MITSUBISHI ELECTRIC
Changes for the Better

Automating the World

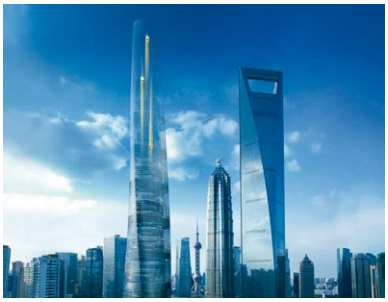
FACTORY AUTOMATION

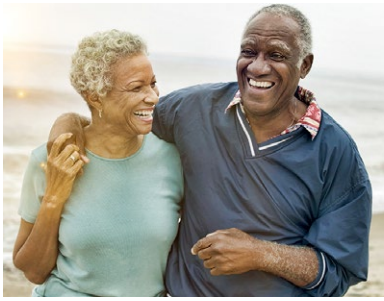
ICONICS Automation Software Suite

GENESIS64™

ICONICS
Make the Invisible Visible™

Automating the World





Our Factory Automation business is focused on "Automating the World" to make it a better, more sustainable environment supporting manufacturing and society, celebrating diversity and contributing towards an active and fulfilling role.

Mitsubishi Electric is involved in many areas including the following:

Energy and Electric Systems
A wide range of power and electrical products from generators to large-scale displays.

Electronic Devices
A wide portfolio of cutting-edge semiconductor devices for systems and products.

Home Appliance
Dependable consumer products like air conditioners and home entertainment systems.

Information and Communication Systems
Commercial and consumer-centric equipment, products and systems.

Industrial Automation Systems
Maximizing productivity and efficiency with cutting-edge automation technology.

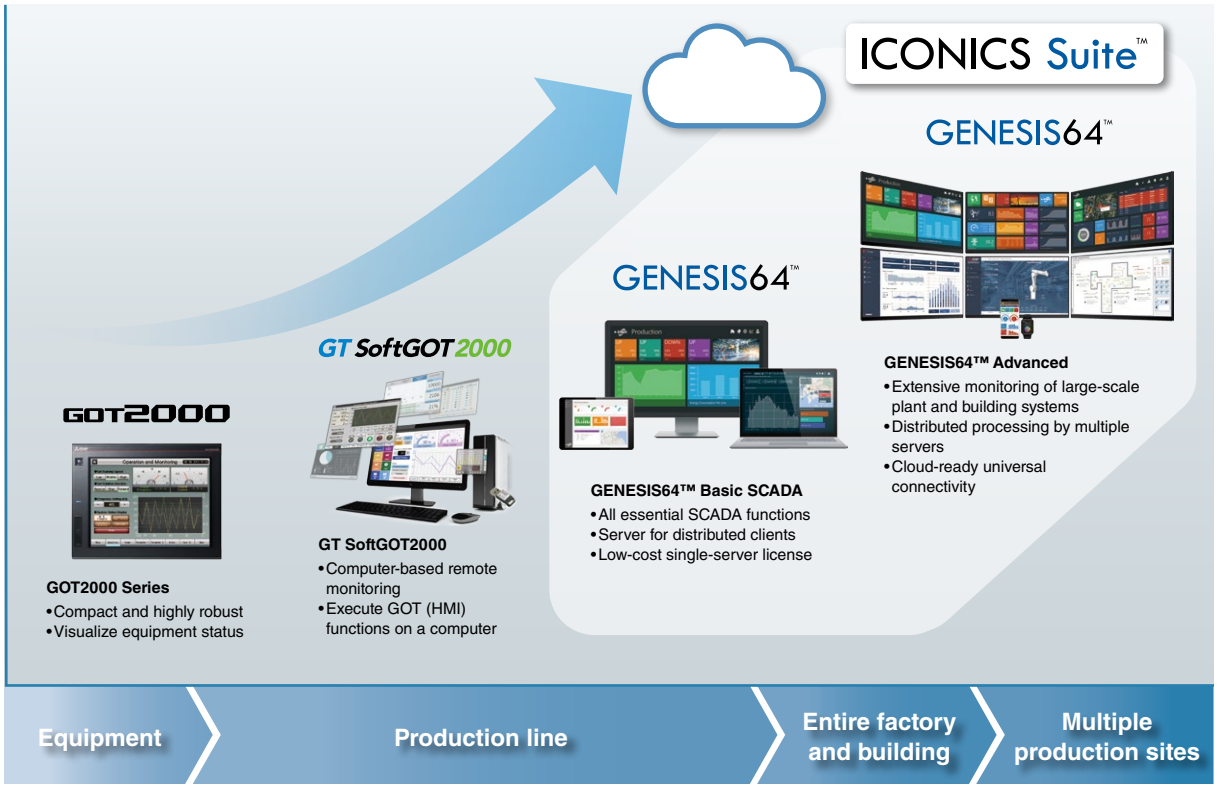
SUSTAINABLE DEVELOPMENT GOALS

The Mitsubishi Electric Group is actively solving social issues, such as decarbonization and labor shortages, by providing production sites with energy-saving equipment and solutions that utilize automation systems, thereby helping towards a sustainable society.

Contents

Mitsubishi Electric Visualization products

Flexible HMI solutions that scale to fit your needs



ICONICS Suite™ for integrated monitoring and control

GENESIS64™ is just one in the flexible portfolio of products that is part of the ICONICS Suite™. The scalable software solutions feature advanced visualization technology to run on any desktop or mobile device, high availability, centralized configuration, and ability to connect to a wide variety industry standard communication protocols.

GENESIS64™ Basic SCADA
Entry-level SCADA package

- Basic SCADA functions
- State-of-the-art, real-time visualization
- ANSI/ISA-18.2 compliant alarm management
- Robust, reliable historical data collection

GENESIS64™ Advanced
Full-fledged functionality

- Extensive monitoring of enterprise-wide plant and building systems
- Scales to large, distributed systems
- Support for secure cloud communications

ICONICS Suite™ is ideal for any industry

Automotive

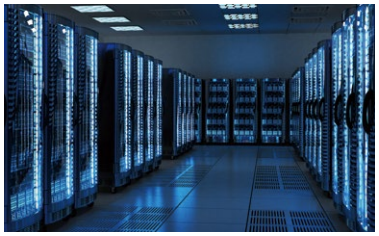

Food/beverage


Logistics


Building automation


Water treatment


Oil/natural gas


Data center


Transportation

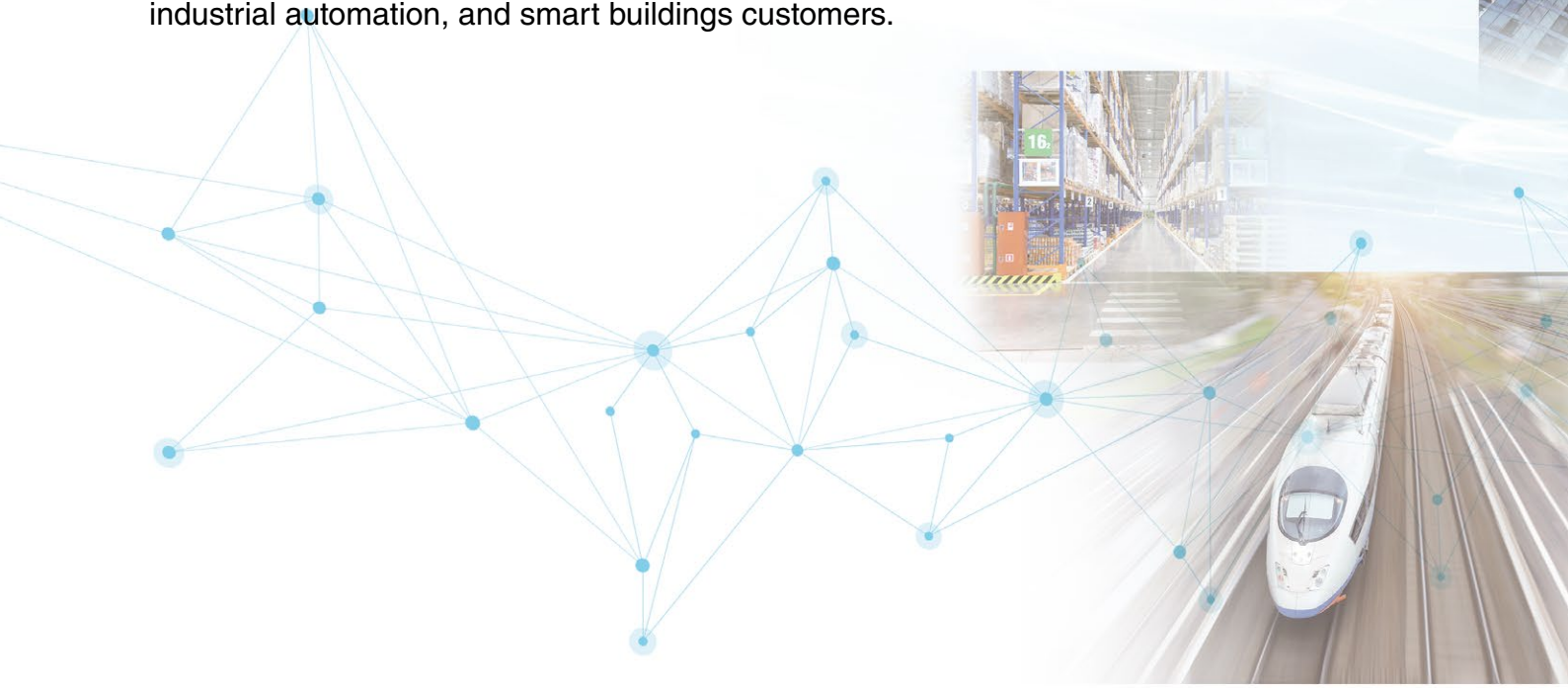

Pharmaceutical


ICONICS Suite™

Make the Invisible Visible™

Real-time insight for operational excellence

This cutting-edge software delivers real-time visualization, mobility, analytics, and connectivity to deliver a contextualized view of enterprise operations for manufacturing, industrial automation, and smart buildings customers.



CONNECT

GENESIS64™ universal connectivity platform supports industry standard open protocol, accelerating integration of all kinds of devices, equipment, and systems, resulting in convergence of IT and OT*1.

*1. OT: Operational Technology

CONTEXTUALIZE

Asset-based organization and navigation facilitates data normalization, comparisons, and situational awareness to get to the root cause quicker through contextualized and actionable information.

VISUALIZE

Secure, real-time visualization on any device is critical to keeping operations running smoothly. GENESIS64™ scales from desktops to browsers, tablets, smartphones, and wearable devices.

DATA UTILIZATION

Improve operational productivity and quality with interactive analytics. Industry applications include OEE*2, SPC*3, energy, and fault detection to provide insight from edge to cloud.

*2. OEE: Overall Equipment Effectiveness
*3. SPC: Statistical Process Control


Overview
Productivity Analytics
Enterprise
US
Plant 1
Plant 2
Plant 3
Area 1
Box Filler
Packing Robot
Box Weigher
Plant Productivity Dashboard
79%
OEE
90%
Availability
95%
Performance
92%
Quality
OEE by Shift
Production by Shift
Downtime Report
Duration Count Percentage Cost
5:32:33 284 15.89% $ 345,143
4:23:24 256 13.34% $ 337,256
4:14:16 186 12.24% $ 316,981
4:03:12 156 11.85% $ 289,432
3:59:25 145 10.35% $ 284,234
$ 262,165
$ 217,751
$ 189,023
IoT Gateway Monitoring System
ICONICS Asia
Beijing
Ingleburn
Mumbai
ICONICS Europe
Chavanod
Dudley
Genoa
Plzen
Sankt Augustin
Sassenheim
ICONICS USA
Foxboro
Redmond
IoT Gateway Monitor Legend
Foxboro
751
185
5
137
Back
193.23
North Campus
87%
13
22
21
MW
83
Faults
23
127,318
14
Active
83
Tomorrow, September 10
Yesterday, September 8
August 24 to September 8
Last 6h
95.8%
96.4%
96.2%
39.2
MW

Operator role

Production management | Equipment maintenance

Improve visibility and operational efficiency
▶P.10

Drive process improvements with actionable information
▶P.12

Engineer role

Preventive maintenance | Energy saving | Remote monitoring

Identify and address root cause issues
▶P.14

Configure highly reliable systems
▶P.17

Executive role

Business improvement | Big data utilization | Remote monitoring

Gain critical insight into your operations with KPIs*1 and analytics
▶P.18

Manage global deployments across the enterprise
▶P.19

*1. KPI: Key Performance Indicator

System integrator role

Easy connectivity and integration | Efficient engineering

Custom solutions to develop value-added services
▶P.20

Reduce engineering time
▶P.22

Improve visibility and operational efficiency

Case 01

Production and equipment status need to be monitored to achieve operational excellence

Solution

Leverage universal connectivity to visualize all related information within a fast, responsive, and intuitive graphical environment

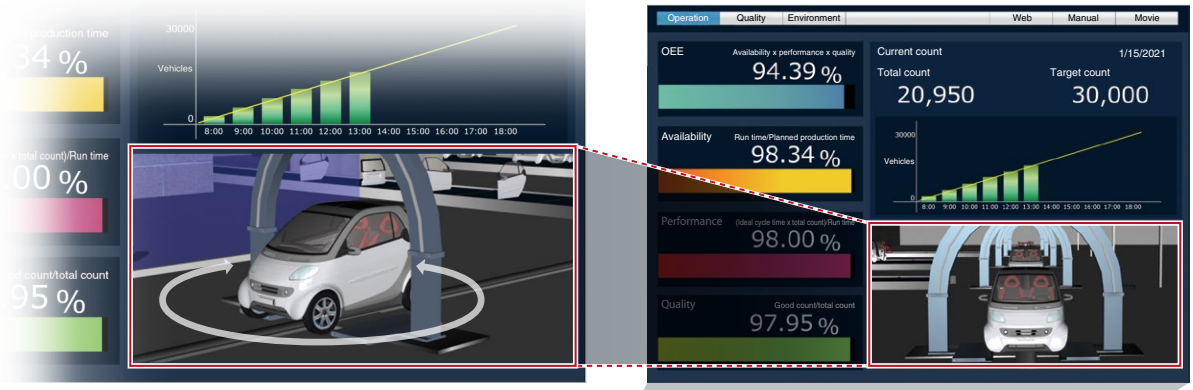
- Support for standard Internet browsers and apps on Android™ and Apple® platforms
- Read/write and monitoring capabilities from any device
- Advanced visualization with 2D and 3D models and animations

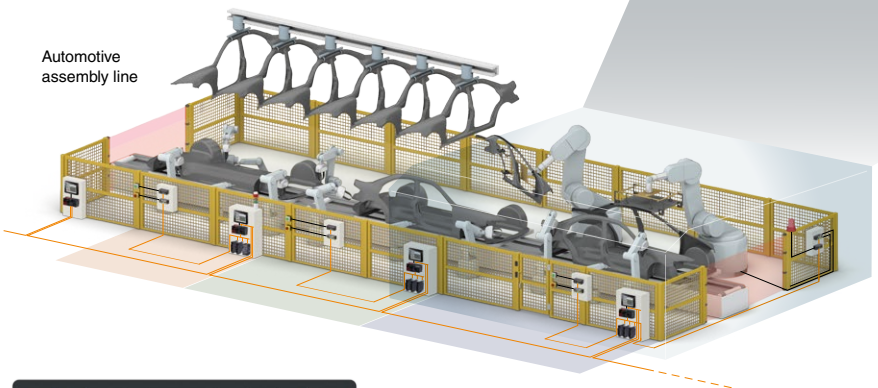
Visualize production status

GraphWorX™ ▶ **Graphic creation/visualization**

3D model angle can be changed

Display various information on production status and 3D models of monitored targets on one screen





View screens using a web browser on any mobile device such as computer, tablet, smartphone, and wearable device

