YOKOGAWA

Co-innovating tomorrow™

OpreX™ Data Acquisition

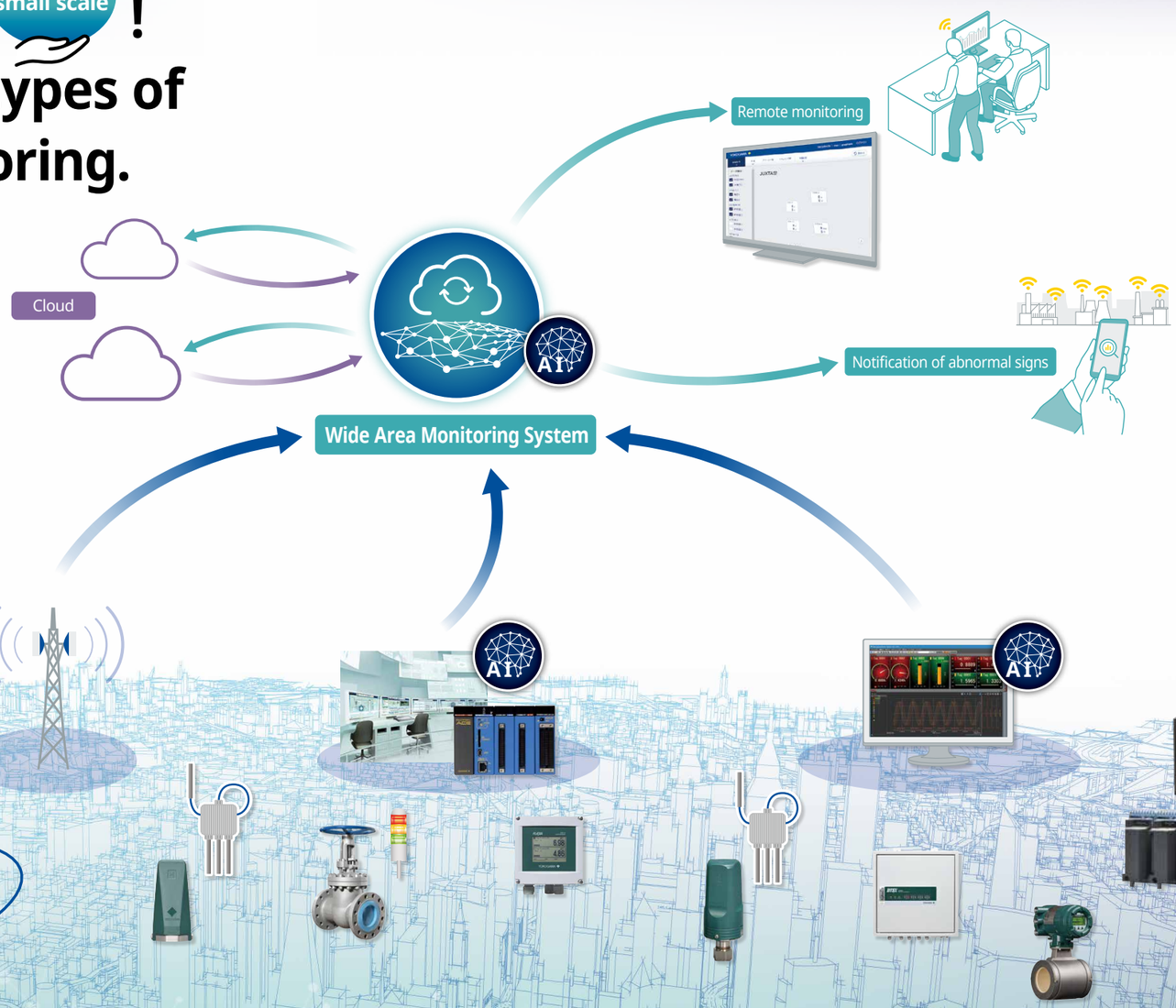
Wide Area Monitoring System Solution Book

Start using the cloud with ease on a small scale

Bulletin 04K10B01-01EN

Start using the cloud with ease on a small scale ! Create new value with various types of connectivity and remote monitoring.

