New Energy Solution

Providing a software and hardware integration solution for new energy power generation integrated monitoring systems

With a continuing increase of wind power and photovoltaic farms, the enormous grid connection operating the wind turbine and photovoltaic power station management has become the key to improving profit and reducing the operation costs. Effective production management systems and remote diagnosis analysis systems are necessary tools for new creating energy in remote regions. costs.

ADVANTECH

Enabling an Intelligent Planet

WebAccess+
Alliance

Integrate a remote intelligent gateway and SCADA software assisting new energy operations to become unassailable

Wind farms and photovoltaic power stations are often located in remote places which make controlling the on-site operation status difficult; unexpected stoppages or abnormal occurrences cause problems and Advantech provides complete solutions for real-time monitoring. Wind farm intelligent gateways acquire a variety of field data, and wireless communication solves the issue of complex wiring problems, large amounts of information is processed in a cloud server and finally to SCADA software presenting real-time monitoring information, failure alarms and customized reports to effectively develop the maximum operational efficiency of the wind farm and photovoltaic power station.

Wind turbine vibration monitoring

Wind farm operational monitoring/management

Centralized photovoltaic monitoring

Distributed photovoltaic monitoring/
intelligent operation and maintenance

2

Wind Farm Management Solution

Wind power generation has become an indispensable component of the world energy market and a large wind power plant consists hundreds of wind turbines. These wind turbines are all connected to the transmission grid and are located in remote locations which make management difficult.
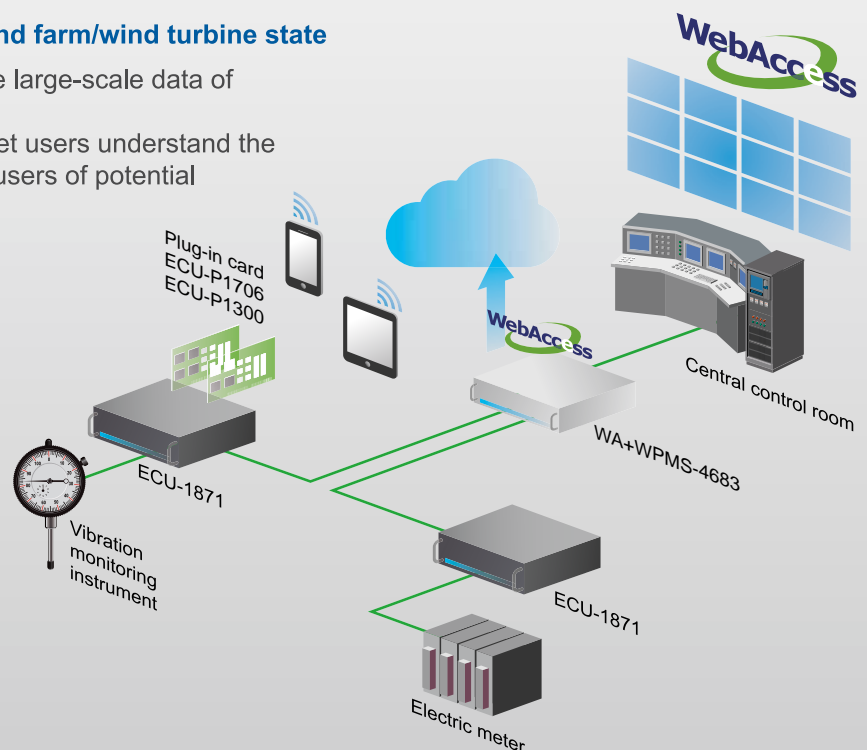

Wind Farm Management

Wind Farm Operating State

Wind farm real-time monitoring, convenient to control the wind farm/ wind turbine real-time operating state

• Real-time collection of the parameters of operation, such as the electric generator running time, power generation capacity etc.
• When the wind turbine data changes, users are informed in a variety of ways.

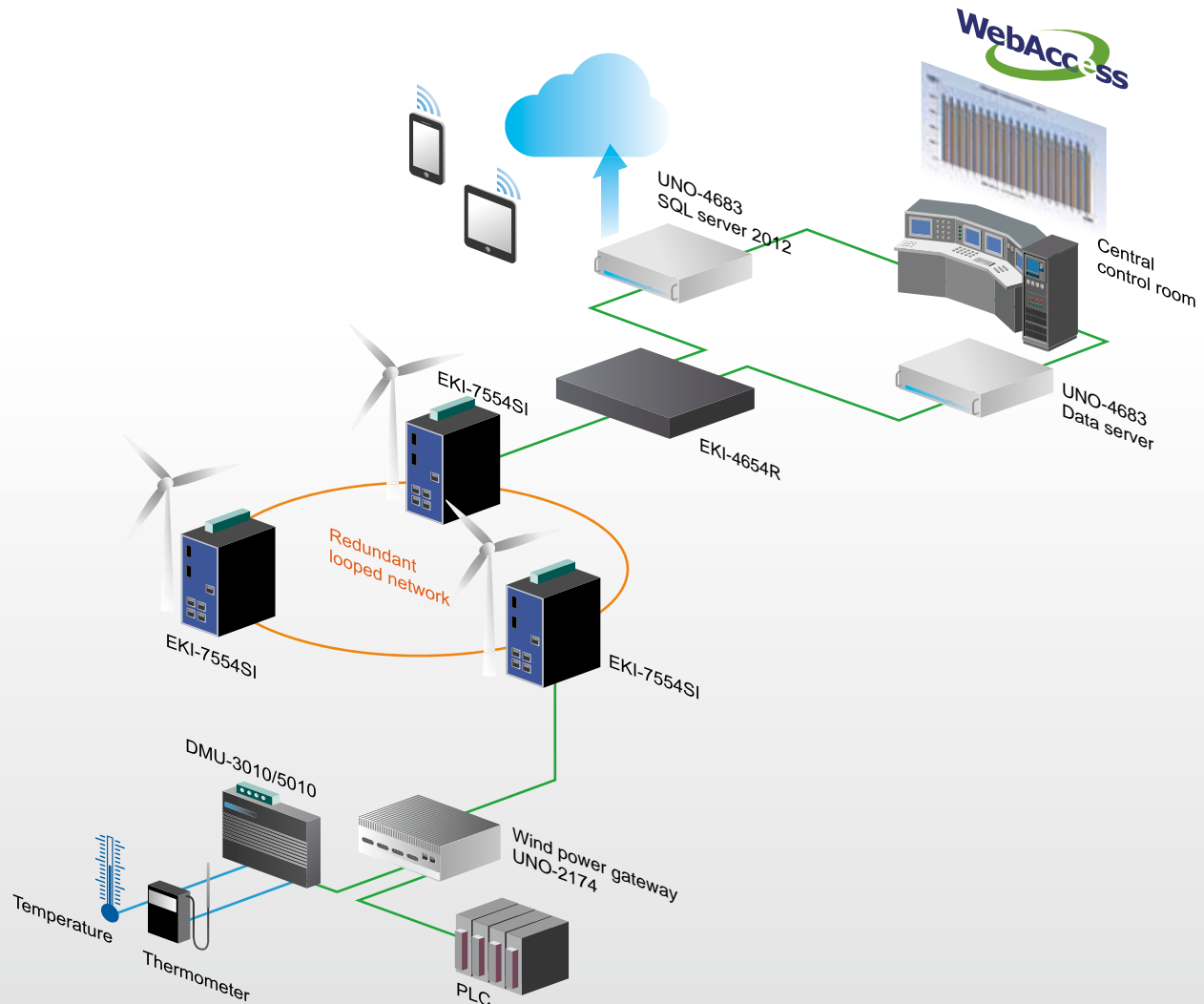**Data analysis reports, analyze the wind farm/wind turbine state**

• System shall cleanse and calculate the large-scale data of wind farm operation in real time.
• Various built-in data analysis reports, let users understand the wind farm power efficacy, and remind users of potential problems.

