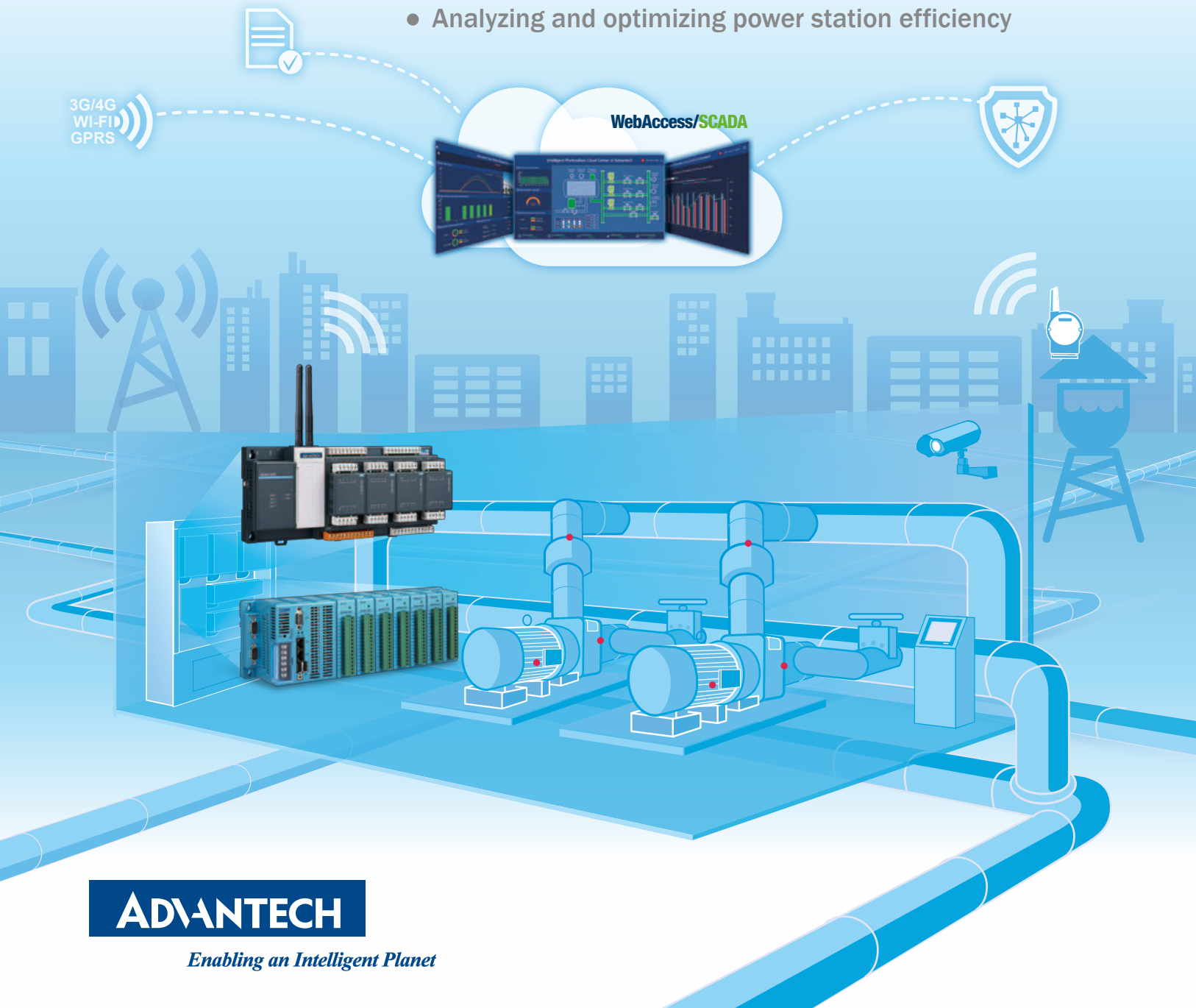# Remote Pump Station Management Solution

Optimize overall pump station effectiveness

SRP-ERE001

- Centralized operation with unmanned remote sites
- Scalable architecture for plants of any size
- Analyzing and optimizing power station efficiency

3G/4G
WI-FI
GPRS

WebAccess/SCADA

ADVANTECH

Enabling an Intelligent Planet

Introduction

Under the impetus of IoT technology, water supply facilities will be equipped with intelligent water networks. Water pump stations are the most important node in a water network. For example, booster pump stations can improve the water pressure in public water mains, and drainage pump stations can ensure normal drainage during floods. With the rising cost of living and need for larger water supplies, the supervision of water pump stations must rely on science and technology to shorten inspection cycles or achieve unmanned control. By installing a water network information system, relevant departments can view the operating status of their pump stations and monitor their efficiency to provide a basis for equipment maintenance in addition to significantly increasing management efficiency.