- ☑ Wireless remote sensors
- ☑ Remote monitoring of existing equipment and information
- ☑ AI detection of abnormal signs



INDEX

Applicable to various industries such as:

Foodstuffs | Service | Agriculture, Forestry, and Fisheries | Architecture | Civil engineering | Delivery service and transportation | Cleaning | Building maintenance

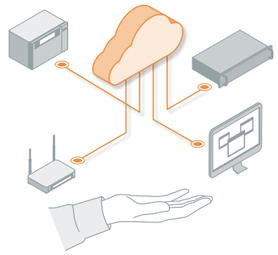
Suggestions for solving problems

Wide Area Monitoring System

- Watch anytime, anywhere
- Easy to get started
- Connects to various devices
- Integrated from hardware to cloud
- Management of centralized and distributed data

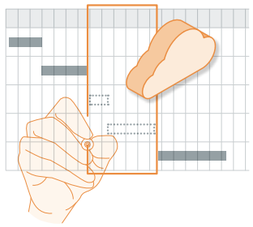
Start using the cloud with ease on a small scale

- Experience what it's actually like to use the cloud
- Introduced as an entry-level DX and cloud model



Automating manual measurements

- Alternative measurement for long-term maintenance
- Reduced workload when switching out equipment



Supporting remote monitoring of distributed equipment through a subscription-based service

- Promotion of subscription business
- Support for remote monitoring businesses

Work Style Reform

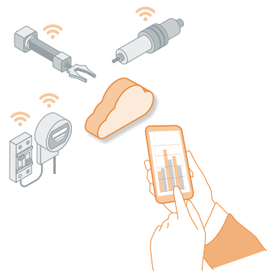
- Remote monitoring during emergencies and disasters
- Reducing the burden of emergency response during holidays

Business support for replacing and replenishing materials, water, and consumables

- Reducing travel time and improving efficiency
- Promoting the materials and consumables business

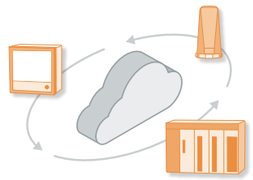
Reducing the burden of operator round inspections and improving detection ability

- Inspection anytime, anywhere
- Reduction in travel man-hours



On-premise pre-designed measurement system cloudification

- Strengthening monitoring of important equipment (Clouding of data from PLC, GA10, Sushi Sensor, etc.)



Improved management and maintenance of long-distance piping

- Detection of leakage points and identification of causes
- Detection of abnormalities such as flow rate and temperature

Improving environmental measurements around factories and equipment

- Consideration for the surrounding residents, such as noise and smells
- Improving the work efficiency of outsourced maintenance companies

Maintenance improvements through data and work sharing with outsourced maintenance companies

- Information sharing with outsourced maintenance companies
- Improving the work efficiency of outsourced maintenance companies

Effective use of geothermal resources

- Coexistence between geothermal development and local communities
- Improving management of hot water distribution to hot springs