Plug-in card
ECU-P1706
ECU-P1300

WebAccess

ECU-1871

Vibration monitoring instrument

WA+WPMS-4683

Central control room

ECU-1871

Electric meter

Wind Farm Communication Solution

Communication looped network / Optoelectronic isolation / Breakpoint resume, to ensure the communication stability and data completeness

- The communication looped network ensures the gateway data is transferred in any direction and overcomes a communication outage.
- The optoelectronic isolation reduces the environmental interference of equipment at both ends of the communication.

WebAccess

UNO-4683
SQL server 2012

Central
control room

EKI-7554SI

UNO-4683
Data server

EKI-4654R

Redundant
looped network

EKI-7554SI

EKI-7554SI

DMU-3010/5010

Temperature

Thermometer

Wind power gateway
UNO-2174

PLC

Wind Turbine Vibration State Monitoring

Wind turbine vibration signal monitoring, to warn of equipment failure and reduce maintenance costs
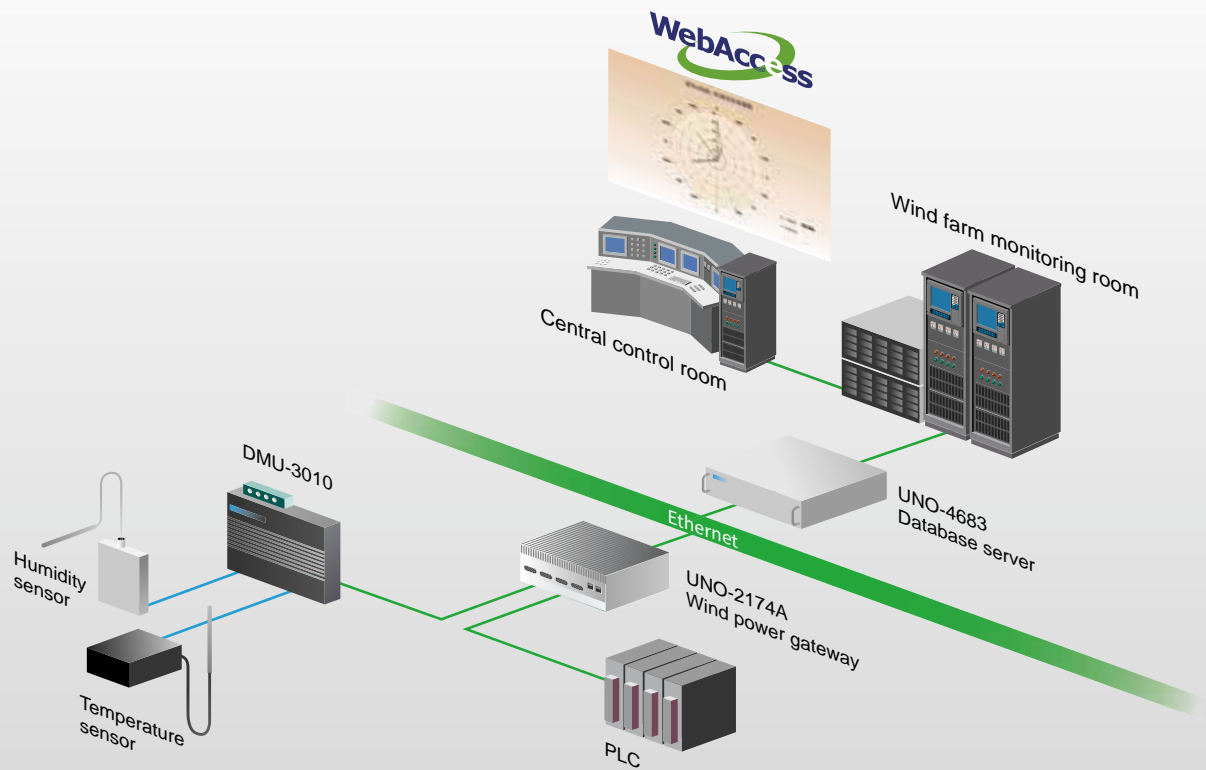
- Vibration monitoring shall pay attention to the fault diagnosis of the key components of the machine's unit, with foreseeable adjustment ability to the machine unit failure.
- The system ensures the safe operation of the windmill through reliable equipment.

Wind Farm Operational Monitoring Solution

Program Framework

WebAccess

Wind farm monitoring room

Central control room

DMU-3010

Humidity sensor

Temperature sensor

UNO-4683
Database server

Ethernet

UNO-2174A
Wind power gateway

PLC

Wind Turbine Remote and Real-Time Monitoring Management

- Wind turbine controllers monitor the operation including all aspects of the wind turbine operation.
- The monitoring parameter data is automatically stored on the database to perform retrospective analysis for up to 20 years.
- Monitor wind turbine parameter settings; when the parameter value deviates an alarm shall be by e-mail and SMS.
- Remotely start, halt, and reset wind turbines, weather instruments and transformer stations.

Online Data Analysis Reports

- Manage the operating parameters and information distributed by each wind turbine, and store it on a central server.
- Integrated analysis algorithms, show the wind farm/wind turbines operating state through reports and diagrams.
- Check data reports from any web browser.
- Supports real-time and historical reports.
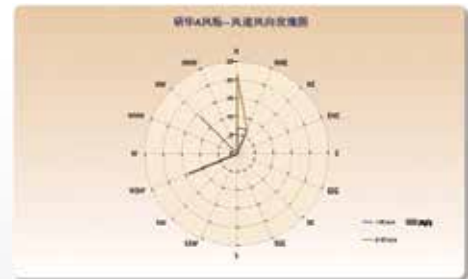
Intelligent Wind Farm Operation Management

- Check the operating condition of the wind farm and turbines through webGIS browser.
- Integration of video monitoring and security system, to provide complete wind farm operation solutions.
- Remotely monitor, maintain and upgrade the wind farm over a network.
- Enhanced security with a variety of management permissions.
- Watch the state of the wind farm in real-time via a variety of mobile devices.

