# iEMS

# Intelligent Energy Management Solutions

## AI Transformation: Smart Low-Carbon Transition



**ADVANTECH**

*Enabling an Intelligent Planet*

Explore iEMS Suite

**ADVANTECH**
**WISE-IoT**

# Intelligent Energy Management Solutions

Advantech's iEMS Suite technology is a cutting-edge solution for corporations striving towards carbon neutrality. This smart energy system aligns with ISO 14064/ISO 14067 and ISO 50001 standards, focusing on carbon asset and energy management. It addresses the pressing need to reduce greenhouse gas emissions, enhancing HVAC, compressed air, and motor efficiency. Ideal for businesses committed to sustainability, iEMS Suite is your partner in achieving environmental goals and contributing to a healthier planet.

## 1 One-Stop Smart Energy Management Anchored on Low Carbon

iEMS Suite offers an end-to-cloud holistic framework, emphasizing carbon emission control, enterprise energy oversight, and key equipment energy optimization.

## 2 ISO-Compliant Energy & Carbon Stewardship

Aligning with standards like ISO50001, ISO14064, and ISO14067, our system prioritizes precise data acquisition, smart intervention, and comprehensive analytics.

## 3 Streamlined, User-Centric Solutions

Our platform boasts a web-based, drag-and-drop interface, supplemented with adaptable templates. This ensures not only easy replication but also facilitates seamless user adoption and engagement.

## 4 Real-Time Energy & Carbon Metrics Visualization

Harnessing cloud-based intelligence, our visual dashboards equip businesses with instant insights into energy and carbon metrics. This allows executives to craft timely, initiative-aligned decisions that foster operational cost efficiency.

# Focused Industries

### Traditional Manufacturing

Provide comprehensive energy management services for smart manufacturing plant management.

**Focused Industry:**
Chemical, Petro Chemical, Steel, Textile

### Hi-Tech Industry

Provide high-tech factory management and large-scale park energy management services

**Focused Industry:**
Electronic,Electrical Machinery, Semi Conductor

### Retail & Chain Stores

Provide comprehensive energy management services for the retail and chain store sectors.

