ADVANTECH

WISE-PaaS

IoT Edge Intelligence

WebAccess/SCADA **WebAccess/HMI**

@newTECH

WISE-PaaS Premier Partner

IoT Application Software Framework
HMI Runtime Development Software
CNC Machine Monitoring Solution
Wireless IoT Device & I/O Module
Intelligent System & Platform

www.anewtech.net

WISE-PaaS Edge Intelligence Platform

In the era of IoT, billions of sensing devices are distributed in factories, power plants, water treatment plants, transportation, healthcare, and retail industries for environmental monitoring, surveillance and more. Big data analysis improves accuracy, efficiency, and productivity. Intelligence is ubiquitous and inevitable. WISE-PaaS edge intelligence platform provides total solutions to system integrators and manufacturers, enabling real IoT powered business models in various vertical markets.

ADVANTECH
WISE-PaaS
IoT Edge Intelligence

WISE-PaaS/EnSaaS

Platform for IoT Cloud Services

WISE-PaaS/AFS **WISE-PaaS/SaaS Composer** **WISE-PaaS/Dashboard**

WISE-PaaS/EnSaaS is a cloud-based software platform designed to empower cloud services. It provides a highly secure, multitenancy architecture with automatic expansion to create a highly robust data platform for domain-focused cloud services or customer's own cloud services.

WebAccess

Industrial SCADA

WebAccess/SCADA
IoT Application Software Framework

WebAccess/HMI
HMI Runtime Development

WebAccess/CNC
CNC Machine Monitoring

WebAccess/MCM
Machine Condition Monitoring

WebAccess/NMS
Network Management

WebAccess is the core of industrial IoT solutions for data acquisition, analysis, and visualization. WebAccess supports open APIs for secondary development and enterprise-level system integration.

WISE-PaaS/EdgeLink

Machine to Intelligence

Protocol Conversion

Sensor Management

Digital Twin

WISE-Paas EdgeLink is a data acquisition solutions are designed to simplify remote equipment monitoring.

These solutions can improve service quality by facilitating product care, enabling equipment operation monitoring, and allowing for efficiency and energy consumption analysis.

WISE-PaaS/VideoSense

Intelligent Video Management

WISE-PaaS/VideoCMS
Video Content Management

WISE-PaaS/SignageCMS
Signage Content Management

WISE-PaaS/HumanDetectAI

WISE-PaaS/VideoSense is a service platform that collects sensor data, performs video analytics, data visualization, and dispatches files through a central management system.

WISE-PaaS/EdgeSense

Device Management

WISE-PaaS/RMM
Remote Monitoring and Management

WISE-PaaS/Security
IoT Security Management Platform

WISE-PaaS/OTA
Over-the-Air Software Upgrade

WISE-PaaS/EdgeSense is a solution incorporates sensor data aggregation, edge analytics, cloud applications, and security management for real time device-to-cloud operational intelligence.

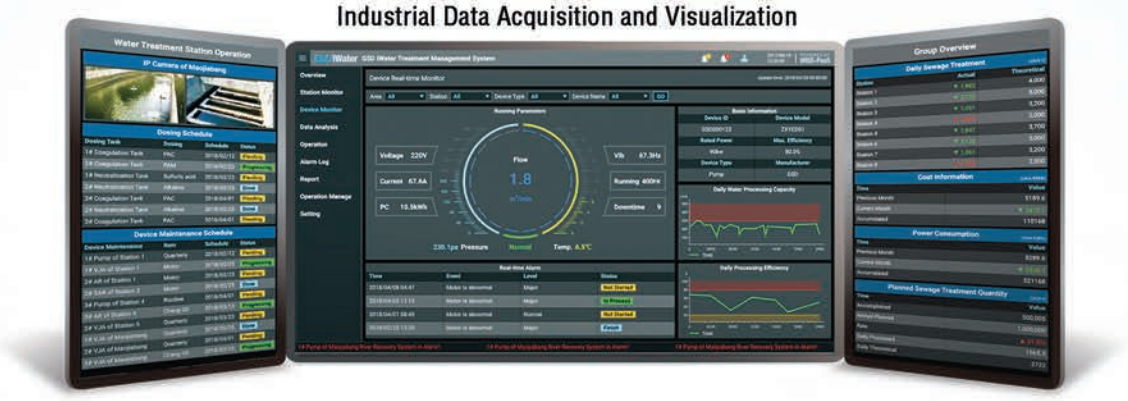
WISE-PaaS Edge Intelligence Platform

As one of the core IoT solutions, WebAccess offers not only HMI and SCADA software solution, but also an IoT software framework that serves as a software platform for IoT and cloud applications.

With WebAccess, a comprehensive browser-based IoT application software, users can easily monitor and manage projects via a web browser. For the IoT device layer, WebAccess supports multiple protocols and drivers for connecting up to 450 controllers and devices, making WebAccess a flexible and suitable software platform for all IIoT applications and projects. Additionally, WebAccess provides a foundation for IoT data collection and management with its open architecture and open interfaces, which facilitate the development of various vertical applications.