WebHMI™/MobileHMI™

▶ **Remote monitoring on any smart device**

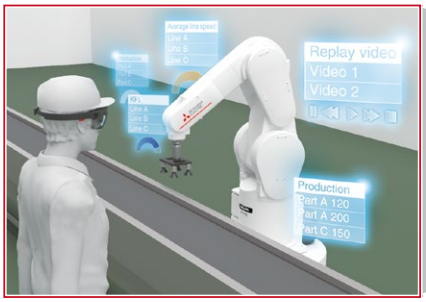
Case 02

Identify errors quickly

Solution

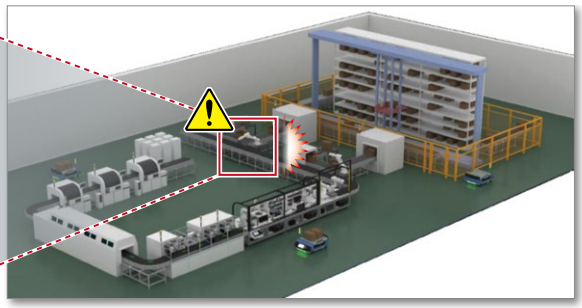
Pinpoint abnormal data patterns and send email notifications. Analyzing the alarm history can quickly identify the root cause

- Alarm list display (intuitive sort and filter function to detect errors)
- Alarm notification by emails
- Check abnormal data shown in AR on a wearable device



Data related to a faulty device can be checked in AR via a wearable device

WebHMI™/MobileHMI™
▶**Remote monitoring on any smart device**

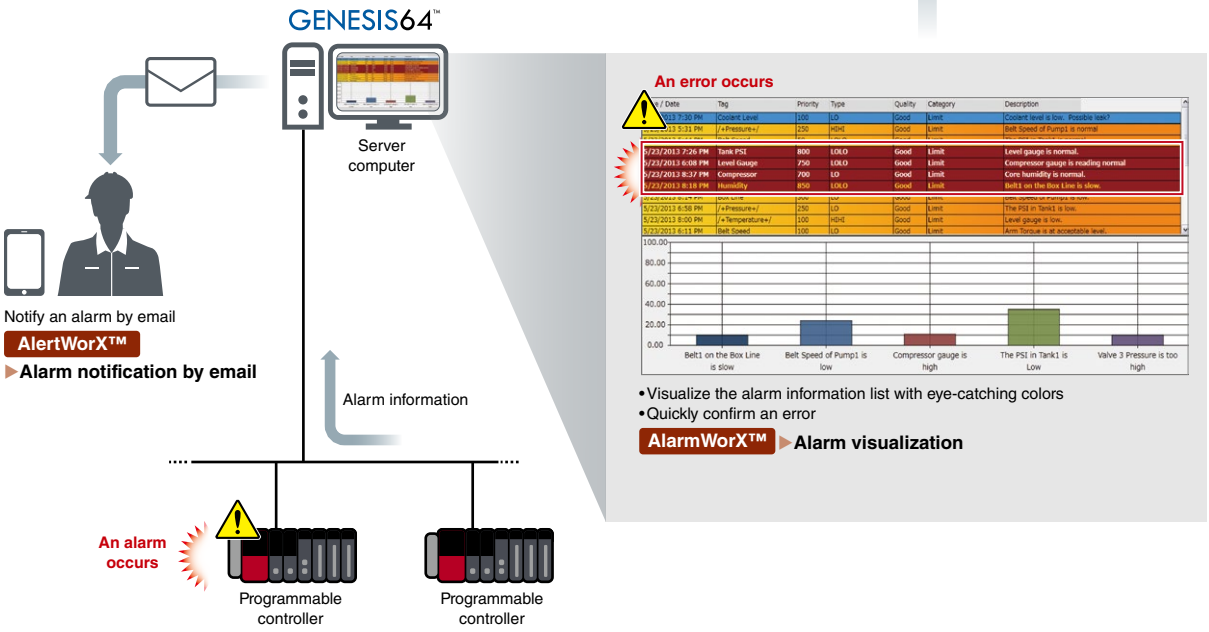


After checking alarm details, a faulty device can be identified on the screen

GraphWorX™ ▶**Graphic creation/visualization**

- Visualize fault causes in order of probability for troubleshooting
- Fault cases can be checked according to priority

Facility AnalytiX® ▶**Advanced fault detection and diagnostics (FDD) technology** Option



- Visualize the alarm information list with eye-catching colors
- Quickly confirm an error

AlarmWorX™ ▶**Alarm visualization**

Drive process improvements with actionable information

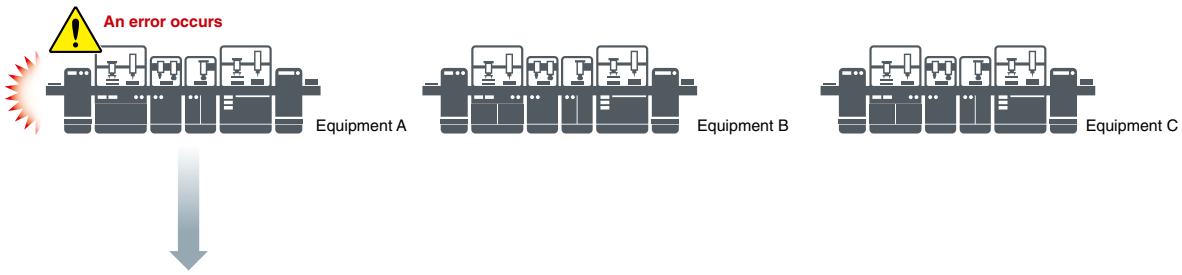
Case 03

Get access to relevant information when and where it is needed

Solution

Prompt troubleshooting of equipment with various functions such as related manual display and remote instruction utilizing AR

- Remote instructions via voice and images
- Access equipment manuals in conjunction with error details
- Check troubleshooting instructions on a wearable device in real-time



Example 1

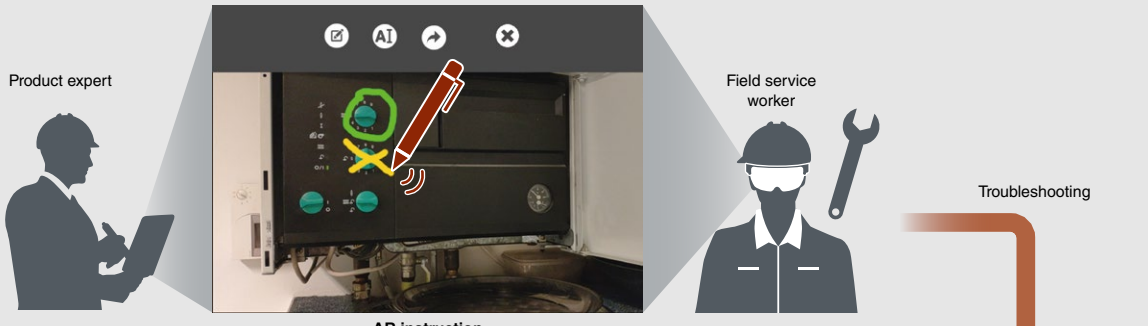
Access manuals to identify equipment error codes. A field service worker can quickly check the manual on a computer, tablet, or smartphone.

Manual with troubleshooting instructions for error on equipment A

Promptly fix the equipment referring to the manual

Example 2

A product expert can provide instructions on his tablet or any other mobile device by directly writing on the screen. A field service worker can troubleshoot equipment by checking instructions of AR display on a wearable device.



Give instructions on his tablet or other mobile devices by writing on the screen

GraphWorX™

▶**Graphic creation/ visualization**

AR instruction

Check instructions on a wearable device for troubleshooting

WebHMI™/MobileHMI™

▶**Remote monitoring on any smart device**

Case 04

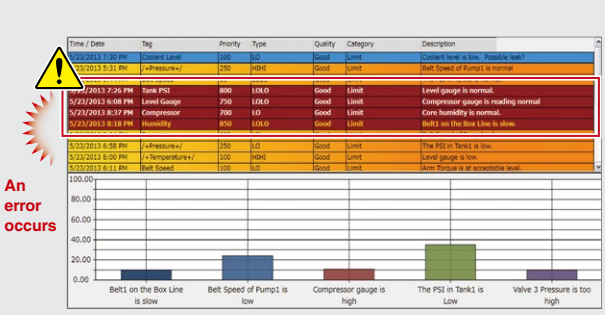
Require prompt troubleshooting support when equipment fails

Solution

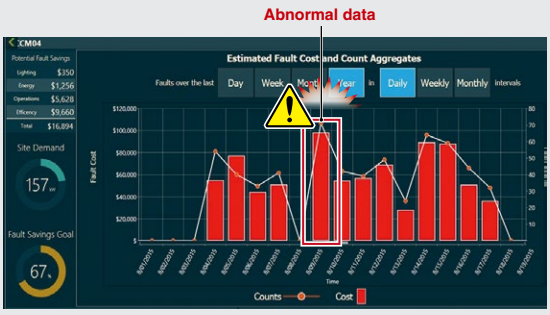
Upon equipment downtime, assign the field service worker closest to the target factory using built-in location services*1

- Detect facility and equipment errors and manage alarm information
- Provide push notifications to field service worker's mobile phones for quick response times and fast troubleshooting

Visualize information from factory B The status of target equipment can be identified through alarm information and trend graphs

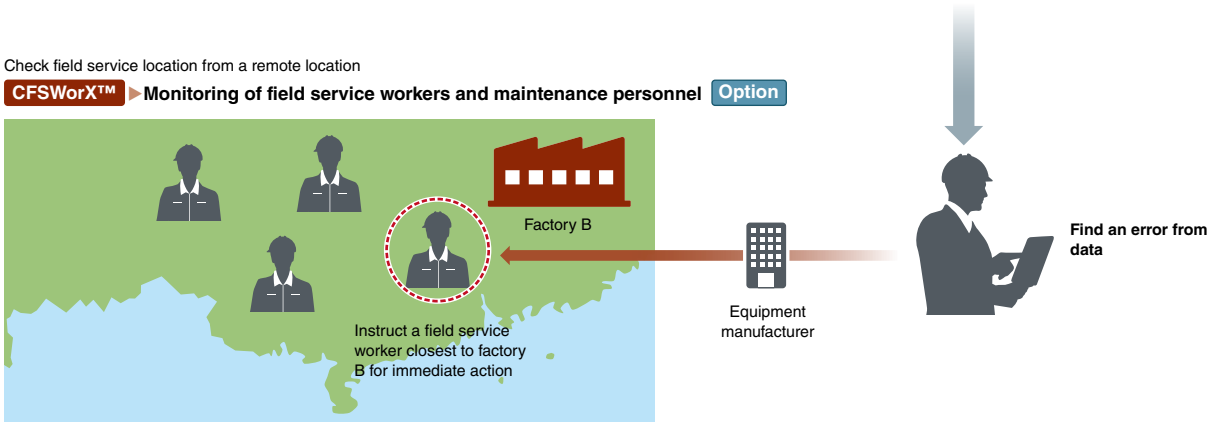


Alarm information
AlarmWorX™ ▶ **Alarm visualization**



Trend graph
TrendWorX™ ▶ **Real-time and historical trends**

Check field service location from a remote location
CFSWorX™ ▶ **Monitoring of field service workers and maintenance personnel** Option



*1. GENESIS64™ provides a monitoring of field service workers and maintenance personnel function. However, Mitsubishi Electric does not provide maintenance service utilizing this function.

Identify and address root cause issues

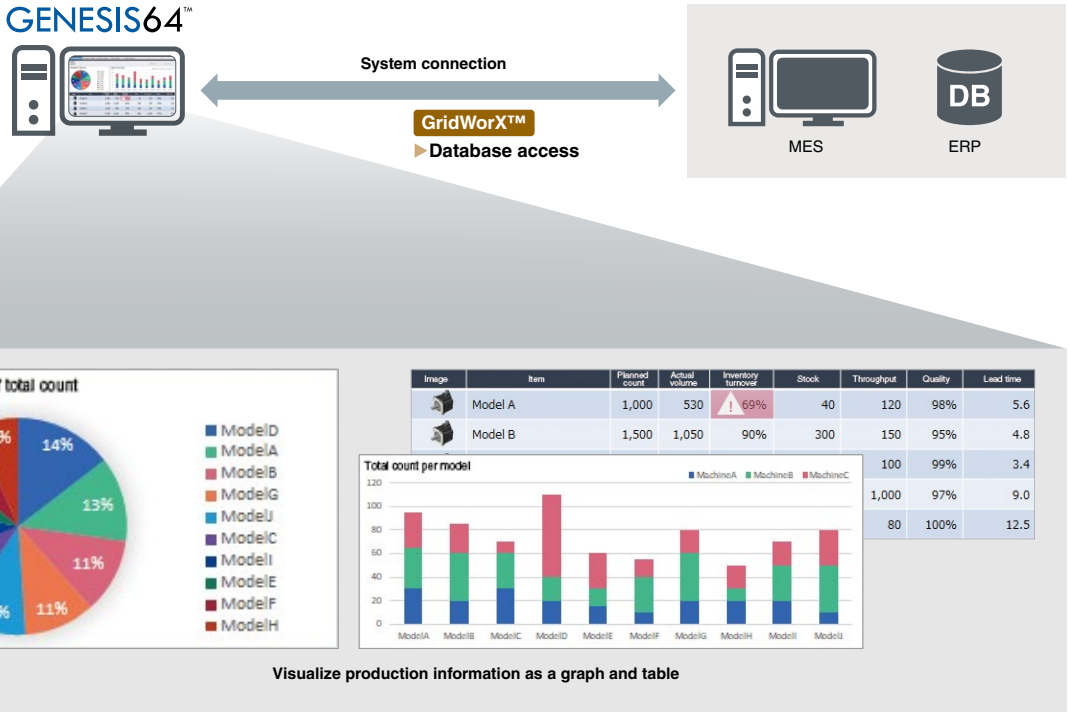
Case 05

Improve productivity through IT and OT integration

Solution

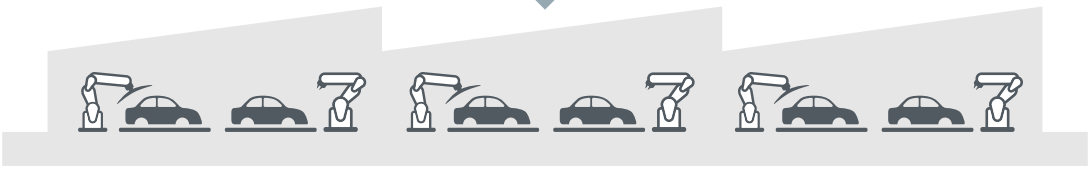
Integrate with enterprise systems to improve productivity through unified monitoring, control and analysis of production data

- Analyze system data through integrated IT and OT systems
- Transform production data into actionable information



Visualize production information as a graph and table

Turn data into information to improve production and equipment performance



Production line

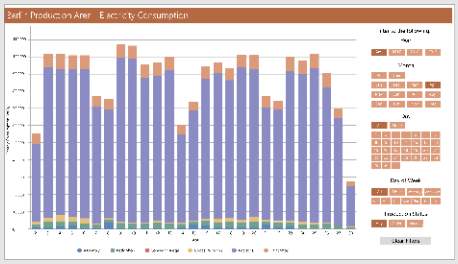
Case 06

Optimize system operation by analyzing accumulated data

Solution

Various analysis functions using historical data help identify energy offenders and allow for quick troubleshooting

- Preventive maintenance by analyzing equipment operational status
- Visualization and analysis of energy consumption realizes energy saving
- Improve product quality by visualizing process control limits

