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Edge Software & Industry Solutions

- ☞ 1-2 EdgeSync 360
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ADVANTECH
WISE-IoT

ADVANTECH
XNavi

EdgeSync 360

EdgeSync 360

Introduction

As the world is witnessing an incredible surge in the number of connected edge devices - estimated to reach 30 billion worldwide and counting. But at the same time, a crucial question arises: How can we unlock the full potential of these edge devices and harness their data integrity?

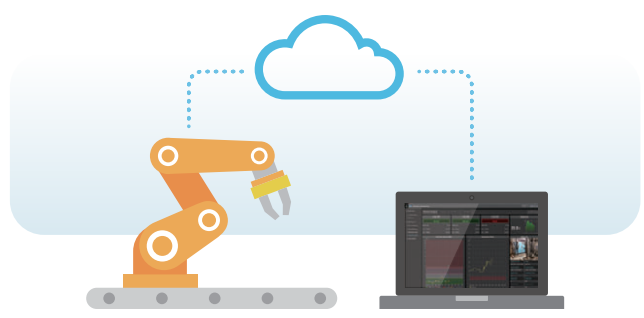
Introducing EdgeSync 360, an advanced Edge-as-a-Service solution for IoT device and data orchestration. It's a suite of software products, featuring EdgeLink, DeviceOn, WebAccess, and EdgeHub, is engineered to transform how industries manage their edge devices and data. Leveraging the power of the software, EdgeSync 360 boasts features that empower seamless device communication through edge-to-cloud connectivity. It enables real-time monitoring of devices, providing remote control capabilities from any location, a critical aspect in mitigating losses and preventing damage. The solution also provides advanced data visualization features for comprehensive views of asset statuses, enabling proactive maintenance.

Why EdgeSync 360



Seamless IoT Integration

Embrace unparalleled edge-to-cloud connectivity capabilities with EdgeSync 360, ensuring seamless IoT integration and communication.



Remote Monitoring and Control

Gain the power to monitor and control devices in real-time, a crucial aspect for system integrators aimed at minimizing downtime and enhancing efficiency.



Advanced Visualization for Proactive Management

Stay ahead with our data visualization tools, providing real-time insights for proactive device management and maintenance.



Enhanced IoT Security

Benefit from EdgeSync 360's advanced IoT security functions, safeguarding data integrity and transforming how data is secured in industrial environments.

Core Components of EdgeSync 360 - A Suite of IoT Excellence



EdgeHub

Cloud Service for Device and Data Management

- Instant device onboarding facilitated by a unified edge agent
- Secured architecture supporting multiple tenants on SaaS
- Remote monitoring and control of devices
- OTA updates for firmware & applications
- Data aggregation via customizable web dashboards or APIs



**EdgeHub
Information**



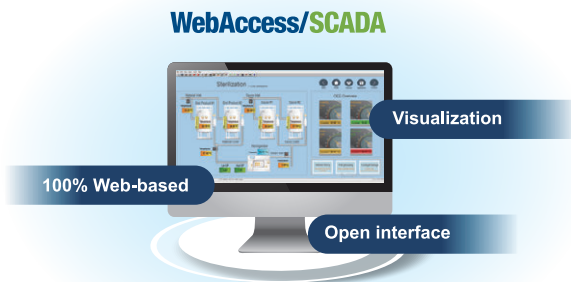
DeviceOn

AI Orchestration in Private and Public Cloud

- Hosted by user in on-prem environment, AWS, or Azure
- Manages over 10,000 AIoT edge devices
- Out-of-band mgmt. via IPMI/iAMT/iBMC/EdgeBMC
- Supports x86/RISC/NVIDIA Jetson
- Supports Windows/Linux/Android