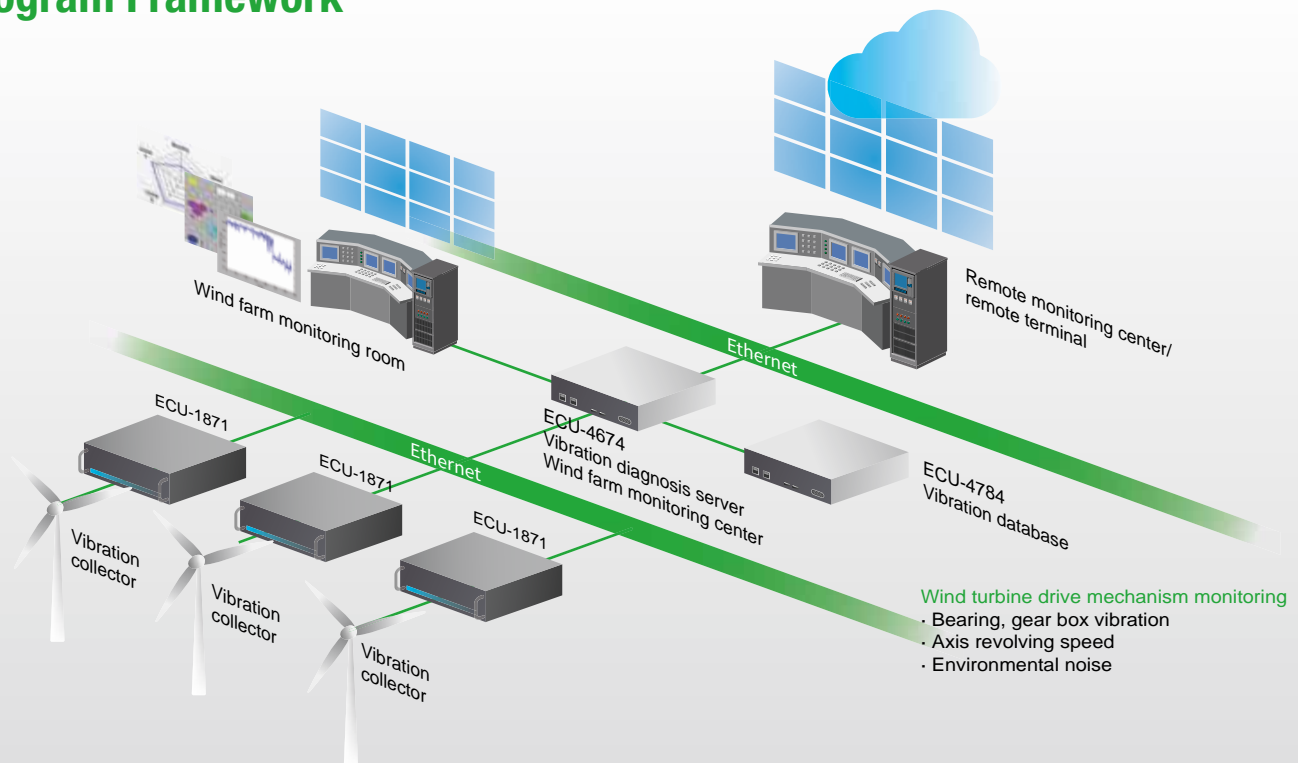## Wind Farm Communication Solution

- The corresponding switch of each wind power gateway in the wind farm uses a looped network, guaranteeing gateway data can move in any direction.
- A photoelectric converter installed in the top and bottom of each wind using optical fiber.
- When the communication between the collecting gateway and central server is broken the collecting gateway supports the break-line buffer, and the data is temporarily stored in the gateway and resumes from that point when communication resumes.

Wind Turbine Vibration Monitoring Solution

Program Framework

Wind farm monitoring room

Remote monitoring center/ remote terminal

Ethernet

ECU-1871

ECU-1871

Ethernet

ECU-4674
Vibration diagnosis server
Wind farm monitoring center

ECU-4784
Vibration database

ECU-1871

Vibration collector

Vibration collector

Vibration collector

Wind turbine drive mechanism monitoring
· Bearing, gear box vibration
· Axis revolving speed
· Environmental noise

- The vibration monitoring system is a key component of a wind power machine unit status monitoring and fault diagnosis system. Vibration monitoring has a predictive failure ability to avoid extra damage, delays and costs if the machine fails.

- Advantech's wind turbine vibration monitoring solutions consist of the wind turbine vibration collector, wind farm vibration analysis server, and wind turbine vibration analysis and intelligent diagnosis software providing a complete solution for vibration data acquisition, failure signal feature monitoring, data transmission and communication, fault diagnosis and trend prediction, monitoring center display and database.

Wind Turbine Drive System Monitoring

- Use sensors to monitor the vibration conditions of the main axis bearing, electric generator bearing, gear box, and collect the signal feature of critical component.
- Monitor & configure the different vibration signals of each measuring point.
- Monitor the resolution speed of the main axis and electric generator axis in real time.
- Monitor the vibration information of each key component in real time.

Predictive Analytics and Instrumentation
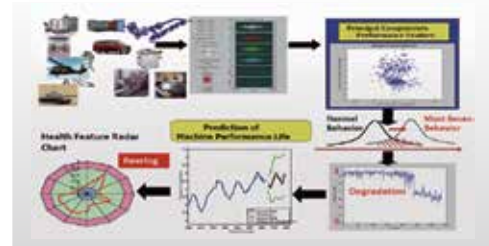
Quantized Health Condition Evaluation

- Confidence Value (CV) is used for the health condition of each part of drive system where 1 is the standard condition and 0 is worse.
- The health radar diagram presents the CV of each part and intuitively shows the health condition of the parts.
- The risk radar diagram combines the CV of each part and its importance in the system, to give feedback on the distribution condition of each part.
- The real-time health condition distribution diagram used for part failure category diagnosis, to establish the various failure modes and data of each part predictive diagnosis.
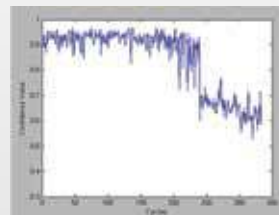
Intelligent Prevention and Maintenance

- The bearings and gears of the wind turbines' drive mechanism degrade over time and by analyzing performance trends degradation can be predicted.
- Early diagnosis helps maintenance personnel to formulate an advance maintenance policy.
- The system can improve the accuracy of discovered failures by learning about what causes a failure.

Photovoltaic Monitoring Solution

The development of the photovoltaic industry and solar energy is an important component in the sustainable development policy of each country. Photovoltaic power stations can be divided into the distributed photovoltaic power station and centralized photovoltaic power station according to the distribution type and scale. To maximize the electric energy output and alarm the component health condition, the analysis and diagnosis of photovoltaic power station data is necessary.

Remote real-time monitoring of power stations, convenient for controlling the geographic position and real-time data of power station

- Check the power station's location using the Web GIS (Geographic Information System).
- A real-time GUI assists site operation.
- Provides the power station information, and also details of the equipment data.

Multi-point monitoring, providing large-scale and high-capacity data monitoring for the user

- Use a distributed network to collect equipment data of relevant equipment of each power station to the data center, and for long-term storage.
- Advantech industrial communication equipment solves the problem of interference in harsh environments.
- The system could overcome the abnormal condition as unstable network, which could buffer the data when the communication is abnormal, and synchronize to the data center after the communication is normal
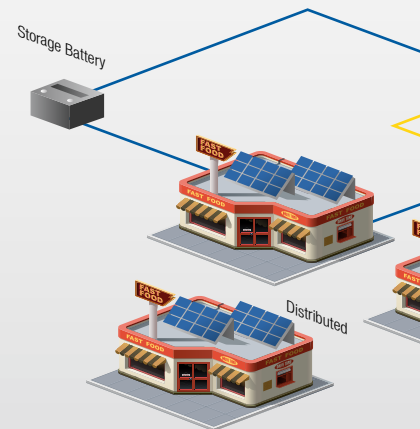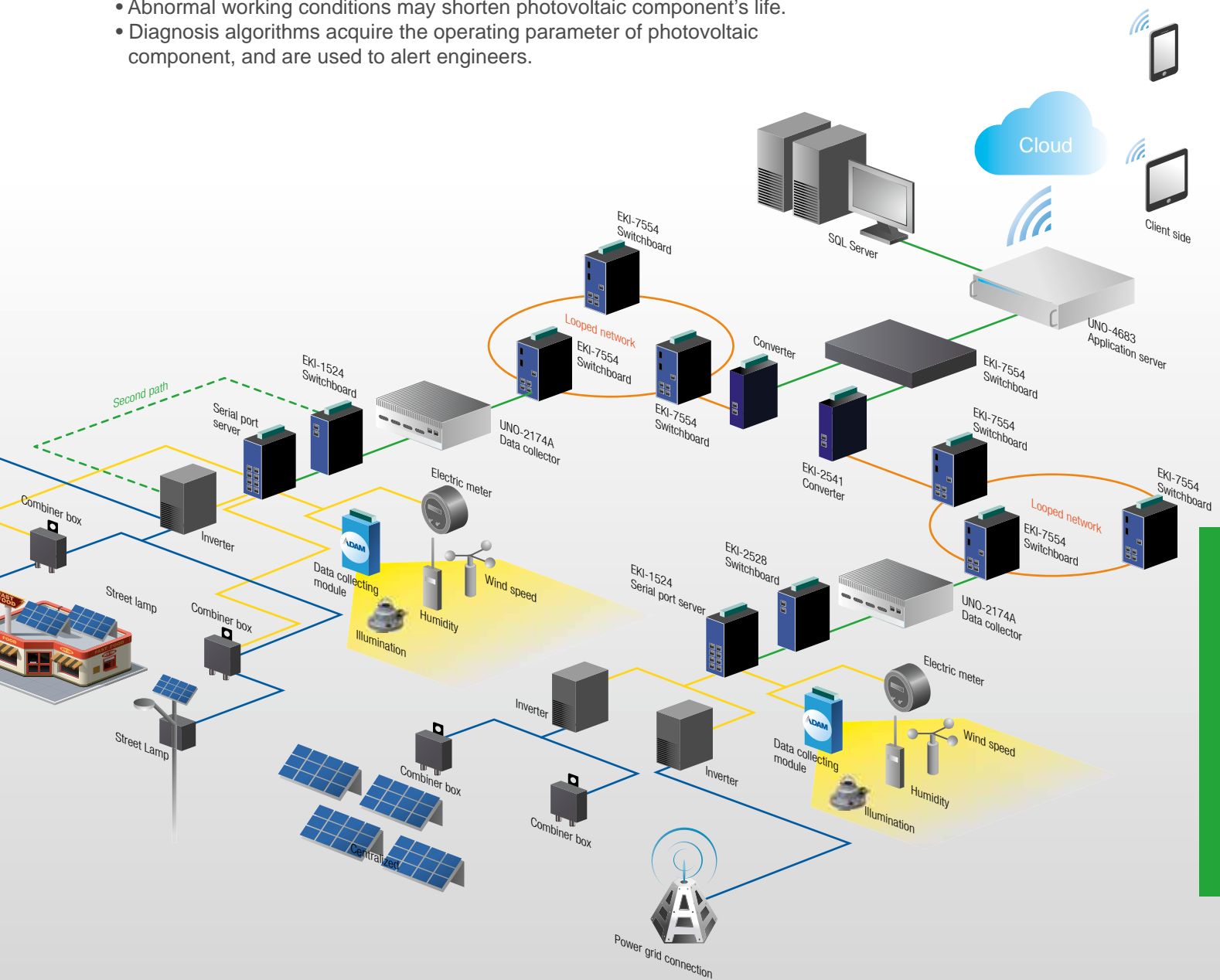
Power station data analysis and report presentation