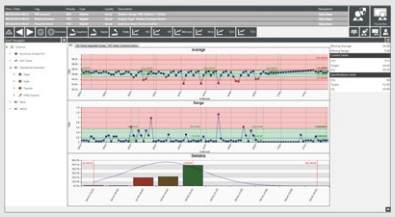


Energy consumption charts identifying saving opportunities

Energy AnalytiX®

▶**Visualization and analysis of energy consumption**

Option



Quality management of production line using control chart

Quality AnalytiX®

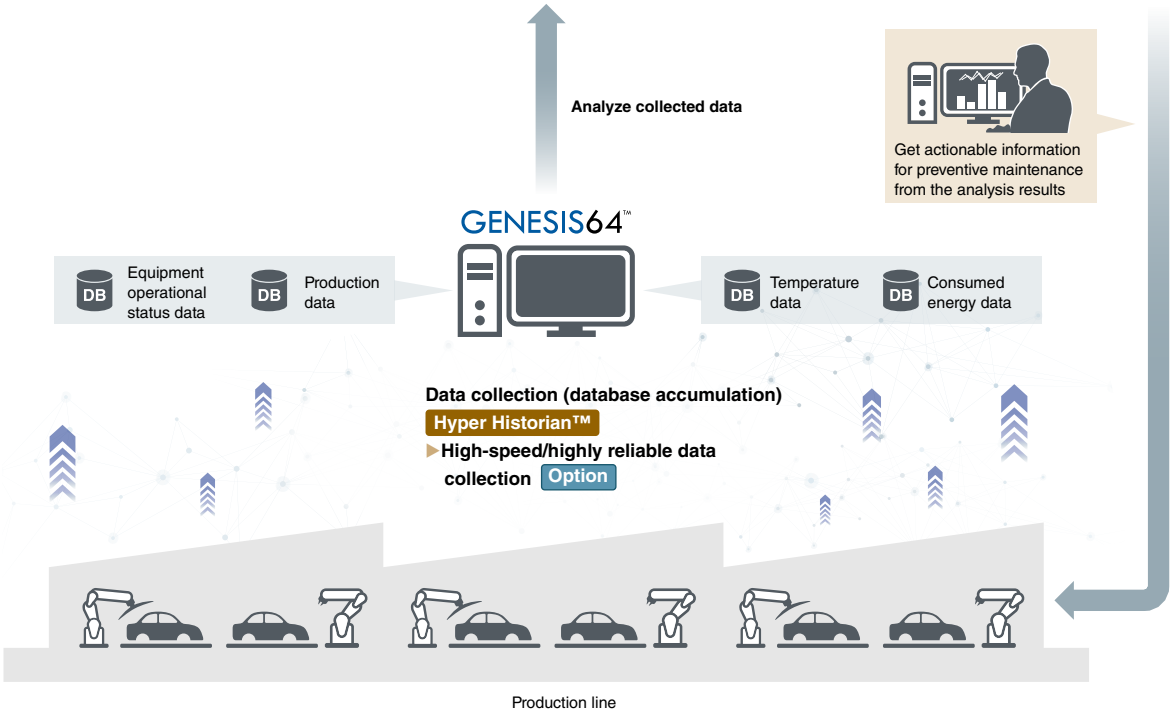
▶**Quality control**

Option

Visualize equipment operational status on one screen

GraphWorX™

▶**Graphic creation/ visualization**



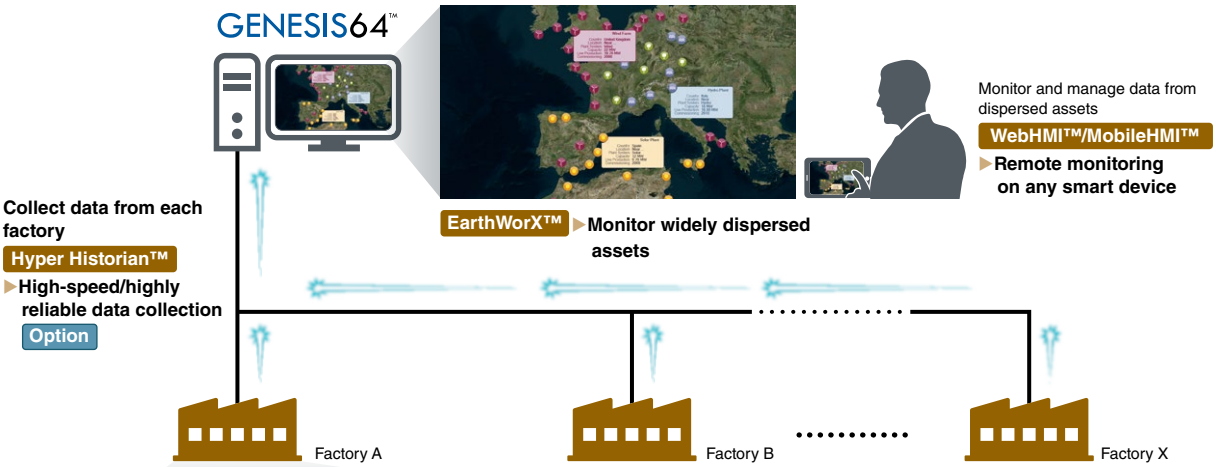
Case 07

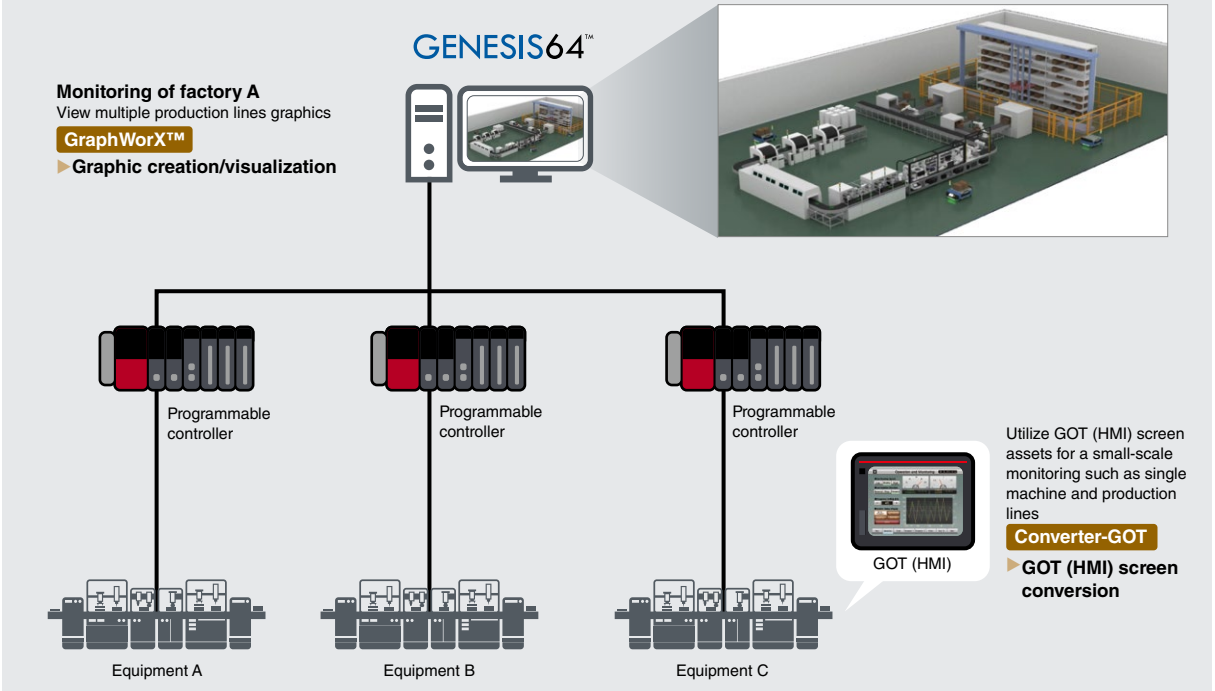
Multi-site production management

Solution

Quickly compare the performance of multiple sites through real-time visualization of geographically disparate systems

- Unified production site data management
- Realize standardized operations through monitoring and management of multiple assets
- GOT (HMI) screens created for equipment can be utilized, enabling integrated screens creation easier





Configure highly reliable systems

Case 08

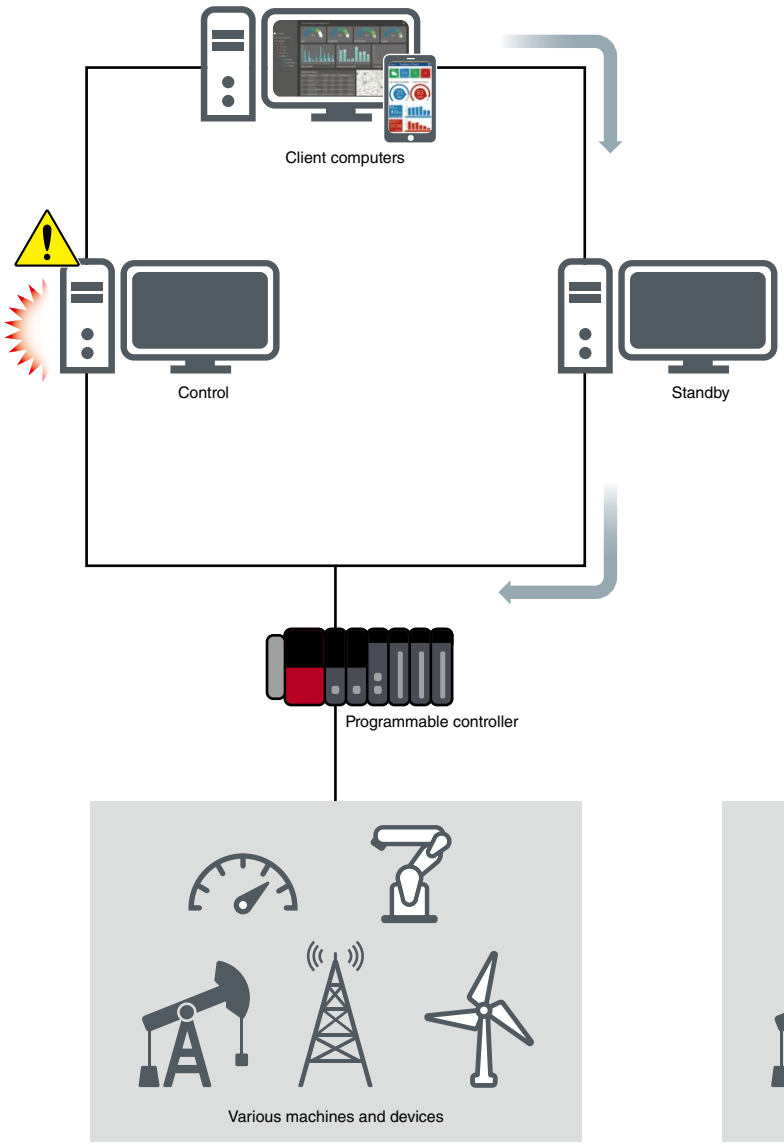
Ensure system uptime through high availability deployment options

Solution

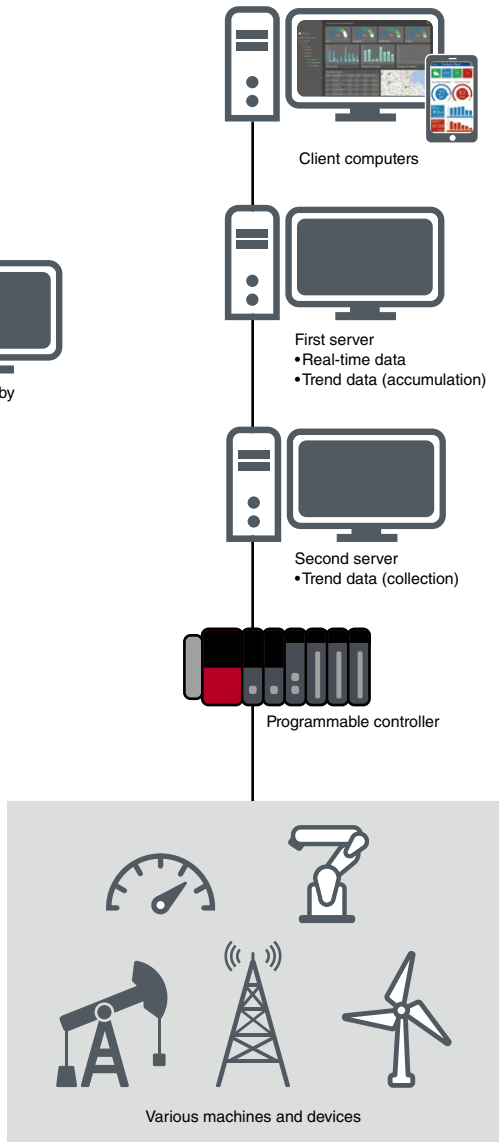
Provide stable operations by applying mission critical system architectures

- Redundant servers ensure continuous operation even when an error occurs
- Prevent overload of servers with distributed processing by multiple servers

Redundant server configuration



Distributed server configuration



Gain critical insight into your operations with KPIs and analytics

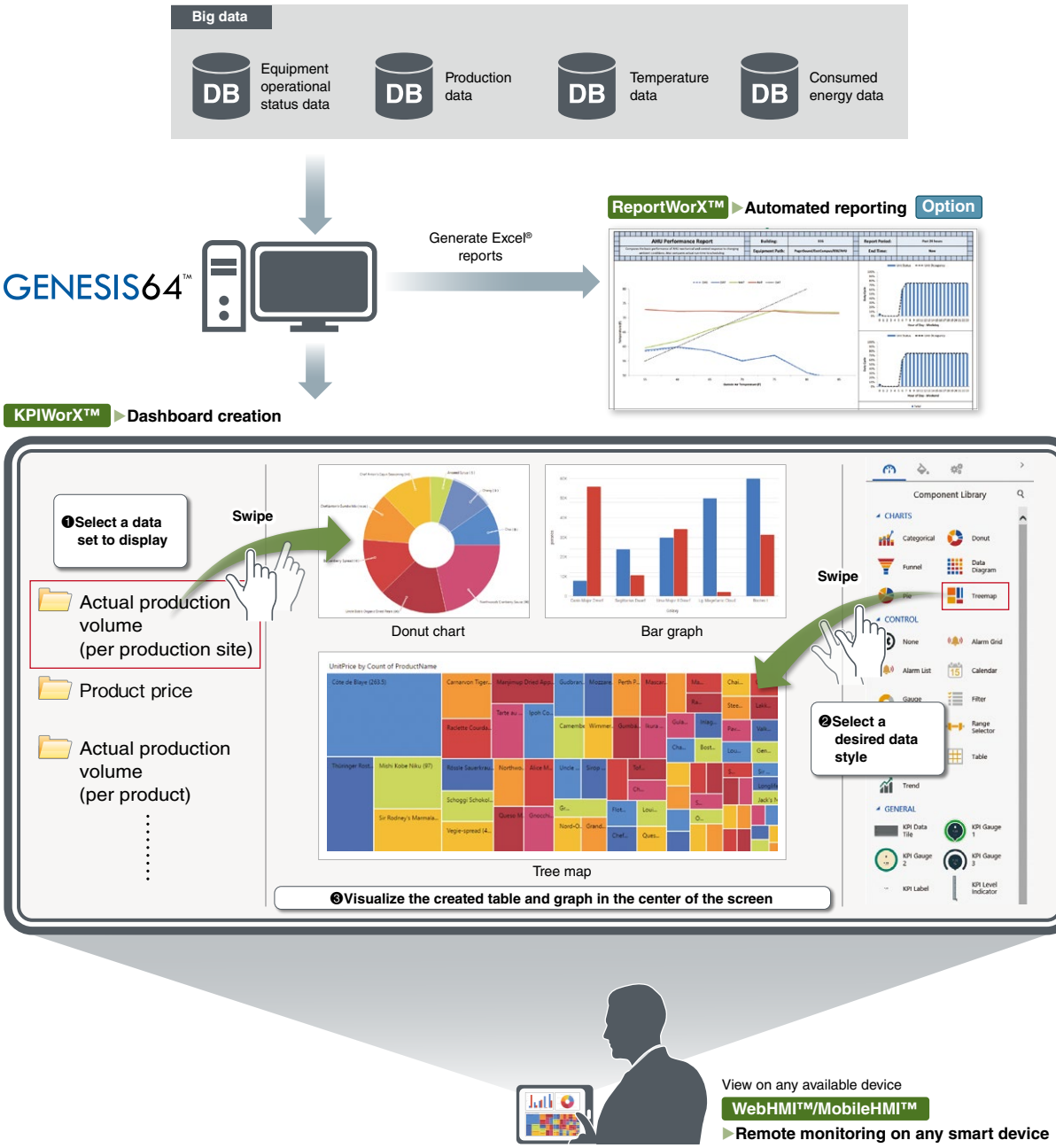
Case 09

Turn large amounts of data into actionable information to improve business operations

Solution

Extract large volumes of data and visualize in easy self-service dashboards

- High-speed and large capacity data collection
- Create templates by combining various graphical objects and data styles
- Create self-service dashboards (drag and drop) on any mobile device