3G/4G WI-FI GPRS
Any Format
Wireless remote management supports all communication formats (4G, 3G, Wi-Fi, GPRS)

No Data Loss
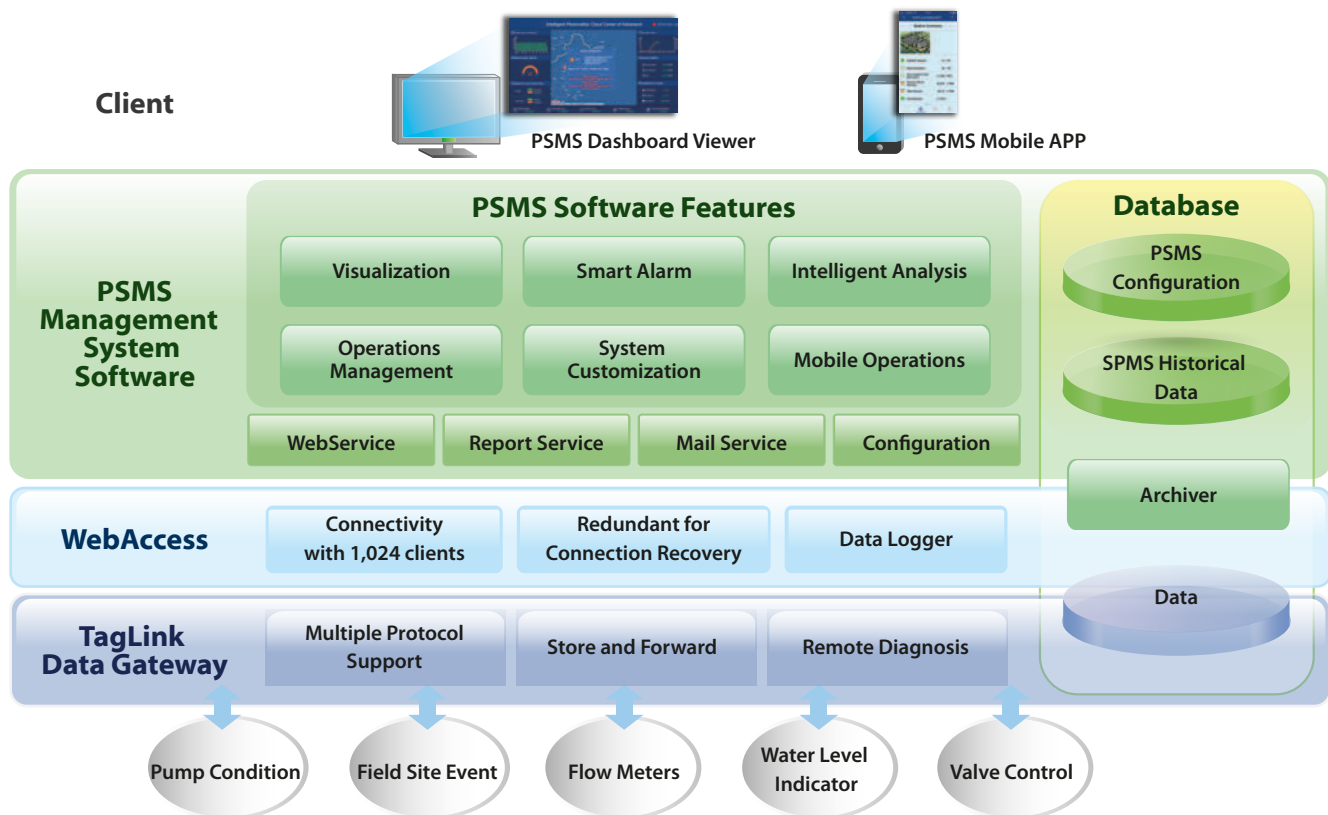Local data