WebAccess

Industrial Data Acquisition and Visualization



WebAccess/SCADA Industrial IoT Application Software

- Enables 100% web-based remote engineering, monitoring, and control
- Driver support for major PLCs, PACs, I/O modules, CNCs, network switches, and computer platforms
- Redundant SCADA, ports, and devices for high availability
- HTML5-based dashboard for cross-browser, cross-platform data visualization
- Open interfaces for easy development and integration of 3rd party applications

PLC and PAC

WebAccess/HMI HMI Runtime Development Software

- Smart screen management
- Project-based management for multiple applications
- Software support for a diverse range of machines
- Provides efficient tools for easy customization
- Boosts performance with simulations
- Enhanced data security

Automation System

WebAccess/CNC CNC Machine Networking

- Automatically generates CNC projects for WebAccess/SCADA software
- Supports CNC machine and I/O device monitoring
- Supports leading CNC network controllers
- Provides CNC machining status and PLC register monitoring
- Provides CNC availability queries and NC file transfer functionality
- Supports all features and full functions of WebAccess/SCADA software

CNC Machine

WebAccess/MCM Machine Condition Monitoring Software

- Dynamic signal acquisition and analysis
- Real-time monitoring and alarm notification
- Provides feature extraction algorithms for data processing
- Remote management for distributed monitoring solutions
- Ensures easy setup without additional programming
- Integrated with WebAccess/SCADA

DAQ Card

WebAccess/NMS Network Management System

- Cross-browser compatible
- PoE, ring, wireless, cellular connection indication
- Automatically generated topology

Industrial Communication Device

WISE-PaaS/EdgeLink M2I Edge Engine

- Click-and-go cloud access deployment
- Protocol support for multiple PLCs
- IEC-61131-3 Soft Logic controller
- Optimized network connection with cyber security protection

MQTT

IoT Device

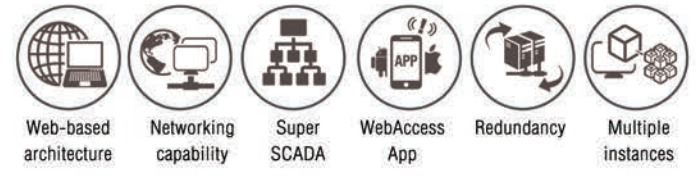
WebAccess/SCADA Industrial IoT Application Software Platform

WebAccess/SCADA is a 100% web-based SCADA software solution/IIoT platform with open interfaces for developing IoT applications aimed at various vertical markets. It also acts as a gateway for collecting data from ground equipment and transferring the data to cloud applications via MQTT publish/subscribe. In addition to traditional SCADA functions, WebAccess/SCADA features an HTML5-based intelligent dashboard that enables cross-platform, cross-browser data analysis.

The basic components of WebAccess/SCADA are as follows:

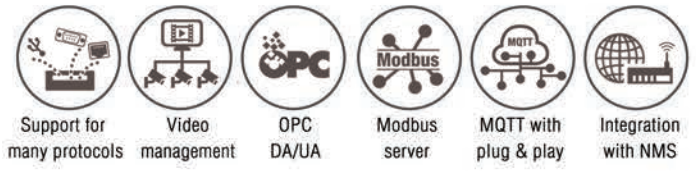
Project Node	This is the project development platform. It also acts as a web server for all clients to connect to development projects, thus facilitating remote monitoring and system control. All system configuration settings, project database files, and graphics are stored in this node.
SCADA Node	With various built-in device drivers, this node enables real-time communication with and control over automation equipment via serial, Ethernet, or proprietary communication protocols. It also provides real-time data access for all remote clients.
ViewDAQ Client	Through Microsoft Internet Explorer's ActiveX control, ViewDAQ Client monitors and controls the SCADA node. Clients must first connect to the project node to obtain the SCADA node address before they can communicate directly with the SCADA node. Data can be visualized in real time as dynamic graphics, presenting historical trends and alarm information for the user. ViewDAQ Client can be used to acknowledge alarms and adjust set-point data, status data, and other information.
Dashboard Client	This enables users to access the dashboard server via any browser on any platform (e.g., computer, pad, or smartphone) with iOS, Android, or Windows.
WebAccess APP	This provides a new interface for displaying usage information. Connecting to the WebAccess server enables users to perform remote monitoring of control points and alarms while visualizing trends and communication statuses via the dashboard. Additionally, it provides push notifications for mobile devices.