Manage global deployments across the enterprise

Case 10

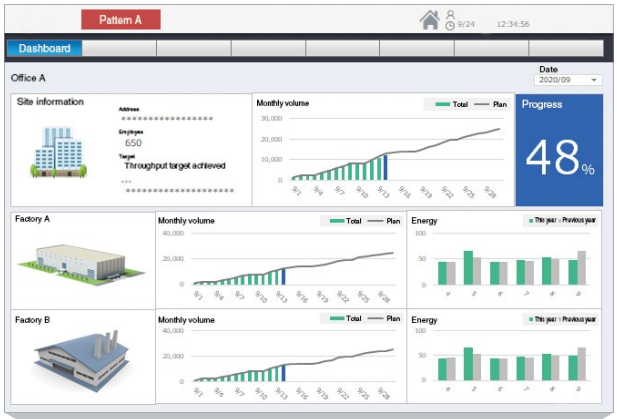
Monitor sites worldwide in real-time to shorten improvement cycles

Solution

Integrate and collect data from widely dispersed assets in the cloud

- Utilize the cloud for secure data collection and system monitoring
- Unified management of data from different production sites
- Remote monitoring and control via web browsers and mobile applications

Centrally manage all production sites data in one server



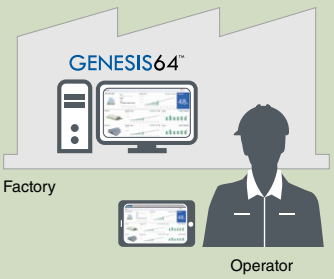
GraphWorX™
▶Graphic creation/visualization

Executive

Check the monitoring screen on a web browser and mobile application

WebHMI™/MobileHMI™
▶Remote monitoring on any smart device

Send feedback about insights from the data to the field



IoT device

IoTWorX™
▶IoT communication function for Cloud
Option

Custom solutions to develop value-added services

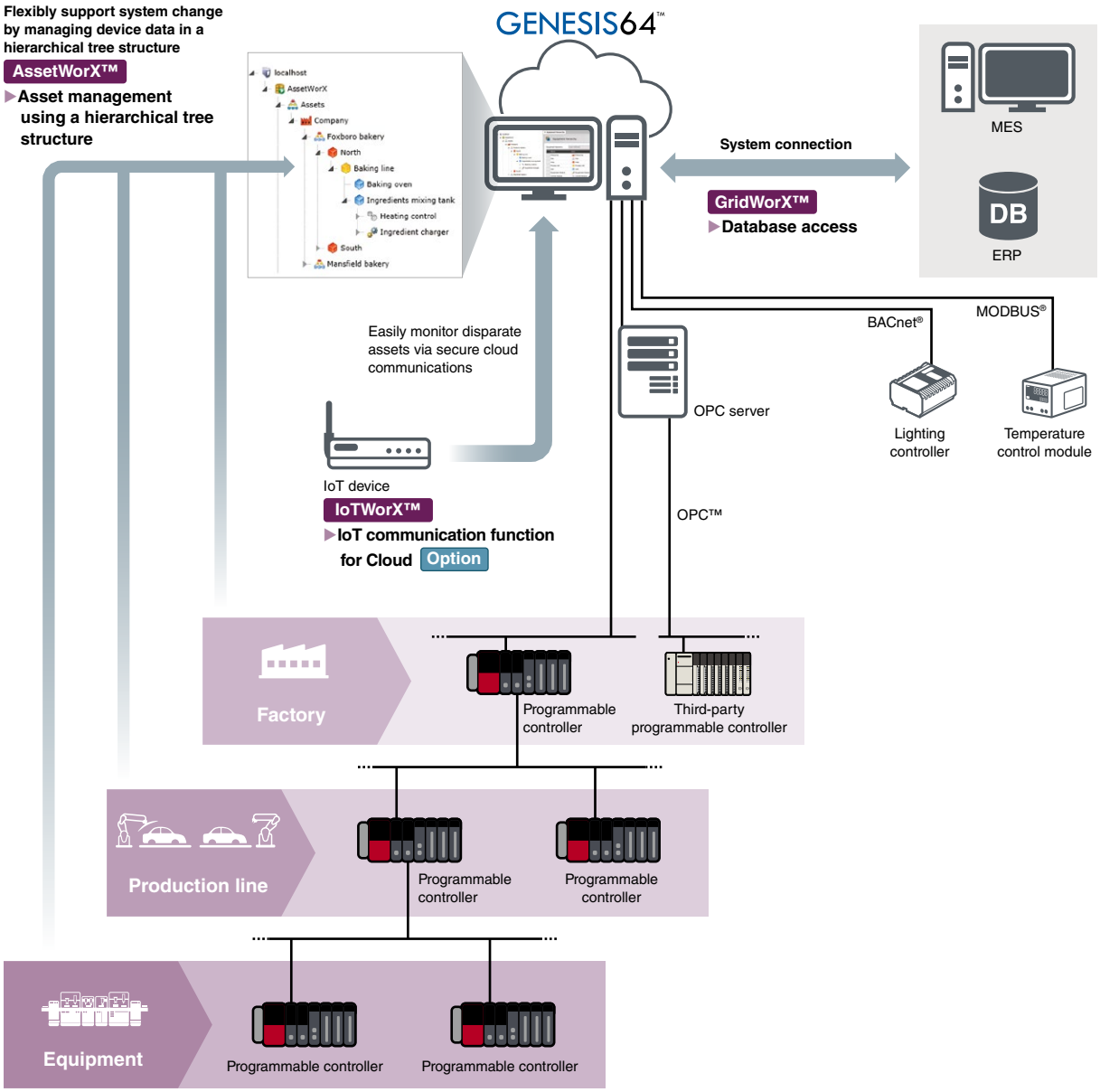
Case 11

Connect with a wide variety of devices and systems

Solution

Enhanced connectivity enables communication with various devices, secure information exchange, and integration with third-party systems

- Support popular open protocols such as OPC™, BACnet®, and MODBUS®
- Deliver shop floor data to MES, ERP, and work order management systems
- Flexible system configuration by managing device data in a hierarchical tree structure
- Enable enterprise data monitoring and control via the cloud



Case 12

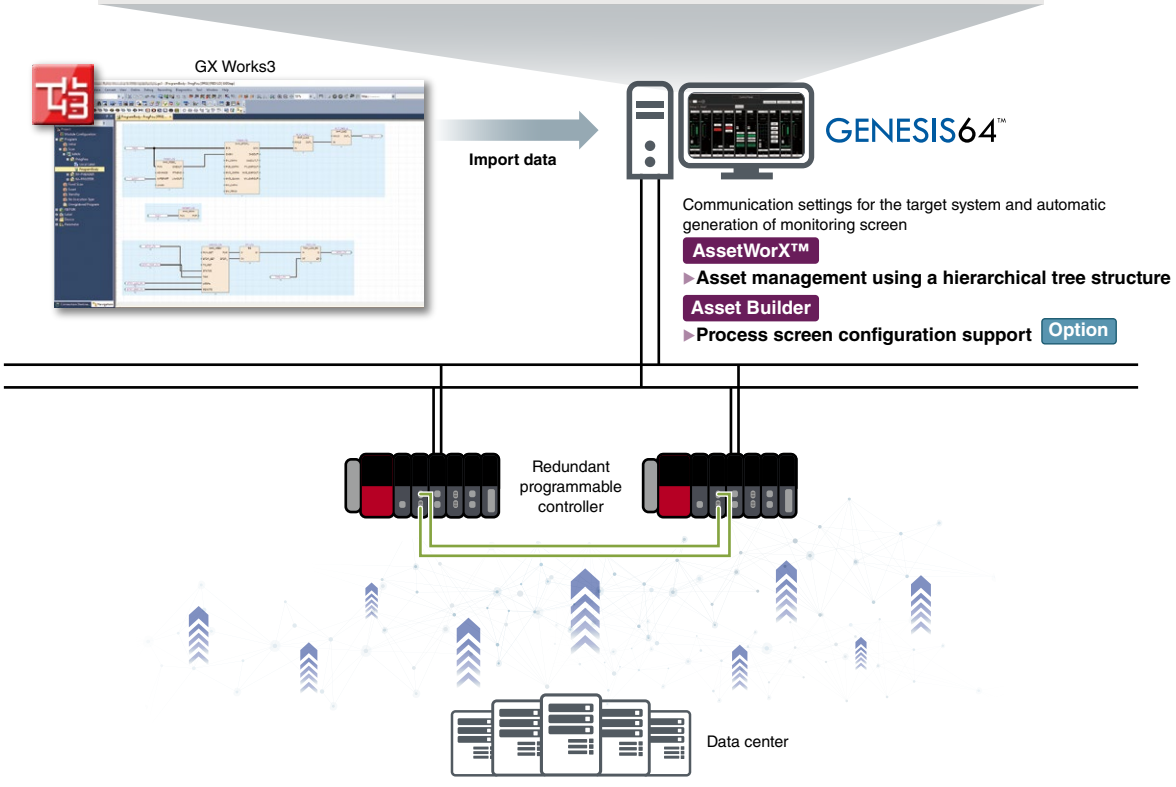
Coordination with the process system such as lighting/air conditioning and power monitoring

Solution

Easily generate communication settings and monitoring screens for the process system

- Utilizing process programs created with GX Works3, generating communication settings and monitoring screen for the process system is easier, reducing system configuration time
- Display the faceplate list from the control panel screen
- Adjust equipment status by opening a tuning screen from the faceplate

Automatically generate tuning screens and faceplates used for the process system



Reduce engineering time

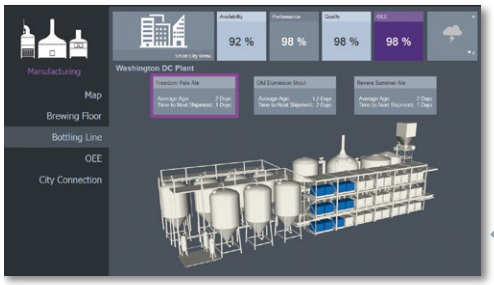
Case 13

Efficiently develop systems that solve complex customer needs

Solution

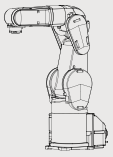
Boost software scalability and rapidly deliver innovative capabilities with time-saving development tools

- Reduce display creation time by importing CAD drawings of graphical assets
- Develop reusable equipment and asset templates to rapidly deploy across your enterprise
- Exchange information with external databases using powerful workflow technology
- Simplify screen development using point-and-click tools; no scripting required



Easily create intuitive operator displays
User-friendly screens in high-definition can be created with 2D and 3D graphics and various symbols
GraphWorX™ ▶**Graphic creation/visualization**

Monitor operating status
Visualize data collected at high speed in charts, trends, or reports to easily identify patterns or abnormalities
TrendWorX™ ▶**Real-time and historical trends**
ReportWorX™ ▶**Automated reporting** **Option**



CAD data*1

List of tags

Import data

GENESIS64™

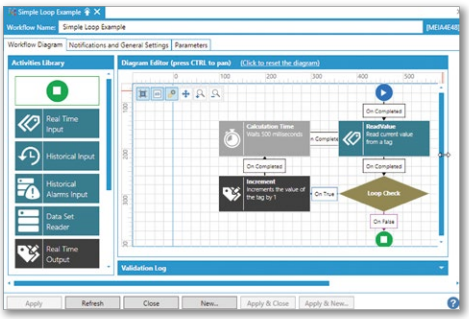
Quickly configure alarms, historical data logging, assets, and more from any workstation
Workbench
▶**Centralized project management**

Create monitoring displays with dynamic properties, animations, and flexible aliasing
GraphWorX™
▶**Graphic creation/visualization**

File (csv format)

Database

Application



Customized applications can be executed (or read/write) through Workflow from GENESIS64™
Workflow ▶**Programming by flowchart**

Remotely monitor and control
Remote monitoring function enables access from mobile devices such as smartphones and tablets (voice command control is also supported)
WebHMI™/MobileHMI™
▶**Remote monitoring on any smart device**

*1. Following CAD formats are supported.
3D format: XAML (.xaml), COLLADA™ (.dae), 3D Studio (.3ds), Wavefront (.obj), Autodesk® (.dwg/.dxf), Green Building XML (.gbXML)
2D format: XAML (.xaml), Windows® Metafiles (.wmf/.emf), Scalable Vector Graphics (.svg), Autodesk® (.dwg/.dxf)

GraphWorX™

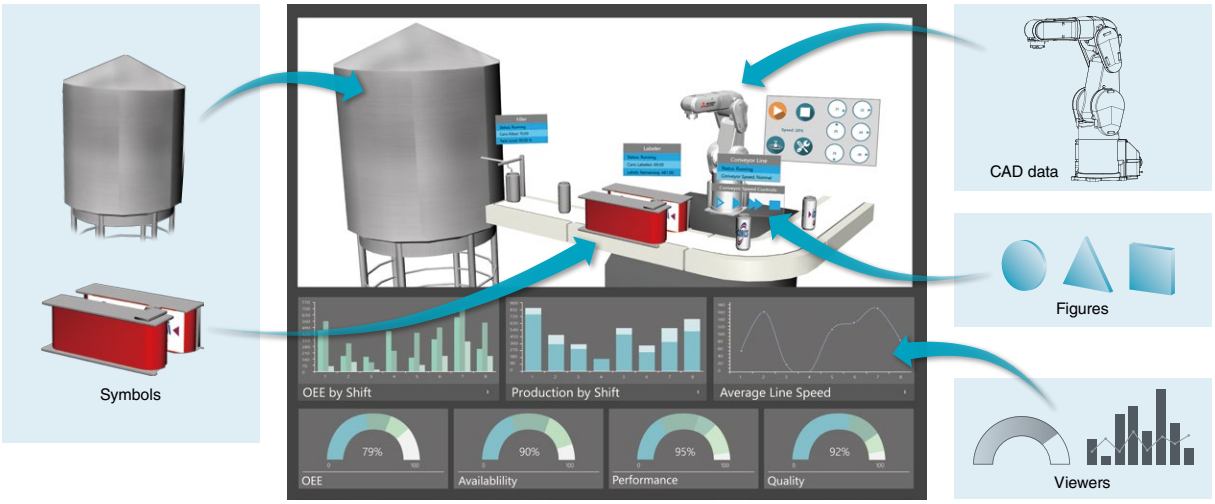
■ Graphic creation/visualization

Stunning and user-friendly graphics can be created at a low cost using provided 2D, 3D*1 symbols and CAD data. Various displays according to applications are available, such as automatically changing displayed information according to magnification and reduction percentage and showing the entire system realistically using 3D models*1.

*1. GENESIS64™ Basic SCADA does not support 3D.

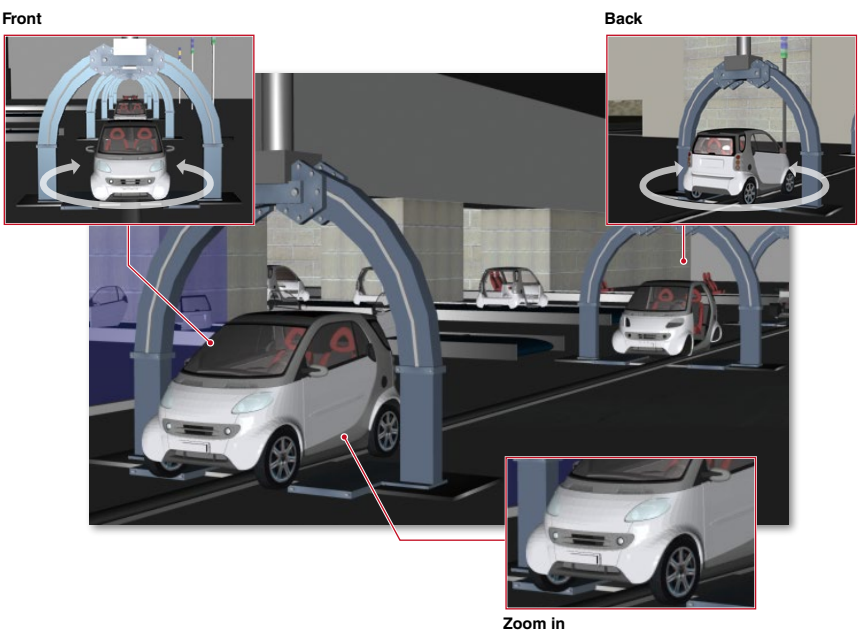
▶Graphic creation

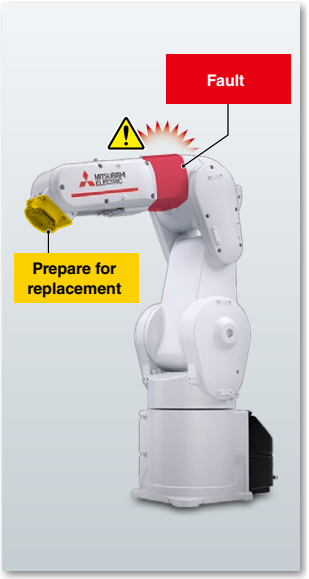
Easily create graphics using various symbols, figures, and viewers provided and customer's CAD data.