**DeviceOn
Information**



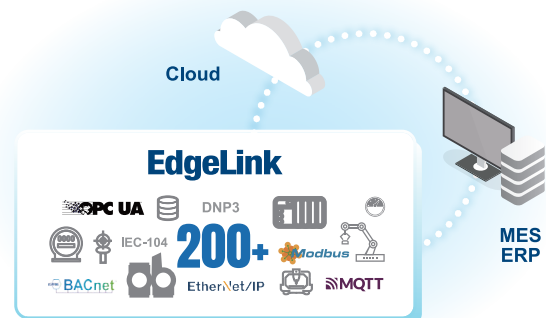
WebAccess

SCADA for Real-time Operation

- Millisecond-level data acquisition
- 2D and 3D visualization
- Data reporting and analysis
- Redundant SCADA architecture for system backup
- Data integration with third-party systems and services



**WebAccess
Information**



EdgeLink

IoT Gateway Software for Multi-Protocol Conversion

- Connections with over 200 PLC and I/O modules
- Event management and easy logic programming tools for preprocessing collected data
- Data publishing through multiple protocols
- Optimal choice for IEC 61850, OCPP, and DLMS applications



**EdgeLink
Information**

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Edge Software & Industry Solutions

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Intelligent HMI & Monitors

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Automation Computers

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Intelligent Systems

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Mission Critical CompactPCI Platforms

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Intelligent Transportation & Substation Certified Systems

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Industrial Server & Cloud Solutions

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AI & Advanced Computer Vision

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Video Infrastructure Solutions

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Network & Security Solutions

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Industrial Communication

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Industrial Gateways

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EtherCAT Solutions & Automation Controllers

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Intelligent Motion Control Solutions

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Data Acquisition (DAQ) Solutions