WebAccess/SCADA IoT Application Software Framework



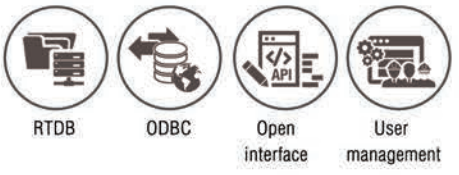
100% web-based system architecture

- Complete browser-based development environment
- Remote system evaluation, maintenance, and updates
- Supports up to 1,024 clients free of charge
- Real-time remote data synchronization, warning messages
- Display of real-time and historical data



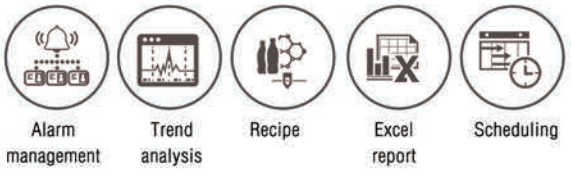
Industrial big data collection

- Supports 450+ devices including controllers and I/O modules as well as PLCs from major suppliers such as AB, Siemens, Mitsubishi,Omron, and Yokogawa
- Supports open and real-time data connections: OPC DA/UA, Modbus, BACnet,DNP3, Ethernet/IP, DDE Server, etc.



Multiple interfaces for information access

- Supports OPC DA/UA servers; acquired I/O data are passed to other system applications using the OPC protocol
- Can be used as a virtual Modbus slave; acquired data can be mapped to register locations on Modbus equipment
- Supports open API and web services (RESTful API/SignalR)



Wide selection of data analysis/processing tools

- System-level alert information management through SMS, email, or app notifications
- Excel reports with both images and text
- Integrated with Google Maps and Baidu Maps
- Utilizes ODBC for data storage using standard database systems

Cross-platform web drawing tools

- Cross-platform dashboard with 40+ built-in widgets
- Smartphones and tablets can be used for remote browsing
- WebAccess also comes with Widget Builder, a tool for creating customized widgets
- Perfectly integrated with Flash Video

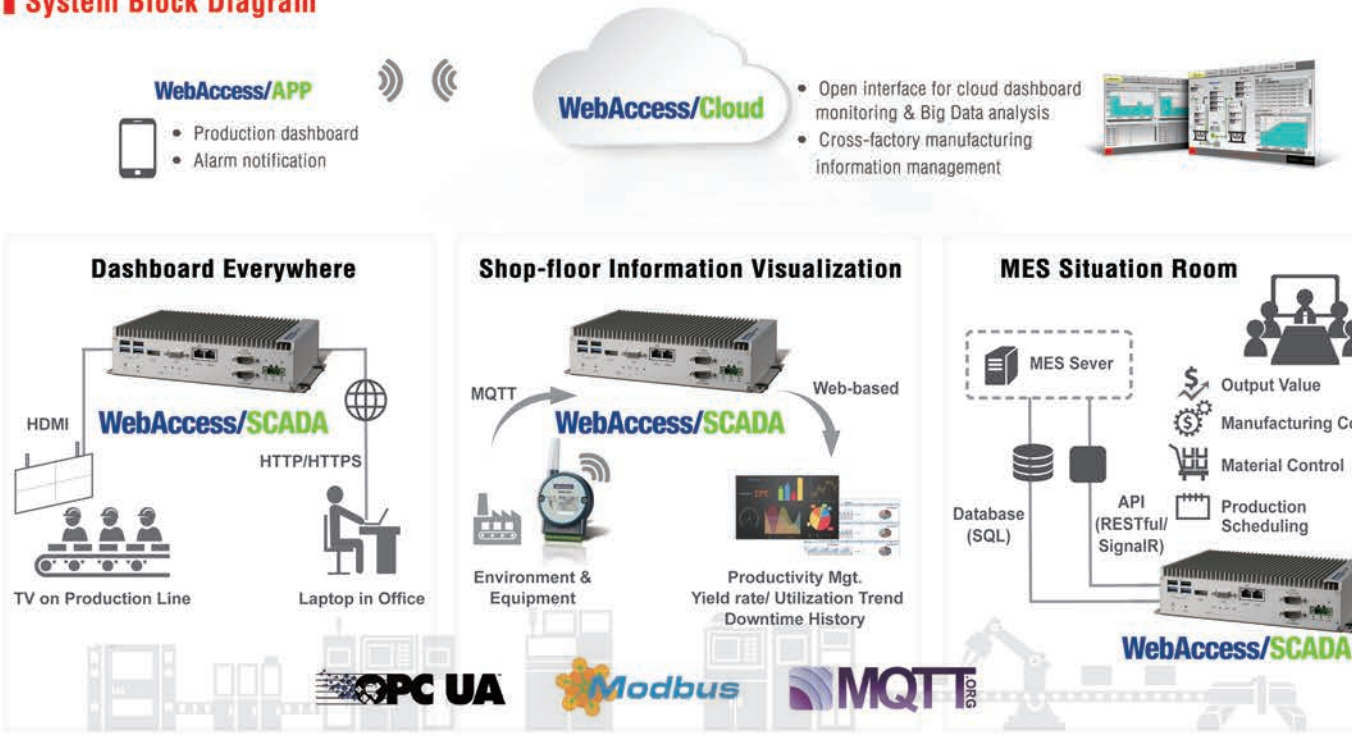
WebAccess/SCADA Industrial IoT Application Software Platform

Application: Process Visualization Solution

Charting & MES Analyzing Data for Production Optimization

Allow users to easily collect data from shop-floor devices via multiple communications such as Modbus, OPC UA, and MQTT and automatically generates Excel reports of production activities. A 100% web-based dashboard allows users to view visual production information such as yield rate trends, equipment utilization or downtime alarms, available anytime on any mobile device supporting HTML5 browsers.

