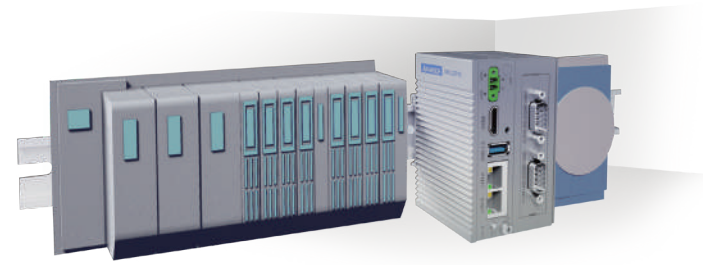## Application Scenario
How Equipment Connectivity Works in the Factory

Machine/ Cabinet

Pain Points of Global Manufacturers

Data in Black Box

To optimize equipment performance and reliability, engineering teams always make improvements through machine operation data analysis, temperature monitoring, or power consumption. However, data is sometimes contradictory due to the sensors, meters, or PLC controllers being limited in connectivity and different devices from different vendors each having their own proprietary protocols.

High Wall of Communication

Proprietary communications obstructing machinery data integration usually require knowledge of driver development and comprehensive coding effort to complete protocol transfer.

Infeasible for Analysis

Advanced data analysis is always done by IT systems with powerful computational capabilities. Nevertheless, open communications such as Modbus/ MQTT/ OPC are required for bridging devices at the OT level and system analysis at the IT level.

WebAccess/Cloud
WebAccess/SCADA

WebAccess/HMI

System Computing

Distributed Digital I/O

See what will happen...

Extend Equipment Lifespan:
Increase the value of legacy equipment with multiple protocol conversions.

Digitize Manufacturing Information:
Improve manufacturing efficiency by real-time production monitoring and machine status diagnosis.

Ordering Configuration Table

SRP-FEC220 Machine Monitoring & Optimization

Package Offering

Application Software ： WebAccess/HMI Runtime 1500 tags x1 *Preinstalled WebAccess/HMI Runtime 1500 tags*	**OS** ： Microsoft® Windows Embedded 7 Pro x1 *Preinstalled Microsoft Windows Embedded 7 Pro*
System Computing ： UNO-2271G-E23AE x1 *Intel® Atom™ Pocket-Size Automation Computer, 32G eMMC*	**Peripherals:** ADAM-6060-CE x1 *6-ch Digital Input and 6-ch Power Relay Modbus TCP Module*

Optional Configuration

Option 100 WISE-PaaS/SaaS Software		Option 400 Add-on Accessories	
[101] WebAccess/SCADA Dongle Key V8.2 Pro. 1500 tags (WA-P82-U15HE)	☐ Qty: _____	[401] Power Adaptor (PWR-247-CE)	☐ Qty: _____
[102] WebAccess/SCADA Dongle Key V8.2 Pro. 5000 tags (WA-P82-U50HE)	☐ Qty: _____		
Option 200 System Computing		**Option 800 Training & Consulting Service**	
[201] 12.1" XGA Ind. Monitor w/ Resistive TS (FPM-7121T-R3AE) *HDMI to VGA Adapter is required	☐ Qty: _____	[801] 1 Hr Quick Start Phone Support	☐ Qty: _____
Option 300 I/O & Peripherals		**Remark**	
[301] Distributed Digital I/O (ADAM-6060-CE)	☐ Qty: _____		
[302] Distributed Analog I/O (ADAM-6024-A1E)	☐ Qty: _____		

Order in 3 Easy Steps

Go Online Store	*Add to Cart*	*Confirm Order*
1.	**2.**	**3.**
Step 1: Login	**Step 2: Configuration**	**Step 3: Check & Submit**

ADVANTECH
Enabling an Intelligent Planet

SRP-FEC220 Online Catalog

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iFactory

Equipment Connectivity Solution
Machine Data Acquisition for Monitoring & Optimization