16

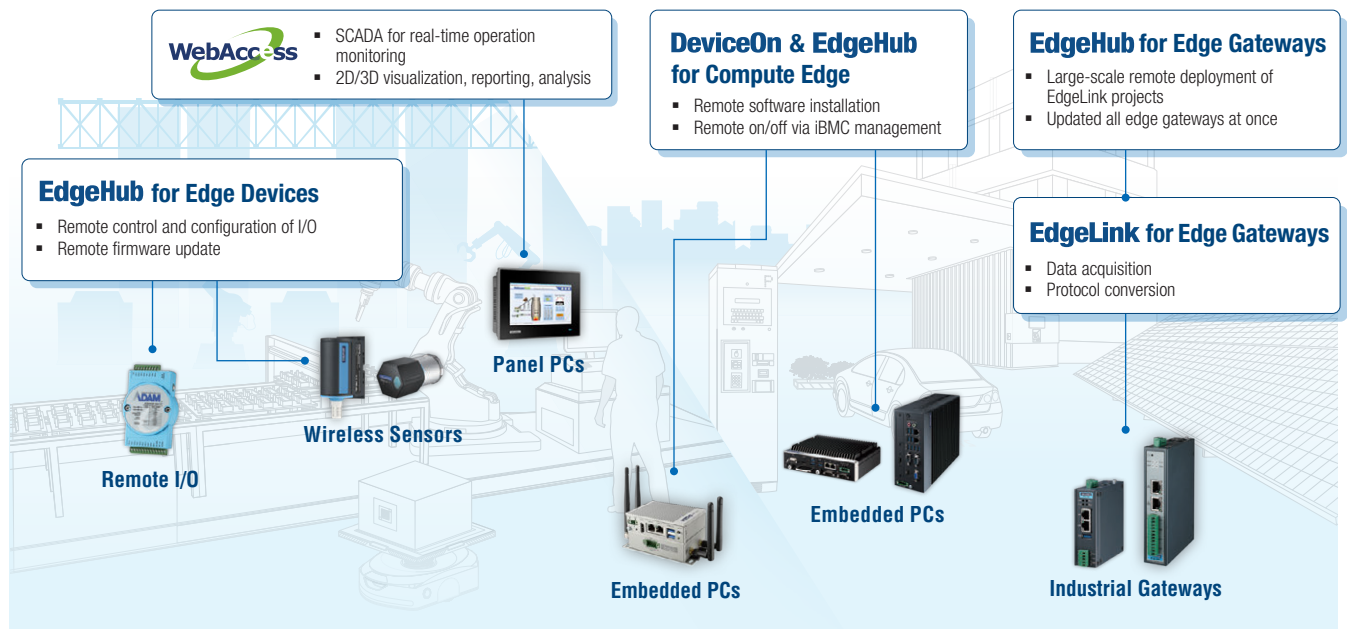
Remote I/O, Wireless I/O & Sensors

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Serial/USB Communications

Comprehensive Edge Solution

Advantech's integration of hardware with sophisticated edge software creates a powerful solution for remote management across various industrial domains. This fusion not only captures and virtualizes edge data but also renders it in a form that's instantly actionable, ensuring devices and peripherals are within reach from any location. The real-time monitoring capability it provides is not just about observation; it's about enabling prompt action and decision-making in the dynamic world of industrial operations.



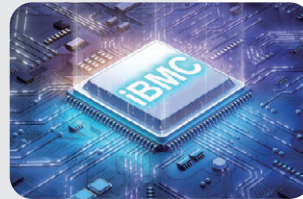
Target Applications

EdgeHub Enables IoT Integration for Solar Energy Management Systems



- Centralized solar plant management
- Instant power generation overview
- Data integration with third-party systems

DeviceOn Integrated with iBMC Technology for Comprehensive Out-of-Band Management



- Remote out-of-band power management
- Easy system upgrades
- Compatible with a wide range of Advantech IPCs

WebAccess Monitors Real-Time Data for Smart Factory Operations



- Real-time monitoring and control of factory operations
- Historical data logging for performance analysis

EdgeLink Empowers Building Energy Management to Achieve Energy Efficiency



- Facilitated data collection from various building systems
- Continuous operation of effective energy consumption

XNavi Software Series

Introduction

In the future, intelligent industrial automation will need to be real-time adaptable and agile, and edge solution ready packages are designed to meet this trend. Edge Solutions are software-hardware bundled products developed for use on the network edge, and are thus situated much closer to where the processing takes place. This helps manufacturers deal with issues cropping up in their systems as and when they occur without any lag in the time taken to act upon them. Edge solutions bridge the gap between the cloud and connected devices in the factory. These include specially written application-focused software such as DAQNav, MotionNavi, VisionNavi, and HMNavi, for use on the edge for data collection, motion control, vision inspection and process visualization. This brings processing, communication, and decision making, much closer to edge devices.

Integrated Software Development Suite



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Edge Software & Industry
Solutions

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Intelligent HMI & Monitors

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Platforms

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Intelligent Transportation &
Substation Certified Systems

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Industrial Server & Cloud
Solutions

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& Sensors

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Serial/USB Communications

Connecting Data, Motion, Vision and HMI from Edge-to-Cloud

DAQNavi

DAQNavi is a software package for programmers to develop their application programs using Advantech DAQ boards or devices. This integrated driver package includes device drivers SDK, tutorials, and utilities. With a user-friendly design, even beginners can quickly become familiar with how to utilize DAQ hardware and write programs through the intuitive "Advantech Navigator" utility environment. Featuring easy configuration and development support tools, the software can easily be deployed in Machine Condition Monitoring, Automated Testing Equipment and Machine Control scenarios. This makes it easier to realize an edge automated monitoring and control system.

MotionNavi

Advantech MotionNavi is a brand-new, comprehensive, and universal software suite designed for PC-based motion control boards and standalone motion controllers. MotionNavi Designer serves as an integrated development environment for programming motion control applications. Designer offers BASIC-like commands for multi-process programming inside a controller. The Simulation tool provides features for offline programming and preview, while the 3D path tool offers a display for visualizing XYZ positions over time intervals. The Oscilloscope is designed for capturing and recording motion velocity data at specific time intervals for analysis. MotionNavi API and Utility serve as a universal user interface for PC-based motion control. Advantech provides several APIs for programming in C/C++, Visual Studio/Net, Python, and other languages.