- Calculating important power station operating conditions using power station data stored in the data center.
- Abundant reports to indicate the power station operating indicator statistics.
- Receiving regular e-mail reports.

Photovoltaic component health diagnosis

- Photovoltaic components may have problems after long-term use.
- Abnormal working conditions may shorten photovoltaic component's life.
- Diagnosis algorithms acquire the operating parameter of photovoltaic component, and are used to alert engineers.

Cloud

Client side

EKI-7554 Switchboard

SQL Server

Looped network

EKI-1524 Switchboard

Second path

Serial port server

Converter

UNO-4683 Application server

EKI-7554 Switchboard

EKI-7554 Switchboard

EKI-7554 Switchboard

UNO-2174A Data collector

EKI-2541 Converter

EKI-7554 Switchboard

EKI-7554 Switchboard

EKI-7554 Switchboard

Electric meter

Combiner box

Inverter

Data collecting module

Wind speed

Humidity

Street lamp

Combiner box

Illumination

EKI-1524 Serial port server

EKI-2528 Switchboard

UNO-2174A Data collector

Street Lamp

Electric meter

Inverter

Data collecting module

Wind speed

Combiner box

Humidity

Combiner box

Inverter

Illumination

Centralized

Power grid connection

Centralized Photovoltaic Monitoring Solution

Centralized Photovoltaic Monitoring Solution

- Photovoltaic components are usually installed remote locations, with working voltage reaching hundred volts, whilst manual maintenance is time consuming and dangerous.
- Using integrated algorithms, Advantech photovoltaic monitoring systems monitor the photovoltaic components, to provide early warning/alarm information.
- The built-in photovoltaic component fault diagnostician system of Advantech photovoltaic monitoring system provides predictive failure information.

Solar Irradiation Tracking of Photovoltaic Cell Panels

- Measure solar intensity with sensors, to find the optimal direction of the sunlight.
- Dynamically adjust photovoltaic panels according to the strongest sunlight direction.
- Correct orientation ensures the panels always face the sunlight strongest direction, to improving the conversion rate .

Power Station's Power Generation Capacity / Power Generation Power Prediction

- Use power station operation and weather forecast information to predict the future and theoretical power generation, to assist the power company in formulation

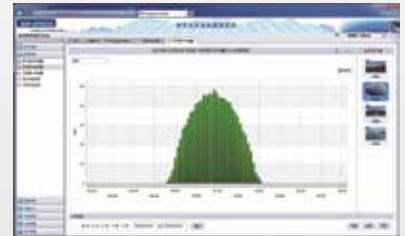# Distributed Photovoltaic Monitoring Solution

Distributed Photovoltaic Power Station Remote Monitoring

- Photovoltaic power stations are widely distributed, and operators need to see the information of all the power stations.
- Users can check the real-time operating state of each power station through a graphical interface.
- Alarms & early warning mechanisms assist users acquire abnormal information of distributed power station timely through the e-mail or SMS.
- The system automatically records the power generation capacity of each distributed power station, and sends reports to users.

Intelligent Power Consumption Analysis of Power Station

- Advantech intelligent power consumption analysis software effectively monitors the key parameters of output voltage, to ensure high system reliability and efficiency.
- Through the calculation of photovoltaic power generation output, the system combines an energy management system, to assist user understanding of energy saving condition and carbon emission reduction.
- Through the load balancing algorithm, load power consumption, to avoid excess power consumption exceeding or wasted energy , and maintain the system stability.

Distributed Communication Solution

- In distributed photovoltaic power generation applications, there is strong electromagnetic interference which may cause poor communication.
- Advantech photovoltaic monitoring systems provides multiple stable and reliable communication methods.
- Advantech's photovoltaic monitoring system has a breakpoint data resume function, to effectively prevent the data loss if communication is interrupted.

Wind Power Field Monitoring System Integrated Solution

Client Requirements

• The need to remotely monitor the wind power field
• The need for historical data storage, and uploading it to the central control room for future reporting
• Provide a cooperative platform for all departments, staff and roles

Project Introduction

• The wind power project is in a remote harsh environment, with 33 wind turbines.
• Each wind turbine is the 2.0MW type, with total power generation capacity around 60MW.
• Using the PLC wind turbine controller to collect data through the wind power collection gateway. The gateway includes WebAccess software and includes a TPC for displaying data display and historical data storage.
• In the local control center, arranging the application server, remotely acquiring the gateway data and make analysis, to present from WPMS software to client side in the way of http, with uniform port login inside the group, abundant presentation of relevant real-time pictures and reports.

Project Implementation

Product	Description
WA+WPGW-1551-AE	Onboard Intel® Atom™ D510 wind power collecting tablet computer gateway
WA+WPMS-4683-AE	Onboard Intel® Core i7 wind power application server