Solution
Ready
Platform

SRP-FEC220

WebAccess/Cloud
WebAccess/SCADA

WebAccess/HMI
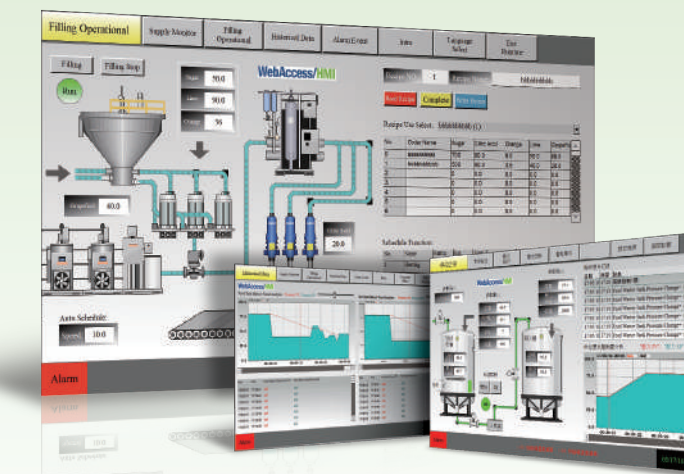
✓ **100% Data Acquisition**
✓ **Easy Protocol Conversion**
✓ **Connect OT to IT**