VisionNavi

Advantech VisionNavi is a programmable machine vision software that facilitates development of menu-driven user interface and helps deploy multiple tasks. It supports a wide range of Advantech industrial PCs and cameras, provides easy system installation and project development while reducing maintenance costs. It is suitable for automated applications aimed at defect inspection and quality assurance which need different conditional branches, steps or loops to complete each task. Any programmer can easily configure each process and determine the next action depending on the results, while the results can be inherited to the next step and become the reference or parameters for that process.

HMINavi

HMINavi Designer is a powerful and intuitive software program for creating comprehensive human machine interface solutions. HMINavi Designer is an easily integrated development tool with proven value in many application fields. The features include solution-oriented screen objects, high-end vector graphics, Windows fonts for multi-language applications, receipts, alarm functions, as well as data and operation logging capabilities. HMINavi Designer also supports utility programs such as Data Transfer Helper (DTH), recipe editor, and text editor. The HMINavi Designer software is free download for usage, user can directly download before purchase. With online/offline simulation user can directly connect to PLC controller to ensure solid connection and screen design without any issue.

HMINavi Runtime, a component of HMINavi, guarantees the reliability and performance of Open Platform because of the minimum system overhead, high data communication rates, sub-second screen switching, and 24/7 operation. Additionally, Advantech's fast response software team is continually adding new functions, communication drivers, and solutions to the software to meet dynamic needs.

iEMS Suite: Intelligent Energy Management Solution

Advantech's WISE-IoT 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 by leveraging GenAI. Ideal for businesses committed to sustainability, iEMS Suite is your partner in achieving environmental goals and contributing to a healthier planet.

HQ ESG Department



Carbon
Carbon Management



ECOEnterprise
Sustainability Management

Add-on

HQ Office Building



ECOWatch
Energy Management



Bulletin
Corporate EnPI Broadcast

Add-on

Product Solutions

Management Level - Carbon & Energy Management

Carbon Management



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

Sustainability Management



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



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.

Corporate EnPI Broadcast



Add-on

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

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Product Solutions

Operational Level – Equipment Management/Maintenance/Energy Saving

HVAC Equipment Energy Efficiency



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

Compressor Equipment Energy Efficiency



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.

Rolling Pumps Equipment Management



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

Public Facility Equipment Management



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.

iFactory Suite

Enhance Operational Excellence - Elevate Maintenance, Energy Sustainability, Smart AI, and Proactive Insights

iFactory digital solutions transform manufacturing by using a low-code/no-code IoT cloud platform, enhancing equipment effectiveness (FactoryOEE) and ensuring environmental, health, and safety excellence (EHS) for streamlined operations. iFactory facilitates data-driven decisions, fostering increased productivity through agile manufacturing and cross-domain solution integration (I.Apps).

- Rapidly resolve anomaly events
- Control energy consumption
- Augment employee capabilities
- Reduce production time wastage
- Increase production capacity and quality



Service Introduction



FactoryOEE

Effective Total Production Maintenance

FactoryOEE monitors the real-time status of equipment through data capture and dashboards to present only the most important information.

- The digitalization service, integrated with OpenAI, optimizes OEE, yield, performance, quality, and reduces carbon emissions and power consumption.
- Including industrial apps: OEE Pro, Andon, Maintenance, SPC, etc.



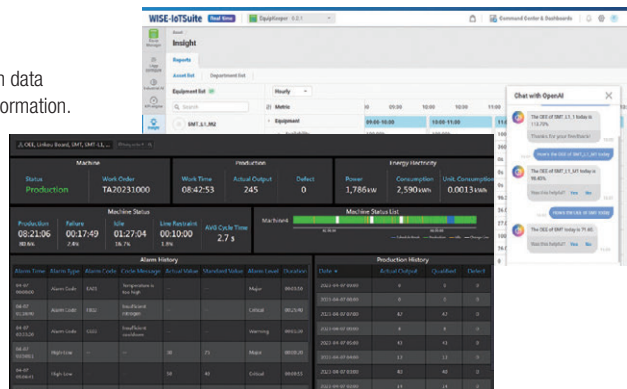
Control Energy Consumption



Boost Productivity



Reduce Ineffective Production



EHS

Energy Sustainability & Work Safety

EHS continuously optimizes energy consumption, achieves optimal energy usage efficiency, and enables people to understand power consumption more deeply.