buffering secures data integrity
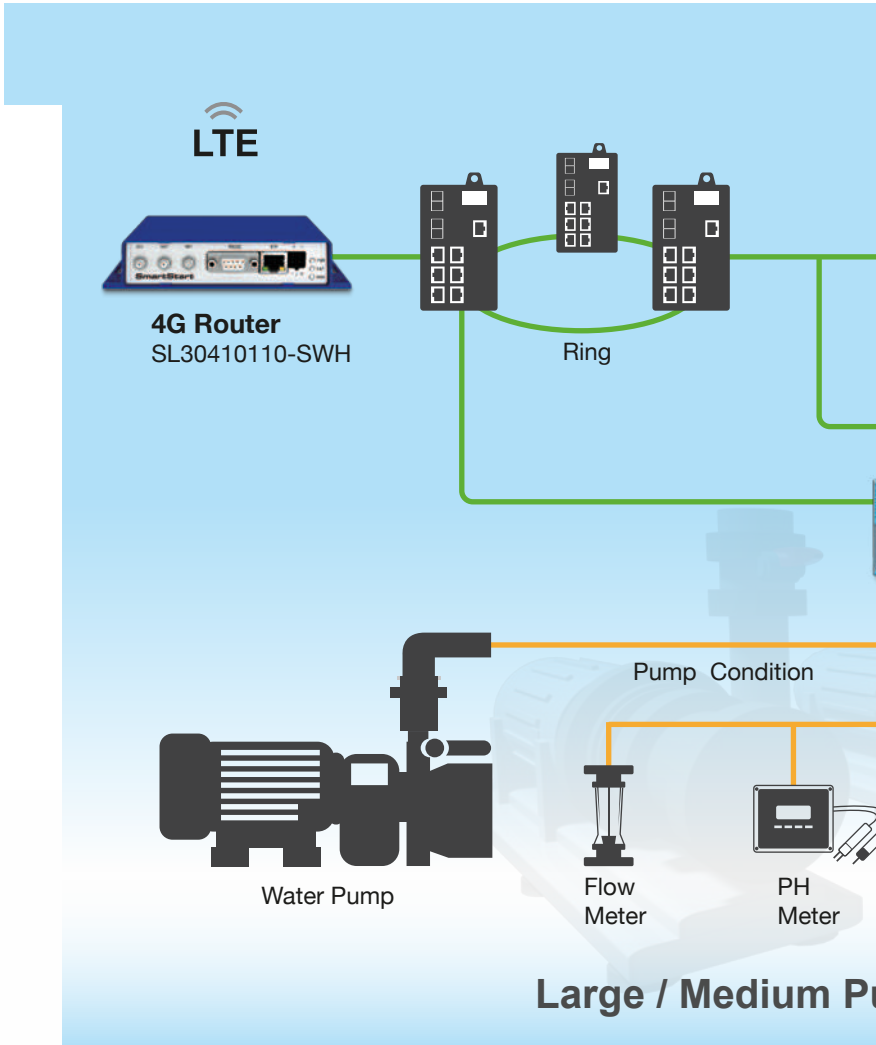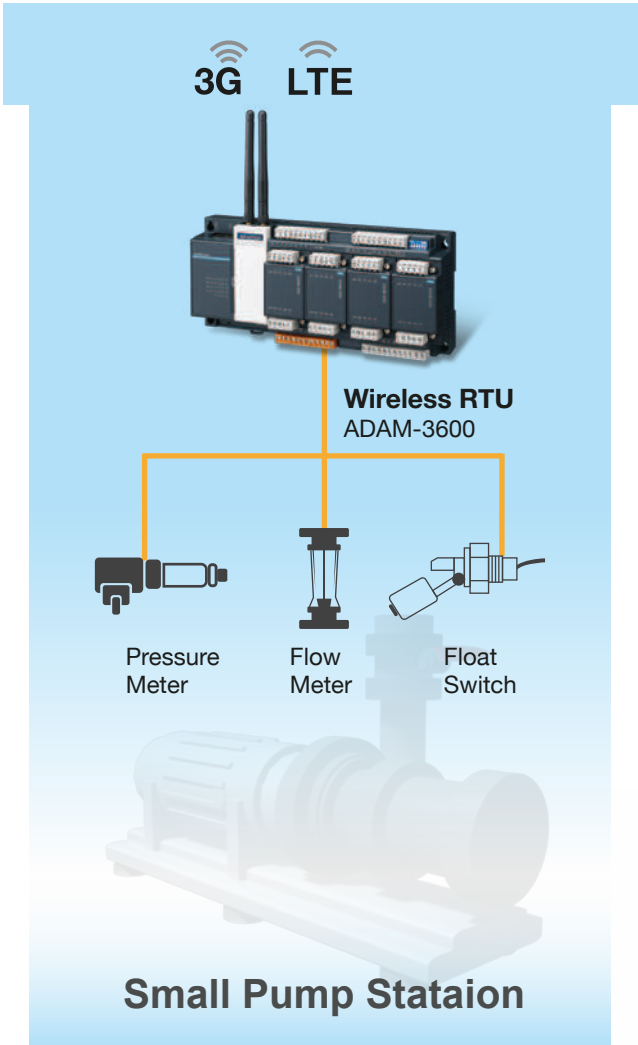
Line Secured
Secure access from multiple points in one station