System Block Diagram



Dashboard Design Features

HTML 5 Dashboard

- HTML5-based for any modern browser
- Trends/ Bars/ Alarm summary/ Map widgets
- Widget builder for customized dashboard
- Supports up to 1,024 clients

Automated Excel Report

- Import self-defined EXCEL Template.
- Automatically generate on-demand or daily/ weekly/ monthly/ yearly report.
- Accessible via web browser

Video Surveillance

- Embedded video from IP cameras into Web page
- Support motion detection with WebAccess/IVS Software

Alarm

- Active alarm message
- E-mail/ SMS notification
- Alarm History
- Prompt alarm on screen

Featured Products

WebAccess/SCADA

WebAccess/SCADA Runtime Software

WebAccess/SCADA Software

AD-UNO-2483G-434AE

Automation Computer

AD-WISE-4012-AE

Wireless I/O Module

AD-TPC-1840WP

Industrial Panel PC

WebAccess/SCADA Industrial IoT Application Software Platform

WebAccess/SCADA has evolved from traditional SCADA software to a powerful, easily expandable IoT application software framework. By using a web platform, WebAccess/SCADA incorporates additional interfacing methods and application methods that assist system integrators in vertical markets. From data retrieval to visualization through a cross-platform GUI, backup to a web-based server, and comprehensive intelligent system integration, WebAccess/SCADA is capable of providing the most complete system-level solution.

WebAccess/SCADA Software Specification

Functions	
OS	Windows XP (SCADA Node only), Windows 7 SP1, Windows 8.1 Pro, Windows Server 2008 R2 or later, Windows 10 IIS7.5 & Net Framework 4.5
Number of I/O Tags	75/150/300/600/1,500/5,000/20,000/unlimited
Number of Internal Tags	75/150/300/600/1,500/5,000/20,000/unlimited
Number of Extensible Tags	75/150/300/600/1,500/5,000
Number of Web Clients	1,024 (free)

Communication	
Number of Communication Ports per SCADA Node	60
Number of Devices per Communication Port	256
Number of Drivers	Supports over 450 types of PLCs and RTUs
OPC DA Client	Yes
OPC UA(DA) Client	Yes
MQTT Communication	Yes

Graphics	
Number of Graphic Pages	Unlimited (subject to HDD size)
Variables per Graphic Page	2,000
Built-in Gallery	Yes
Tag Source	Global
Multitouch Gesture	Yes

Web-Enabled Integration	
Video	Yes
Google Maps and GPS Location Tracking	Yes

HTML5 Dashboard	
Cross Browser and Platform	Yes
Build-In Widgets	Yes
Open Widget Interface	Yes
Widget Builder	Yes

Alarm and Trend Log	
Number of Alarm Logs	30,000
Number of Action Logs	30,000
Number of Data Logging	Number of I/O tags license x 2
Alarm Groups per SCADA	9,999
Alarm Management System	Yes
Max. quantity/group of Real-Time Trend	12 records/group
Real Time Trend Tag Source	Global node
Max. quantity/group of Historial Trend	12 records/group
Historial Trend Tag Source	Global node

Open Interface	
Modbus Server	Yes
BACnet Server	Yes
ODBC and SQL Query	Yes
OPC DA Server	Yes
OPC UA (DA) Server	Yes
DDE Server	Yes
Windows API	Yes
RESTful API	Yes
SignalR	Yes

Network Architecture	
SCADA Node Redundancy	Yes
Device Redundancy	Yes
Super SCADA with Breakpoint Resume	Yes

Report	
Web-based Report	Yes
Excel Report	Yes
Export to Excel	Yes
Send Email by PDF or Excel	Yes

Database	
Real-time Database	Yes
Database Server	SQL Server/Oracle/MySQL/ Microsoft Access
ODBC and SQL Query	Yes

Receipt	
Recipes per Project	Unlimited (subject to HDD size)
Unit per Recipe	999
Item per Unit	999

Scheduler	
Holiday Configuration Group	9,999
Time Zone Group	9,999
Device Loop Group	9,999
Equipment Group	9,999
Scheduler Reservation Group	9,999
Class Scheduler	Yes

Others	
Script language	TclScript/VBScript/JavaScript
Data Transfer	Yes, Global Tag
Supports IPv6	Yes
Supports https	Yes
User Management	Yes
Demand Control	Yes
WebAccess Express	Yes
WebAccess App	Yes (version 8.3 and later)
Electronic Signature (Compliance with 21 CFR Part 11)	Yes (version 8.3 and later)

WebAccess/SCADA Industrial IoT Application Software Platform

Data Visualization with WISE-PaaS/Dashboard

1 Focal Point: Real-time Information
- Live video streaming
- Key production index
- Production management information

2 Interactive Dashboard:Central Management System
- Factory overview
- Machine availability
- Line balancing rate
- Overall availability analysis

3 Management Scorecard: Operational KPI
- Operation management
- Employee management
- Supply chain management
- Quality management

WISE-PaaS/EdgeLink M2I Edge Engine

Edge data acquisition solutions are designed to simplify remote equipment monitoring. These solutions can improve service quality by facilitating product care, enabling equipment operation monitoring, and allowing for efficiency and energy consumption analysis.