Example 01

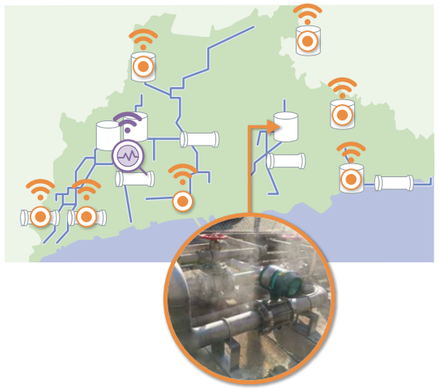
Hot spring monitoring system

Remote management system for hot spring supply network

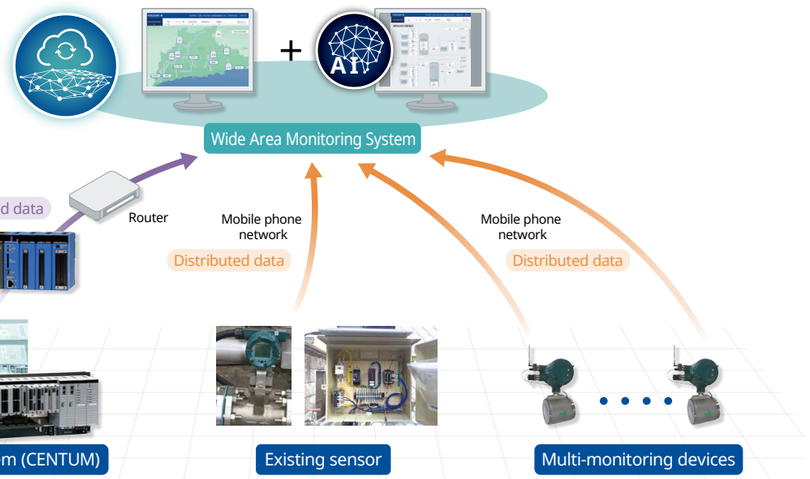
Effect
68% reduction in man-hours with 31 items 7 new findings

Overview

- 40 km of hot water distribution monitoring at a hot spring
- Management of hot spring sources and hot water distribution in the cloud
- Aggregation of data from existing systems and newly installed monitoring equipment
- Implementation of AI functions (hot water supply abnormality, preventive maintenance)
- Remotely viewing data distributed over a wide area



System configuration



Customer's voice

Initial response in emergencies has become faster.

The amount of travel to measurement points has been reduced.

It's become a system that we can't do without.

It led to work style reform.

This result was achieved through joint development by Yokogawa Electric Corporation, National Institute of Advanced Industrial Science and Technology (AIST), Geothermal Engineering Co., Ltd., and West Japan Engineering Consultants, Inc.
They were commissioned by the New Energy and Industrial Technology Development Organization (NEDO).

Example 02

Tsubame BHB Co., Ltd.

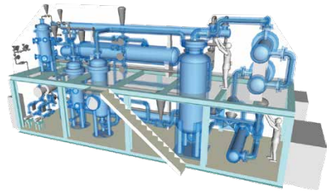
Distributed ammonia production equipment monitoring

Remote monitoring of production plants

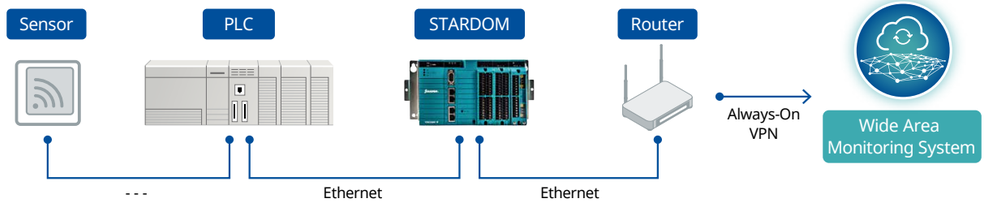
Effect
Goal achievement: 90%

Overview

- Operation and maintenance monitoring of production equipment
- Integration with existing PLC
- Monitoring of catalyst performance