**Focused Industry:**
Retail, Shopping Centers, Parks
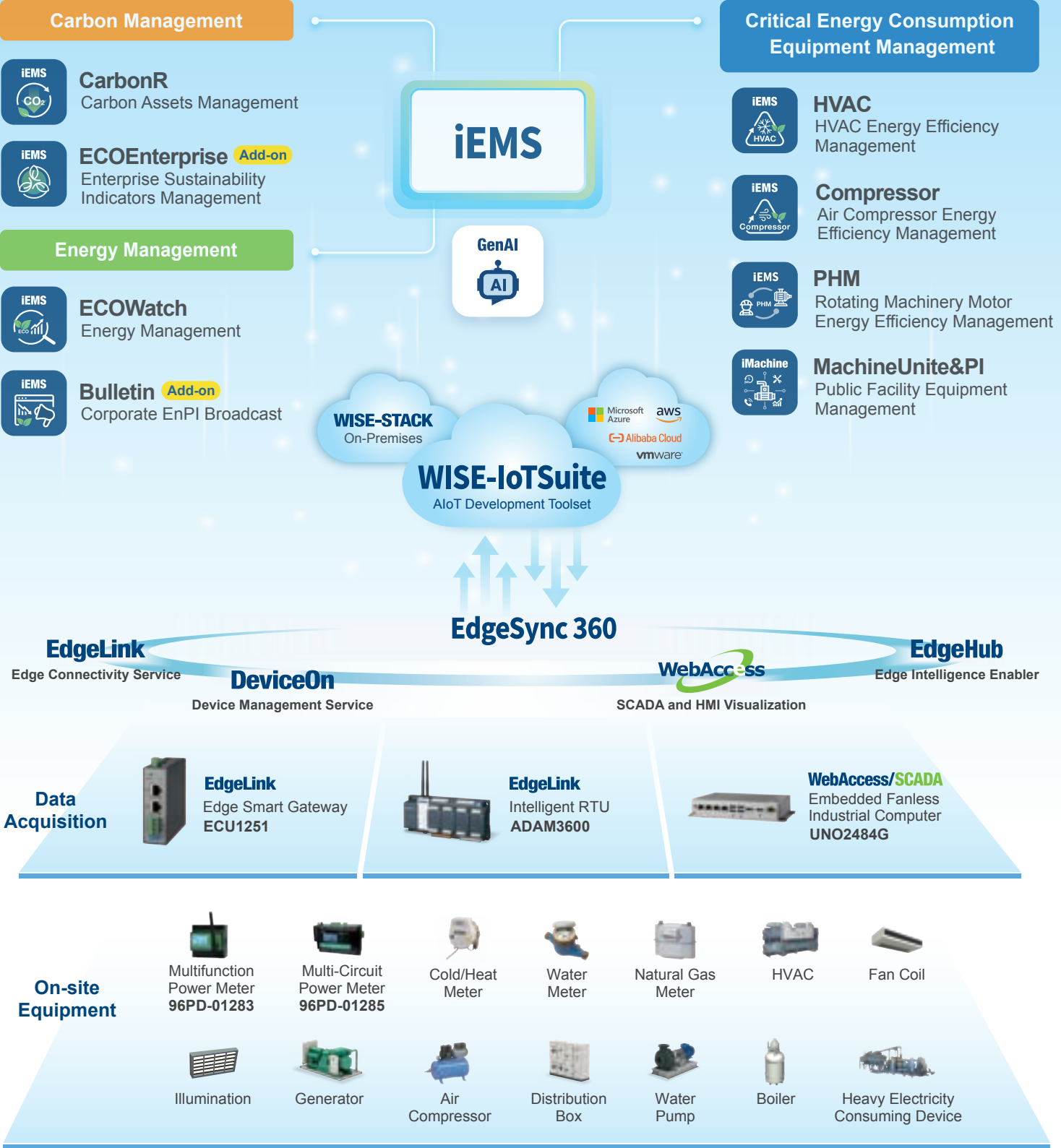
### Hotel, Finance & Hospital

Offer tailor-made comprehensive energy management services for various service industries.

**Focused Industry:**
Finance, Hotels, Healthcare Facilities

# ADVANTECH
# WISE-IoT iEMS Suite

**Vertical Market**

Traditional Manufacturing

High-tech Manufacturing

Retail & Chain Stores

Hotel, Finance & Hospital

## iEMS

**GenAI** — AI

### Carbon Management

**CarbonR**
Carbon Assets Management

**ECOEnterprise** Add-on
Enterprise Sustainability Indicators Management

### Energy Management

**ECOWatch**
Energy Management

**Bulletin** Add-on
Corporate EnPI Broadcast

### Critical Energy Consumption Equipment Management

**HVAC**
HVAC Energy Efficiency Management

**Compressor**
Air Compressor Energy Efficiency Management

**PHM**
Rotating Machinery Motor Energy Efficiency Management

**MachineUnite&PI**
Public Facility Equipment Management

**WISE-STACK**
On-Premises

Microsoft Azure  aws
Alibaba Cloud
vmware

**WISE-IoTSuite**
AIoT Development Toolset

## EdgeSync 360

**EdgeLink**
Edge Connectivity Service

**DeviceOn**
Device Management Service

**WebAccess**
SCADA and HMI Visualization

**EdgeHub**
Edge Intelligence Enabler

### Data Acquisition

**EdgeLink**
Edge Smart Gateway
**ECU1251**

**EdgeLink**
Intelligent RTU
**ADAM3600**

**WebAccess/SCADA**
Embedded Fanless Industrial Computer
**UNO2484G**

### On-site Equipment

Multifunction Power Meter **96PD-01283**

Multi-Circuit Power Meter **96PD-01285**

Cold/Heat Meter

Water Meter

Natural Gas Meter

HVAC

Fan Coil

Illumination

Generator

Air Compressor

Distribution Box

Water Pump

Boiler

Heavy Electricity Consuming Device

# Industrial Apps

## Carbon Management

### iEMS — CarbonR

Analyze enterprise carbon emissions and product carbon footprint with digital carbon inventory system. Ensure ISO 14064 / 14067 compliance.
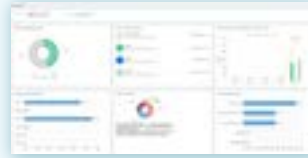