This allows manufacturers to obtain insights on usage behaviors by connecting machine data to the cloud in order to derive intelligence through the analysis of big data. We provide three major solutions for protocol translation and minimizing programming effort in different application scenarios:

1) WISE-PaaS/EdgeLink
2) Node-RED core product solution
3) ADAM-5630 open edge data acquisition platform

WebAccess

IIoT Data Gateways

dnp MQTT { REST }

Modularize Edge DAQ

Data Acquisition Solutions

Wireless I/O Module

Wireless IoT Sensing

Data Analytics Gateway

Edge Intelligent DAQ Controller

Current | Voltage | Switch (on/off) | Door (open/close) | Illuminance | Vibration | Pressure | Flow/level | Temperature | Humidity

WebAccess/HMI HMI Runtime Development Software

WebAccess/HMI is powerful, intuitive software for developing comprehensive HMI solutions. The ease of integration makes WebAccess/HMI suitable for various application fields. WebAccess/HMI features utility programs, such as a recipe editor, text editor, and data transfer helper, and it supports solution-oriented screen objects, high-end vector graphics, data and operation logging, online/offline simulations, and Microsoft Windows fonts for multilanguage applications.

Included in the WebAccess/HMI package is an HMI runtime engine that guarantees reliable open platform performance with minimal system overheads, high data communication rates, sub-second screen switching, and 24/7 operability.

Highly cost-effective Windows OS

450 device communication protocols

Supports up to 16 communication links

Up to 65,535 alerts can be defined

Over 50 application objects

Data collection

Macro commands are provided

Supports VBScript and JavaScript

Report in PDF and Excel formats

Supports USB cameras

WebAccess/HMI Software Features

Smart screen management

- Shows application screen numbers and names as text or thumbnails
- Screens can be selected from the list for editing, cutting, copying, deleting, or exporting

Efficient tools for easier design customization

- The project tree provides comprehensive functionality for project management
- Global settings and resources are sharable to all applications in a project

Project-based management for multiple applications

- Four communication links with the option to add more RS-485 and TCP/IP interfaces
- One startup macro, one main macro, four event macros, four time macros, and no limitation on other macro types

Boost performance with simulations

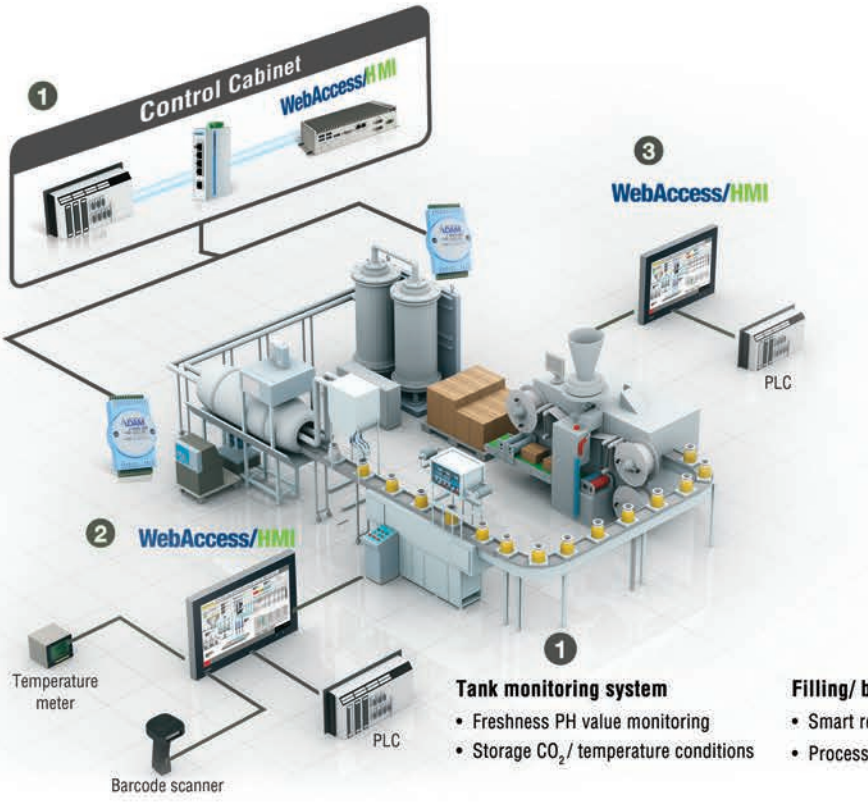
- Real-time WYSIWYG design makes changes to objects instantly viewable
- Semitransparent dialog boxes ensure that on-screen objects are visible