System configuration



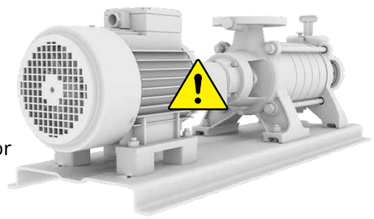
Example 03

Equipment condition trend monitoring using Sushi Sensor

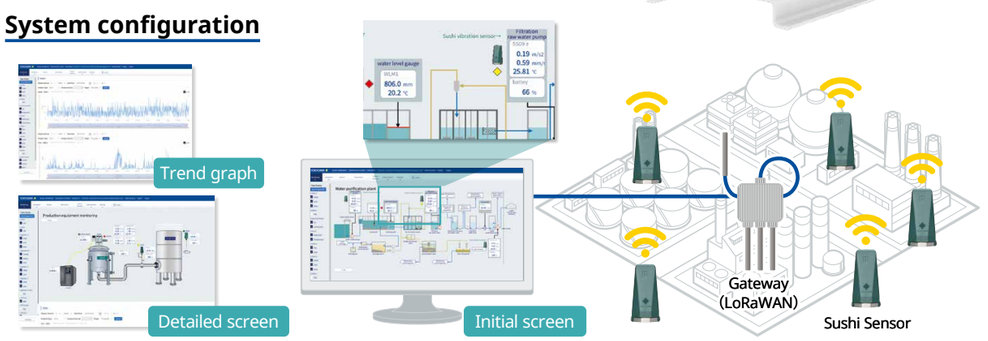
Remote monitoring of equipment

Overview

- Equipment condition trend monitoring
- Long-term equipment condition trend monitoring using Sushi Sensor



System configuration



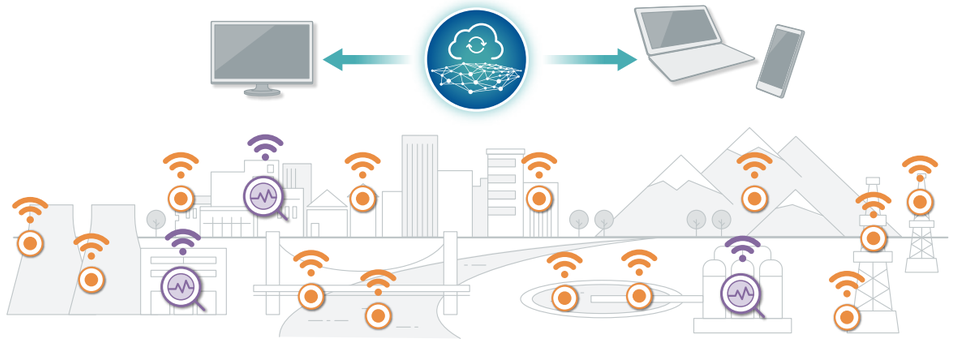
System configuration and features

Integrated solution for managing both centrally managed data and data from individual devices

The Wide Ara Monitoring System integrates both centrally managed data and data from individual devices.

Centralized management : Operational data from various equipment is managed centrally, such as in factories and large facilities.

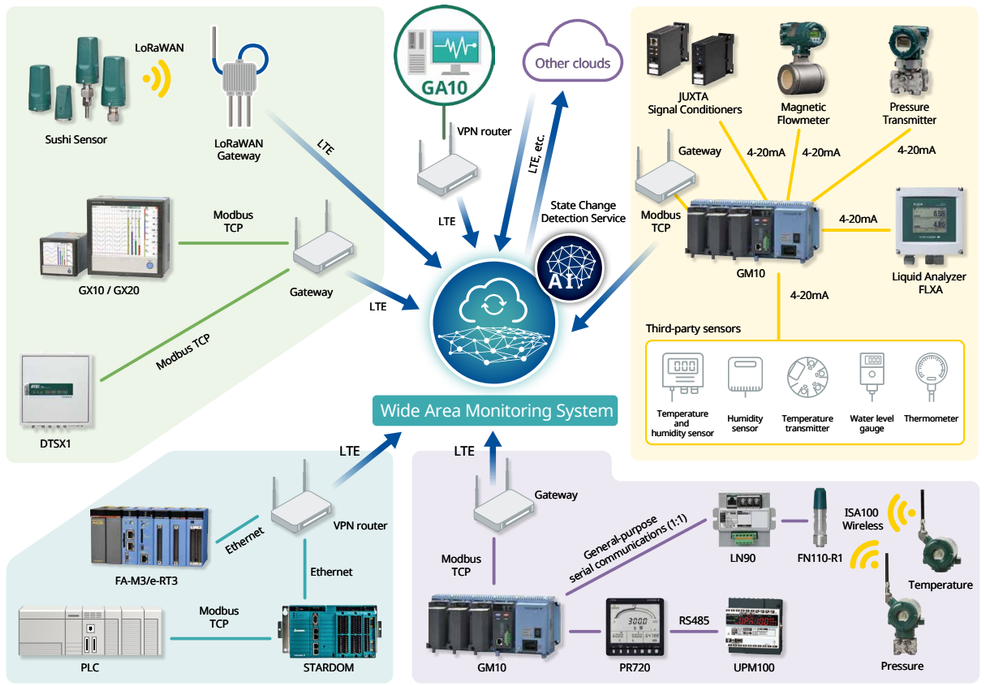
Distributed : A state in which data sources such as sensors are distributed around rivers, mountains, factories, and other places.



