

# WebAccess<sup>+</sup> Alliance

One for All · All for One

## WebAccess/SCADA

### Smart HMI/SCADA Software

- 100% browser-based HMI/SCADA software
- Easy to connect and control a variety of IoT Devices
- Supports a variety of mobile devices and browsers

## WebAccess+IVS

### Intelligent Video Software

- Intelligent Video Platform
- Intelligent Video Analytics Modules
- Modularized SDK ready for software integration

## WebAccess+IMM

### Interactive Multimedia Software

- Digital Signage Management Platform
- Intelligent Programming Platform
- Supports Industries and Application Scenarios

## WebAccess/NMS

### Network Management Software

- Network Equipment Management and Monitor
- Integration of Network Topology
- Location Identification for Wide Area Deployment

Advantech invites system integrator partners to join the WebAccess<sup>+</sup> Alliance to jointly develop the Internet of Things (IoT) and create business opportunities

## WebAccess<sup>+</sup> Alliance Partner



## Worldwide Offices

### Greater China

<b>China</b>	
Toll Free	800-810-0345
Beijing	86-10-6298-4346
<b>Taiwan</b>	
Toll Free	0800-777-111
Neihu	886-2-2792-7818
Xindian	886-2-2218-4567

### Asia Pacific

<b>Japan</b>	
Toll Free	0800-500-1055
Tokyo	81-3-6802-1021
Osaka	81-6-6267-1887
<b>Korea</b>	
Toll Free	080-363-9494
Seoul	82-2-3663-9494
<b>Singapore</b>	
Singapore	65-6442-1000
<b>Malaysia</b>	
Toll Free	1800-88-1809
Kuala Lumpur	60-3-7725-4188
Penang	60-4-537-9188
<b>Indonesia</b>	
Jakarta	62-21-769-0525
<b>Thailand</b>	
Bangkok	66-2-248-3140
<b>India</b>	
Toll Free	1-800-425-5070
Bangalore	91-80-2545-0206
<b>Australia</b>	
Toll Free	1300-308-531
Melbourne	61-3-9797-0100
Sydney	61-2-9476-9300

### Europe

Toll Free	00800-2426-8080
<b>Germany</b>	
Munich	49-89-12599-0
Hilden / D'orf	49-2103-97-885-0
<b>France</b>	
Paris	33-1-4119-4666
<b>Italy</b>	
Milano	39-02-9544-961
<b>Benelux &amp; Nordics</b>	
Breda	31-76-5233-100
<b>UK</b>	
Reading	44-0118-929-4540
<b>Poland</b>	
Warsaw	48-22-33-23-740 / 41
<b>Russia</b>	
Toll Free	8-800-550-01-50
Moscow	7-495-232-1692

### Americas

<b>North America</b>	
Toll Free	1-888-576-9668
Cincinnati	1-513-742-8895
<b>Brazil</b>	
Toll Free	0800-770-5355
Saude-São Paulo	55-11-5592-5355
<b>Mexico</b>	
Toll Free	1-800-467-2415
Mexico City	52-55-6275-2777

**ADVANTECH**

Enabling an Intelligent Planet

[www.advantech.com](http://www.advantech.com)

Please verify specifications before quoting. This guide is intended for reference purposes only. All product specifications are subject to change without notice.

No part of this publication may be reproduced in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission of the publisher.

All brand and product names are trademarks or registered trademarks of their respective companies. © Advantech Co., Ltd. 2015

8600000183



# Water Conservation and Water Treatment Solution

Water conservation management expert systems are necessary for the construction of water and flood protection for a modern city

A set of system platforms integrates the water treatment technology and data analysis could allow water conservation and water treatment experts to build various management control modes, and further improve the water supply and distribution efficiency.