Software support for a range of machines

- Offline simulation function allows users to experience their design before deciding to purchase a model
- Communication performance can be evaluated using an online simulation prior to installation

Enhanced data security

- Project files, global macros, and password tables can be protected with different passwords
- Copying and uploading of an application can be prohibited in advance



WebAccess/HMI Software Specification

One Design for all Models	
Item	Maximum
Number of panel applications	128
Number of languages	10
Number of font templates per language	20

Limitations for One-Panel Applications	
Item	Maximum
Number of tags	9,990
Number of communication links	4/16
Number of screens	7,999
Number of discrete alarm blocks	64
Number of recipe blocks	64
Number of data loggers	65,535
Number of schedules	80

1

Tank monitoring system

- Freshness PH value monitoring
- Storage CO_2/ temperature conditions

2

Filling/ blending processes

- Smart recipe/ order management
- Process schedule: preheat/ filling/ blending

3

Productivity/ yield analysis

- Yield analysis
- History trend/ error report

WebAccess/HMI HMI Runtime Development Software

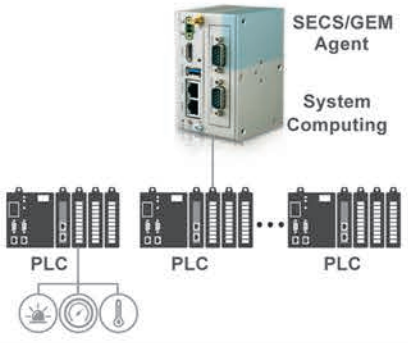
Application: Equipment Connectivity Solution

Machine Data Acquisition for Monitoring & Optimization

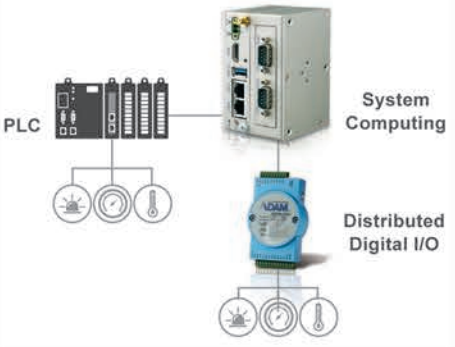
Allow users to easily acquire 100% of equipment data through 450 PLC drivers, self-defined communication protocols and a distributed digital I/O module. Equipment data is available for OT/IT system integration via Modbus/ OPC UA/ MQTT with visible production information, optimized production profiles and more.

System Block Diagram

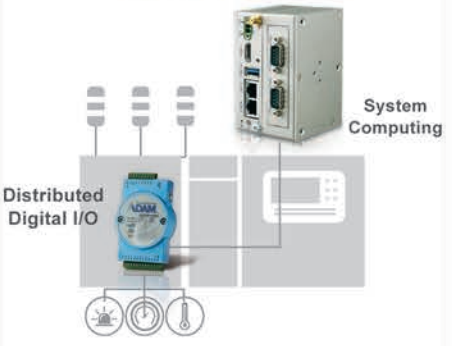
Multiple Protocols Transfer



Comprehensive Data Acquisition



Peripheral Devices Connectivity



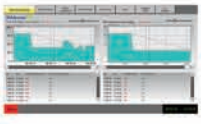
HMI Design Features

Animated dashboard

- Dynamic numerical value display
- Pipeline & dynamic flow diagram
- Bar chart/ histogram
- Rich automation device icon library

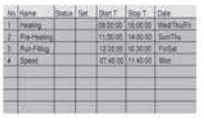
Alarm

- Active alarm message
- Alarm by email
- Alarm history
- Alarm history export (Excel CSV)



History

- Historical trend chart
- Historical table for search
- Historical data export (Excel CSV)



Schedule

- Calendar chart
- Weekly event schedule
- Pre-schedule process parameter

Featured Products

WebAccess/HMI

WebAccess/HMI Runtime Software

WebAccess/HMI Software

AD-UNO-2271G-E23AE

Automation Computer

ADAM-6060-CE

Remote I/O Module

AD-PPC-3211SW

Industrial Panel PC

WebAccess/CNC CNC Machine Monitoring Solution

WebAccess/CNC is a core software solution for networking CNC machines. Leveraging the 100% web-based architecture of the WebAccess/SCADA platform, WebAccess/CNC provides not only crucial CNC networking functions but also the benefits of SCADA software for CNC machining. With the inclusion of I/O device monitoring capabilities, WebAccess/CNC enables CNC information management and status visualization. Internet Explorer (IE) can be used to browse SCADA web pages and monitor/capture real-time CNC and production status data to improve efficiency and analyze device availability.

Designed specifically for the machine tool market, WebAccess/CNC comes with numerous SCADA drivers and can support a wide range of CNC, I/O, and PLC devices to facilitate equipment data collection and industrial networking application development.