Data for centralized management PLC, GA10, etc.

Distributed data Sushi Sensor, etc.

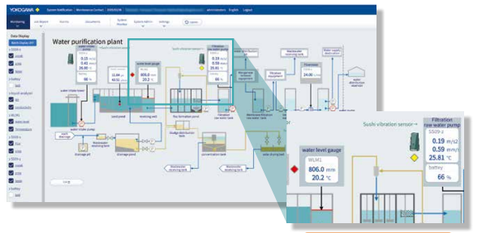
Wide Area Monitoring System configuration



Features of Wide Area Monitoring System

Initial screen

- Transition from the initial screen to the detailed screen
- Includes an alarm display function

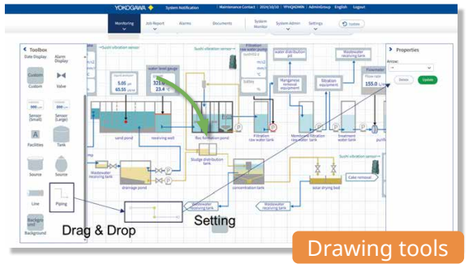


Detailed screen

- Display a configuration diagram and trend graph on the detailed screen

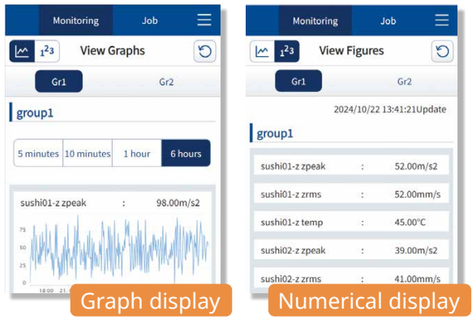
Screen editing function

- Create screens by dragging



Smartphone screen

- View information necessary on site and record jobs



Main functions of the Wide Area Monitoring System

Function	Description
Monitoring	Display measured data in combination with icons and other items on the configuration diagram
Job recording	Write and view job reports
Monitoring on smartphones	Monitoring on smartphones
Job recording on smartphones	Job recording on smartphones
Alarm settings	Display data exceeding thresholds and system errors on the monitoring screen and send email notifications
Document management	Register and view documents
System monitor	Check the operational status of the Wide Area Monitoring System
Screen editing	Edit monitoring screens
User management	Register Wide Area Monitoring System users
User permission management	Manage Wide Area Monitoring System user permissions

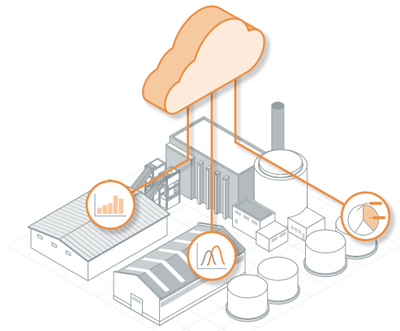
Monitor existing system data in the cloud

Monitor data aggregated by PLCs not only on-premises but also in the cloud.
Centrally managed data from multiple points or bases can be managed together in the cloud.