**ADVANTECH**

*Enabling an Intelligent Planet*

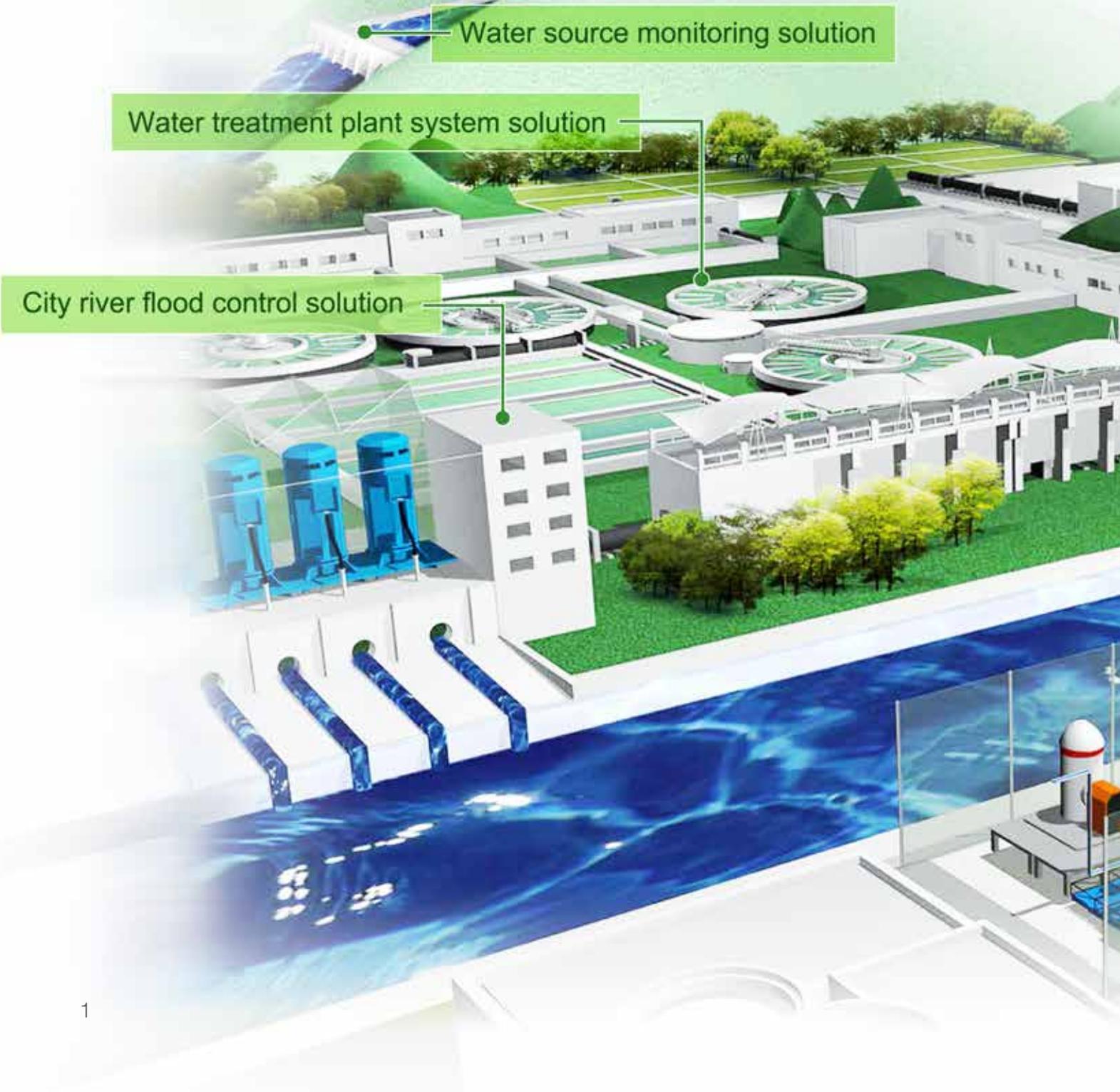
**WebAccess<sup>+</sup>**  
Alliance

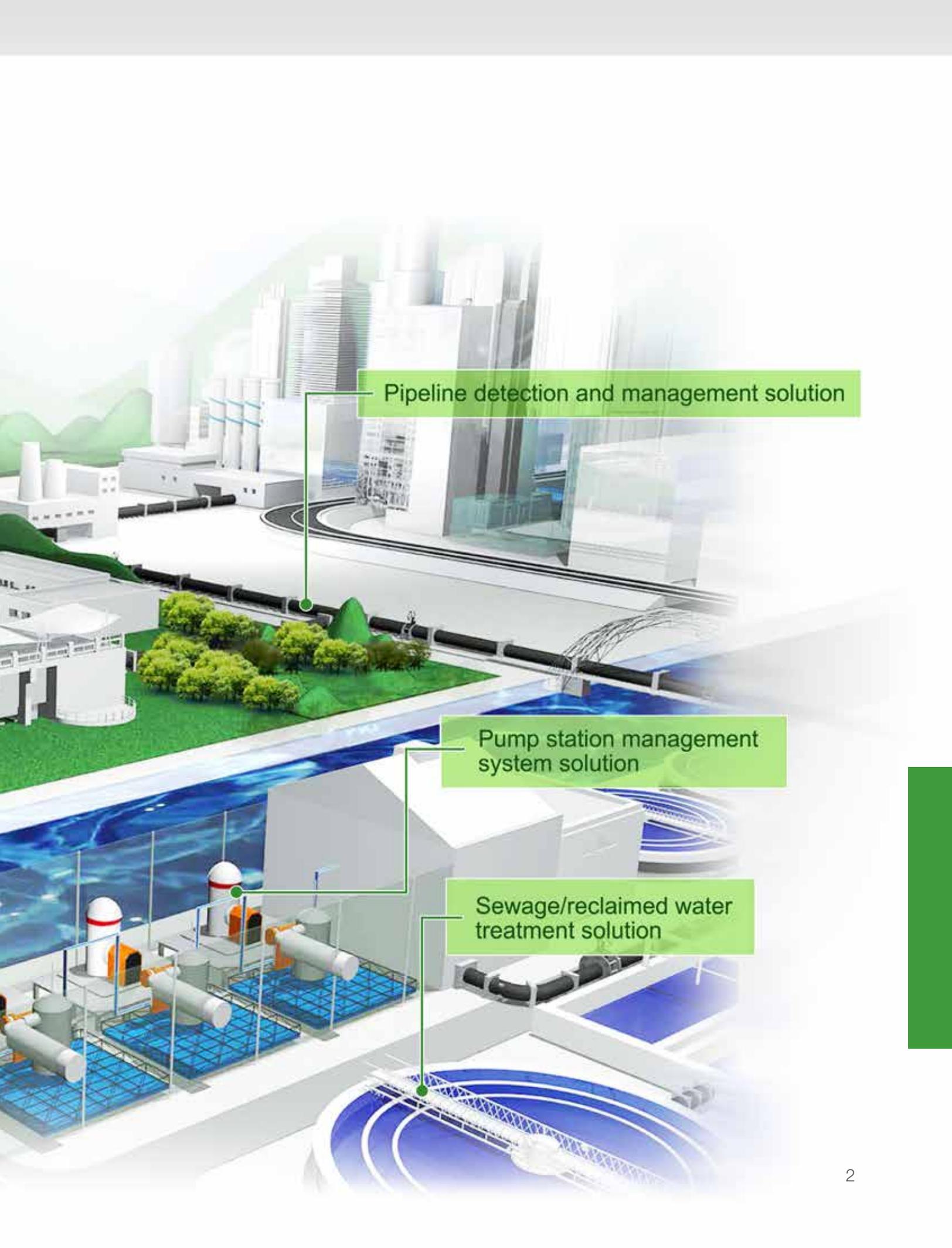
[waplus.advantech.com](http://waplus.advantech.com)

# Modern Water Treatment Systems Allow Engineers to Tap-and-Go

Equipment that integrates the monitoring and control, data analysis, real-time video, mass data records, data base exchange mechanism and cloud technology based system, allows water conservation experts to easily construct various modes of control and management analysis.

From the water source, to sewage treatment, reclaimed water and drinking water, Advantech provides system devices, intelligent terminals, redundancy controllers, various communication devices and cloud monitoring software, and adopts an open framework to maximize the benefits and efficiency of water resource monitoring and management experts.





Pipeline detection and management solution

Pump station management system solution

Sewage/reclaimed water treatment solution

# Water Source Monitoring Solution

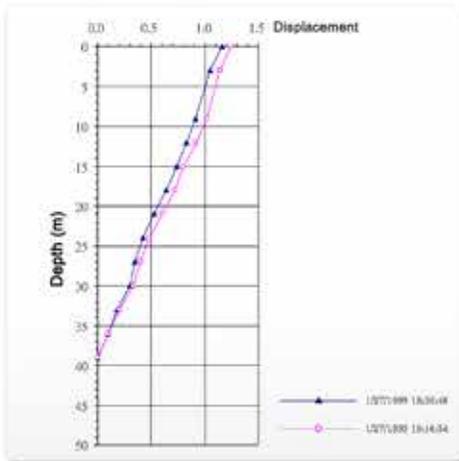
## Program Overview

### Dam and water monitoring system:

Safety monitoring of the dam was stipulated in the risk management and internationally drafted management procedure, such as Canada DSSMP (Dam Safety State Monitoring Program). It is used to install monitoring equipment in high-risk quick installation locations, such as: flood overflows, pipes and seepage.

### Water diversion control of a weir:

When heavy rain comes, the river rises suddenly and brings danger to the surrounding area. In order to help prevent flooding sluice gates are used and they control the flow of water from the weir. To ensure this works correctly a dam monitoring system is implemented.



### Dam and water monitoring system

- Various monitors and gauges are installed in a reservoir for the analysis and statistics of the reservoir inventory.
- A seepage flow meter, electronic hydraulic gage, recording inclinometer, subsidence monitoring equipment and more are used to monitoring the dam.
- Safety analysis using recorded data of the hydraulic gauge, earth pressure gauge and the horizontal displacement of the dam.
- Set the water level, yield data of the reservoir, and the water distribution plan.

### Water diversion control of the weir

Weir monitoring uses a hydrologic alarm system for real-time meteorological information, sluice gate control, monitor etc.

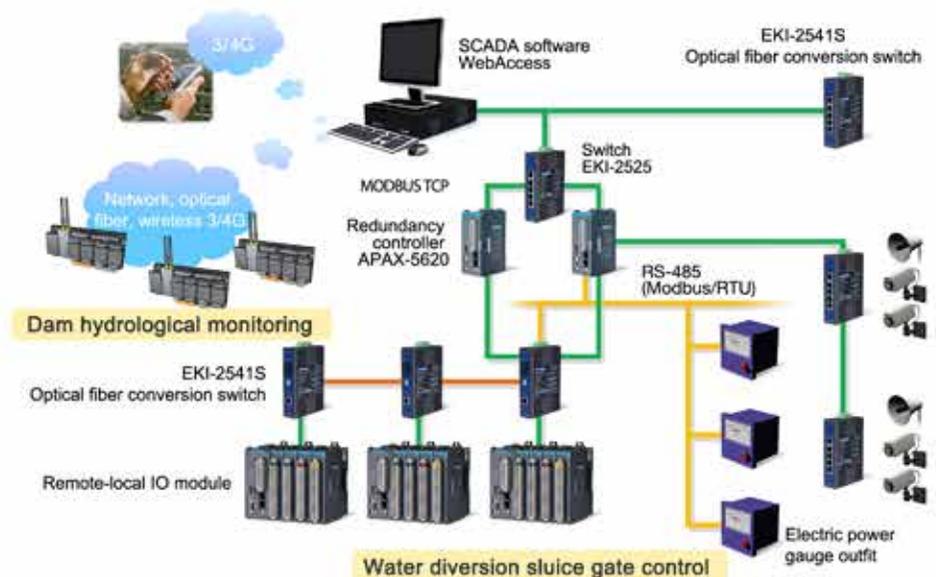
- Set the real-time meteorological monitoring equipment.
- Sluice gate control sets radar water level monitoring and controls its opening angle.
- The water diversion pump station controls the water level monitoring and water diversion amount.
- The integrated camera provides real-time video.

### Data Sheet of Dam and Hydrology Key Monitoring Instruments

Category	Correction coefficient	Initial reading	Current reading	Changing value	Pressure
Earth pressure meter	0.00373	-105.0	-78.2	26.8	0.10
	0.00372	220.0	224.0	4.0	0.02
Category	Correction coefficient	Initial reading	Current reading	Changing value	Displacement
Displacement meter	0.0203	1160.0	1165.4	5.4	0.11
	0.0194	1343.0	1348.4	5.4	0.11

### Program System Framework

- Collect and integrate information from a broad area.
- Remote Terminal Units (RTU) can use solar energy as the power supply and connect wirelessly or using wires to a control room.
- Use network version group software to allow the engineers to use portable equipment.
- Monitoring software with dynamic 3D diagrams allows management to understand the reservoir's water condition.



# Pump Station Management System Solution

## Program Overview

The water pumping station is used for the water treatment transportation systems, including the water supply, water distribution, agricultural irrigation, and plants. Water supply is managed through a variety of stations such as the: irrigation pump, drainage pump, combined irrigation and drainage pump, water-supply pump, pressurization pump and multi-function pump. Since the pumps are important equipment, the program not only keeps the pump station operating stably and safely, but also monitors the condition of abnormal pump operation, meanwhile this equipment with their large power usage brings a demand for energy saving. It needs to send real-time water yields and water pressure data to the research unit for the analysis of the pipeline yield and pipeline fractures.