System Framework
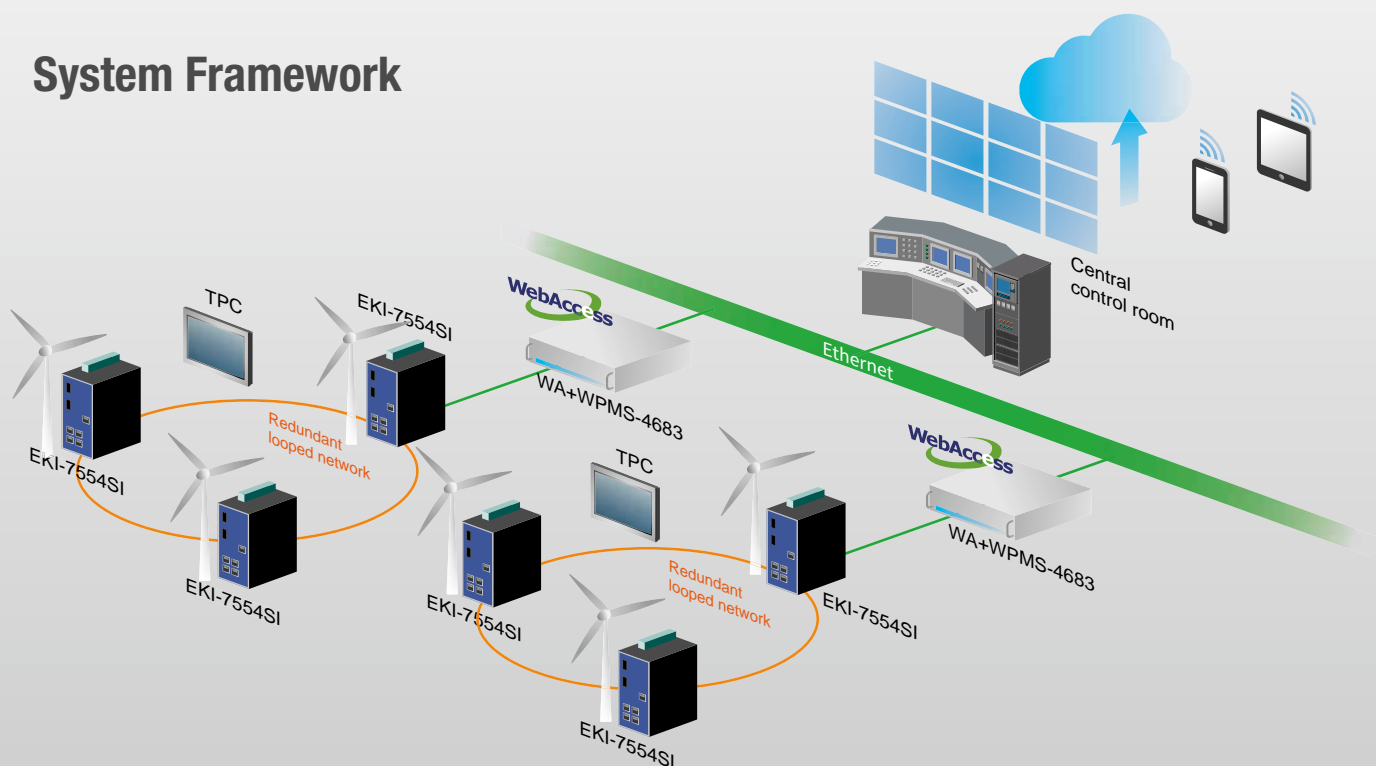
Wind Turbine Online Vibration Monitoring Solution

Client Requirements

- The distributed and unattended condition of the wind farm requires the wind power machine unit is continuously monitored, to ensure stable operation.
- A fault diagnosis system, for analysis and feature extraction to warn of the failure.
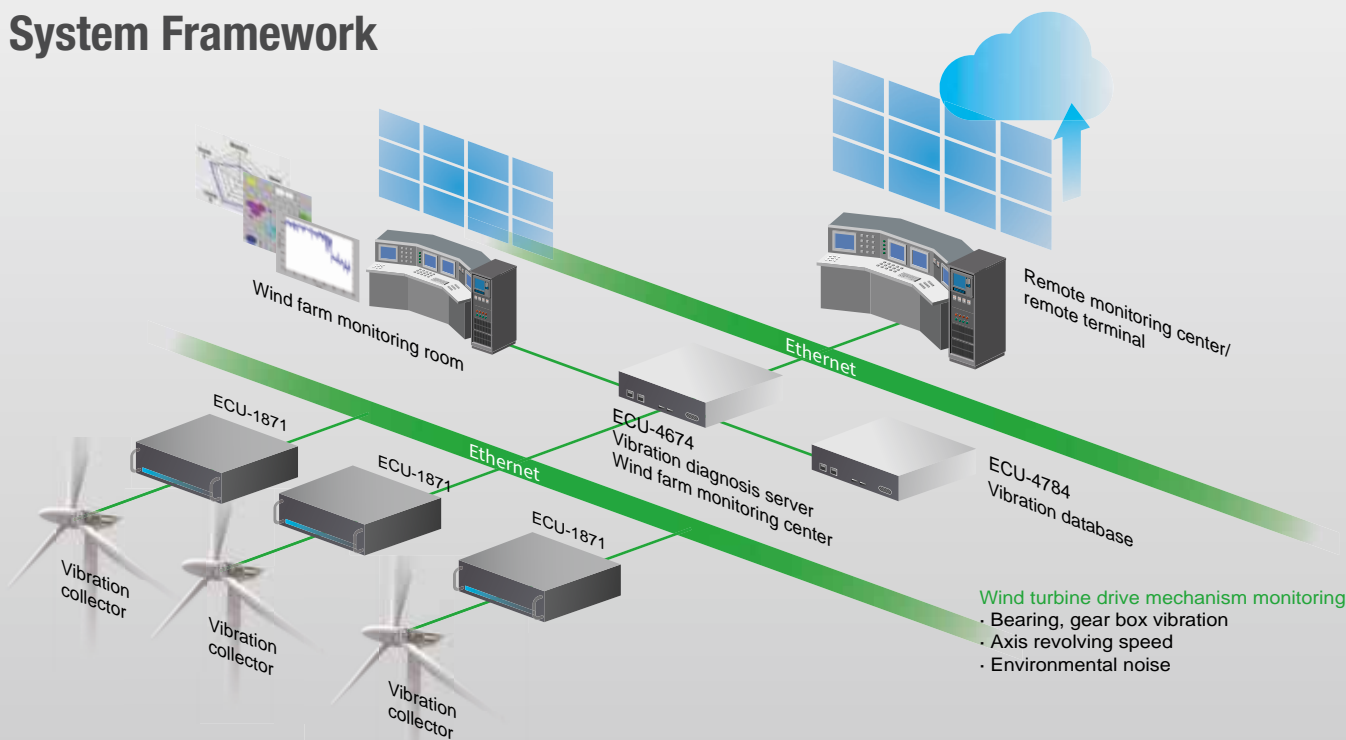- Supports remote data checking and online analysis.

Project Introduction

- The project shall perform vibration signal collection and analysis for each wind turbine using analysis and intelligent diagnostic software
- Installation of several 0.5G vibration sensors on the bearing seat and proper direction of the gear box, to monitor the vibration condition of bearings and gear box, and accurately collect the signals.
- The sensor shall send the collected vibration and revolution speed signal to the monitoring station where it's responsible for collecting the signals, and sending them to the database server.
- The fault diagnosis system software provides many analysis graphs to warn of failure and send alarms.
- Engineers can run data through the client side computer to monitor the machines in real time.

Project Implementation

Product	Description
ECU-1871-AE	4GB/8GB DDR3 SDRAM built-in Intel® Core i7-2655LE 2.2GH photovoltaic data collector
ECU-P1706-AE	250 KS/s, 16bit, PCI-104 synchronous 8-channel collecting card
ECU-P1300-AE	Vibration signal conditioning card

System Framework

Wind farm monitoring room

Remote monitoring center/ remote terminal

Ethernet

ECU-1871

ECU-1871

Ethernet

ECU-1871

ECU-4674
Vibration diagnosis server
Wind farm monitoring center

ECU-4784
Vibration database

Vibration collector

Vibration collector

Vibration collector

Wind turbine drive mechanism monitoring
· Bearing, gear box vibration
· Axis revolving speed
· Environmental noise

14

Distributed Photovoltaic System Solution

Client Requirements

- Beijing BOE wanted real-time data acquisition and status monitoring for distributed photo-voltaic power station substation.
- There should be data recording and historical data storage for future analysis.
- There should be cooperative working and different access levels for different employees.

Project Introduction

- BOE photovoltaic power station is distributed and is generated and used by itself.
- The monitoring data of each power station is the same and includes about 200 inverters, 20 electric meters, 60 combiner boxes, and analog quantity data.
- The photovoltaic collection gateway is used to collect data, and the gateway has built-in WebAccess software and uses a TPC to view local data display and historical data storage.
- In the local control center, an application server acquires the gateway data and analyses it, to display it using SPMS software in real-time using images and reports.

