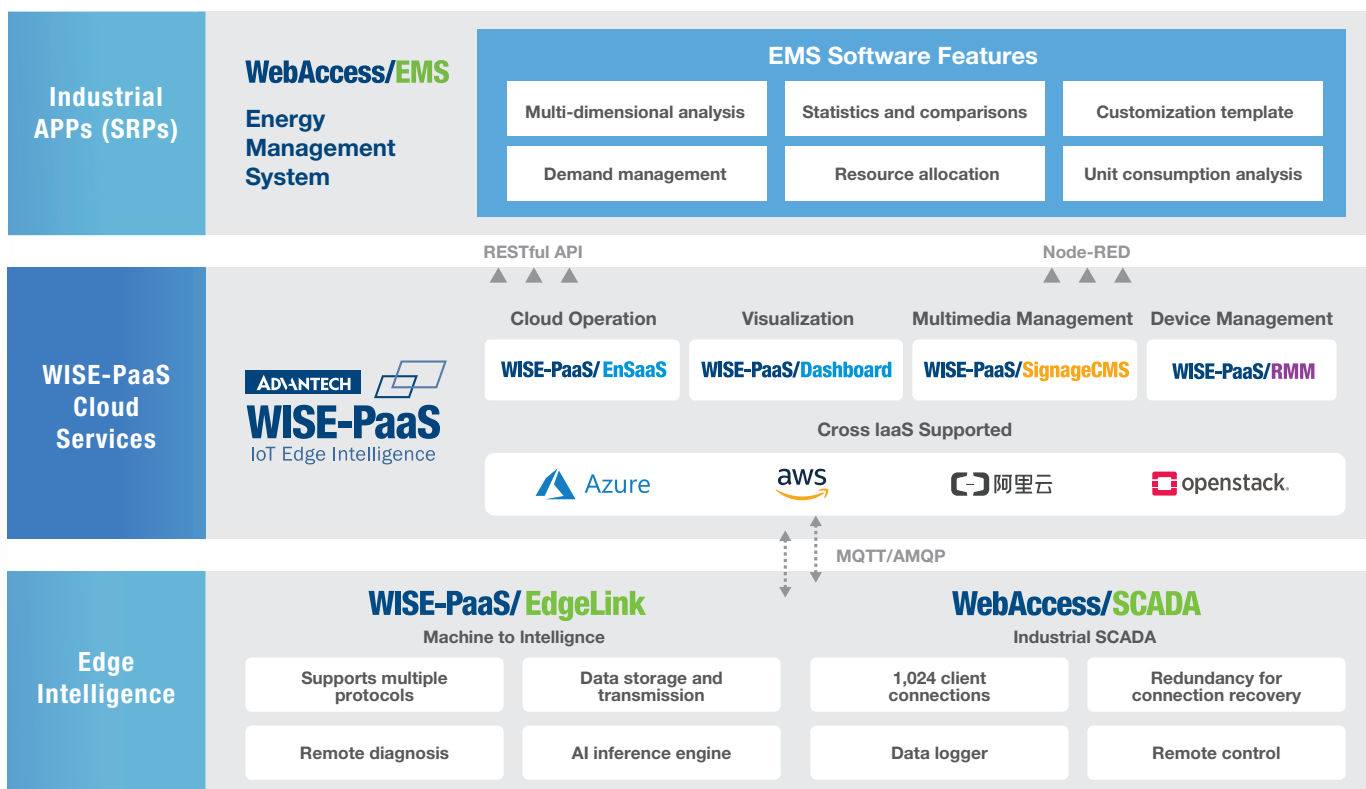

Abnormal Report and Analysis

- Trend chart of historic energy usage
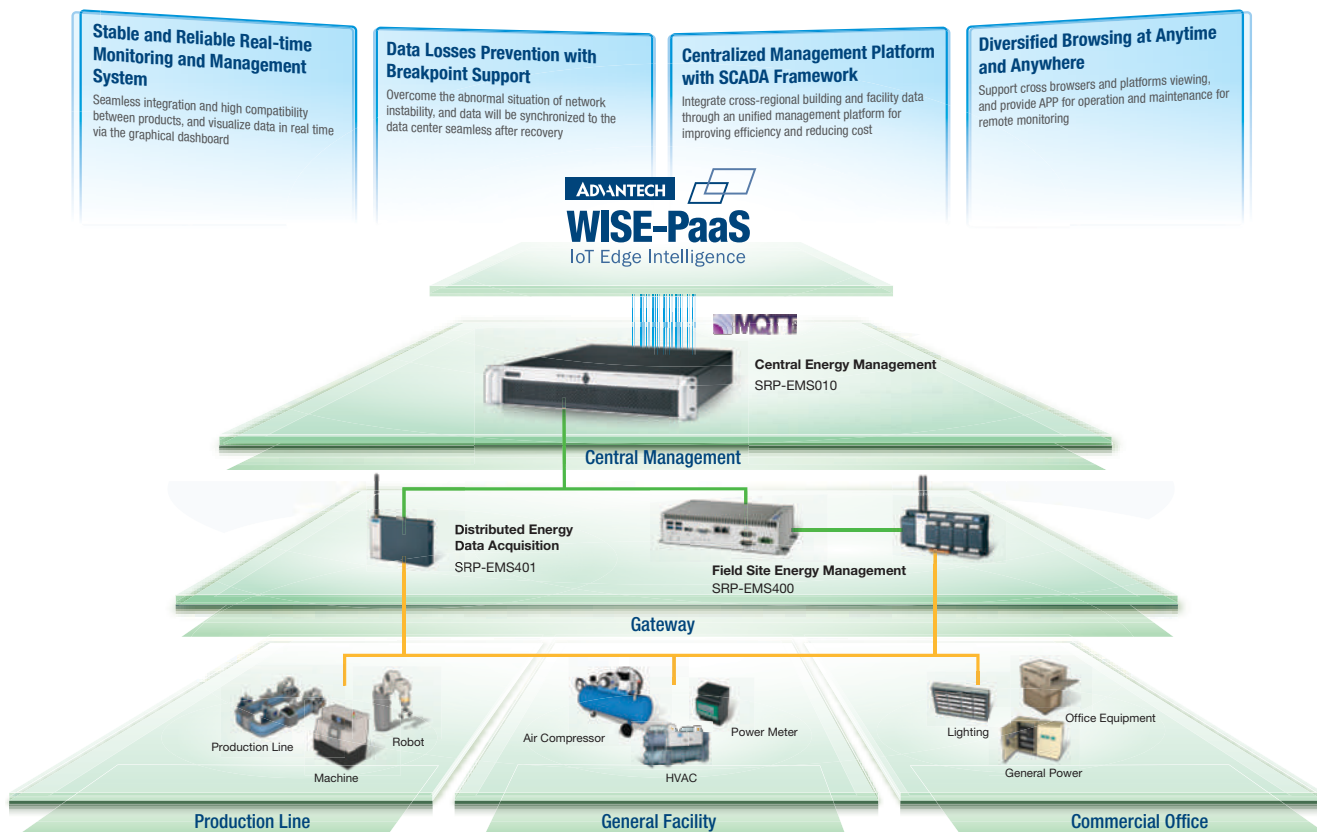- "Quick Click" to check abnormality from historical trend

Energy Consumption by Organization

- Comparison chart by timeline and facility equipment
- Bill and cost comparison vs. previous year
- Specific circuit information and status

Software Diagram

Industrial APPs (SRPs)	WebAccess/EMS Energy Management System	EMS Software Features		
		Multi-dimensional analysis	Statistics and comparisons	Customization template
		Demand management	Resource allocation	Unit consumption analysis

RESTful API ▲ ▲ ▲   Node-RED ▲ ▲ ▲

WISE-PaaS Cloud Services	ADVANTECH WISE-PaaS IoT Edge Intelligence	Cloud Operation	Visualization	Multimedia Management	Device Management
		WISE-PaaS/EnSaaS	WISE-PaaS/Dashboard	WISE-PaaS/SignageCMS	WISE-PaaS/RMM
		Cross IaaS Supported			
		Azure	aws	阿里云	openstack.