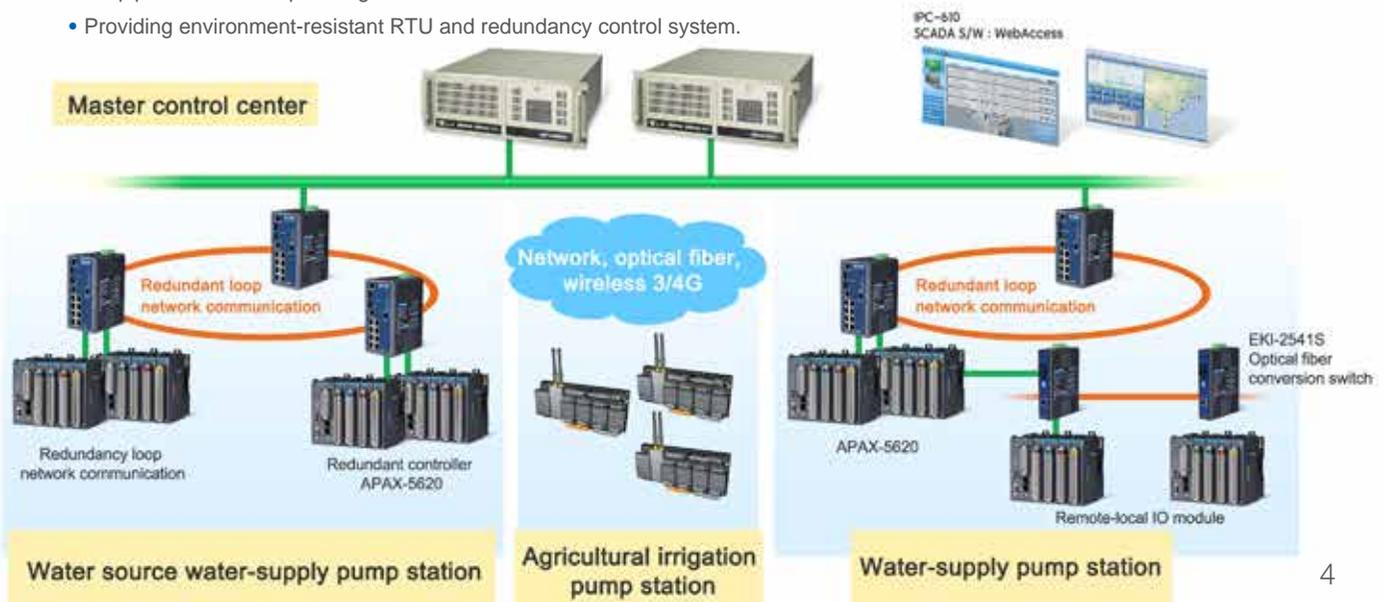


### Monitoring function requirements

- To monitor water in a reservoir, water level monitors, flow meters, hydraulic gauges, displacement meters and seismometers are installed in a flow meter for the analysis and statistics of the reservoir inventory.
- A seepage flow meter, electronic hydraulic gage, recording inclinometer, subsidence monitoring equipment and hydro-meteorological monitoring system are used for monitoring the dam.
- Safety analysis using recorded data of the hydraulic gauge, earth pressure gauge and the horizontal displacement of the dam.
- Set the water level, yield data of the reservoir, and the water distribution plan.

### Program System Framework

- The host computer provides a real-time database of the amount of water used and sold by the water company from which to produce reports.
- To produce statistical data and analysis of the inflowing water, water distribution, and water selling rate.
- Integrates the geographical information system (GIS) of water conservation pipeline, failure notices of water supply, and analysis of the water leakage ratio for each area.
- The water distribution pump station is used for the administration of the water supply using the submeter to measure and monitor the pipeline for future planning.
- Providing environment-resistant RTU and redundancy control system.



# Water Treatment Plant System Solution

## Program Overview

Water treatment plants include the control mode for each water treatment procedure, and shall meet the national standards of water treatment and effluent, such as the PH value, chemical oxygen demand COD, biochemical oxygen demand BOD, dissolved oxygen DO, water visibility SS, and water hardness RO, etc. Thus, the water treatment process control must meet a national standard procedure technology mode, which includes the pre-treatment control mode, sediment-filtration-medication control mode, mixed medication control mode in flash mix pool, and reverse osmosis system (LPRO) control mode in clean-water pool.



### Pre-treatment control mode

- Raw water distribution control mode: function for stabilizing the raw water level and measuring the raw water flow.
- Scum floating control mode: using the air pump control to measure the scum floating on the water surface and remove it using the long-time particle precipitation.
- With time control mode and water regulation management mode.

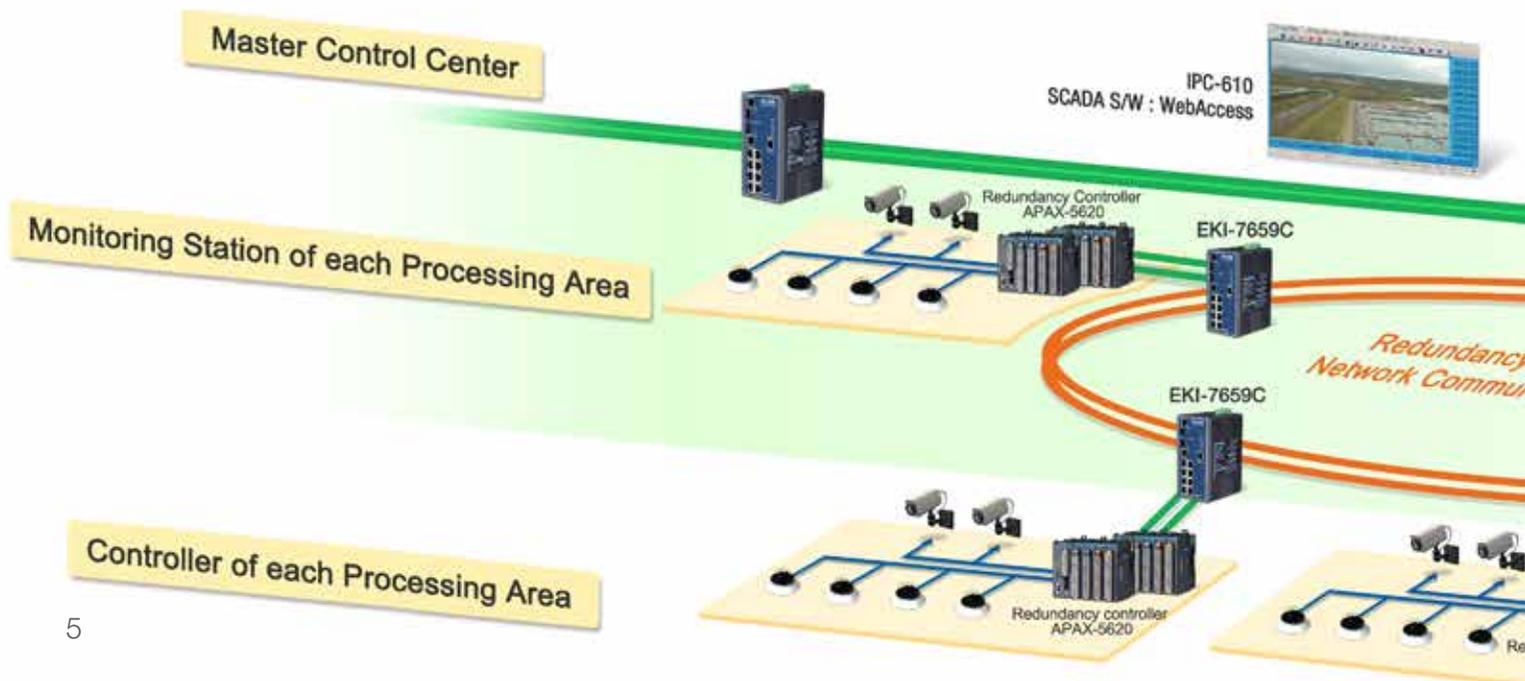
### Mixed medication control mode in flash mix pool

- Coagulant mixing control method: to treat the suspended solid adsorbed or cohered in the raw water, adding the coagulant and mixing control mode as the gravity running water jumping type or electric mixer control mode.
- Using the speed-change mixer could change the speed and adjust the raw water quality, and the flash mix pool shall consider the stay time and speed of the mixer.

## Program System Framework

- Provides host computer, communication and site controller ; controller and monitoring software for water treatment control modes.
- Provides mass data analysis and storage for long-term water quality control parameter record and tracing.

- Provides real-time SQL database records and exchange for water distribution control.
- With multiple serial ports and open site controller to connect various testing devices.



### Medication Control Mode

- pH value control mode: water pH medication control, by online regulation of PH meter.
- According to the raw water quality, to establish the chlorination time method, and improve disinfection of the scheduled control modes.