Project Implementation

Product	Description
WA+SPGW-2174-AE	Onboard Intel® Atom™ D510 photovoltaic collect gateway
WA+SPMS-4683-AE	Onboard Intel® Core i7 photovoltaic application server

System Framework
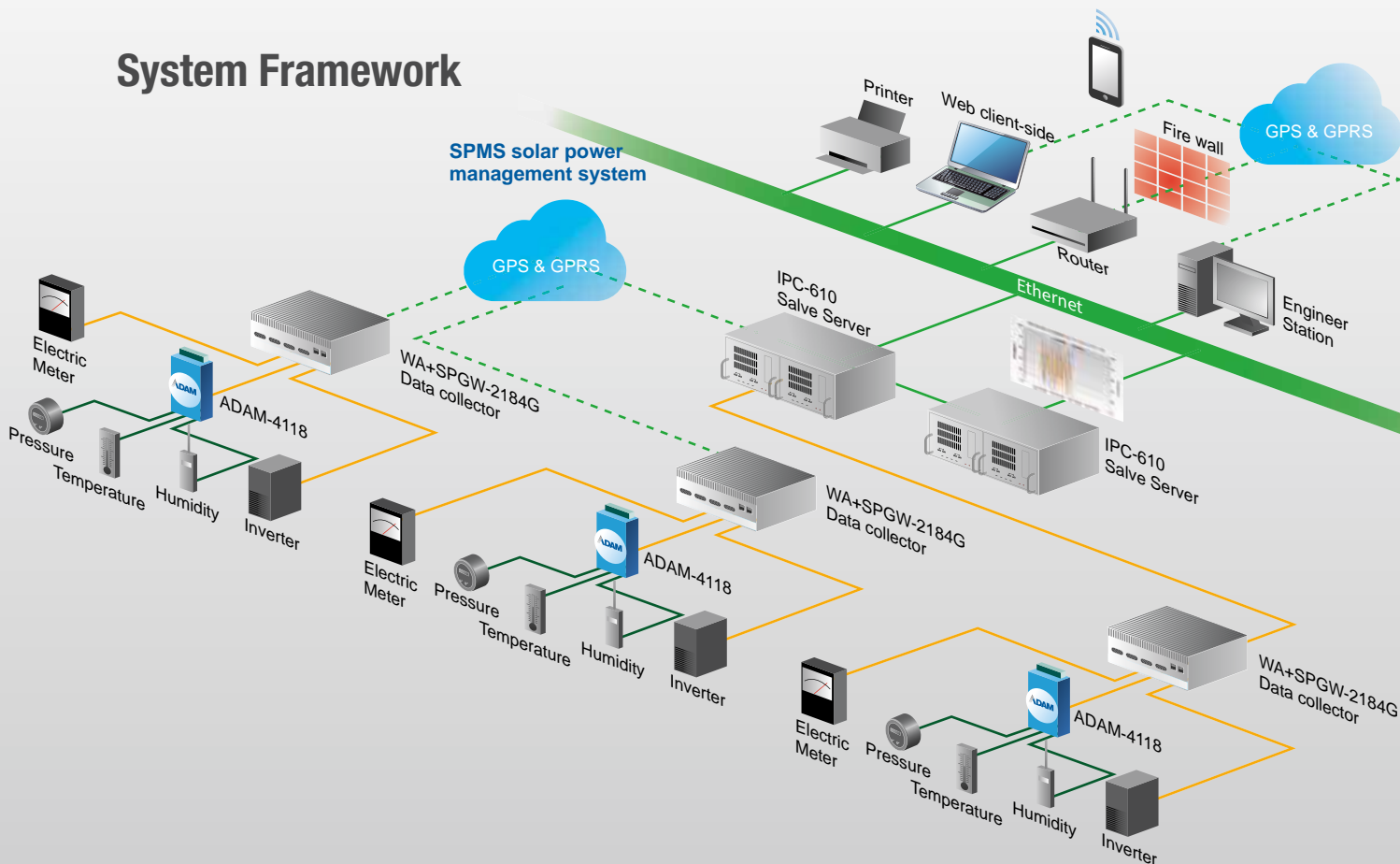
Solar Energy Tracking System

Client Requirements

- Periods of low efficiency are a problem for photovoltaic power generation the client needed a way of capturing the maximum amount of sunlight.
- The solution must work in harsh environments and always be stable.
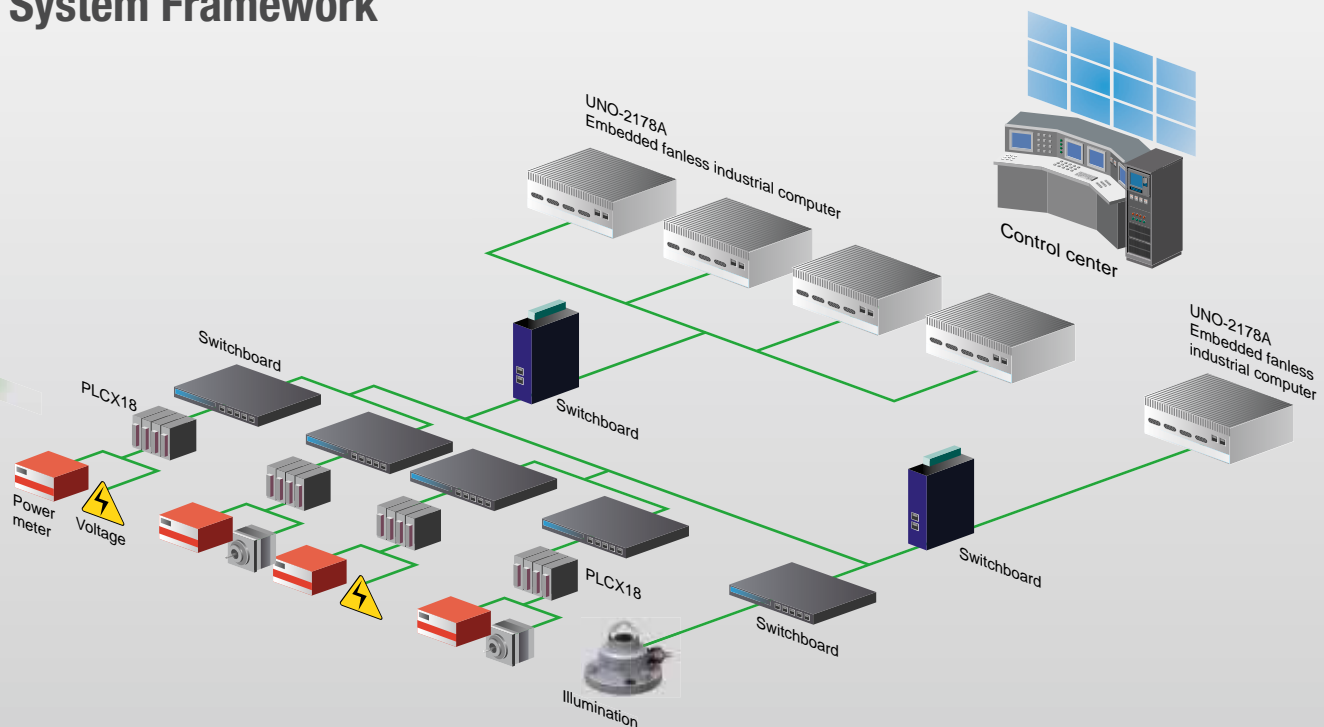
Project Introduction

- Advantech's established solar energy tracking system contains many measuring instruments, illumination sensors, network switches, PLC equipment and automatic industrial computers for the data processing.
- The high-performance compact, fanless and low power consuming UNO-2178A controller, is a core part of the solution.
- Each of the four UNO-2178As connects to 18 PLCs through the light switch, used for the PLC control management. Once the UNO-2178A receives the information, it adjusts the solar energy cell panel, and keeps it facing the direction with the strongest sunlight.
- If two sensors sense that strong light is coming from different directions the UNO-2178A calculates which of the directions is strongest and moves the panels accordingly.
- Another UNO-2178A collects the signals and data of the measuring equipment and illumination sensor and when there is a network connection failure, this UNO-2178A shall also operate as a redundant machine.