Connection example 01

FA-M3V/e-RT3 Plus

A controller featuring ultra high-speed, stable control, link functions and improved network performance



Value gained

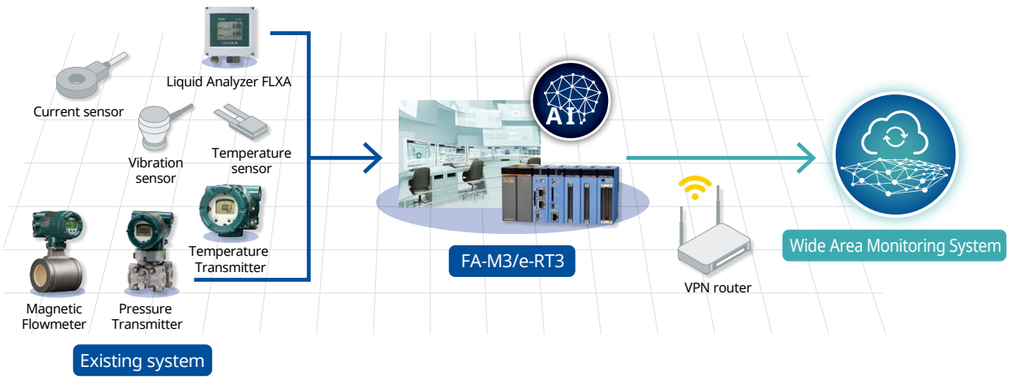
Detailed understanding of on-site conditions

Easy to determine from a remote location whether an error occurring on-site requires immediate action.

Existing system control available

Existing system data is received and uploaded to the cloud, and feedback control can be performed at the same time.

System configuration



List of system configurations

Configuration	Description
Wide Area Monitoring System	Monitoring system on the cloud
Connection line	Communication line connecting gateway and the Wide Area Monitoring System
Devices	Existing PLCs, liquid analyzers, various sensors, Modbus equipment, EtherNet/IP equipment, etc.

Monitor in both on-premise and cloud environments

GA10 is PC-based software that can aggregate data from various devices installed in distributed locations and monitor and record it in on-premise and cloud environments.

Connection example 02

GA10

Data logging software that monitors and records data from various devices over network

Value gained

Transfer various device data to the cloud

Data from various devices (recorders, data loggers, Sushi Sensor, etc.) distributed throughout the factory can be aggregated and monitored anytime, anywhere, in the cloud.

IIoT at a low cost

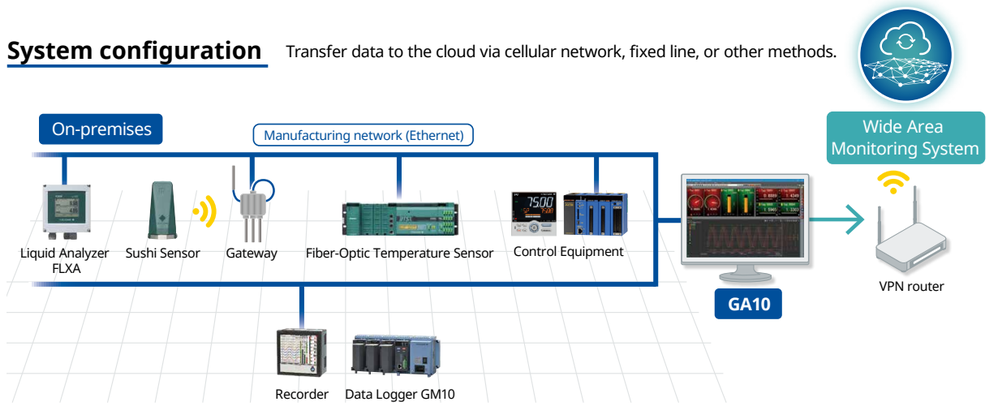
Monitoring both on-premises and in the cloud. You can implement a monitoring system on-premises to reduce costs, and then migrate to the cloud.

No data loss occurs during cloud failures

Since data is stored both on-premises and in the cloud, data loss will not occur even if a cloud system failure or communication failure occurs.

System configuration

Transfer data to the cloud via cellular network, fixed line, or other methods.