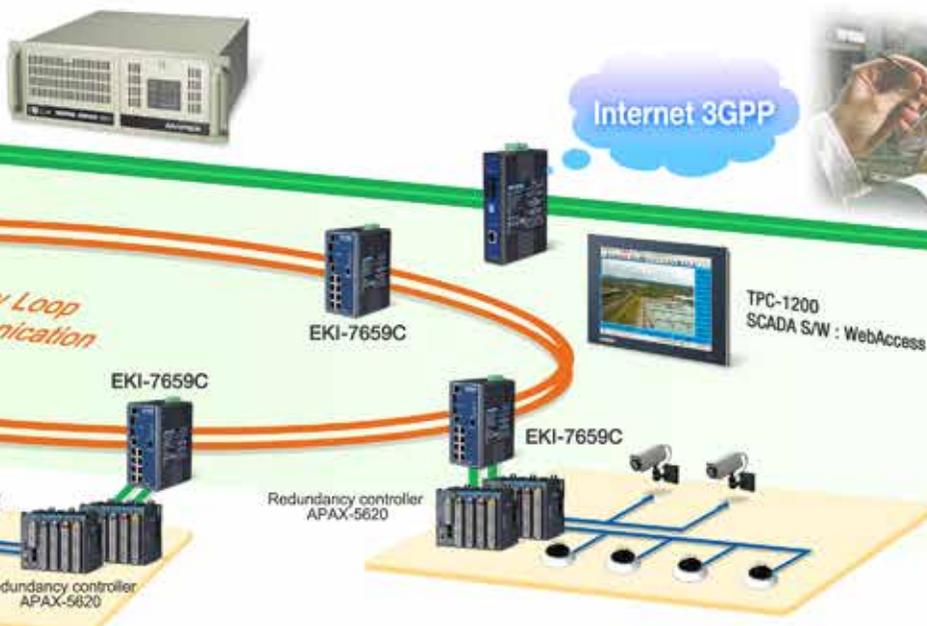
### Reverse Osmosis System (LPRO) Control Mode in a Clean-Water Pool

- Reverse osmosis system control mode: mainly to remove the metal ion, ammonia nitrogen, natural dissolved organic matter, microorganisms and germs in the raw water source.
- To remove the totally dissolved solids (TDS) in the water, reduce the hardness to soften the water quality, and decrease the by-products generated by chlorination.



### Sludge Treatment Control Mode

- With an excellent sludge disposal function mode for the level of the liquid difference using self-suction, with the scum casting, collecting and removing control mode.
- Provides various automated control function modes for dirt removal equipment, such as the driving type or central transmission type.
- Provides various communication ports for dirt removing equipment.
- Optimum networking control mechanism.

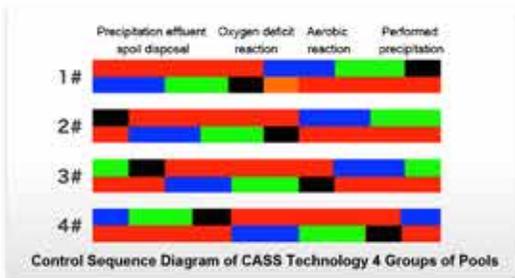


# Sewage Treatment Solutions

## Program Overview

Sewage treatment plants use miniaturization and regional development, and adopt the BOT business operation. While, in the newly issued Water Pollution Prevention and Control Law, the sewage emission standard drafts the new standard estimated value requirement of COD (chemical oxygen demand) and SS (suspended solid), thus it shall develop the high performance sewage treatment solution and technology control policy according to the requirements and sewage source. Sewage treatment is divided into primary, secondary and tertiary treatment according to the degree of treatment. Primary treatment removes solid pollutants in the sewage; the secondary treatment removes organic pollutants (BOD, COD substances) in a gel and their dissolved state in the sewage; and the tertiary treatment disposes of the soluble inorganic matter such as refractory organic matter, nitrogen and phosphorus causing water eutrophication.

### Solution Feature



### Multilayer Structure

- Consists of site control station, monitoring layer, management layer and periphery pump station SCADA subsystem.

### Abundant Sewage Treatment Technology Integration

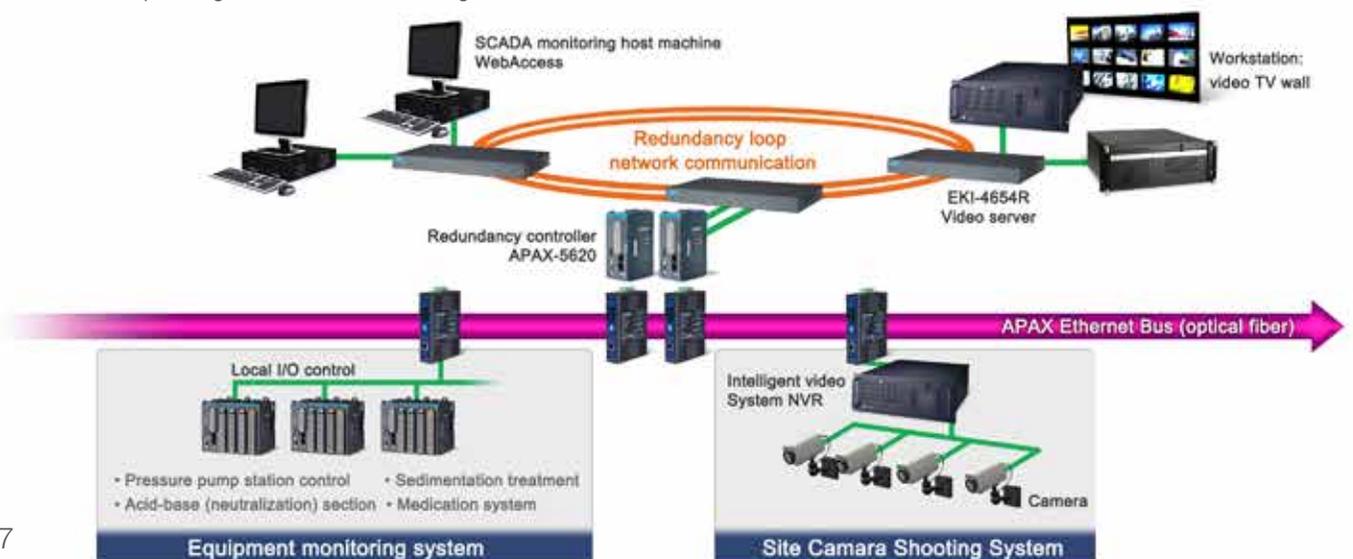
- A2O technology, CASS industry, oxidation ditch technology, MSBR technology, etc.
- Municipal administration sewage treatment, medical sewage treatment, chemical sewage treatment, etc.

### Particular Sewage Treatment Technology Control Mode Policy

- Sequencing batch activated sludge process (SBR) sequence control
- Aeration reaction dissolved oxygen DO control and air blower interlocking control
- Interval spoil disposal control
- Multi-pool groups' reaction, effluent, and spoil disposal cooperative control
- Multi-variable fuzzy control of reaction time and aeration rate

## Program System Framework

- Multiple network composition: field bus, 100M optical fiber loop network, 100M management layer local area network, GPRS network, etc.
- Real-time data network, information data network, plant MIS network layered setting, integrating the process control, sequence control, data monitoring and record all in one.
- Multiple integrated advanced technologies.



# Reclaimed Water Treatment Solution

## Program Overview

The goal of sewage recycling is to take full advantage of the urban sewage source, the water quality standard and water yield requirements of reclaimed water, mainly used for the environment, non-drinking water, industrial and agricultural water. The reclaimed water project is divided into four parts: reclaimed water plant, mating pipeline, sludge treatment facility and temporary pollution control. The main effluent indicator, meets surface water IV class standard and the main technology of the reclaimed water plant's monitoring is the cloth filter, filter backwash, bio-filter, regulating pool's process control and effluent distribution management. While the newly built reclaimed water pipeline supply system targets the new reclaimed water conveyance project in central urban areas and reclaimed water cross-basin scheduling using the management system.