### iEMS — ECOEnterprise   `Add-on`

A CarbonR add-on module designed to assess the sustainability KPIs of global enterprises, covering energy performance, SBTi, RE100 progress, and energy-saving outcomes.



## Energy Management

### iEMS — ECOWatch

Track energy and renewable energy performance KPIs. Conduct multi-dimensional analysis of energy data for cost reduction. Manage energy conservation projects. Ensure ISO 50001 compliance.



### iEMS — Bulletin   `Add-on`

An add-on module of ECOWatch for public audiences to quickly understand corporate energy performance.



## Critical Energy Consumption Equipment Management

### iEMS — HVAC

Monitor HVAC system & AI control to achieve management efficiency improvement and overall energy cost reduction.



### iEMS — Compressor

Optimize management efficiency and reduce energy costs across the entire compressed air system by combining centralized control, information processing, energy-saving control, and predictive maintenance.



### iEMS — PHM

Identify abnormalities or deterioration, understand equipment status, enhance management and maintenance efficiency, extend equipment lifespan, and reduce life cycle operating costs of motor equipment.
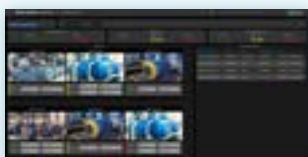


### iMachine — MachineUnite & PI

Connect all public facility equipment, including chillers, compressors, boilers, heat pumps, generators, etc., onto a single platform to manage their entire lifecycle. Automate repair and maintenance assignments to enhance availability, minimize downtime, and mitigate risks.
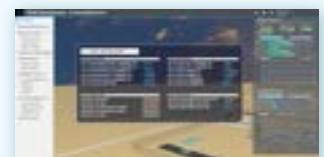
# Success Cases

### Vishay Leverages Advantech's iEMS Suite for Energy Management Solutions across Asia-Pacific

*"For a semiconductor factory that operates 24/7 all year round, the key to minimizing energy waste and carbon emissions while lowering production costs lies in tracking energy consumption and promptly identifying anomalies."*

Hai Tsai,
Asia-Pacific's Senior Director of Vishay Group

**Semiconductor Industry**

**Case Benefits**
- Improved equipment efficiency and resource utilization.
- Reduced production costs and human resources.
- Decreased equipment maintenance costs and equipment failure rates.

### Advantech's iEMS Suite Optimizes Mennonite Christian Hospital Management

*"Dispersed across a large area, Mennonite Hospital's campuses need a unified platform to transmit operational data for AI-assisted decision-making. This includes monitoring earthquake status and other vital corporate operations. Advantech, our chosen partner, is selected for being top in the field."*

Lin Wen –Hsiu,
Director of Engineering Management Department

**Hospital Industry**

**Case Benefits**
- Enables accurate planning and utilization of the solar power system.
- Reduces carbon emissions and electricity costs.
- Realizes the goals of energy conservation and consumption reduction.

### Advantech's iEMS Suite Assists Chuan Kai Electric to Move Toward Smart Energy

*"Advantech shows its commitment to reducing industrial carbon emissions by offering the latest and most practical solutions and products."*

Shi-Xu Liu,
President of the Smart Energy Research Institute of Chuan Kai Electric

**Electric Power Distribution Industry**

**Case Benefits**
- Enables accurate planning and utilization of the solar power system.
- Reduces carbon emissions and electricity costs.
- Realizes the goals of energy conservation and consumption reduction.