▶Graphic visualization

Angle change and zooming of created graphics are possible. In addition, color can be added to visualize the status intuitively.





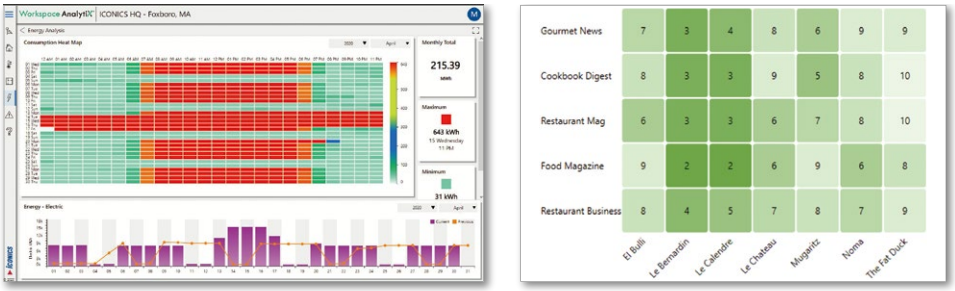
TrendWorX™

■ Real-time and historical trends

Visualize enterprise-wide data in trends, logs, charts, and reports with TrendWorX™. Chart real-time and historical data from any database to provide users with actionable data. Customize replay rates, colors, axis scales, and multiple cursors. Interact with trends during operation with multiple playback and filtering functions.

Data can be color-coded as a heat map*1 to make data easily visible, allowing quick analysis.

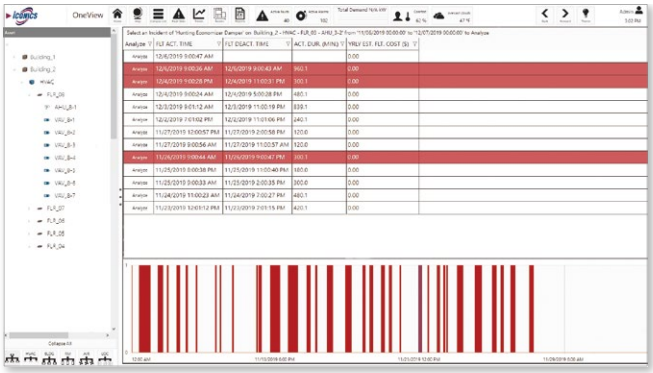
*1. Days and times when alarms most frequently occur and such can be easily understood by colors that change based on threshold values.



AlarmWorX™/AlertWorX™

■ Alarm visualization/notification

Notify your personnel of abnormal conditions and events in real time with ANSI/ISA-18.2 compliant features. Integrate the AlarmWorX™ Viewer into any SCADA or HMI display to bring to light real-time and historical alarms when and where operators need to see them.



	Present	Active	Acked
area A	43	10	2
factory A	3	0	0
factory B	0	0	0
factory C	1	0	0
factory D	1	0	0
factory E	11	2	1
factory F	5	0	0
factory G	10	7	0
factory line A	3	1	0

Visualize alarms according to the equipment and factory line configuration created with AssetWorX™

Operator
Check an alarm to troubleshoot promptly

Notify an alarm to the remote field

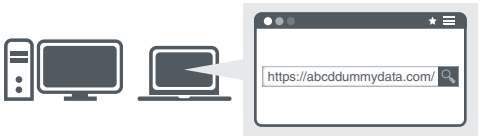
WebHMI™/MobileHMI™

■ Remote monitoring on any smart device

Bring SCADA visualization to any device. Create displays on the desktop that can responsively scale to run on any mobile client. Leverage native apps to provide a consistent user experience on any smartphone, tablet, or HTML5 compliant web browser*1. GENESIS64™ responsive UI technology flawlessly transitions between clients to provide a consistent user experience*2.

*1. Please refer to the operating environment on page 47 for supported web browsers.
*2. Please refer to "2. Select client products" on page 38 flow of product selection for details.

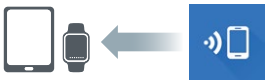
WebHMI™



Search URL of server computer on a web browser

Visualize monitoring screen on a web browser

MobileHMI™



Download MobileHMI™ application to device

Check monitoring screen from MobileHMI™ application

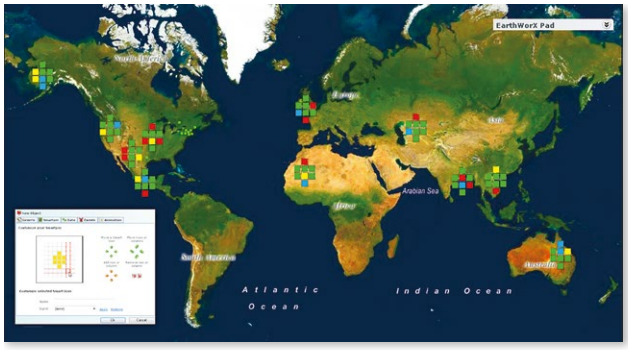
Intuitive operation is possible on a tablet and smartphone

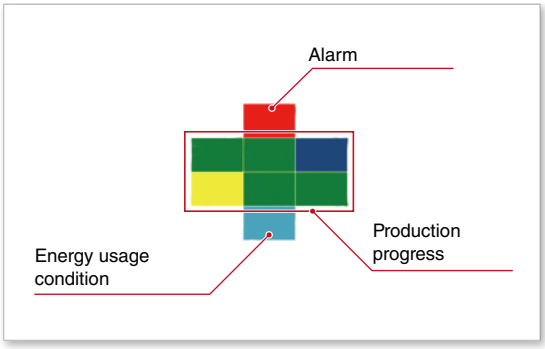
Swipe　Pinch in　Pinch out

EarthWorX™

■ Monitor widely dispersed assets

EarthWorX™, a geographic information system (GIS) mapping module, provides visualization for widely dispersed assets. Create a geographical overview to monitor multiple locations while maintaining the ability to locate and drill into specific assets. Smart Pin™ enables the status of many assets to be easily understood at a glance. Users can integrate with Google Maps™, Bing® Maps, and Esri™ to include additional GIS mapping features and data layers.





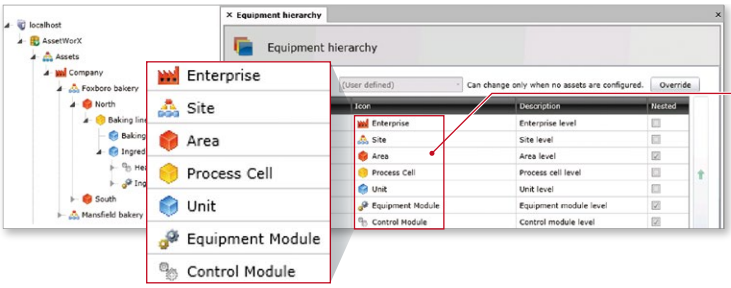
Smart Pin™

AssetWorX™

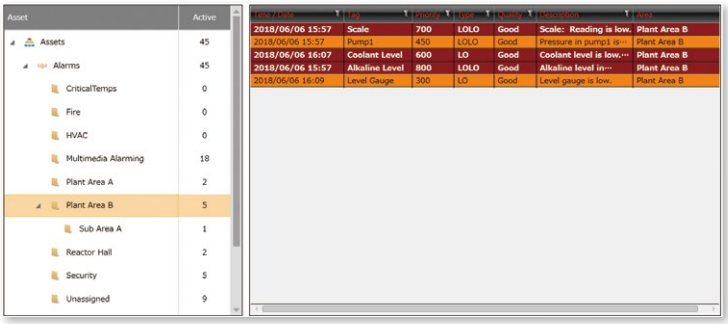
■ Asset management using a hierarchical tree structure

AssetWorX™ is an international standard ANSI/ISA-95*1 compliant asset management module. Map the physical world to its digital twin according to the actual structure of the enterprise, company, process, factory, line, etc. Assets can be organized and configured in the Workbench, optionally including alarms, customizable colors, icons, and drag-and-drop functionalities. The runtime component provides intuitive navigation and is perfectly suited for scaling large projects, which can be easily achieved using the Excel® based bulk asset configuration.

*1. International standard which defines equipment hierarchy models for physical assets in manufacturing.



Icons representing each level make it easy to access each data



AssetWorX™ further enhances visualization of alarms and trends on each level when combined with other functions such as AlarmWorX™ and TrendWorX™

GridWorX™

■ Database access

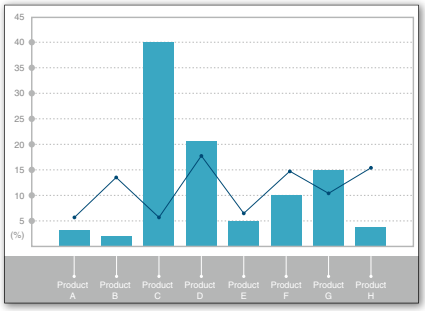
GridWorX™ processes values retrieved from third-party databases such as Microsoft® SQL Server®, Oracle®, and ODBC, and displays values as tables and charts. Easily integrate with MES, ERP, work order systems, and other business applications, enabling detection and early identification of system issues.

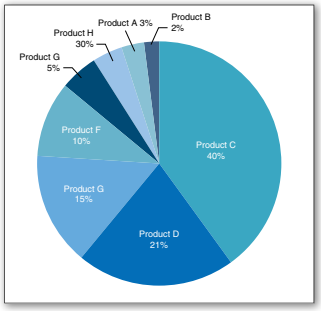
- Microsoft® SQL Server®
- Oracle®
- ODBC

Database

Visualize

No.	Product name	Production site	Starting date	Updated date	Cumulative sum
1	Product A	Area A	20/03/25	20/05/06	102
2	Product B	Area B	20/01/15	20/07/14	100
3	Product C	Area C	20/10/30	20/01/23	305
4	Product D	Area D	20/02/22	20/09/06	256
5	Product E	Area E	20/04/10	20/02/14	463
6	Product F	Area F	20/06/05	20/11/23	110

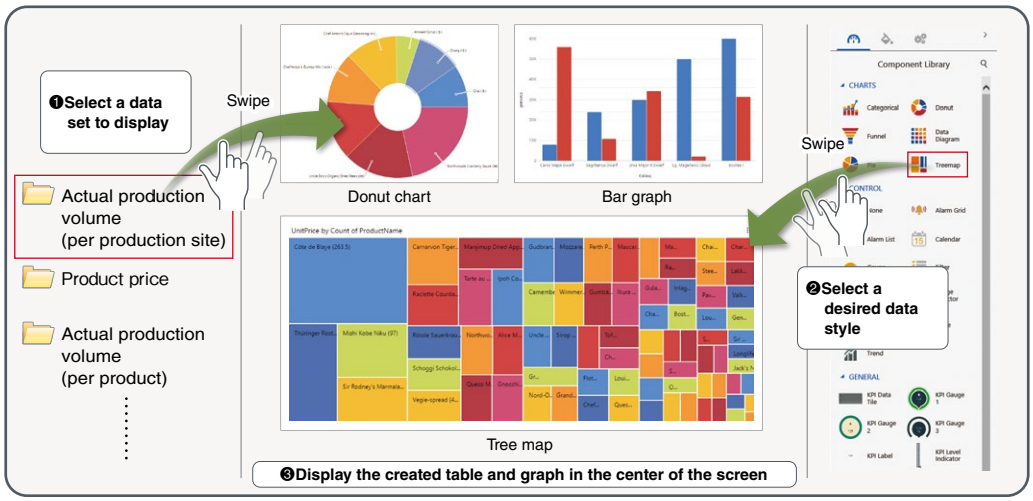




KPIWorX™

■ Dashboard creation

KPIWorX™ is an application for delivering self-service executive dashboards to any desktop or mobile device, utilizing preconfigured widgets and symbols such as meters, alarms, trends, and charts for business intelligence. Get timely KPI and OEE information on any smartphone or tablet computer, or on your wrist with Apple Watch® support. Executives can quickly view insightful charts and analytics information for more proactive decision making.

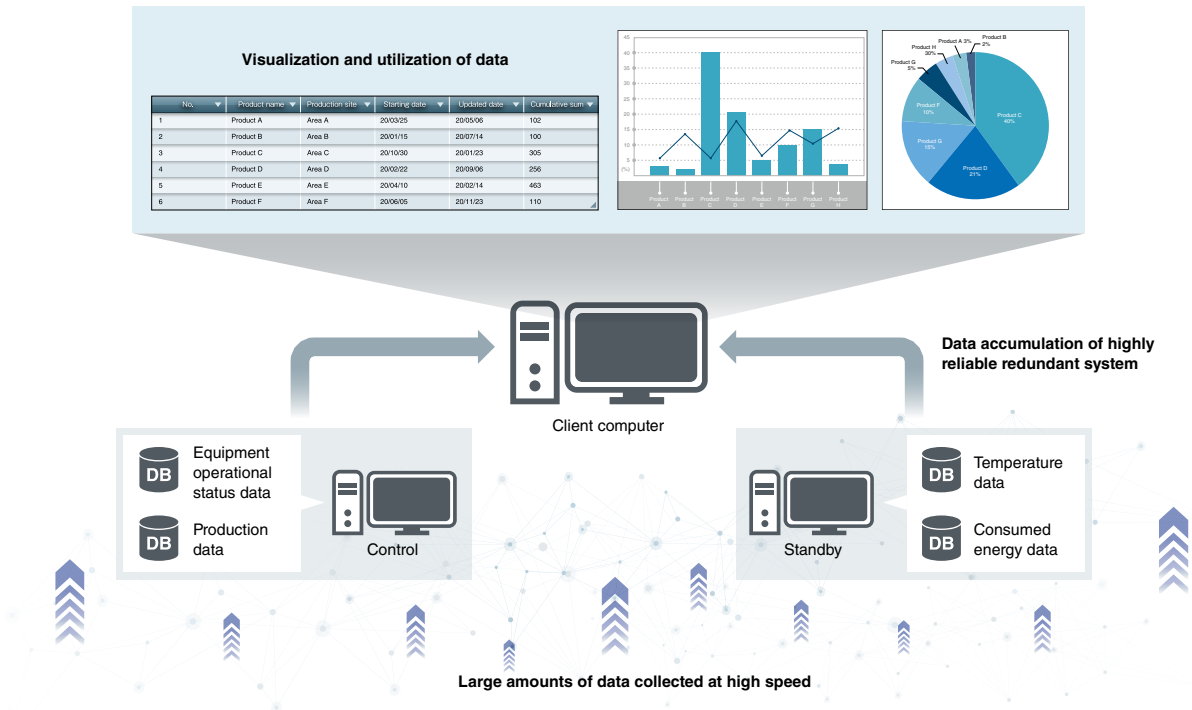


Hyper Historian™*1 Option

■ High-speed/highly reliable data collection

Hyper Historian™ is a high-speed*2, reliable, and robust historian. Designed for the most demanding applications with support for redundancy and distributed data collection, Hyper Historian™'s advanced high compression algorithm delivers unparalleled performance with efficient use of resources. It integrates with the latest big data technologies, including Azure® SQL, Azure® Data Lake, Apache Kafka®, and Apache Hadoop®. This makes Hyper Historian™ the most efficient and secure real-time plant historian for the latest Microsoft® operating systems.