### Solution Feature



### Control system treatment process control modes.

#### Upper System

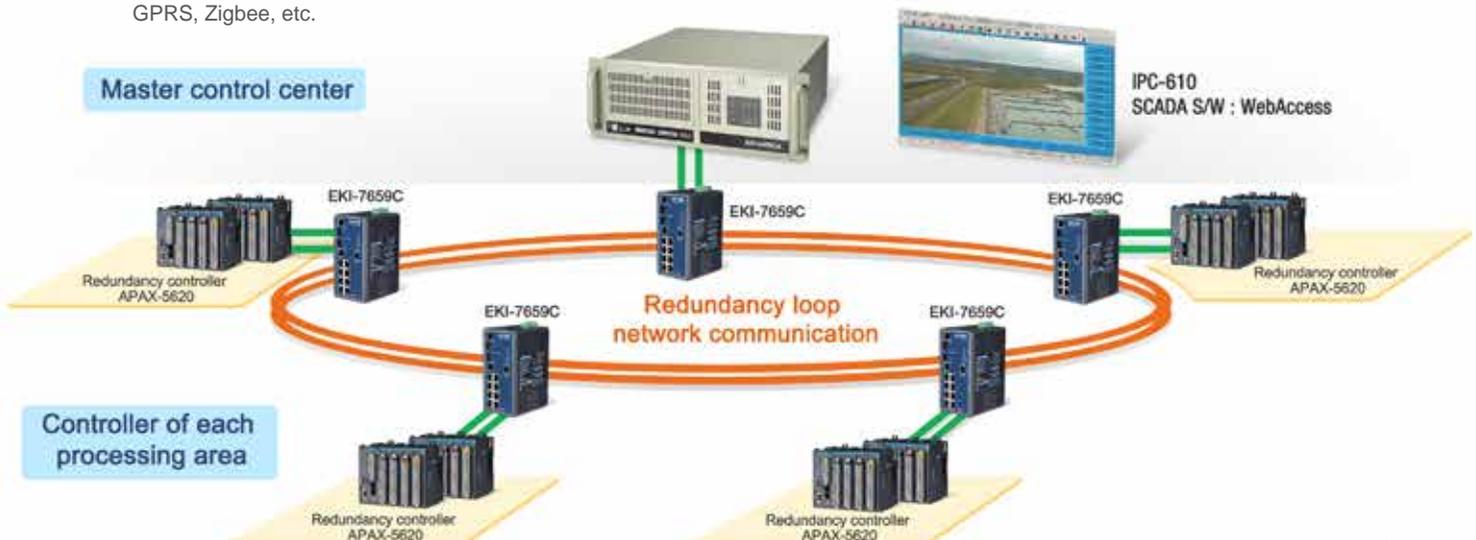
- Redundancy monitoring computer and configuration software
- Host machine and software of data analysis and drainage plan
- Five function screen monitoring system.

#### Site Redundancy Controller and Control Mode Software

- Automatic backwashing program
- Ultraviolet disinfection
- Bio-filter
- Water quality adjustment pool
- Power distribution equipment
- Medication room
- Cloth filter

### Program System Framework

- Fully redundant allocated water treatment and reclaimed water pipeline remote monitoring systems for the development of sewage treatment and recycling control modes.
- The water treatment monitoring system uses an open network framework, custom mode water treatment technology and mass data processing and record controller.
- The reclaimed water pipeline remote monitoring system uses multiple communication methods such as network, wireless, GPRS, Zigbee, etc.



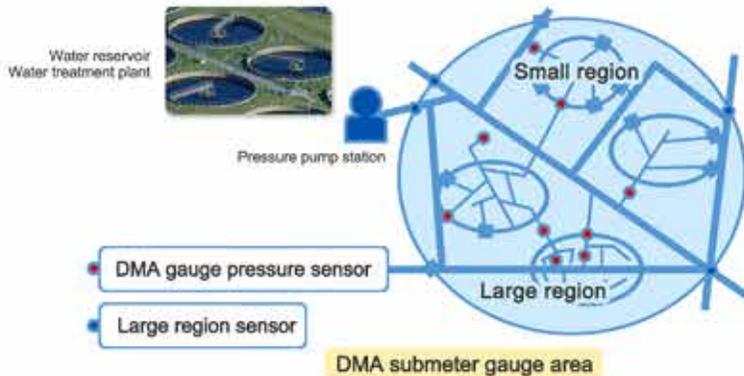
# Pipeline Monitoring and Management Solution

## Program Overview

In the digital water supply and distribution system, pipeline monitoring and management play a key role, and are the key technologies of a normal water supply and needs to solve the core problems:

- Ensuring a stable and safe water supply.
- Real-time water production and data management.
- Stabilize the water supply, when a new pipe system is connected.
- Use the pipe network monitoring system to control changes in demand.
- Using the monitoring system (SCADA) to control pipe leaks and wear conditions.

### Solution Feature



### Pipeline imitation/simulation system software integration

- Formulating the pipeline diagram and mathematical mode
- Reading the database data for analysis
- Offline and online pipeline analysis imitation/simulation
- Various water supply volume and water leakage analysis
- Comparing the efficiency before and after the analysis

### Pipeline geographic information software (GIS) integration

- Drawing maintenance and public work design system
- Equipment management and maintenance information
- Combines the pipeline drawing with data information
- Listing the pipeline location and data value
- Water supply failure notice

### RTU with submeter gauge area (DMA) planning capacity

- Measuring equipment with submeter gauge area DMA planning
- Planning according to one water treatment plant .

### Database data provision

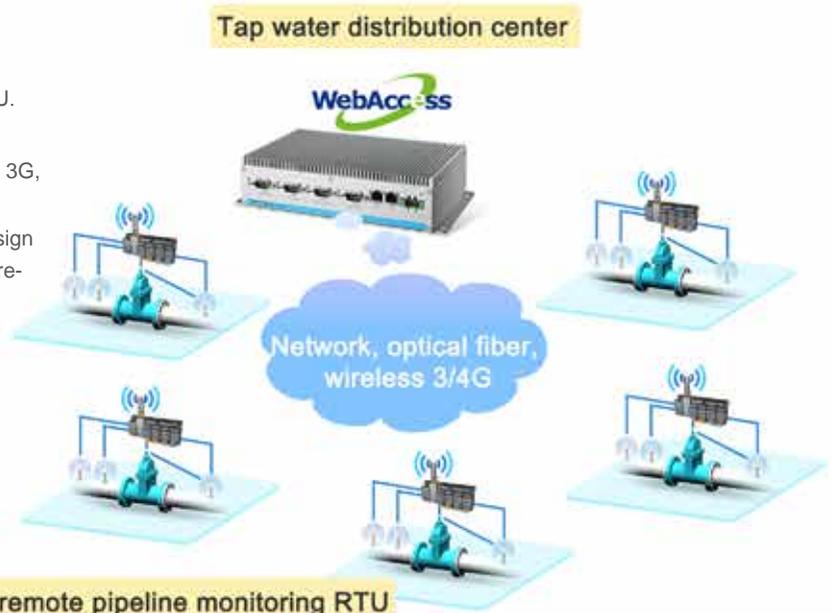
- Records, calculates and analyzes the water distribution and selling of water.
- Provides the record ratio and water selling ratio for sales status analysis.

### Pipeline leakage analysis mode of each area – minimum flow value analysis

- Evaluates the area water sale / leakage rate.
- Minimum flow method, direct method, indirect method.
- Minimum nighttime flow method to calculate the water sale rate.

## Pipeline Monitoring System Framework

- Adopts the five-remote pipeline monitoring RTU.
- Pressure, flow and valve monitoring.
- Provides various communication mechanisms: 3G, modern, Wi-Fi wireless communication.
- Provides the open communication protocol design port, conforming to the national standard requirement.



# City River Flood Control Solution

## Program Overview

City flood prevention is mainly to prevent the problems of heavy rain. The function of the pump station needs to be combined with the water forecasting system for scheduling the tasks.

- High water level alarm
- Electric generator oil groove leakage and flood alarm
- Diesel motor and generator operation and fault
- Main pump operating condition
- Sluice gate and dirt removing machine operating condition
- GPRS wireless remote communication module send information to the monitoring center server every ten seconds.
- City sewer water level and flow monitoring.

## Solution System



### Pump Station Control System

- Integrated completed redundancy control and monitoring system for water pump control.
- Combined monitoring system integrating the video monitoring and equipment operation.
- The pump station adopts a three-layer framework.

### City Water Regimen Forecasting System

- Establishing various sewer monitoring devices as fixed, movable and unmanned self-powered station RTU.
- Establishing fixed or movable water monitoring equipment in the rivers of the city and in outlying areas.
- Various communication mechanisms such as optical fiber, wireless and GPRS.
- By smart phone using an internet browser for remote monitoring.

## Program System Framework

- Erecting a flood prevention decision monitoring center.
- Each pump station's water pump shall adopt the redundancy loop connection.
- Site video DVR/NVR and central video management system integration.