Project Implementation

Product	Description
UNO-2178A	Onboard Intel® Atom™ D510 fanless embedded industrial computer, 6 x USB, 8 x COM, 2 x Mini PCIe

System Framework

UNO-2178A Embedded fanless industrial computer

Control center

UNO-2178A Embedded fanless industrial computer

Switchboard

PLCX18

Switchboard

Power meter

Voltage

PLCX18

Switchboard

Switchboard

Illumination

Wind Farm Operation Monitoring System

Advantech's wind power monitoring SRP system contains a wind power collection gateway and application server, to perform the entire monitoring process from collecting, transmission, analysis processing to display, including the wind farm geographic deployment condition, single wind turbine and wind farm real-time operating parameter, cabin and tower bottom video monitoring, with alarm and permission setting to each part, to ensure the entire system is safe and stable operation. By using a looped network, and a data buffer function real-time data is guaranteed to always be available.

Monitoring and analysis item	**Main monitoring item:** • Entire wind farm geographic deployment condition • Each wind turbines real-time operating parameters • Real-time data of each part of single wind turbines components. • Cabin and tower bottom video monitoring • Alarm and permission settings	**Data analysis report:** • Wind farm / appointed wind turbine power generation capacity • Wind farm / appointed wind turbine availability • Wind speed / wind rose • Wind turbine power curve • Historical data trend • Historical event and alarm • Wind farm operating state statistics
	Model	**Specification**
System composition — Data acquisition gateway	**WA+WPGW-2174**	Wind power collection gateway, built-in WebAccess SCADA software, with the real-time data acquisition and powerful computing, low power consumption, and fanless design, for an intelligent reliable data acquisition platform for wind power. • Built-in embedded operating system and data acquisition software. • Supports open protocols such as Modbus, OPC etc. • Supports over 200 equipment drivers. • Supports data buffer and breakpoint resume functions. • Supports mini-PCIe port, able to access the wireless Wi-Fi/3G/GPRS module communication.
System composition — Central application server	**WA+WPMS-4683**	Wind power central terminal application server, built-in WebAccess SCADA software, WPMS software and independent calculation procedure, WPMS supporting Web client-side access, with powerful calculation and data processing capacity, low power consumption, fanless design, which is the wind power intelligent reliable application server platform. • Built-in embedded operating system Windows Server 2012 and data acquisition software. • Supports open protocols such as Modbus, OPC etc. • Intel Core i7 CPU, powerful calculation capacity.

	Advantech WebAccess	UNO-2174A	UNO-4683
Function	HMI/ SCADA configuration software based on the browser framework • With powerful networking capacity and remote monitoring function	Wind power collecting gateway platform • Built-in WebAccess software to collect the wind power data in real time.	Wind power application server platform • Built-in WebAccess software and WPMS software to perform data processing and report presentation
Specification	Professional edition 1500 points	• Onboard Intel® Atom TM D510 1.67GHz CPU • Two10/100/1000 Base-T RJ-45 ports, and six USB2.0 ports • Windows® CE 6.0, Windows WES 2009, Linux ready solution • Built-in system status LED indicator light • Two mini-PCIe slots, supporting one SIM card slot • Fanless design, avoiding the internal wiring • Case and power ground isolated • Supports wide operating temperature range: -10-70°C	• Onboard Intel Core i7 2.0 GHz CPU • Two RS-232/422/485 isolated serial ports and 128KB FIFO • Two 10/100/1000 Base-T internet access and 4 x 10/100 Base-T internet access • Windows® CE 6.0,Windows XP Embedded SP2, Linux ready solution • Embedded fanless design • Isolated power design, wide AC / DC input range

	DMU-3010	ECU-1871	ECU-P1706/P1300
Function	Wind turbine temperature and humidity collector	Wind turbine vibration signal acquisition platform	Wind turbine vibration signal collecting platform matched collecting card and conditioning card
Specification	• 8-ch AI, 8-ch DI, 4-ch DO Ethernet I/O module • Supporting industrial Modbus TCP, Ethernet remote maintenance	• Onboard Intel® Atom TM D510 1.67GHz • Onboard Intel® Atom TM D510 1.67GHz CPU • Supports IRIG-B clock synchronization • One RS-232/ 2 x RS-485 isolated serial port • Two 10/100/1000 Base-T Ethernet port • Windows® CE 6.0, WES 2009, WES 7, and Linux ready solution • Supports PCIe-104 & PCI-104 expansion cards	• ECU-P1706: 250 KS/s, 16bit, PCI-104 synchronous 8-channel collecting card • ECU-P1300: vibration signal conditioning module

Photovoltaic Power Station Monitoring System

Advantech's photovoltaic monitoring SRP program system contains the photovoltaic collection gateway and application server, achieves the entire monitoring process from collecting, transmission, analysis processing to display, including the photovoltaic power station geographic deployment condition, real-time check, alarm and permission setting of key equipment data of inverter, combiner box, and electric meter, and adjusting the direction of photovoltaic component according to the specific algorithm and solar irradiation intensity, to acquire the solar energy more effectively. At the same time, the communication link uses a looped network setting, and the collecting gateway has the data buffer function, fully guaranteeing the field real-time data effectively transferring to the center terminal. The central application server contains multiple report analysis algorithms, by means of http to enter the WPMS system and present the report result, for the convenience of client warning the failure information.

Photovoltaic power station monitoring system – SRP package plan			
Monitoring and analysis item	**Main monitoring item:** • Entire photovoltaic power station geographic deployment conditions • Solar irradiation intensity and photovoltaic cell panel direction • Real-time operating parameter of each inverter and combiner box • Alarm and permission setting		**Data analysis report:** • Real-time hourly power generation capacity • Historical hourly power generation capacity • Historical accumulative power generation capacity • Real-time power generation power • Historical power generation power • Power generation capacity report • Power generation power report
System composition		**Model**	**Specification**
	Data acquisition gateway	**WA+SPGW-2174** 	Photovoltaic power station collecting gateway, with built-in WebAccess SCADA software, real-time data acquisition and powerful calculation capacity, low power consumption, and fanless design, which is the wind power intelligent reliable data acquisition platform • Built-in embedded operating system and data acquisition software • Supports open protocols such as Modbus, OPC etc. • Supports over 200 equipment drivers • Supports data buffer and breakpoint resume functions • Supports mini-PCIe port, able to access the wireless Wi-Fi/3G/GPRS module communication
	Central application server	**WA+SPMS-4683** 	Photovoltaic center terminal application server, with built-in WebAccess SCADA software, SPMS software and independent calculation procedure, SPMS supports Web client-side access, powerful calculation and data processing capacity, low power consumption, and fanless design, which is the wind power intelligent reliable application server platform • Built-in embedded operating system Windows Server 2012 and data acquisition software • Supports open protocols such as Modbus, OPC etc. • Intel Core i7 CPU, powerful calculation capacity

	Advantech WebAccess	UNO-2174A	UNO-4683
Function	HMI/ SCADA configuration software based on the browser framework • With powerful networking capacity and remote monitoring function	Wind power collecting gateway platform • Built-in WebAccess software to collect the wind power data in real time, with powerful calculation capacity, low power consumption, and fanless design, which is the wind power durable and reliable data acquisition platform.	Wind power application server platform • Built-in WebAccess software and WPMS software to perform data processing and report presentation
Specification	Professional edition 1500 points	• Onboard Intel® Atom TM D510 1.67GHz CPU • Two 10/100/1000 Base-T RJ-45 ports, and six USB 2.0 ports • Windows® CE 6.0, Windows WES 2009, Linux ready solution • Built-in system status LED indicator light • Two mini-PCIe slots, supporting one SIM card slot • Fanless design, avoiding the internal wiring • Case and power ground isolated • Supports wide operating temperature range: -10-70°C	• Onboard Intel Core i7 2.0 GHz CPU • Two RS-232/422/485 isolated serial port and 128KB FIFO • Two10/100/1000 Base-T internet access and four 10/100Base-T internet access • Windows® CE 6.0,Windows XP Embedded SP2, Linux ready solution • Embedded fanless design • Isolated power design, wide AC / DC input range