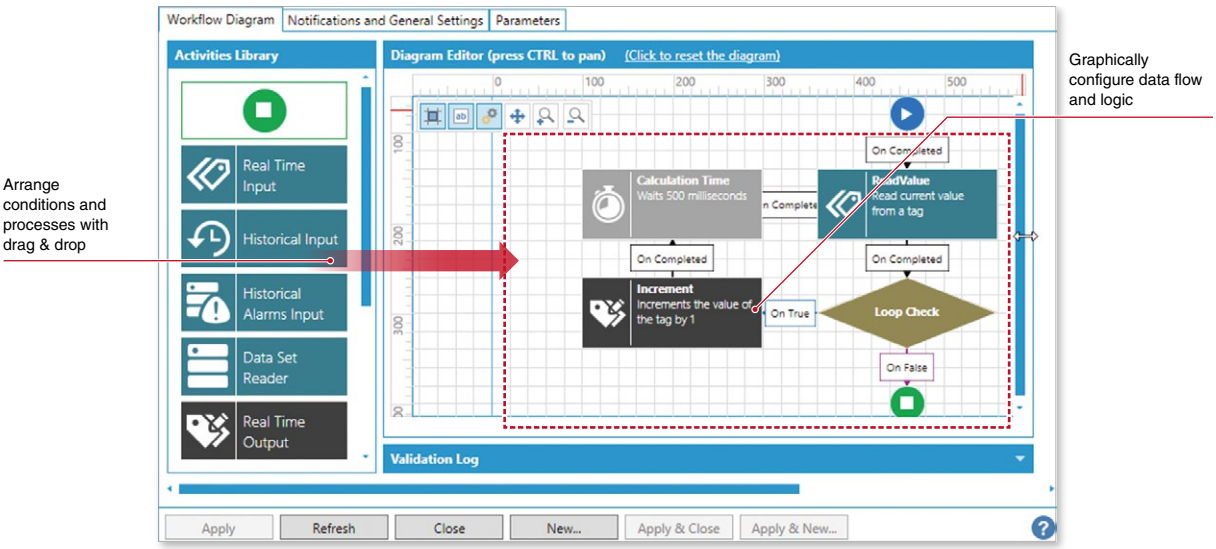
*1. Hyper Historian™ Express (simplified ver.) is included in GENESIS64™. Please refer to the function list (Hyper Historian™ product) on page 38 for details.
*2. The speed depends on the system configuration.



Workflow

■ Programming by flowchart

Workflow is continuous processing based on data such as real-time or historical data values, alarm notifications, faults, and more. It can be graphically configured and executed using a flowchart built from a library of highly-customizable activities.

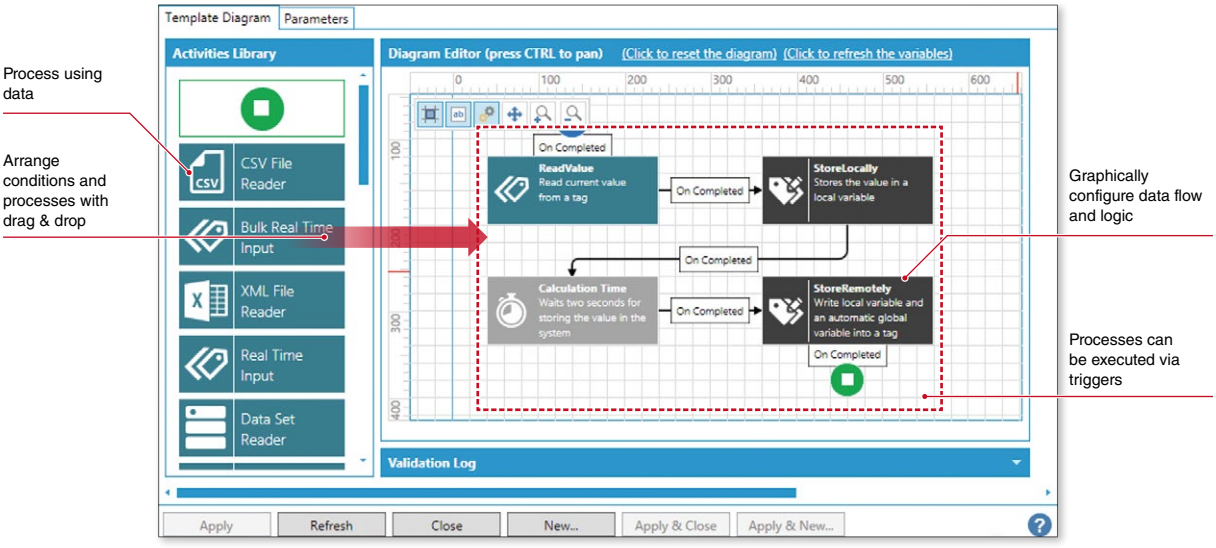


BridgeWorX™*1

■ Transaction-based processing by flowchart

BridgeWorX™ enables configuration and execution of transactions built on the powerful Workflow engine. Graphical data bridging enables users to rapidly implement data orchestration and integration tasks that adhere to business logic without requiring programming. BridgeWorX™ can access Microsoft® SQL Server®, Oracle®, Microsoft® Access®, SAP®, and virtually any real-time or archived manufacturing or business data source.

*1. GENESIS64™ includes LITE (5 transactions). Please refer to the function list (Ⓐ server product) on page 37 for details.



Comparison between Workflow and BridgeWorX™

	Workflow	BridgeWorX™
Processable data	Data on GENESIS64™	Data on GENESIS64™ Data/file/web service
Execution format	Cycle	Cycle, trigger

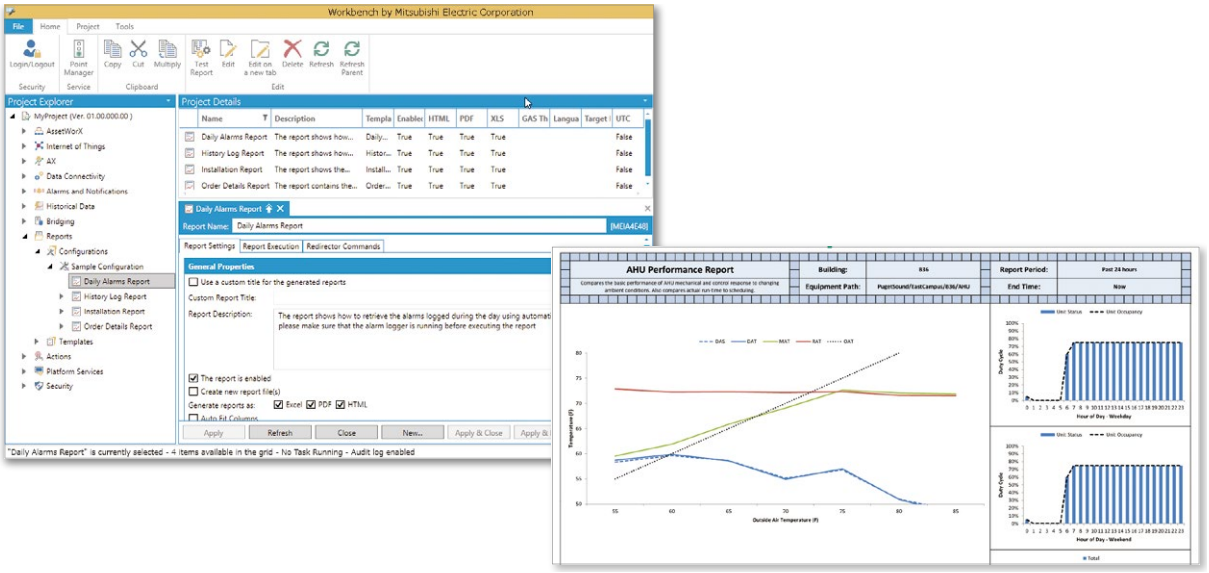
ReportWorX™*1 Option

■ Automated reporting

ReportWorX™ is a powerful reporting tool that turns volumes of data into manufacturing intelligence. Create reports in Excel®, HTML, or PDF format with data from the plant floor, corporate databases, and everywhere in between.*2 Its advanced scheduling engine delivers reports automatically via the web, from an HMI screen, or based on user-specified criteria. Scheduling options include daily, weekly, monthly, and yearly, or based on a variety of triggers.

*1. ReportWorX™ Express (simplified ver.) is included in GENESIS64™. Please refer to the function list (Ⓐ server product) on page 37 for details.

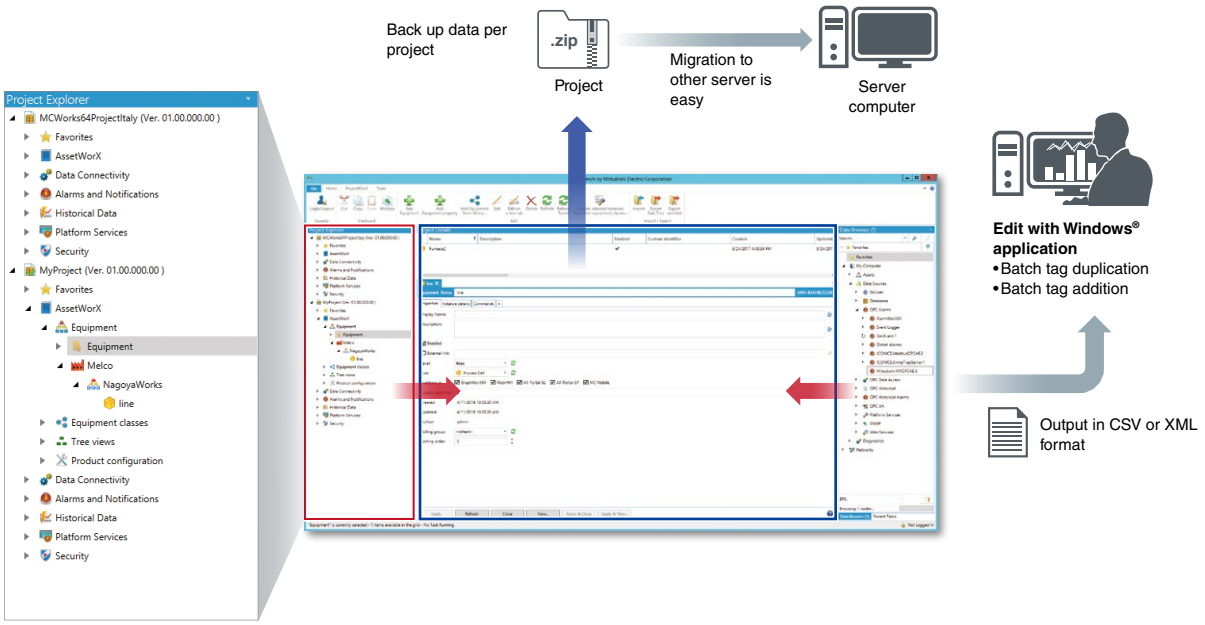
*2. Original templates are created in Excel®.



Workbench

■ Centralized project management

Workbench is the multi-functional, centralized project management tool and configuration environment for all GENESIS64™ server applications, making development more efficient and minimizing design time for any application. Configure assets and historical logging from the same screen. Users can configure and manage their entire GENESIS64™ application from any workstation.

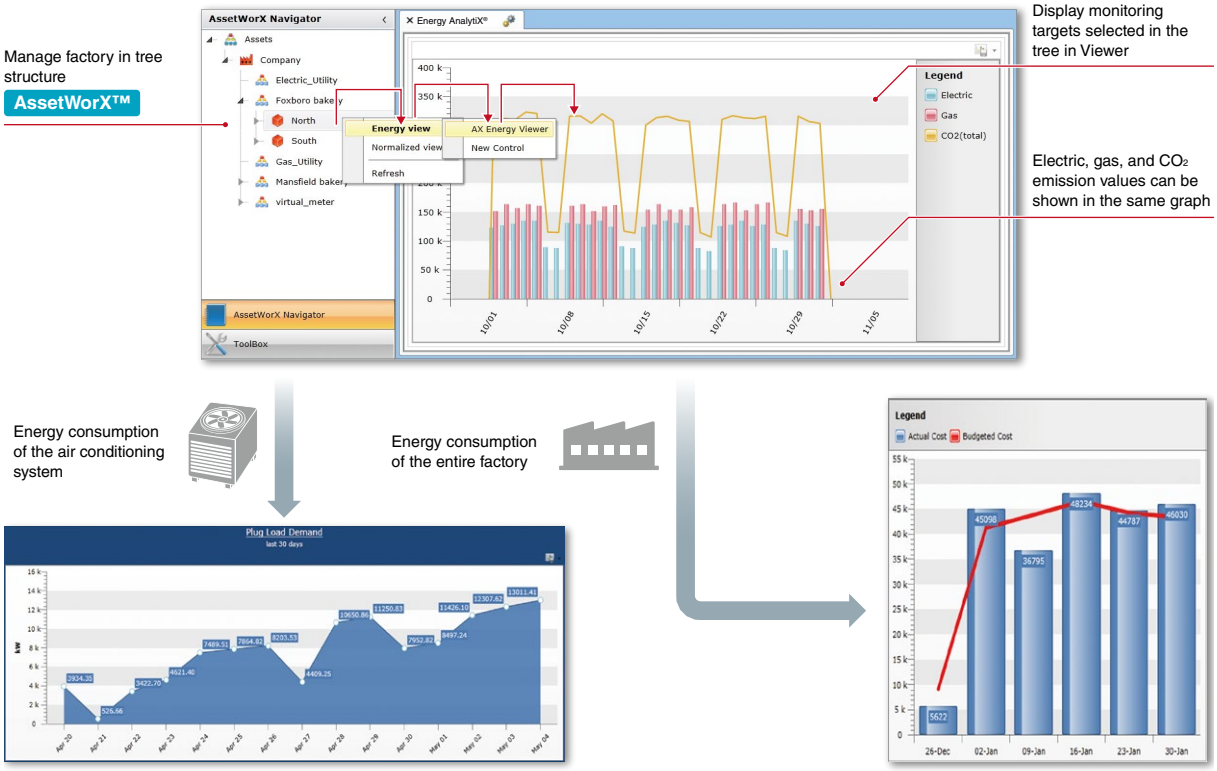


Project tree
Development by intuitive operation with drag & drop

Energy AnalytiX® Option

■ Visualization and analysis of energy consumption

Energy AnalytiX® provides real-time data collection and visualization of energy consumption such as electric, gas, and other utilities. It enables the calculation of specific CO_2 emissions data and other energy metrics at any level of your organizational hierarchy, making it easy to uncover energy efficiency offenders and reduce overall energy costs.

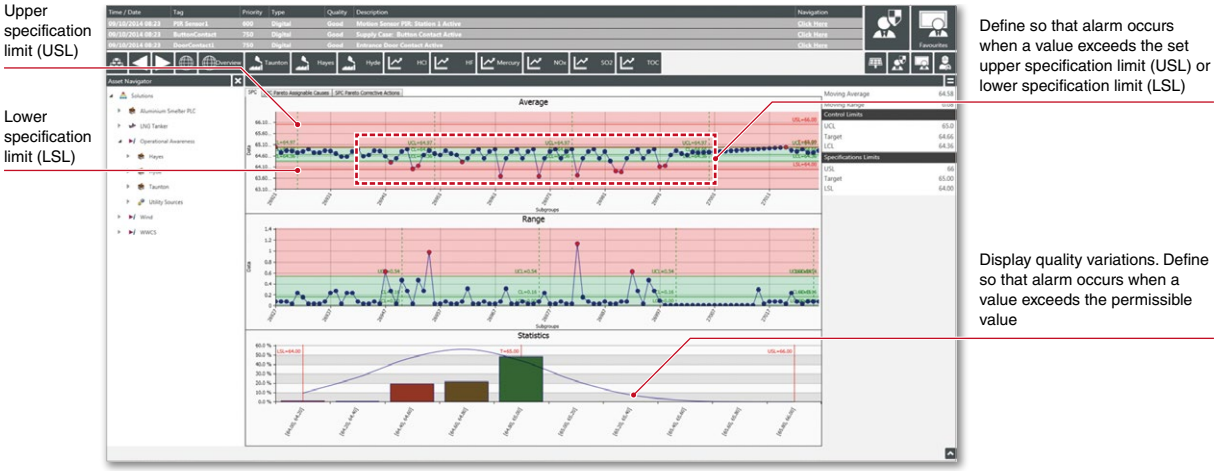


Quality AnalytiX® Option

■ Quality control

Quality AnalytiX® enables operators, quality personnel, manufacturing engineers, and executives to view SPC*1 and quality data, along with other production parameters impacting product quality. Apply any of the extensive set of built-in calculations to any process variable to drive corrective actions based on process trends.