# Weir Water Diversion and Alarm Monitoring System

- Stable control system guarantees safety and manages the water resources

## Case Information

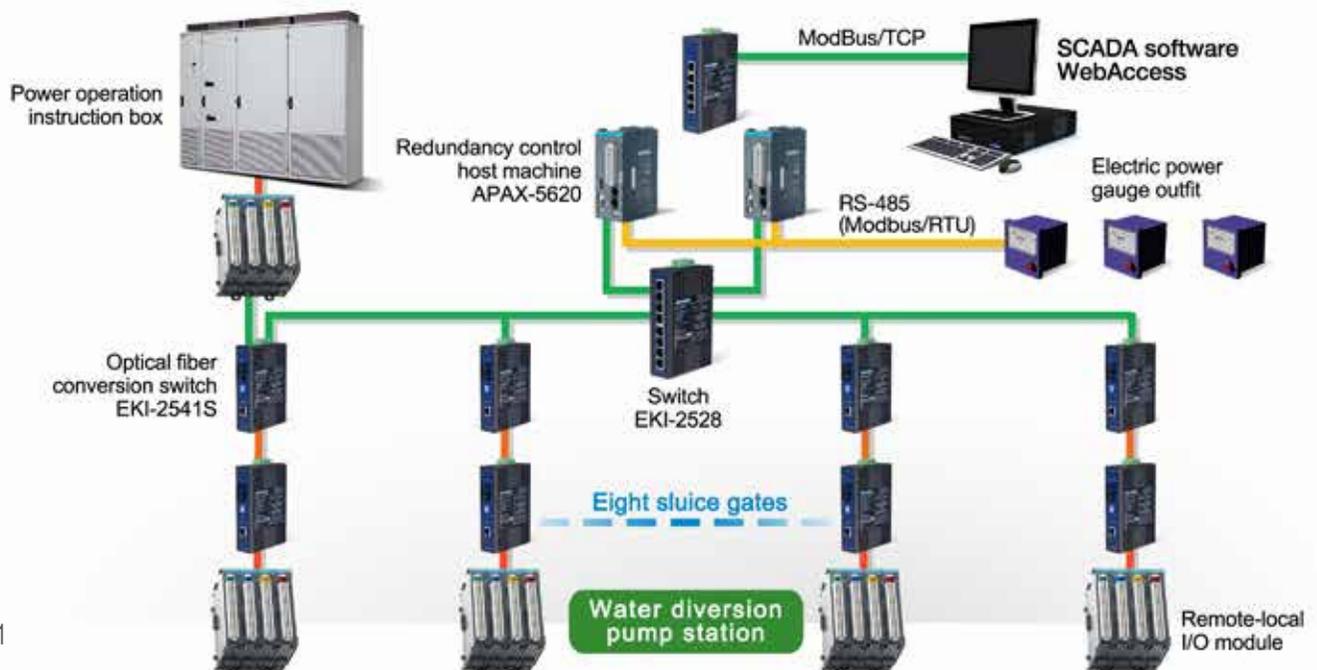
The main purpose of a weir is to divert water from the reservoir and dam the river in times of water shortage.

When heavy rain comes, the weir may face problems: torrential rain may flood the weir and cause danger to the operating personnel and surrounding residents. The existing system can monitor the water level and rainfall of the weir through the information network, evacuate personnel from the danger area and allow remote real-time monitoring provide relevant information , and control the opening and closing of the sluice gate .

## System Description

For water diversion and water alarm monitoring systems engineers need to have stable operation in hostile environments for at least three data captures a second. Typical PLC products cannot meet this demand, and the performance of Advantech's APAX products is much better than a PLC. Meanwhile the control system has the following features, to allow maintenance personnel to control the system: configuration software WebAccess, EKI optical fiber communication and APAX-5620KW redundancy controller.

- Needing to quickly monitor the water yield, for at least three data captures a second.
- Host computer system, communication equipment, control equipment and video products, Advantech provides open system products to support all the demands of the application.
- Randomly deployed distribution local I/O optical fiber network framework is also one of the features in this case: the system is divided into eight areas to separately control the sluice gate, and deliver the collected data to the monitoring center through optical fiber, while this complicated system and equipment have no problem with compatibility, and effectively control the cost as well.
- The small color nodes on the Advantech I/O module products have a great effect on the maintenance operation of the system manufacturer. When they suddenly receive a call from the client, requiring assistance in the diagnosis of accidents, it just needs to ask the client to find the Advantech modules with complicated circuits, and inform the color node, then we can conveniently distinguish the product and accelerate the diagnosis process of the client.



# Mariculture Pump Station Monitoring System

- Stable water quality and yield for Taiwan Grouper fishery

## Case Information

A Taiwanese fishery uses clean seawater for fish farming, and this aquaculture area uses the most natural technology to prevent subsidence.

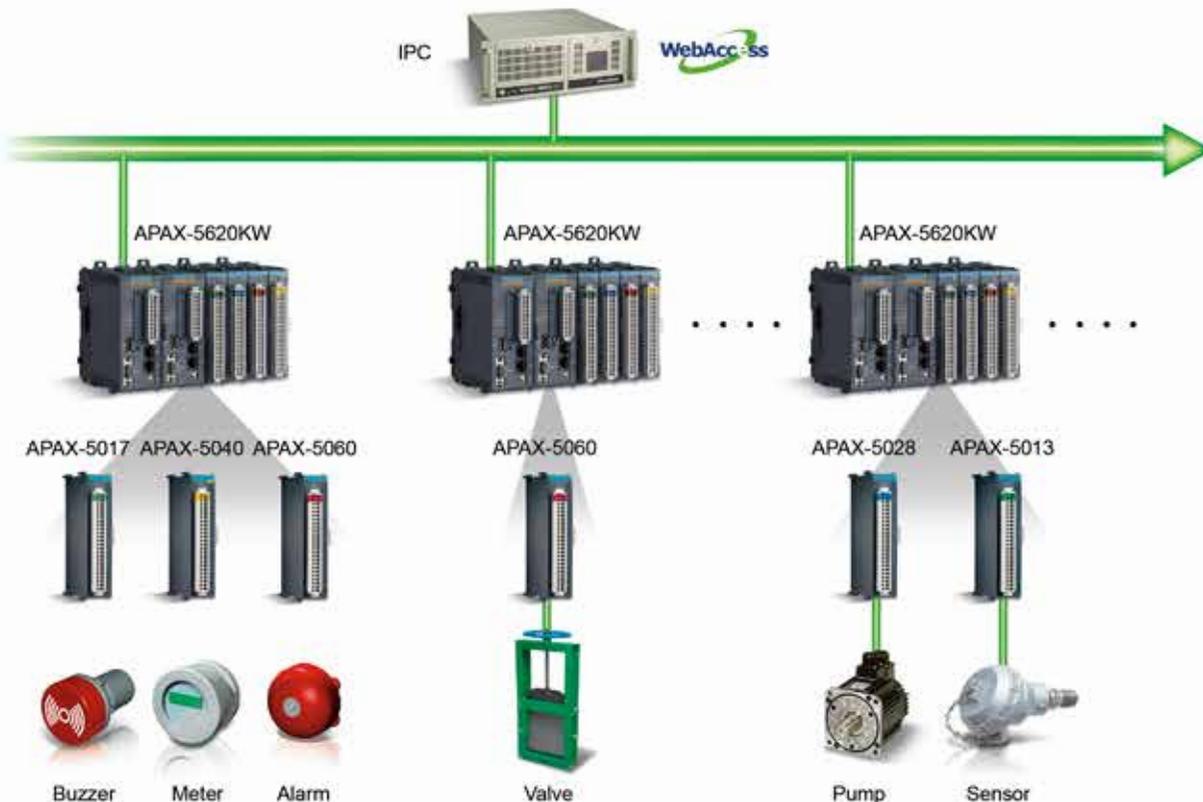
Through the use of advanced technology, the water supply system monitors the water supply and electric power facilities, to ensure stable water quality and supply. The control system is operated through a fiber optic network, so engineers can remotely monitor the site.

The system requires a redundant monitoring system, to ensure a stable water supply and protect the fish from death by suffocation. The system must have sturdy and durable hardware, to protect against strong sea wind and operate in damp conditions, as well as the variable outdoor temperatures. The system needed secure interference free transmission using fiber optic cable. The monitoring software allows the site management personnel and local government to supervise the status of the fish fry and their production, therefore HMI/SCADA software interface easy needs to be easy to use.

## System Description

The system needs to be able to meet the demands of the uninterrupted supply of qualified sea water yield and quality all the year round. The selection of Advantech's completed control system has the following feature requirements:

- Easy to operate stable control system equipment.
- Adopted the advanced PAC APAX-5000 redundancy controller control system and WebAccess configuration software for Internet of Things technology.
- Advantech's APAX-5620KW programmable automation controller's professional water treatment controller shall provide the control mode for aquiculture expert to establish the optimized control and management mode.