	ADAM-4118	ADAM-4117	ADAM-4150
Function	Analog input module, collecting the photo-voltaic component temperature data	Analog input module, collecting the photo-voltaic component illumination data	Digital I/O module, controlling the relay output
Specification	• Exclusive 8 independent allocated difference channels, thermocouple input module • Wide operating temperature range: -40-+85°C • High noise immunity: 1kV surge protective voltage input, 3KV EFT and 8KV ESD protection • Strong anti-interference: power input 1KV surge protection, 3KV EFT, 8KV ESD protection	• Eight different and independent allocated difference channels • Wide operating temperature range • High noise immunity: 1kV surge protective voltage input, 3KV EFT and 8KV ESD protection • Wide power input range: +10~ +48VDC • LED indicator light convenient for status monitoring	• 7-channel input and 8-channel output • Wide operating temperature range • High noise immunity: 1kV surge protective voltage input, 3KV EFT and 8KV ESD protection • Wide power input range: +10~+48VDC • LED indicator light convenient for status monitoring

Choose Advantech to Be Your Project Partner

Advantech actively becomes the leading manufacturer of intelligent industry, whose business scope has been all over the world in the past over thirty years since the foundation, providing wide application of each industry and completed intelligent city and Internet of Things solution through the close cooperation with the vertical field system integrator, and promote the intelligent life..

The mission of Advantech is to continuously devote to be the pushing hand of intelligent earth, in the goal of driving the intelligent city innovation, and constructing the model in the industry of Internet of Things, assisting each industry to accelerate their intelligent business, to become the global enterprise with key influence in the intelligent city and Internet of Things field.

Intelligent City Solution

Advantech's five intelligent city solutions make the system fully making use of Internet of Things, to sense in all rounds, transmit reliably and treat intelligently, to provide the more intelligent experience for the citizen, enterprise and government, and promote the overall city quality and image.

Intelligent Retail	Intelligent Medical Treatment	Intelligent Logistics and Motorcade Management

- USM intelligent shop manager
- Cloud solution
- Shop management
- Headquarter management
- Catering management

- Digital integration operating room
- Quality nursing
- Intelligent doctor visiting

- Warehouse management system
- Motorcade management system

Advantages of Advantech Intelligent Services

Designing Specific Solutions by Industry Characteristics

Providing the brand new value service for the market, and complying with the demand of industrial model to intelligent time of "service" replacing "product", Advantech intelligent offers innovative solution SRP (Solution Ready Package) in each industry for the client, and offers the application solution for the client on the basis of industry exclusive hardware, to let the intelligent solution serve the client, and let the client integrate the applications more easily.

Perfect Cloud Integration Solution

Advantech Intelligent has worked hard in each industry for years, understanding the purpose and demand of the user, and providing the suitable software and hardware to match the solution. In recent years, the existing product development emphasizes on the cloud framework, and the new generation industry cloud software SUSIAccess could provide the overall advanced intelligent remote detection management service, able to do the real-time detection to accurately control the system status. All the Advantech equipments could be easily managed through SUSIAccess, which could greatly save the manpower and time cost, obviously improve the the maintenance efficiency, to comply with the fast change of future intelligent time.

Environmental Protection Promise

Advantech devotes to protect the environment and feed back the society as the excellent enterprise citizen. Our environmental protection plan includes to reduce, recycle and recover the industrial manufacturing material. Advantech environmental protection shall follow the contents as below:

- ISO 9001 certification
- ISO 14001 certification
- ISO 13485 certification
- OHSAS 18001 certification
- TL9000 quality management system
- RoHS order conformity
- WEEE order conformity
- Sony green cooperative partner certification

After-sale Service

Product Warranty
Free quality guarantee for basic product; and the quality guarantee service could be extended after expired through additional purchase, to create the completed service for the client, and reduce the maintenance cost.

Visiting Maintenance Service
Providing visiting service during the guarantee period; reporting during working time (9:00-17:00), maintenance personnel shall visit in the next day.

Professional Installation
All the new machine are tested by the professional team of Advantech, and there is optional installation and integration service. After installation, it could immediately set the management and operation online, providing the no time difference information.

Completed Training Plan
Including the multimedia player software and user demonstration and hand-on operation, to help the system maintenance personnel start operation in real time.

Intelligent architecture and urban space

- Situation space management
- Architecture energy management
- City management space
- Transportation control system

Intelligent agriculture and environmental monitoring

- Intelligent environmental protection
- Intelligent agriculture
- Intelligent water affair
- Intelligent plant facility monitoring
- Petroleum and natural gas
- Electric power and energy

WebAccess+ Alliance

ADVANTECH WebAccess/NMS
ADVANTECH WebAccess+IMM
ADVANTECH WebAccess+IVS
ADVANTECH WebAccess/SCADA

Industrial Leading Grade Quality Guarantee

Advantech is the global built-in computer research and development leading manufacturer, providing various industrial computer of each industry, touch screen and data collection module, which is not only applicable for the usual indoor environmental, but also provides the stable quality guarantee for the user under the severe environment. Thus, under the supporting of Advantech industrial grade computer, Advantech Intelligent provides the completed and stable project planning for all industries.

Client Oriented Backup Support

Advantech Intelligent provides the 24/7 and 8/5 visiting service for the user. Once the warranty process starts, the exclusive engineer shall come to and maintain in the site immediately for project preparation, to make the user worry free; in addition, even the product warranty expires, the user could purchase to extend the warranty service and reduce the maintenance cost, to create completed backup support for the product.

WebAccess 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
- Modulized SDK ready for software integration

WebAccess+IMM
Interative 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+
Alliance to jointly develop the Internet of Things (IoT) and create business opportunities**

WebAccess+ Alliance Partner

Worldwide Offices

Greater China

China
Toll Free — 800-810-0345
Beijing — 86-10-6298-4346

Taiwan
Toll Free — 0800-777-111
Neihu — 886-2-2792-7818
Xindian — 886-2-2218-4567

Asia Pacific

Japan
Toll Free — 0800-500-1055
Tokyo — 81-3-6802-1021
Osaka — 81-6-6267-1887

Korea
Toll Free — 080-363-9494
Seoul — 82-2-3663-9494

Singapore
Singapore — 65-6442-1000

Malaysia
Toll Free — 1800-88-1809
Kuala Lumpur — 60-3-7725-4188
Penang — 60-4-537-9188

Indonesia
Jakarta — 62-21-769-0525

Thailand
Bangkok — 66-2-248-3140

India
Toll Free — 1-800-425-5070
Bangalore — 91-80-2545-0206

Australia
Toll Free — 1300-308-531
Melbourne — 61-3-9797-0100
Sydney — 61-2-9476-9300

Europe

Toll Free — 00800-2426-8080

Germany
Munich — 49-89-12599-0
Hilden / D´dorf — 49-2103-97-885-0

France
Paris — 33-1-4119-4666

Italy
Milano — 39-02-9544-961

Benelux & Nordics
Breda — 31-76-5233-100

UK
Reading — 44-0118-929-4540

Poland
Warsaw — 48-22-33-23-740 / 41

Russia
Toll Free — 8-800-550-01-50
Moscow — 7-495-232-1692

Americas

North America
Toll Free — 1-888-576-9668
Cincinnati — 1-513-742-8895

Brazil
Toll Free — 0800-770-5355
Saude-São Paulo — 55-11-5592-5355

Mexico
Toll Free — 1-800-467-2415
Mexico City — 52-55-6275-2777

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