Software Architecture and Key Design Features
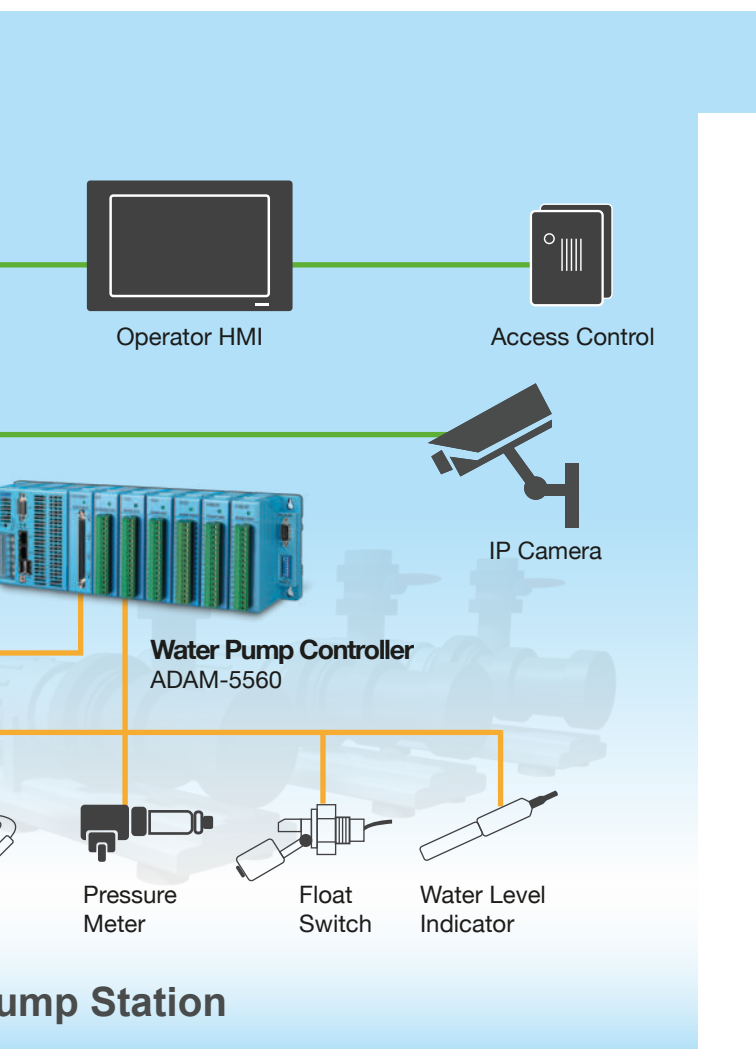
Pump Station Management System (PSMS)