# Sewage Treatment Plant Monitoring System

- Sewage treatment experts establish the optimum program of treatment technology

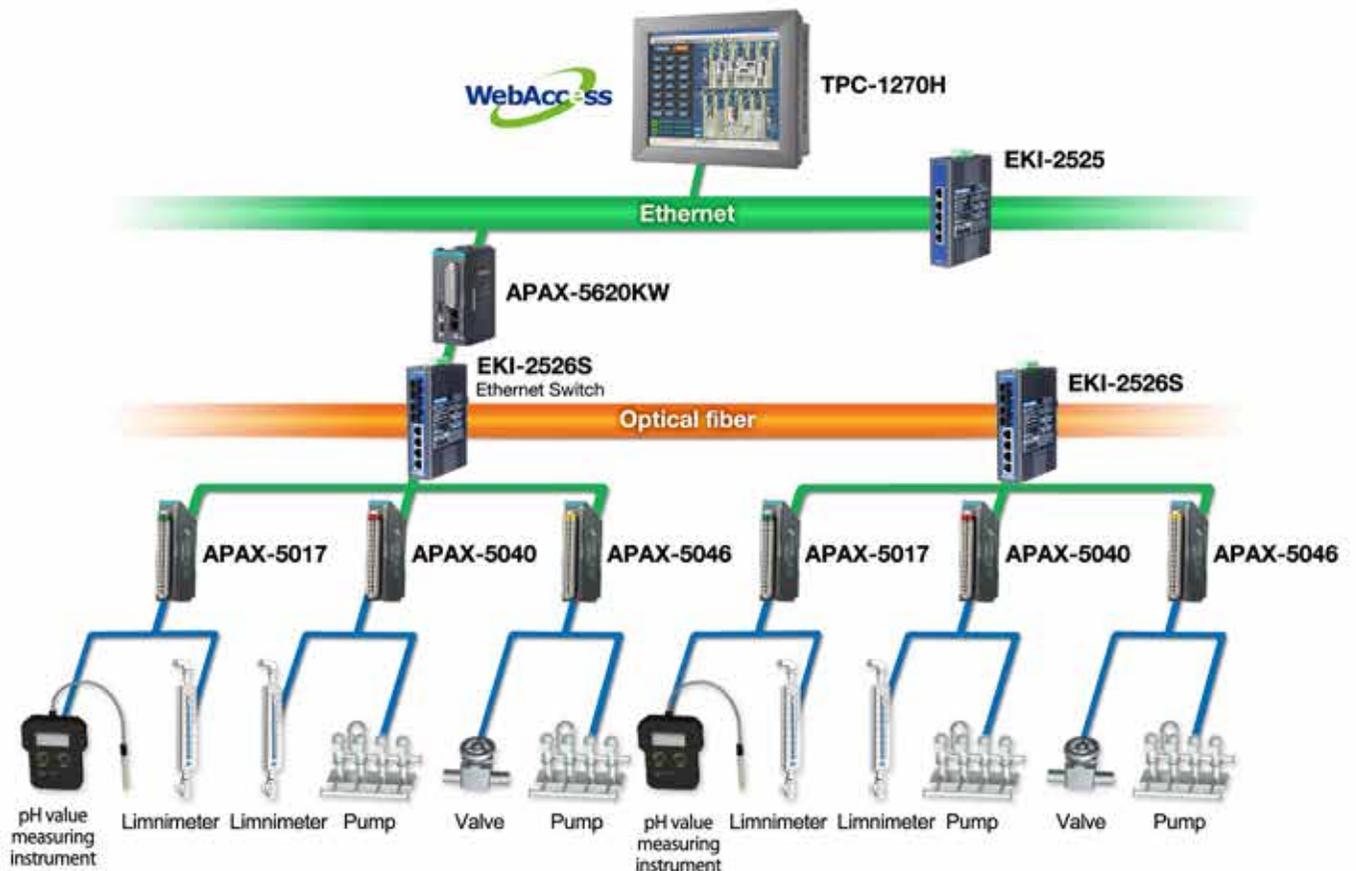
## Case Information

Society faces serious water resource pollution and shortages. Many national governments are speeding up their improvement of their sewage management of pipeline framework, and are adopting Advantech's solution, to assist the sewage treatment plant, which could utilize the existing network, hardware and software, to reduce the management costs through the remote control and optical fiber communication integrated management system.

## System Description

This project emphasizes the technological capacity of uninterrupted operation and sewage treatment. Since the equipment is installed outside, the controller I/O unit needs to be installed near the equipment, thus the control system required the following:

- The APAX-5000 advanced PAC, with advanced software programming features missing from a PLC, is more convenient for water treatment engineers to add the various modes.
- The APAX-5620 host machine performs site data collection and control, and integrates relevant energy consumption monitoring and management of electric power equipment, It also has the relevant logic control functions, such as the pump, motor, valve control and relevant control parameter regulation.
- Use WebAccess SCADA software to display various data, to allow engineers to remotely regulate and operate , and provide real-time alarms by connecting with the control center computer, with many management functions such as history data analysis, data sharing, and automatic report generation.
- Outdoor communication is provided by the EKI-2526S communication switch with optical fiber ports, and protective equipment.
- The TPC-1270 Industrial standard touch panel computer, built-in Advantech configuration software, not only provides graphical monitoring and operation for the operating personnel, and also provides the sewage plant treatment data record, convenient for the analysis and maintenance of expert and maintenance personnel.



# Landfill Percolate Treatment Automatic Technology

- Complicated treatment technology based on the monitoring system for the Internet of Things

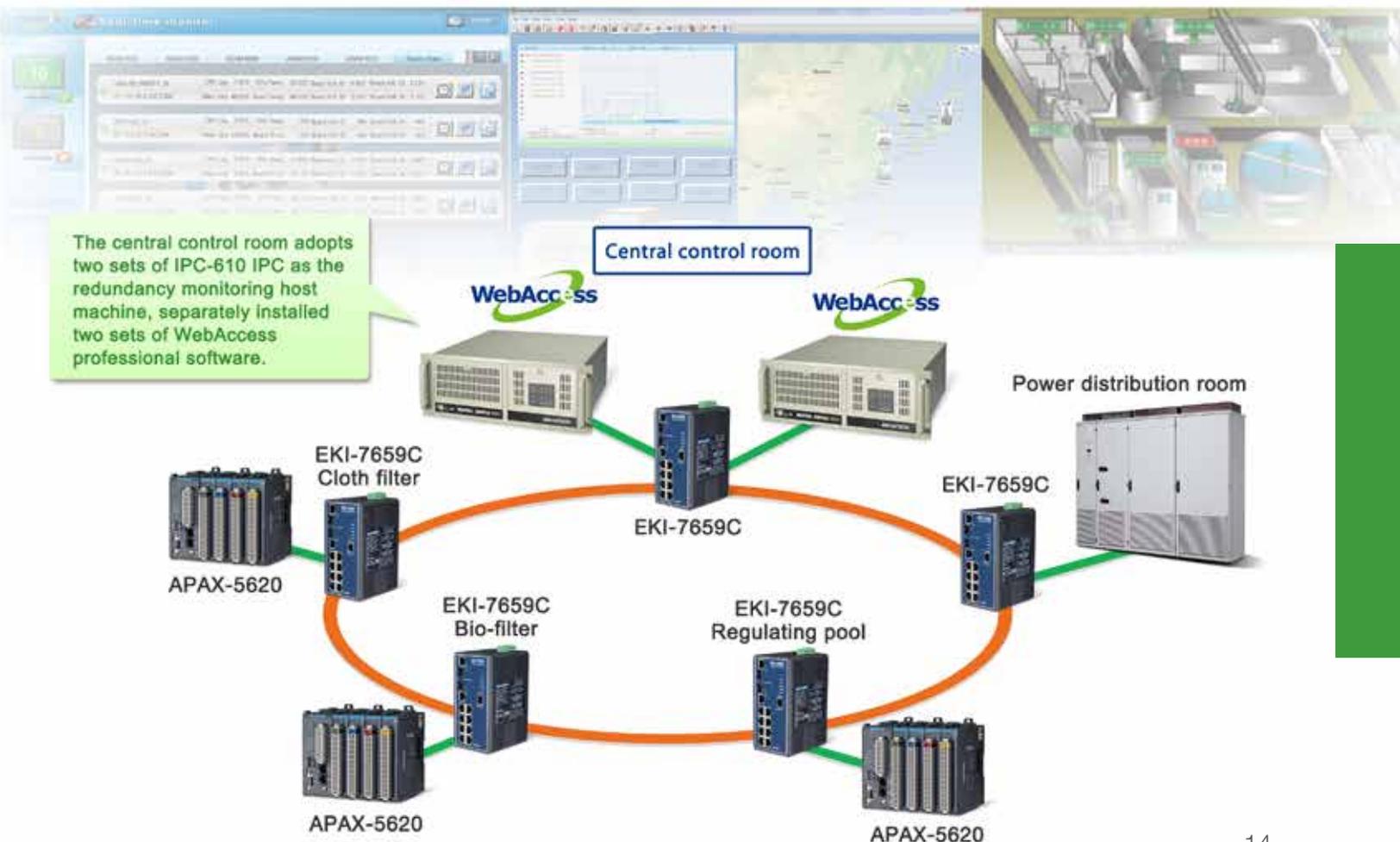
## Case Information

Garbage percolate is highly concentrated organic waste water, which is complicated to treat and hazardous to personnel. Beijing Gao'antun waste incineration power plant burns 533,000 tons of garbage each year, to generates 0.22 billion KWH of energy. The technology section of the treatment project consists of pre-treatment, anaerobic pool and AO pool, ultra-filtration system, advanced treatment system, and air blower room, for new technology applications, combined with the garbage percolate treatment technology features.

## System Description

The monitoring system uses Advantech's WebAccess configuration software. whose system framework consists of three parts: engineering node (project node), monitoring node (SCADA node), client port (client terminal).

- The engineering node is a concentrated database and WEB server, and provides the initial connection between the client port program and monitoring.
- The monitoring node is a remote PC, which uses the WebAccess supported drivers and automation equipment for connection and communication.
- The client port is a plug-in program, which provides real-time data display, animation, trends, alarms and report functions.