List of system configurations

Configuration	Description
Wide Area Monitoring System	Monitoring system on the cloud
Connection line	Communication line connecting gateway and the Wide Area Monitoring System
GA10	Data logging software
Devices	Recorders, data loggers, Sushi Sensor, liquid analyzers, thermometers, PLCs, power monitors, Modbus equipment, etc.

Centralize Sushi Sensor data from multiple factories in the cloud

Data monitoring is possible not only on-premises but also in the cloud.
By integrating distributed locations, data can be centrally managed.

Connection example 03

Sushi Sensor

Wireless solution for industrial IoT that provides an environment for long-term multi sensing

*STMD: Steam Trap Monitoring Device

Value gained

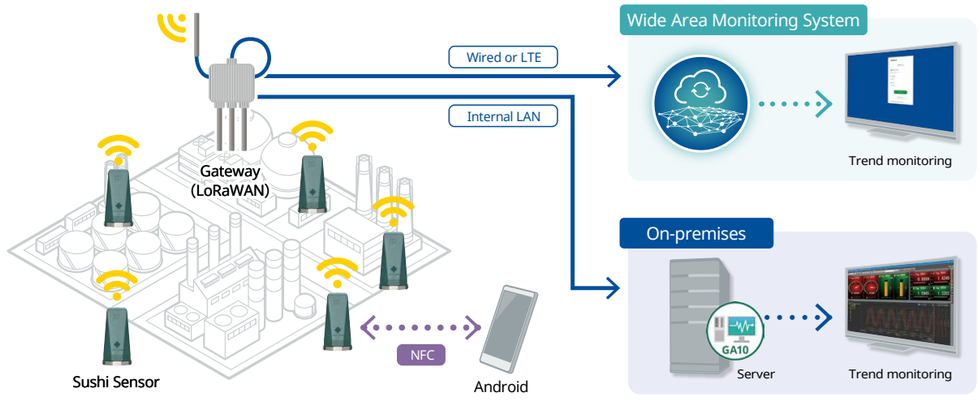
Data aggregation from multiple factories

The status of equipment installed at multiple factories is centrally monitored and visualized, and this information is used as a basis for making decisions to improve maintenance operations.

Data-driven decision support

Viewing operating data and equipment data in combination leads to rational decisions and actions based on data.

System configuration



List of system configurations

Configuration	Description
Wide Area Monitoring System	Monitoring system on the cloud
Connection line	Communication line connecting gateway and the Wide Area Monitoring System
Devices	Sushi Sensor, gateway

Integration with external systems

Integrated data obtained through the Wide Area Monitoring System with external systems. Integration with existing systems or data obtained from existing systems can be centralized in the Wide Area Monitoring System.