WebAccess/CNC Software Features

CNC overview
- Gives an overview of real-time connectivity, operating mode, CNC status, alarms, and machine availability data

CNC information
- Provides machine coordination, operation, G-code, and spindle information

CNC availability
- Provides CNC availability details to aid with improving production efficiency

Alarm & operations data
- Provides historical data on alarms and CNC operations to facilitate machine maintenance

CNC program management
- Features a transfer function for NC files and an editing tool for file programming

Parameter configuration
- User interface for modifying coordinate and tool compensation parameters

Servo spin
- Enables real-time monitoring of spindle load to help with analyzing machine wear and damage

Maintenance
- Features a configuration interface for preventive machine maintenance

WebAccess/CNC Machine Monitoring

1 Machine networking archived by software quickly
- CNC connections can be expanded as required
- Supports CNC controller network connections
- Supports ReCON library for ALNC CNC and robotics control

2 Flexible SCADA interface design
- Enables WebAccess/SCADA software
- Supports EN/TC/SC interfaces
- Supports HTML 5 dashboard for cross-platform ready

3 Master CNC device data improves productivity
- Integrates LNC controller and expanded I/O monitoring functions
- Features various communication protocols for connecting PLC and industrial devices
- Provides CNC availability data to improve productivity

WebAccess/CNC Software Specification

WebAccess/CNC		
Number of CNC connections		1/5/10/20 CNC connections (maximum of 20) per CNC runtime
Supported CNC Controllers	Fanuc	0i-A/B/C/D/F, 16i, 18i, 21i, 31i, 32i
	Mitsubishi	M700/M70, M800/M80 series
	Heidenhain	iTNC 530
	Siemens	840D, 828D (OPC/UA license required)
	Advantech LNC	M/T 2800/2900/5800/6800/6900/7900 (*)
Number of Built-In I/O Tags		75
Number of Extensible Tags		75/150/300/600/1,500/5,000
Number of Extensible CNC Connections		5/10

*Advantech LNC controller connections are charged according to the number of I/O tags.

WebAccess/CNC CNC Machine Monitoring Solution

Application: CNC Machine Management

A Networking Solution for CNC Machine

CNC Management solution has been developed to bridge the gap from traditional machine management to optimization by facilitating cross-factory machine management in order to improve processing efficiency. It also provides an overview of work order progress, production line availability, and other management services.