Client

PSMS Dashboard Viewer

PSMS Mobile APP

PSMS Management System Software

PSMS Software Features

| Visualization | Smart Alarm | Intelligent Analysis |
| Operations Management | System Customization | Mobile Operations |

| WebService | Report Service | Mail Service | Configuration |

Database

PSMS Configuration

SPMS Historical Data

Archiver

Data

WebAccess

| Connectivity with 1,024 clients | Redundant for Connection Recovery | Data Logger |

TagLink Data Gateway

| Multiple Protocol Support | Store and Forward | Remote Diagnosis |

Pump Condition

Field Site Event

Flow Meters

Water Level Indicator

Valve Control

System Block Diagram

Central Station

WebAccess

Interactive Dashboards developed by Web

Pu
Pu

3G   LTE

Wireless RTU
ADAM-3600

Pressure
Meter

Flow
Meter

Float
Switch

Small Pump Stataion

LTE

4G Router
SL30410110-SWH

Ring

Pump Condition

Water Pump

Flow
Meter

PH
Meter

Large / Medium Pu

...Access Software

...ump Station Management Server
...ump Station Management System (PSMS)

Operator HMI

Access Control

IP Camera

Water Pump Controller
ADAM-5560

Pressure Meter

Float Switch

Water Level Indicator

...ump Station

ADAM-5560

The Micro PAC is useful for up to 224 I/O point applications. It features control-specific features such as a watchdog timer, battery backup RAM, and deterministic I/O.

ADAM-3600

The intelligent RTU has multiple wireless function capability, multiple I/O selection, a wide temperature range, and supports flexible communication protocols for water applications.

SL30410110-SWH

Low-cost SmartStart LTE Cat.1 and Cat. 4 cellular routers and gateways connect Ethernet, RS-232, and I/O devices to cellular networks.

WebAccess / SCADA

Advantech's browser-based HMI/SCADA software WebAccess is a 100% web-based SCADA software solution that also serves as an IIoT platform by providing open interfaces for developing IoT applications aimed at various vertical markets.

TagLink Technology

TagLink is a new embedded technology for intelligent edge devices (e.g., RTUs and gateways), providing an effective means for monitoring key assets from anywhere at any time.