MQTT/AMQP

Edge Intelligence	WISE-PaaS/EdgeLink Machine to Intellignce		WebAccess/SCADA Industrial SCADA	
	Supports multiple protocols	Data storage and transmission	1,024 client connections	Redundancy for connection recovery
	Remote diagnosis	AI inference engine	Data logger	Remote control

System Diagram

Stable and Reliable Real-time Monitoring and Management System
Seamless integration and high compatibility between products, and visualize data in real time via the graphical dashboard

Data Losses Prevention with Breakpoint Support
Overcome the abnormal situation of network instability, and data will be synchronized to the data center seamless after recovery

Centralized Management Platform with SCADA Framework
Integrate cross-regional building and facility data through an unified management platform for improving efficiency and reducing cost

Diversified Browsing at Anytime and Anywhere
Support cross browsers and platforms viewing, and provide APP for operation and maintenance for remote monitoring

ADVANTECH WISE-PaaS IoT Edge Intelligence

MQTT

Central Energy Management SRP-EMS010

Central Management

Distributed Energy Data Acquisition SRP-EMS401

Field Site Energy Management SRP-EMS400

Gateway

Production Line   Robot   Machine

Air Compressor   Power Meter   HVAC

Lighting   Office Equipment   General Power

Production Line   **General Facility**   **Commercial Office**

Feature Highlights

Identify Energy Wastage and Reduce Business Energy Costs

Built-in analytic algorithms identify energy wastage and prioritize consumption management interventions to maximize cost savings.

Streamline Management and Maintenance for Long-Term Operation

The solution settings can be easily adjusted and the functions expanded without additional programming, thus streamlining management and extending the product lifecycle.

Visualize Data Using Graphical Indicators for Enhanced Insights

The user-friendly browser-based graphics dashboard allows users to visualize data and easily generate analysis reports.

Application Stories

Medium-Sized Factory Adopts Advantech Solution for Seamless EMS Implementation

- Quick implementation without the trouble of developing their own software
- Effective monitoring of energy usage through a unified management platform
- Easy future system expansion

Enterprise Corporate Taps Big Data for Sizable Energy Saving

- Upgraded industrial facilities and machinery to achieve energy-efficiency
- Saved up to 1% on electricity after adoption
- Lean management with organizational energy expense based on real usage instead of equally shared usage

Stable and Reliable EMS Solution for Hospital Industry

- Monitoring of crucial equipment's condition to reduce response times in the event of an abnormality
- Supports cross-browser and cross-platform viewing, powered by WebAccess dashboard
- Highly reliable solution that fulfils industrial and power industry requirements, ensuring long-term stable operation

Public Facility Enables Industry 4.0 with Advantech's Integrated EMS Solution

- Integrated cross-regional building and facility energy consumption data for improving management
- Advantech WebAccess supports animated graphics and real-time data control for efficient analysis
- Precise quantification of public facility expenses

Ordering Information

Solution Package

WISE-PaaS Situation Room SRP-SR-100-BTO	LCD Wall: 1 x 86" + 2 x 55" Server and Display: 1 x DS-980 Control Panel: 1 x UTC-520 1 x WISE-PaaS/SignageCMS	
WISE-PaaS VIP Membership 98DPWAP2K	WISE Point: 2,000 points	

SRP-EMS010 Energy Management System	HPC-7242 x1 Windows Server 2016 R2 WebAccess/EMS	
SRP-EMS400 Energy Situation Room	UNO-2483G x1 ECU-1251 x1 Windows 7 Embedded Pro WebAccess/EMS	
SRP-EMS401 On-Site Energy Data Acquisition	ECU-1152 x 1 WISE-M502 x 3 WISE-PaaS/EdgeLink	

Optional Purchase

IoT.SENSE Training	Basic Training Advanced Training	2 days 1 day
IoT.SENSE Consulting	IoT Solution and On-Site Technical Support	3 days

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