- Comprehensive system that prioritizes workplace safety, environmental sustainability, and employee well-being.
- Including industrial apps: FMS, Maintenance, Patrol Inspection, etc.



Control Energy KPI Controls



Monitor Critical Power Consumption Utility



Manage Workspace Environment



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System Diagram & Recommend Solutions

Cloud Solution

FactoryOEE & EHS with IoTsuite RTM

9804INWRK00

- Includes 1 license of FactoryOEE & EHS for yearly subscription and renewal
- Includes 30 parameters for monitoring OT data (PLC, sensors, etc.)

Features & Benefits

- Cost-effective solution with low upfront investment.
- Scalability and flexibility with cloud-based infrastructure.
- Easy to deploy and manage remotely.

On-Premises Solution

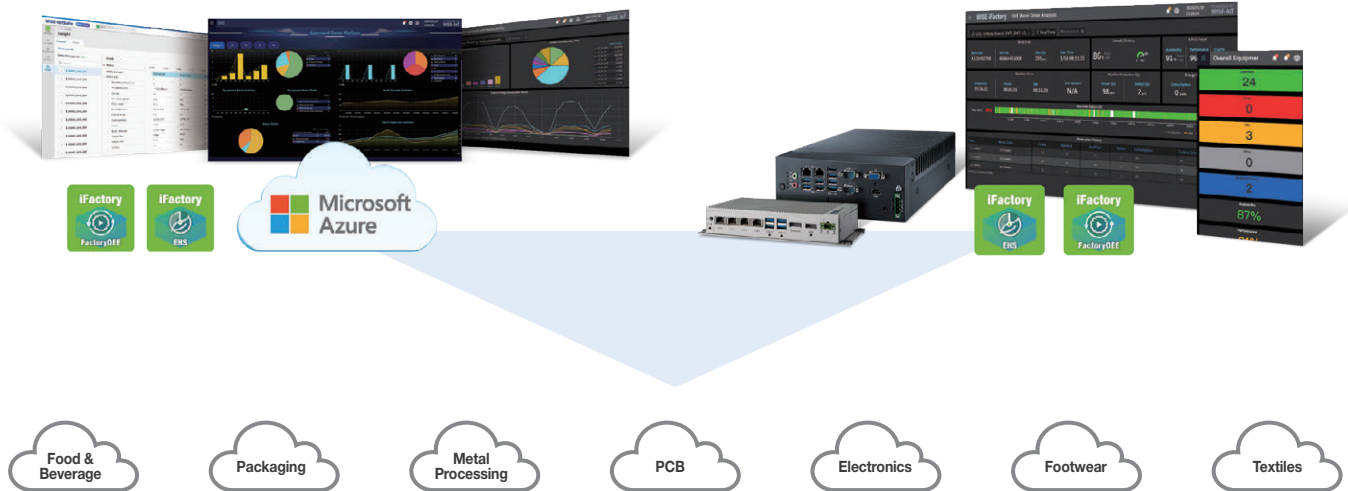
FactoryOEE & EHS with IoTsuite RTM

9804ENWRK00

- Works with any Advantech IPC hardware, perpetual license
- Min. requirements: Intel® Celeron® / 8GB RAM / Windows 10 or Linux
- Starting with 1 license for FactoryOEE & EHS and 30 parameters

Features & Benefits

- Robust real-time processing for instant decision-making.
- Enhanced data security within the local network.
- High reliability and stability for uninterrupted operation.



WISE-IoT/FactoryOEE & EHS