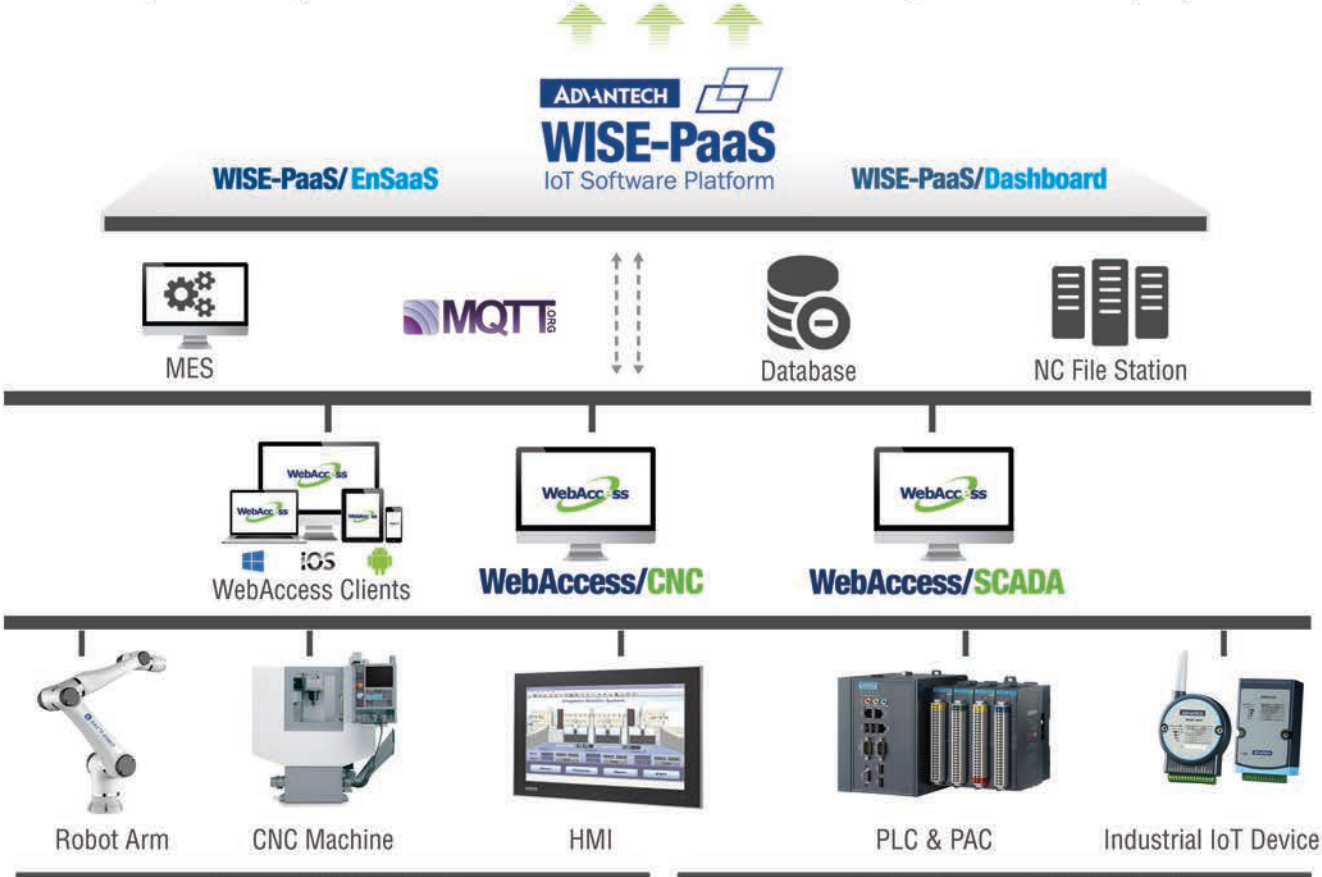
WebAccess/CNC System Diagram


Cross-factory overview on a map


CNC monitoring


Production line availability


Alarm reporting



Supported CNC Controllers

FANUC SIEMENS brother HEIDENHAIN MITSUBISHI ELECTRIC LNC SYNTEC

Standard Communication Protocols

OPC UA Modbus MQTT MTConnect

Featured Products

WebAccess/CNC

CNC Machine Networking Solution

WebAccess/CNC Software


AD-UNO-1372G

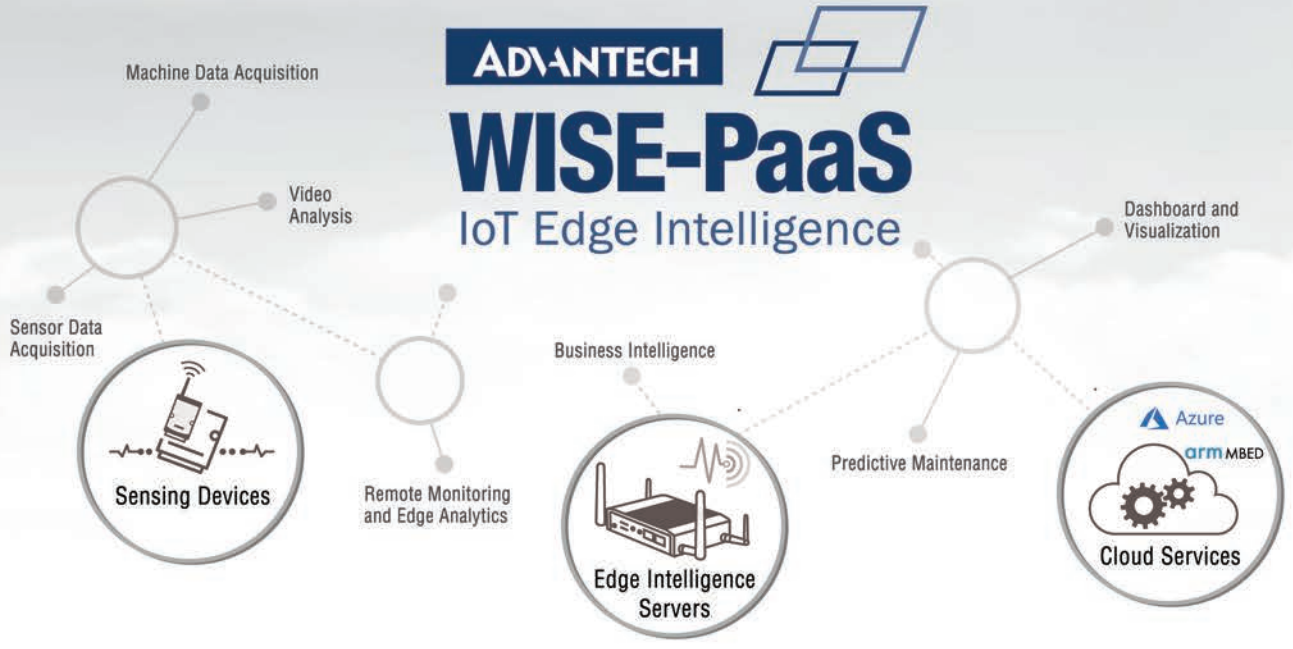
Automation Computer


AD-ADAM-6200

Ethernet I/O Moodule


AD-TPC-2140WP

Industrial Thin Client



WISE-PaaS/ EnSaaS

WebAccess | WISE-PaaS/ EdgeLink | WISE-PaaS/ EdgeSense | WISE-PaaS/ VideoSense

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