# Water Conservation and Treatment Solution Package

## Solution Package

This system adopts the Internet of Things and automation control technology, to create an exclusive system solution package for a particular sub-system, effectively monitoring the equipment of certain sub-systems in a water treatment system, select the control point number for collocation, and realize the remote real-time monitoring to the system through the exclusive HMI/SCADA software and cloud management platform.

## Solution Package

Solution	Sewage treatment system program	Pipeline SCADA program	Pump station (pump station) SCADA program
Chief application	Water treatment plant Sewage /reclaimed water treatment plant	Water supply water distribution pipeline management Dam monitoring	River flood control City sewer flood protection
Chief application	<ul style="list-style-type: none"> <li>Completed redundancy monitoring system</li> <li>Open system allows the expert establishing the control mode</li> <li>Provides optical fiber loop network communication</li> <li>Real-time database synchronizing with data of water supply and distribution center</li> </ul>	<ul style="list-style-type: none"> <li>Cloud SCADA system</li> <li>Data real-time collection</li> <li>Expert analysis mode establishment</li> <li>Five-remote RTU controllers</li> <li>Pipeline analysis mode establishment</li> </ul>	<ul style="list-style-type: none"> <li>Completed redundancy monitoring system</li> <li>Integrating the control, video and voice</li> <li>Proving the movable /solar energy sewer monitoring RTU</li> <li>Open system integration, client defined control function base</li> </ul>
Product content	WebAccess redundancy 1500pt WA-UNO2178 APAX-5620KW redundancy EKI-7659C optical fiber redundancy	WebAccess 300pt WA-UNO2178 ADAM-3600 EKI-1322	WebAccess redundancy 600pt WA-UNO2178 APAX-5620KW redundancy ADAM-3600
Treatment point	Single system 1000 points	Single station IO 16 points	Single system 16/256 points

## System Product Features



Components	EKI-7659C	APAX-5620KW	ADAM-3600
Functions	8+2G port redundancy industrial Ethernet switch supports many advanced network standard to optimize the network performance, simplify the maintenance, and ensure the network safety.	The control host machine, as the water treatment management system, needs to have a dual CPU redundancy feature for IEC61131-3 and .Net compilation.	The intelligent network node controls the site equipment to complete the delivery task downstream, and transfer the data upstream wired or wirelessly.
Main specifications	<ul style="list-style-type: none"> <li>• 2 GB copper cable/SFP combined port, adding 8 fast Ethernet ports</li> <li>• Redundancy: KB X loop (super-speed self-healing time &lt; 10 millisecond), RSTP/STP (802.1 watt /1D)</li> </ul>	<ul style="list-style-type: none"> <li>• CPU speed reaches 520Mhz</li> <li>• Supports the double RS485 communication port</li> <li>• Providing the local I/O over 768 points (AIO:192 points)</li> <li>• Supporting Modbus/RTU client-server</li> <li>• Supporting Modbus/TCP client-server</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple wireless communication program</li> <li>• Abundant local I/O configuration and elastic expansion</li> <li>• Supports wide temperature operation, applicable to the outdoor control cabinet</li> </ul>



Components	Advantech WebAccess	WA-UNO2178	EKI-1322
Functions	HMI SCADA graphical operating software based on the browser framework <ul style="list-style-type: none"> <li>• With networking capacity and remote monitoring function, able to quickly develop the water system management software.</li> <li>• With the remote monitoring function, users can control the site conditions from wherever they are through the network, and analyze and make decisions through a remote connection.</li> </ul>	Data capturing industrial computer <ul style="list-style-type: none"> <li>• Built-in WebAccess, SCADA software with real-time data capturing and powerful computing power, low power consumption, fanless design, which is the most durable and reliable data capturing platform for intelligent water treatment system</li> </ul>	Double ports RS-232/422/485 to GPR-SIP gateway <ul style="list-style-type: none"> <li>• EKI-1322 gateway can connect using RS-232/422/485 or Ethernet equipment to the network.</li> <li>• Allowing any equipment with a serial or Ethernet port to connect.</li> </ul>
Main specifications	According to the demands of different systems, providing different I/O points collocation, see detailed information in the system specifications.	Advantech WebAccess 600/5000 points Intel Atom TMD 5101.67GHz CPU	<ul style="list-style-type: none"> <li>• Connecting Ethernet and serial equipment through a VPN</li> <li>• Multiple work modes: COM port reset, RVCOM, TCP, UDP, short message channel and dual link</li> <li>• Built-in 15 KV ESD protecting all serial signal</li> </ul>

# Choose Advantech as Your Best Partner

Founded more than thirty years ago, Advantech has become an intelligent service industry leader, and has offices around the world. Through close cooperation with a vertical field of systems integrators, Advantech provides a wider range of applications in each industry, and comprehensive smart city and Internet of Things (IoT) solutions in order to facilitate a convenient and smart life.

Advantech's mission is to continue to drive the earth to become more intelligent, to drive innovation of smart city, to build the model IoT industry, to assist industries to accelerate intelligence operations to become the most influential global businesses of smart city and Internet of Things (IoT).



*Enabling an Intelligent Planet*

## Smart city solutions

Advantech's five major smart city solutions make the system able to fully utilize Internet of Things (IoT) architecture for comprehensive sensing, reliable communications, and intelligent processing. These solutions provide a more intelligent experience to the public, business, and government, improving the overall quality and image of a city.

Digital Retail and Hospitality	Intelligent Hospital	Digital Logistics and Fleet Management
		
<ul style="list-style-type: none"><li>• Ustore Manager</li><li>• iCloud Solution</li><li>• In-Store Management</li><li>• Central Control and Cloud Management</li><li>• Restaurant Management</li></ul>	<ul style="list-style-type: none"><li>• Integrated Operating Room</li><li>• Quality Nursing Care</li><li>• Intelligent Outpatient Services</li></ul>	<ul style="list-style-type: none"><li>• Logistics &amp; Warehousing Management System</li><li>• Fleet Management System</li></ul>

## Why Advantech

### Designing specific solutions according to industry characteristics

In order to offer the market new value-added services, and to meet the needs of as it moves from "product" to "services", Advantech provides innovative SRPs (Solution Ready Packages) for various professional industries. Advantech also provides application solutions for industry-specific hardware and more intelligent services to its customers, allowing customers to focus on their work, and make application integration easier.

### Perfect cloud integration solutions

Advantech has been cultivating various industries for many years, understanding the purposes and needs of users, and providing appropriate hardware and software to match solutions. With particular emphasis on the product development of cloud-based architecture in recent years, WebAccess<sup>+</sup>, a new industrial cloud software, provides comprehensive evolution of intelligent remote detection management service that instantly detects and accurately grasps the system state.

## Model Corporate Citizen

Advantech is committed to being a model corporate citizen by helping to preserve the environment and by giving back to society. Our environmental program focuses on reducing, reusing, and recycling materials used in our manufacturing operations. Advantech's environmental compliance effort includes the following:

- ISO 9001 Certification
- ISO 14001 Certification
- ISO 13485 Certification
- OHSAS 18001 Certification
- TL9000 Quality Management System
- RoHS Directive Compliance
- WEEE Directive Compliance
- Authorized Sony Green Partner

## After Service

### Product Warranty

When the basic product warranty expires, users can buy warranty extensions. We provide a full-service to customers to lower maintenance costs.

### Professional Installation

All new settings are tested by Advantech's professional team and we offer optional installation and integration services. After installation, we set the management and operation via the internet immediately, providing real-time information.

### Complete Training

With a total training solution which including multimedia player software with user demonstrations and hands-on experience system maintenance staff can learn to operate their system in no time.

### Intelligent Building and Urban Space Management



- Intelligent Space Management
- Intelligent Building Energy Management System
- Urban Space Management
- Transportation Control System

### Intelligent Agricultural and Environmental Protection



- Intelligent Environmental Protection
- Intelligent Agriculture
- Intelligent Water Affairs
- Intelligent Plant Equipment Monitoring
- Oil and Gas
- Power and Energy

**WebAccess+**  
Alliance

ADVANTECH  
WebAccess/SCADA

ADVANTECH  
WebAccess+IVS

ADVANTECH  
WebAccess+IMM

ADVANTECH  
WebAccess/NMS

### Industry-Leading Quality Assurance

Advantech is a global embedded computing researcher, developer, and manufacturer, providing various industries a variety of industrial PCs, touch screen, data acquisition modules, and other products. With stable quality assurance, Advantech products can not only be used in inside, but also outside in harsh environments. With the support of Advantech industrial computers, Advantech provides intelligent and stable project planning to industries.

### Customer-oriented Support

Advantech's complete technical and repair support provides a variety of customizable after-sales services, including extended warranty, advance replacement, upgrade, fast repair and so on. With hotline AE 24/7 technical support, we keep you investment at peak performance and within your budget.