### Advantech's iEMS Suite Facilitates Energy Conservation and Carbon Reduction Goals for YC Group

*"Implementing an energy management system not only enhances the benefits of energy conservation and carbon reduction but also optimizes the operational costs and increases YC Group's competitiveness in the global market."*

Bai-Xiang Cheng,
General Coordinator of YC Group

**Semiconductor Industry**

**Case Benefits**
- Centralized management of energy status across various plants.
- Optimization of the group's operational costs.
- Achieving the company's mission of promoting environmental sustainability.

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# iEMS GenAI AI — Generative AI for Smart Low-Carbon Transformation

- Knowledge management involving documents and data.
- Retrieve information through a user-friendly interface.
- Efficiently organize the unstructured data.
- Understandable domain knowledge delivery.
- Improved data interpretation reliability.
- Organize information with flexibility and efficiency.

**Energy-Saving Strategy Knowledge Base**
- iEMS energy data integration
- Merge energy-saving specialists' knowhow
- Include practical problem-solving experience

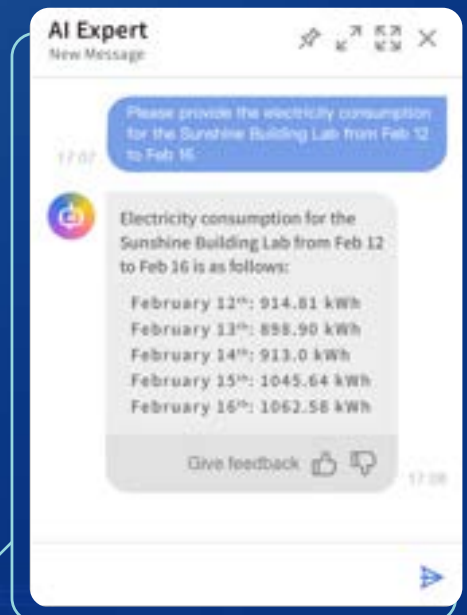**Equipment Management Knowledge Base**
- HVAC data integration
- Merge machine experts' knowhow
- Include practical problem-solving experience

**System Support Knowledge Base**
- Multilingual System Support

**AI Expert Interface Display:**

**AI Expert**
New Message

*Please provide the electricity consumption for the Sunshine Building Lab from Feb 12 to Feb 16*

Electricity consumption for the Sunshine Building Lab from Feb 12 to Feb 16 is as follows:

February 12th: 914.81 kWh
February 13th: 898.90 kWh
February 14th: 913.0 kWh
February 15th: 1045.64 kWh
February 16th: 1062.58 kWh

Give feedback

# Subscription Information

## iEMS Suite

**iEMS CarbonR**
Carbon Assets Management

**iEMS ECOEnterprise** `Add-on`
Enterprise Sustainability
Indicators Management

**iEMS ECOWatch**
Energy Management

**iEMS Bulletin** `Add-on`
Corporate EnPI Broadcast

**iEMS HVAC**
HVAC Energy Efficiency
Management

**iEMS Compressor**
Air Compressor Energy
Efficiency Management

**iEMS PHM**
Rotating Machinery Motor
Energy Efficiency Management

**iMachine MachineUnite&PI**
Public Facility Equipment
Management

## Available Configurations

| | | |
|---|---|---|
| **Edge Smart Collection Channel** | ESRP-IEMS-ECU1051<br>ECU-1051, WISE-EdgeLink, VPN | **EdgeSync 360**<br>**WISE-EdgeLink**<br>**WISE-InsightAPM/VPN** |
| | ESRP-IEMS-ECU1251<br>ECU-1251, WISE-EdgeLink, VPN | **EdgeSync 360**<br>**WISE-EdgeLink**<br>**WISE-InsightAPM/VPN** |
| **Intelligent RTU** | SRP-IFS210-D36TAE<br>ADAM-3600, Linux Kernal 3.12 RT, WISE-EdgeLink | **EdgeSync 360**<br>**WISE-EdgeLink** |
| **Edge Smart Server** | WA-SU2483G-750HA01<br>UNO-2483G, Microsoft Windows 10 Pro 64-bit<br>WebAccess/SCADA 5000 tags | **WebAccess/SCADA** |