*1. SPC: Statistical Process Control



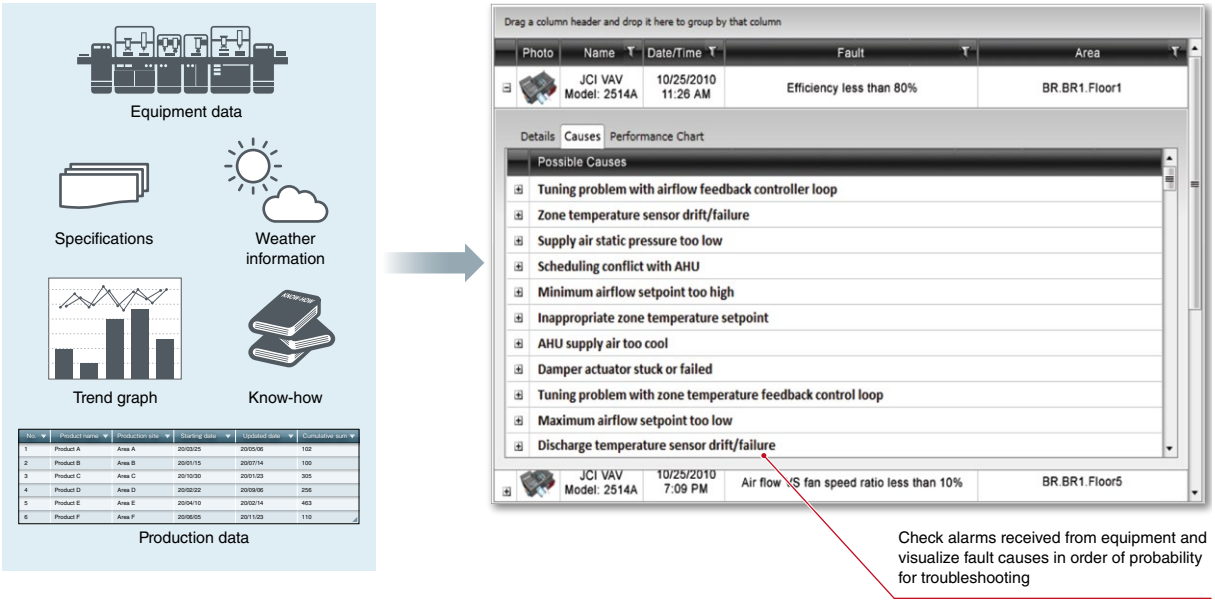
Facility AnalytiX® Option

■ Advanced fault detection and diagnostics (FDD) technology

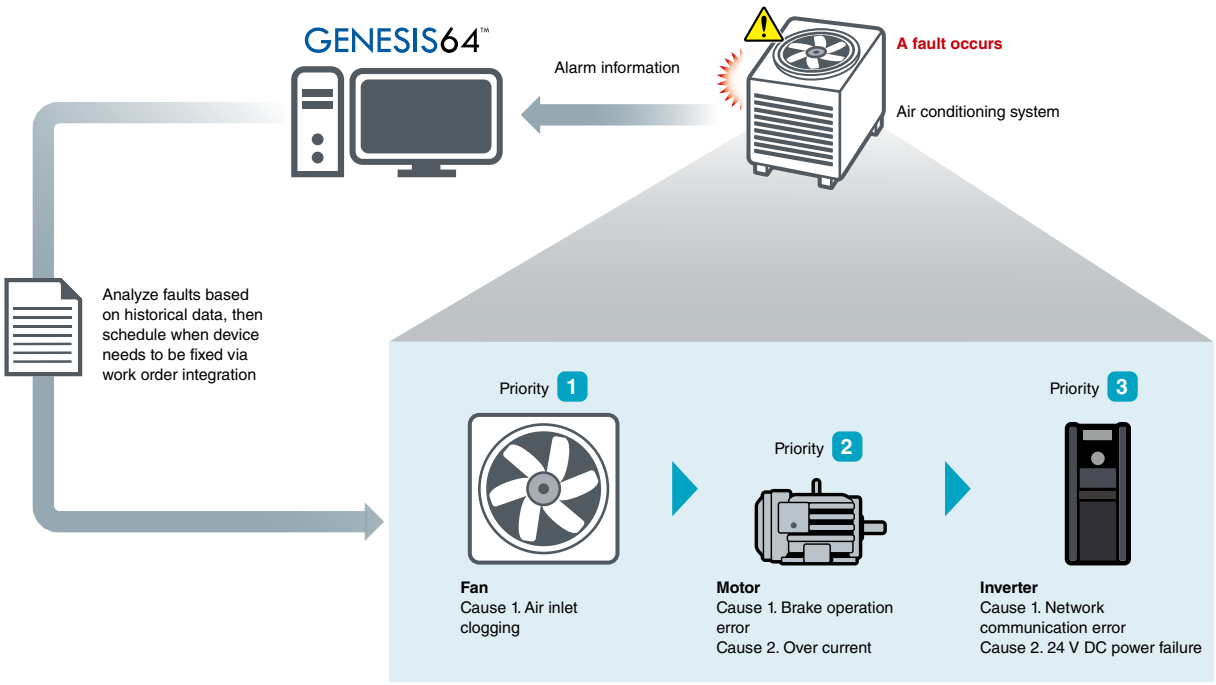
Facility AnalytiX® incorporates customizable fault rules to predict faults and failures, weigh the probability of equipment failure, and advise personnel of immediate preventive actions that can be taken, improving safety and optimizing energy savings. An extensive library of standard HVAC*1 and process equipment diagnostic models minimizes configuration, while a rules editor enables intuitive customization and equipment diagnostic modeling.

*1. HVAC: Heating, Ventilation, and Air Conditioning

▶Customizable fault definitions (rules) with algorithms to determine probable causes



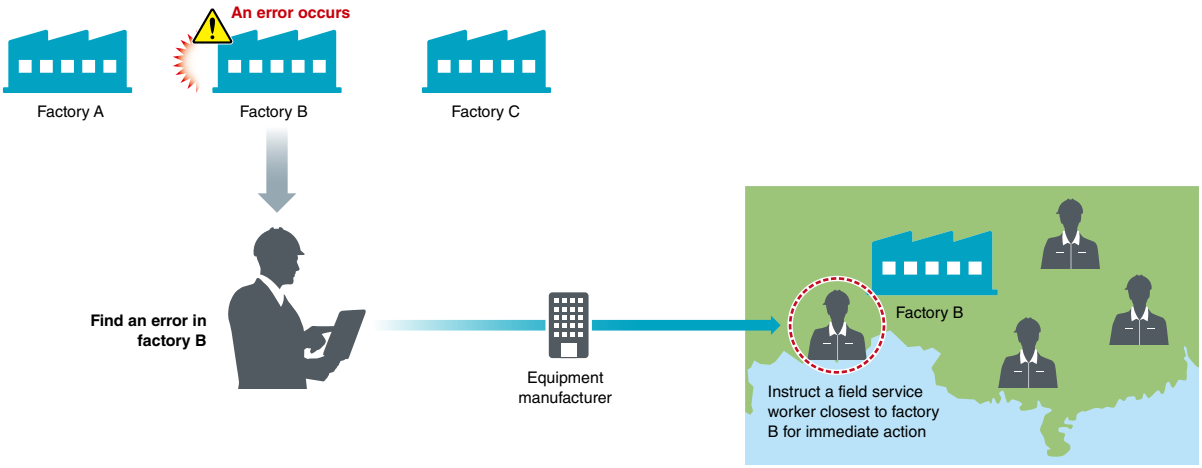
▶Application example: Detect a fan speed abnormality of air conditioning system



CFSWorX™ Option

■ Monitoring of field service workers and maintenance personnel

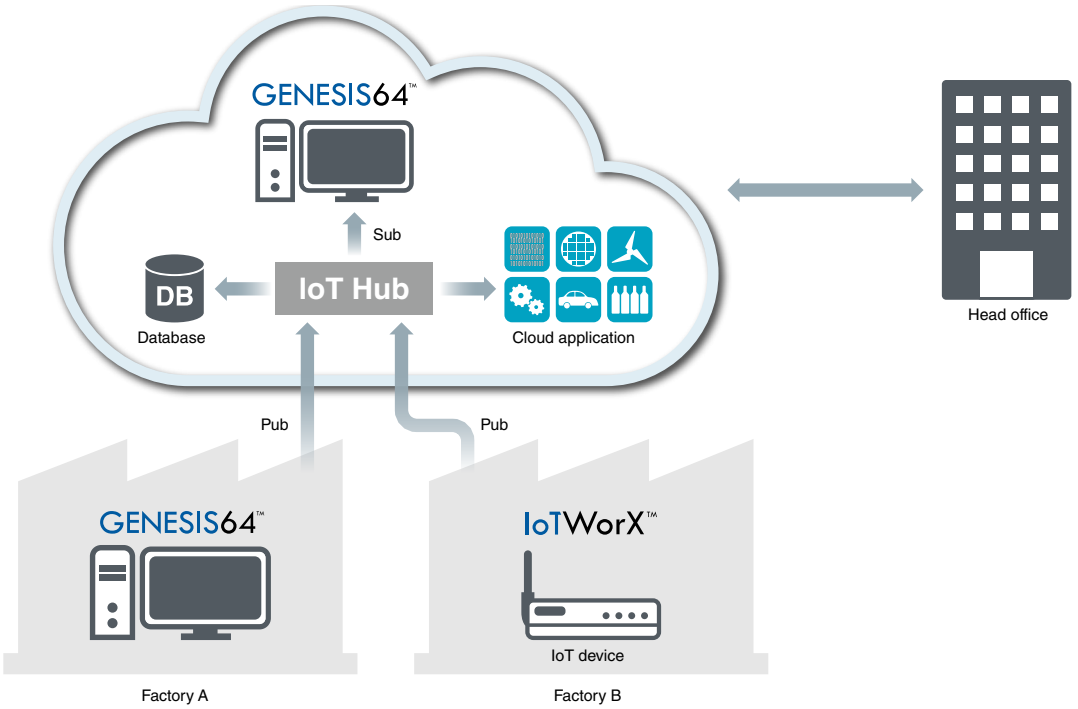
CFSWorX™ is useful for monitoring of field service workers from a central location. It determines which worker is best for the maintenance task according to location, schedule, availability, and skill level. CFSWorX™ can even instantly connect remote workers to subject matter experts via its video expert capability.



IoTWorX™ Option

■ IoT communication function for Cloud

IoTWorX™ combines cutting-edge micro SCADA software technology with integrated SCADA, analytics, and mobile solutions running in the cloud. It includes open connectivity to assets, secure cloud communications, and built-in real-time visualization and analytics.



Open connectivity

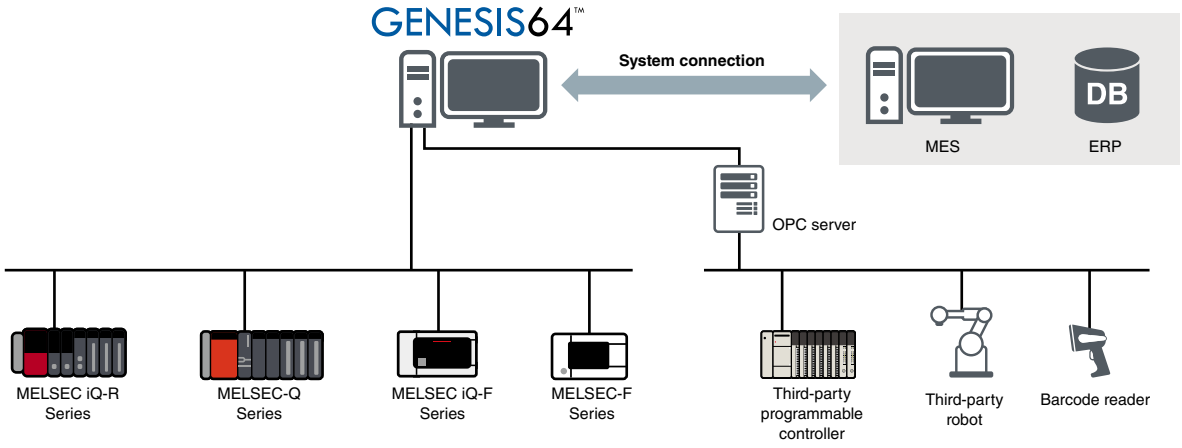
GENESIS64™ supports industry standard communications such as OPC™, OPC UA, MODBUS®, BACnet®, MQTT, web services, and various databases such as SQL Database, Oracle®, and ODBC can be directly connected without an OPC server. Simple device discovery on the network makes integration seamless and efficient. The Mitsubishi Electric Factory Automation (FA) Connector supports MELSEC iQ-R and iQ-F Series. Other devices that do not require an OPC server will be added in the future.

■ Mitsubishi Electric controllers supported by GENESIS64™

Model	Connection path				Remarks
	USB	Serial	Ethernet	CC-Link IE Control	
MELSEC iQ-R/Q Series CPU module	●	●	●	●	R□CPU, R□ENCPU, R□SFCPU, R□PCPU, and R□PSFCPU are supported.
MELSEC iQ-F/FX/L Series CPU module	●	●	●	-	FX5CPU is supported. (FX5UCCPU does not support USB and serial expansion board.)
GOT2000 Series/SoftGOT2000	-	-	●	-	-

■ Various protocols are supported

Various protocols such as OPC UA, BACnet®, MODBUS® are supported, allowing configuration of a monitoring system connected with various production lines, equipment, and devices.



For the supported networks, please refer to “Connection to devices/external services” of the function list (Aserver product) on page 37.

■ Recommended OPC server Option

DeviceXPlorer OPC server for GENESIS64™

Communication software supporting programmable controller CPU module, C Controller module, motion CPU module, and GOT (HMI). Data retrieval via networks such as Ethernet and CC-Link and data communication through OPC DA, OPC UA, and OPC UA Pub/Sub are supported.

[Supported models]
MELSEC programmable controller, GOT (HMI) and other Mitsubishi Electric products*1

*1. More than 230 devices are supported.

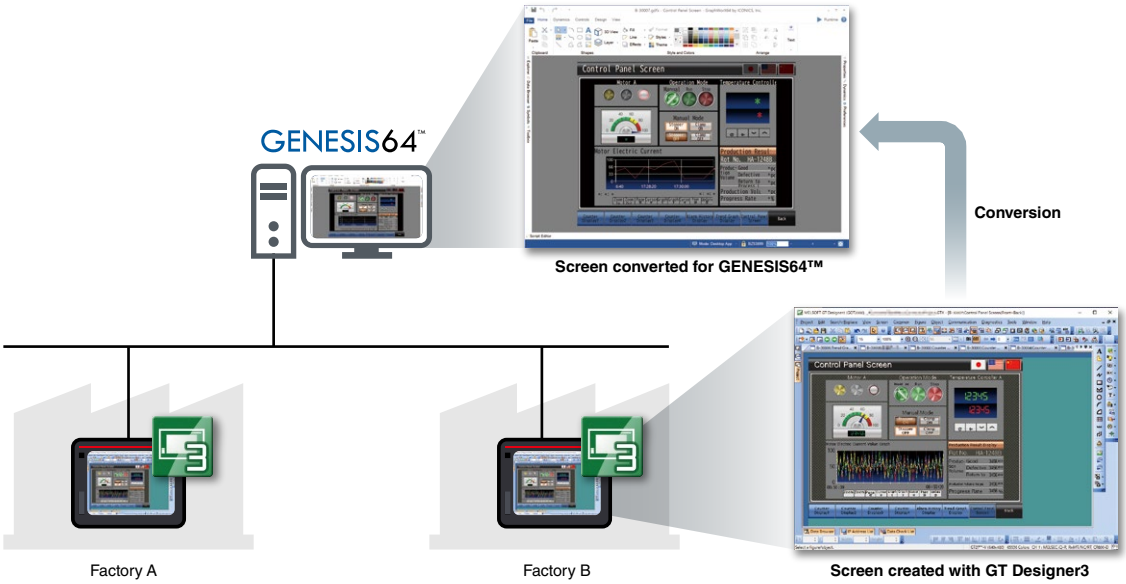
[Supported networks]
Ethernet, serial, CC-Link, CC-Link IE, MELSECNET/H, etc.