ADVANTECH
Enabling an Intelligent Planet

WISE-PaaS
IoT Software Platform

More on SRP-FEC220 website
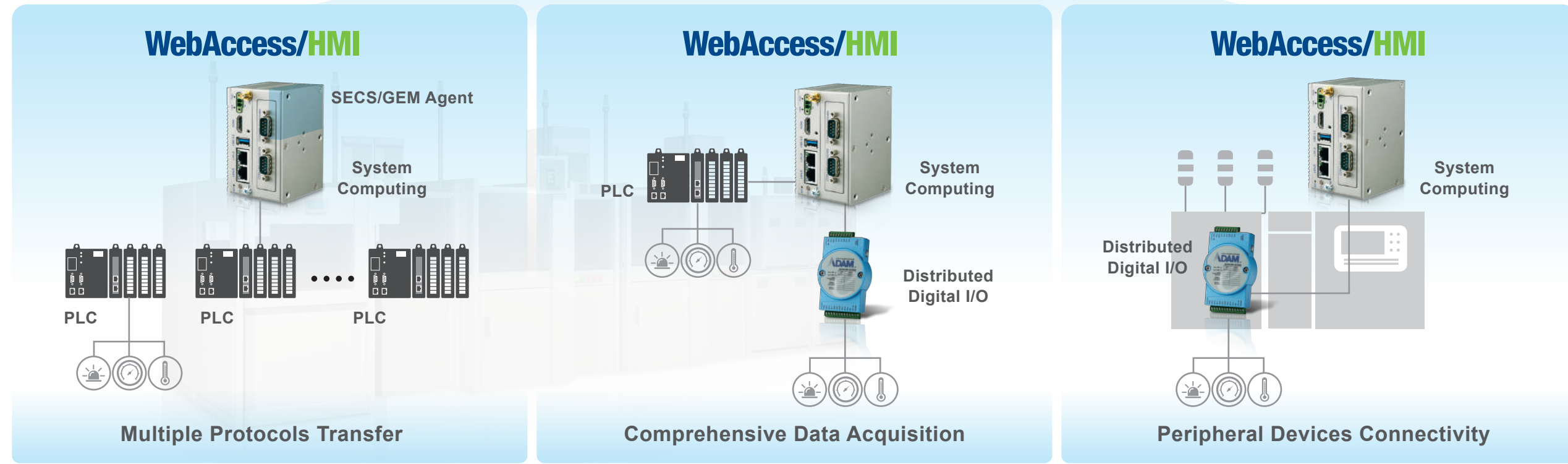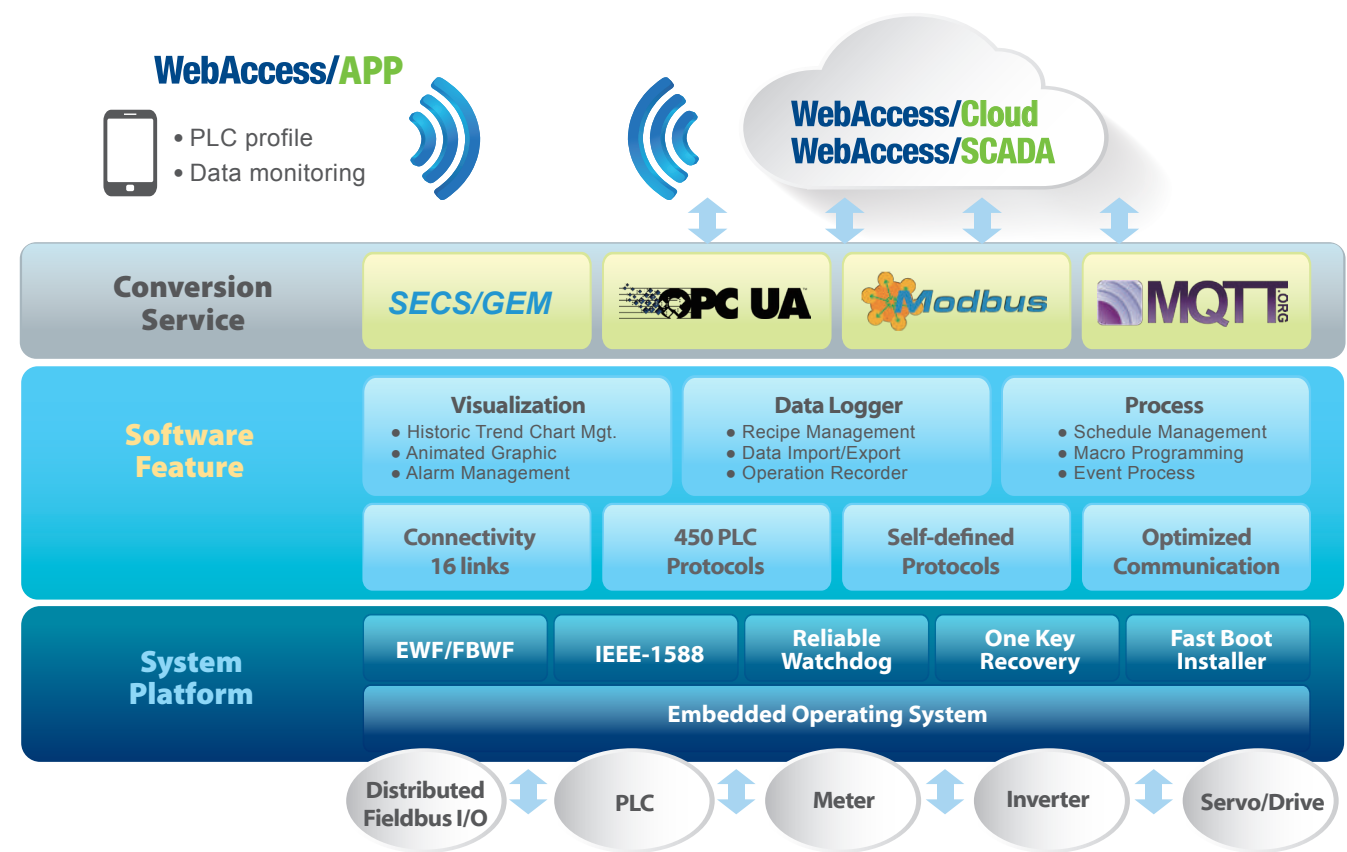
Entering a New Era of Smart Manufacturing
Introducing SRP-FEC220 Solution for Machine Monitoring & Optimization

This Solution Ready Platform allows 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.