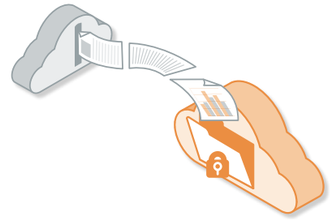
Function 01

Cloud-to-cloud connectivity

Value gained

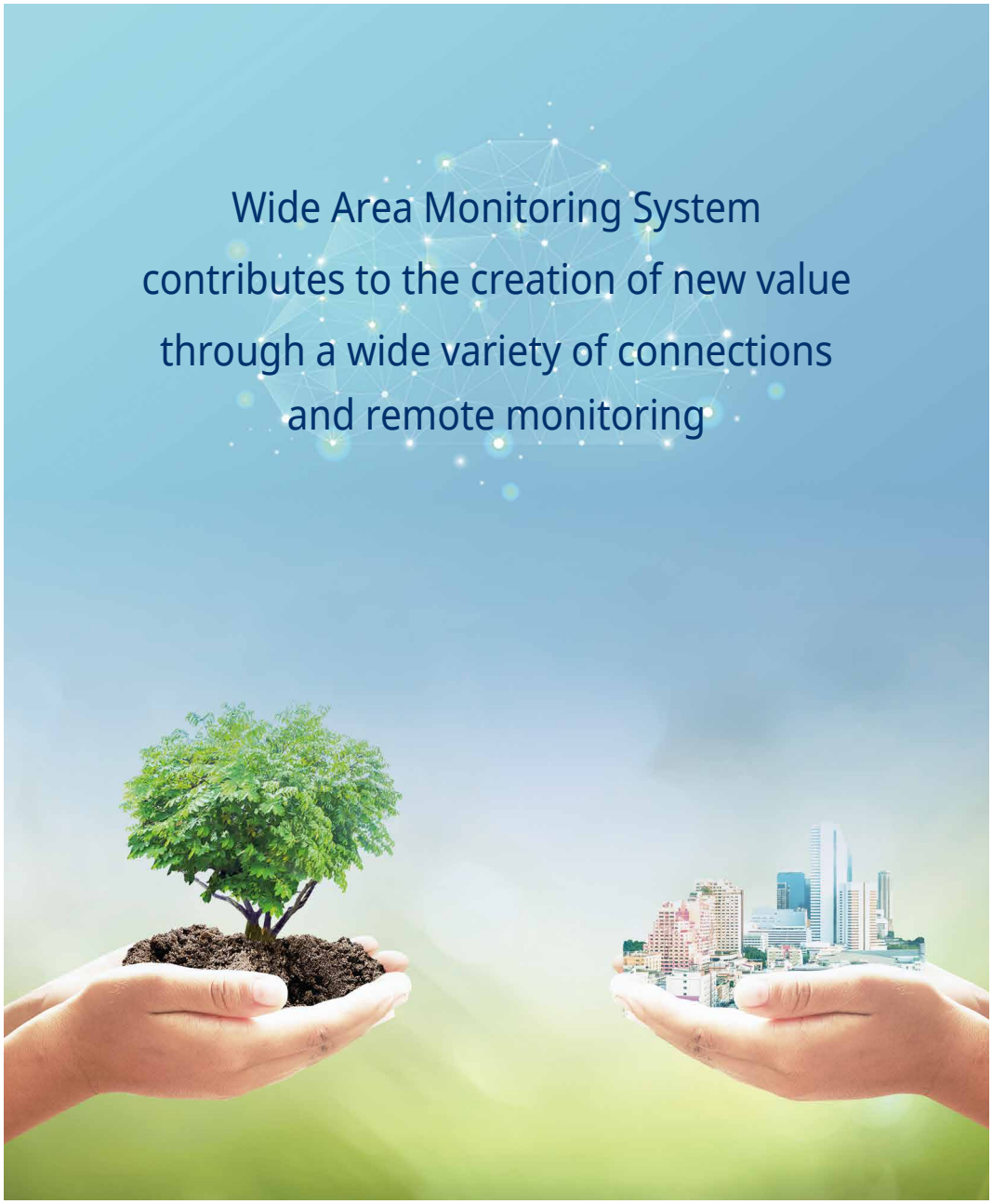
Cloud-to-cloud connectivity with existing systems

By integrating with existing systems and other clouds, it is possible to expand functionality and connect between locations, expanding the area covered by remote monitoring and making it possible to aggregate more information.



System configuration

*Functions for linking with other systems is available. For assistance with establishing cloud-to-cloud connectivity, please contact us at the e-mail address listed on the last page of this catalog (wam_formoreinfo@cs.jp.yokogawa.com)



Wide Area Monitoring System is an application on Yokogawa Cloud

Note

Before operating the product, read the instruction manual thoroughly for proper and safe operation.

Yokogawa Electric Corporation
World Headquarters
9-32, Nakacho 2-chome, Musashino-shi, Tokyo 180-8750, JAPAN

For inquiries regarding product specifications, handling, and model selection, please contact us below:
Email: wam_formoreinfo@cs.jp.yokogawa.com
URL: www.yokogawa.com/wams/

The contents of this catalog are current as of April 2025. Please note that the contents are subject to change without notice.
 [Ed:01/d]

Printed in Japan, 504(AZ)

YOKOGAWA Co-innovating tomorrow™