Application Scenario

How Remote Management Optimizes Pump Station Effectiveness

From the Edge to the Cloud

All-in-One, Well-Integrated Solution

Remote monitoring usually requires considerable effort from system integrators and time for testing and integrating different devices with different brands.
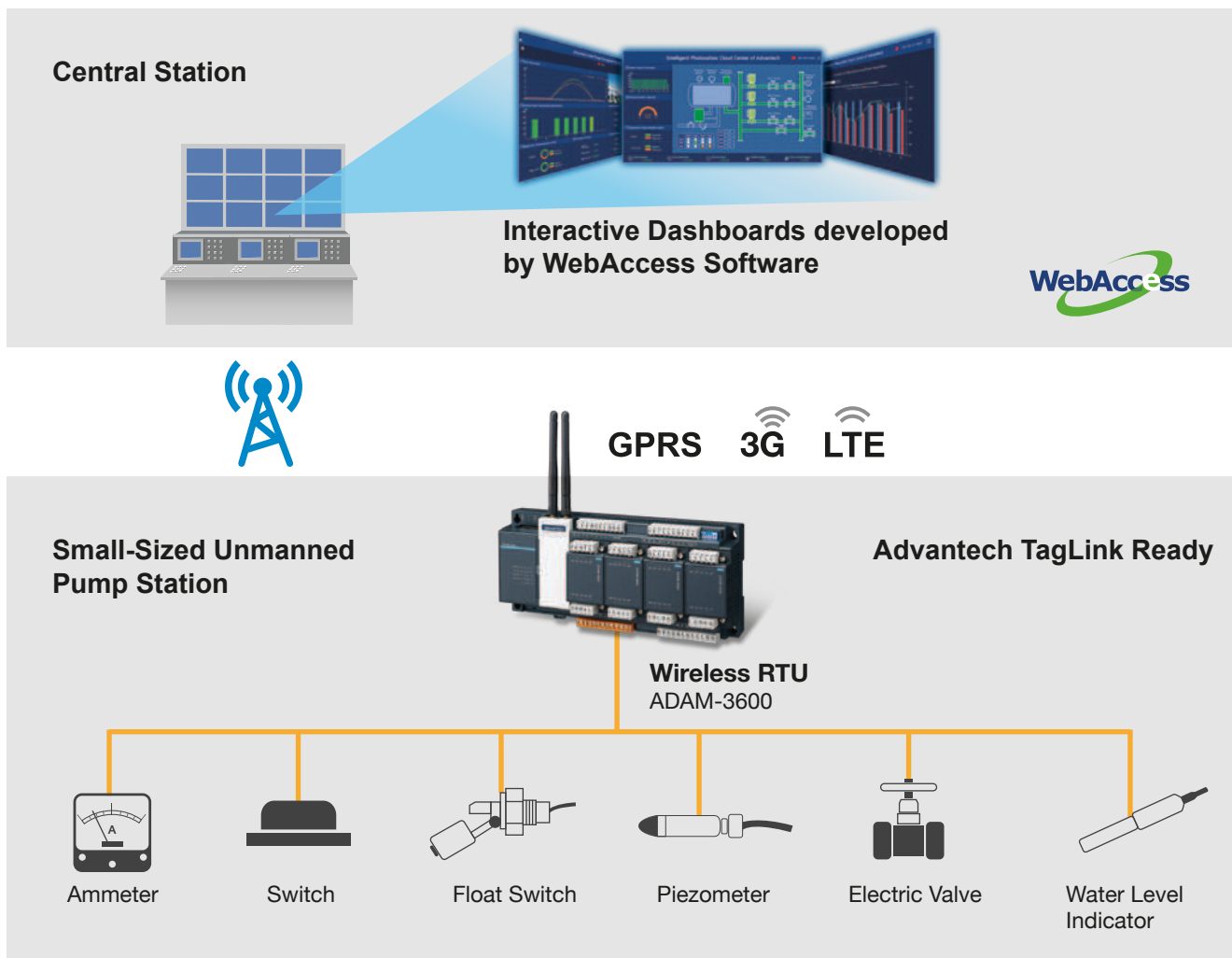
This solution-ready platform is suitable for the remote monitoring and control of pump stations of varying size.

Supports Multiple Wireless Solutions

Different field sites or projects may require different types of wireless connection. The open system architecture allows for 2G/3G/LTE/Wi-Fi solutions with minimal system changes.

Enhanced Cyber Security

Remote pump stations typically use a public network for data communication. Consequently, data may be at risk of attack or hacking. Advantech TagLink can build up a secure communication tunnel with a central station. This ensures both data integrity and security.

Central Station

Interactive Dashboards developed by WebAccess Software

WebAccess

GPRS   3G   LTE

Small-Sized Unmanned Pump Station

Advantech TagLink Ready

Wireless RTU
ADAM-3600

| Ammeter | Switch | Float Switch | Piezometer | Electric Valve | Water Level Indicator |

Ordering Configuration Table

SRP-ERE001 Optimize Overall Pump Station Effectiveness

Package Offering

Application Software:	Pump Station Controller:
WebAccess/SCADA	ADAM-5560KW x1
	7-Slot Microcontroller with Intel® Atom™ CPU
	2xLAN, 2xUSB 2.0, 4xRS-485, VGA

Pump Station Remote Terminal Unit (RTU):	Intelligent 4G LTE Router & Gateway:
ADAM-3600 x1	SL30410110-SWH
4-Slot Expansion Wireless Intelligent RTU	*1xEthernet, 1xRS-232, 2xSIM Card Holder*
With 8AI / 8DI / 4DO	
Advantech TagLink Embedded	
-40 to 70 °C Operation Temperature	

Expansion offerings

Platform

ECU-4784	☐ Qty: _____	TPC-1551T	☐ Qty: _____
Robust Rack-Mount Embedded IPC		*15" TFT LED LCD Intel® Atom™ Thin Client Terminal*	

I/O Modules

WISE-4012	☐ Qty: _____	WISE-4050	☐ Qty: _____
4-ch Universal Input and 2-ch Digital Output IoT Wireless I/O Module		*4-ch Digital Input and 4-ch Digital Output IoT Wireless I/O Module*	

Contact Information

Name:

Title:

Phone:

Email:

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8600000336

Online Catalog