Software Architecture and Key Design Features

WebAccess/APP
- PLC profile
- Data monitoring

WebAccess/Cloud
WebAccess/SCADA

Conversion Service	SECS/GEM	OPC UA	Modbus	MQTT

Software Feature

Visualization	Data Logger	Process
● Historic Trend Chart Mgt. ● Animated Graphic ● Alarm Management	● Recipe Management ● Data Import/Export ● Operation Recorder	● Schedule Management ● Macro Programming ● Event Process

Connectivity 16 links	450 PLC Protocols	Self-defined Protocols	Optimized Communication

System Platform

EWF/FBWF	IEEE-1588	Reliable Watchdog	One Key Recovery	Fast Boot Installer

Embedded Operating System

Distributed Fieldbus I/O ⇄ PLC ⇄ Meter ⇄ Inverter ⇄ Servo/Drive

HMI Design Features

Animated dashboard
1. Dynamic numerical value display
2. Pipeline & dynamic flow diagram
3. Bar chart/ histogram
4. Rich automation device icon library

Alarm
1. Active alarm message
2. Alarm by email
3. Alarm history
4. Alarm history export (Excel CSV)

History
1. Historical trend chart
2. Historical table for search
3. Historical data export (Excel CSV)

Schedule
1. Calendar chart
2. Weekly event schedule
3. Pre-schedule process parameter

System Block Diagram

WebAccess/APP
- PLC profile
- Data monitoring

WebAccess/Cloud
WebAccess/SCADA

- Open interface for cloud dashboard monitoring & big data analysis
- Precaution alarm for equipment preventive maintenance

SECS/GEM   OPC UA   Modbus   MQTT

WebAccess/HMI

SECS/GEM Agent
System Computing
PLC PLC PLC

Multiple Protocols Transfer

WebAccess/HMI

PLC
System Computing
Distributed Digital I/O

Comprehensive Data Acquisition

WebAccess/HMI

System Computing
Distributed Digital I/O

Peripheral Devices Connectivity

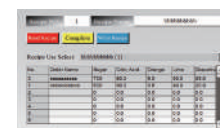## Key Advantages/ Features

100% Data Acquisition
Supports 450 PLC communication drivers and self-defined protocol to completely acquire controller status, temperature, humidity and other sensor data.
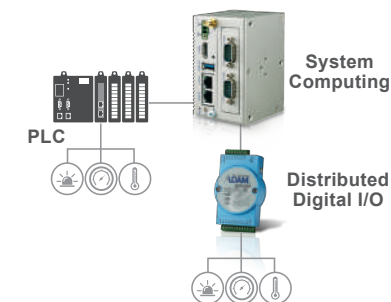
Flexible Protocols Conversion
Greatly shortens engineering time through intuitive UI setting to rapidly covert protocols for a max. of 15 different branded PLCs simultaneously.
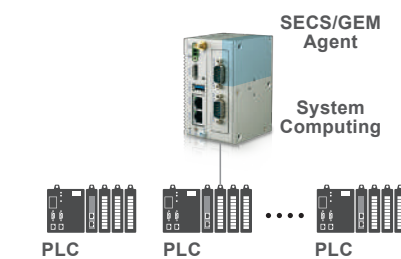
Easily Connect OT and IT
Supports Modbus / OPC UA/ MQTT connection to SCADA/ MES system to optimize production efficiency.

Solution-Ready-Platform Package

WebAccess/HMI Runtime Software
Pre-installed WebAccess/HMI Runtime 1500 tags

UNO-2271G-E23AE
Intel® Atom™ E3815 1.46 GHz Pocket-Size DIN-Rail PC, 4GB RAM, 32G eMMC Storage, Microsoft® Windows Embedded 7 Pro

ADAM-6060-CE
6-ch Digital Input and 6-ch Power Relay Modbus TCP Module

WebAccess/HMI