[Supported areas]
Asia, Europe, North America, Latin America, Africa

Converter-GOT

■ GOT (HMI) screen conversion

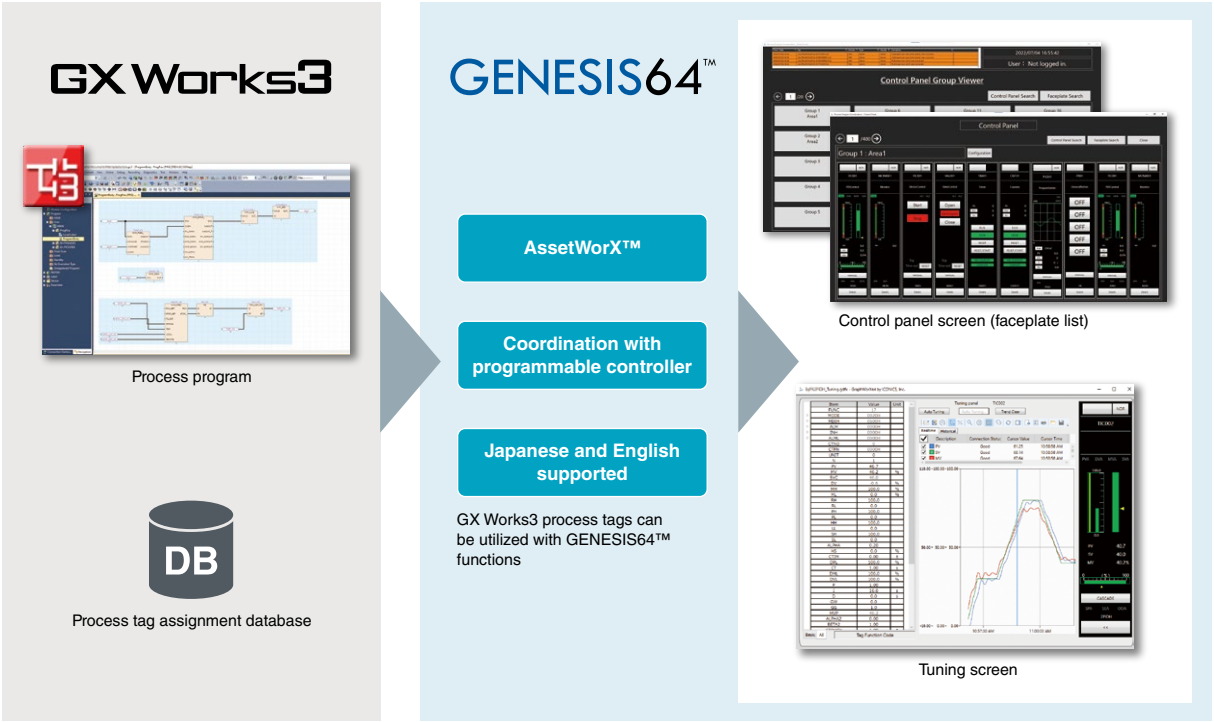
GOT (HMI) screen data created with GT Designer3 can be converted to GraphWorX™ data. Creating additional screens for GENESIS64™ is unnecessary, thereby reducing engineering time. A remote monitoring system enabling monitoring and operation with the GOT (HMI) in production sites and GENESIS64™ in the office can be configured.



Asset Builder Option

■ Process screen configuration support

By importing process programs created with engineering software GX Works3 to GENESIS64™, monitoring screens for the process system can be created. Process tag information can be automatically assigned to faceplates and tuning screens, setting process tags with GENESIS64™ is unnecessary.



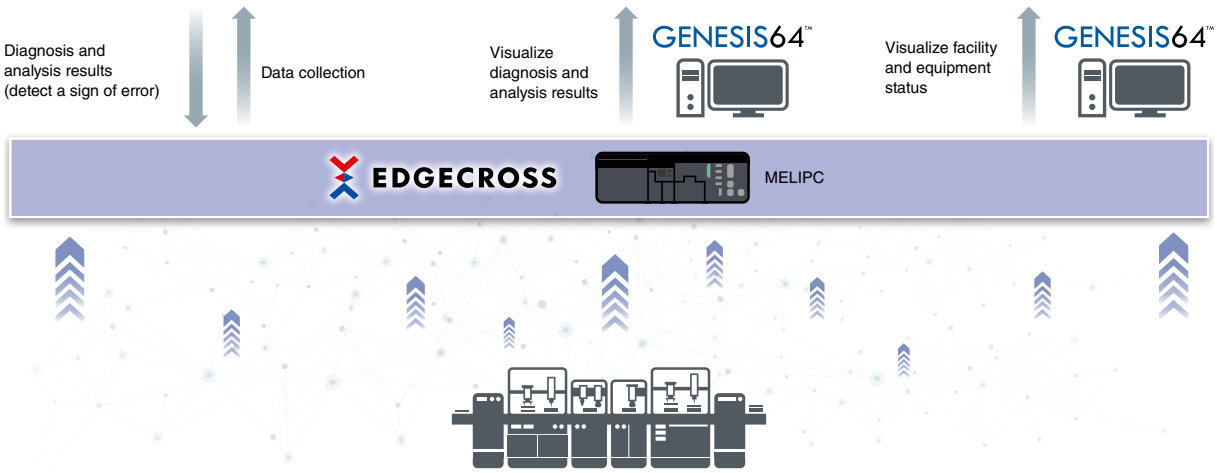
Edgecross compatible

GENESIS64™ operates on Edgecross compatible industrial computer such as MELIPC MI5000. Utilizing Edgecross applications, production data collection and analysis are possible.

Edgecross application (MELSOFT Mailab)
One software enables real-time diagnosis and offline analysis of production data

GENESIS64™
Visualize facility and equipment where a sign of error is detected, allowing maintenance before it happens.

GENESIS64™
Visualize facility and equipment status and KPI information sent from Edgecross.



Global standard compliance

■ Configure ANSI/ISA-18.2 compliant projects

AlarmWorX™ provides functions to comply with ANSI/ISA-18.2, a standard for management of alarm systems. GENESIS64™ helps promote global compatibility of customer's systems through compliance with internationally mainstream alarm system.

■ Configure ANSI/ASHRAE Standard 135-2008 compliant projects

BACnet® connection function used for Building Automation system is provided. GENESIS64™ enables connection complying with ANSI/ASHRAE Standard 135-2008.

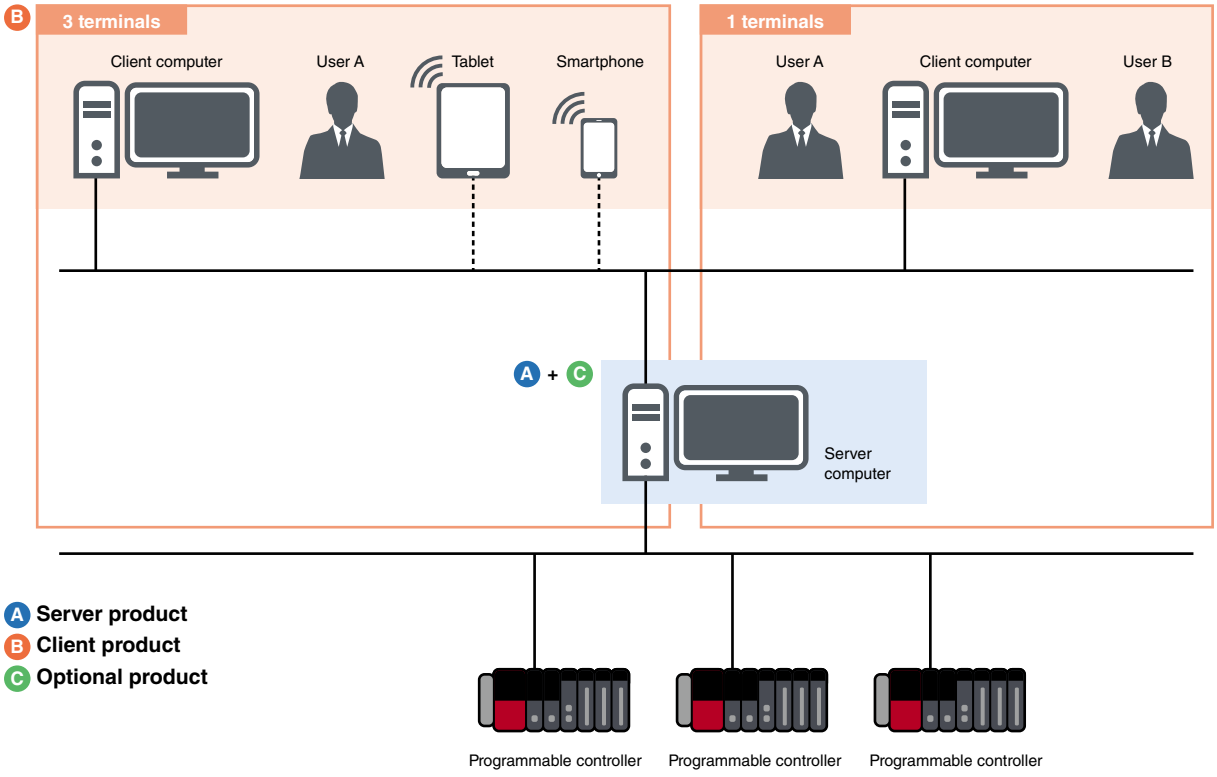
■ Configure FDA 21 CFR Part 11 compliant projects

GENESIS64™ provides functions to configure a system complying with FDA 21 CFR Part 11 which specifies electronic record management concerning food and pharmaceutical development and manufacturing.

GENESIS64™ product configuration

GENESIS64™ licenses are available as a server license, client license, and optional license. Please select products by referring to steps on page 38 and later.

Please refer to page 48 for the product list.



■ Function list (Ⓐ server product)

●: included -: not included

		GENESIS64™ Basic SCADA	GENESIS64™ Advanced
How to count tags		Static Tag (count all tags)	Dynamic Tag (count tags in use)
Number of tags		75, 150, 500, 1500, 5k, 15k, 30k*1	75, 150, 500, 1500, 5k, 15k, 50k, 100k, 250k*1
Server function			
AlarmWorX™ Server & Logger Hyper Alarm Server & Logger	Alarm visualization	●	●
WebHMI™ Server	Remote monitoring (for web browser)	●	●
AssetWorX™ Server	Asset management using a hierarchical tree structure	●	●
Hyper Historian™ Express*2	High-speed/highly reliable data collection	●	●
Redundant/Distribute	Redundant/distributed server	-	●
AlertWorX™	Alarm notification by email	●	●
MobileHMI™ Server	Remote monitoring (for mobile application)	●	●
Workflow	Programming by flowchart	●	●
Hyper Historian™ Standard/Enterprise*2	High-speed/highly reliable data collection (extended version)	Option	Option
BridgeWorX™	Transaction-based processing by flowchart	● (5 transactions)*3	● (5 transactions)*3
ReportWorX™	Automated reporting	Option	Option
Connection to devices/external services			
Mitsubishi Electric FA Connector	Mitsubishi Electric products connection (direct driver)	●	●
OPC Classic	OPC Classic connection	●	●
OPC UA	OPC UA connection	●	●
Databases (GridWorX™ Server)	Database access	●	●
MODBUS®	MODBUS® connection	●	●
BACnet®	BACnet® connection	Option	●
SNMP	SNMP connection	●	●
Web Services	Web service access	●	●
IoT Publisher (MQTT/AMQP/JSON)	Data transferring to cloud service	●	●
Client function			
GraphWorX™	Graphic creation/visualization	● (without 3D function)	●
TrendWorX™ Viewer	Real-time and historical trends	●	●
AlarmWorX™ Viewer	Alarm visualization	●	●
EarthWorX™ Viewer	Monitor widely dispersed assets	●	●
KPIWorX™	Dashboard creation	●	●
ReportWorX™ Express	Manual reporting	●	●
Workbench	Centralized project management	●	●
Asset Navigator	Asset tree display	●	●
GridWorX™ Viewer	Database access	●	●
System configuration support function			
Converter-GOT	GOT (HMI) screen conversion	●	●
Asset Builder	Process screen creation support	Option	Option

*1. Select additional tag option to increase tag count if needed.
*2. For functional differences, please refer to the function list (Hyper Historian™ products) on page 38.
*3. GENESIS64™ server products include 5 transactions. Purchase optional BridgeWorX™ add-on transactions as needed.

1 Select a server product

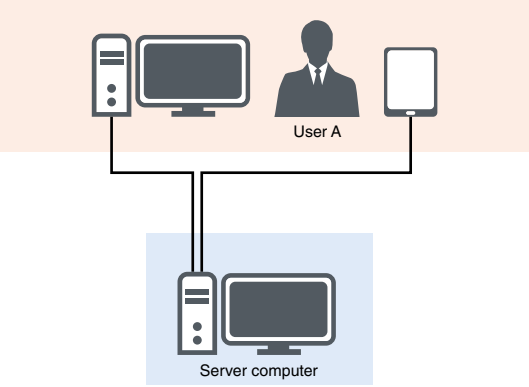
Select either GENESIS64™ Basic SCADA or GENESIS64™ Advanced according to the number of tags and necessary functions referring to the product list on page 48 and function list (Ⓐ server product) on page 37.

For tags, please refer to page 40.

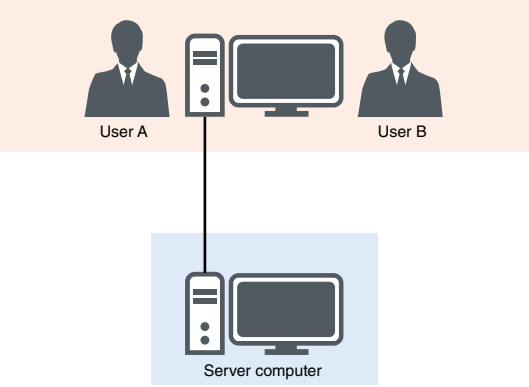
2 Select client products

The maximum number of client devices*1 simultaneously accessing the monitoring control screen of the GENESIS64™ server during system monitoring. Select client products according to the estimated maximum number of client devices.

*1. Count as "2" when the same user accesses from both computer and smartphone simultaneously. Count as "1" when a different user accesses from a shared computer.



▶Number of client devices: 2



▶Number of client devices: 1

Device	Accessing method	Necessary product
Computer	Browser*2	WebHMI™
Mobile device (smartphone, tablet)	Browser*2	WebHMI™
	Application*3	WebHMI™ or MobileHMI™

*2. Please refer to the operating environment on page 47 for supported browsers.
*3. To use the application, please search for "MobileHMI™" in App Store® or Google Play™.

3 Select optional products

Select optional products from the product list according to selected functions.

Function list (Hyper Historian™ products)

Function	Hyper Historian™ Enterprise (GEN64-HH-ENT)	Hyper Historian™ Standard (GEN64-HH-STD)	Hyper Historian™ Express (included in GENESIS64™ server product)
High-speed data collection	●	●	●
Collected data calculation/storage	●	●	-
Collection/accumulation distribution	●	-	-
Server redundancy	●*4	-	-
How to count tags	Tags are counted separately from the server product		Tags are counted as GENESIS64™ tags
Number of tags	75, 150, 500, 1500, 5k, 15k, 50k, 100k, 250k, 500k, 1M		Same as GENESIS64™ tag count

*4. Hyper Historian™ Redundant (GEN64-HH-R) for redundant system is available. Please refer to the product list on page 48 for details.

option 1

System configuration options

GENESIS64™ supports several levels of highly reliable/high availability systems. To determine the best fit for your application needs, please refer to the system configuration below.

■ Redundant server configuration (supported by GENESIS64™ Advanced only)

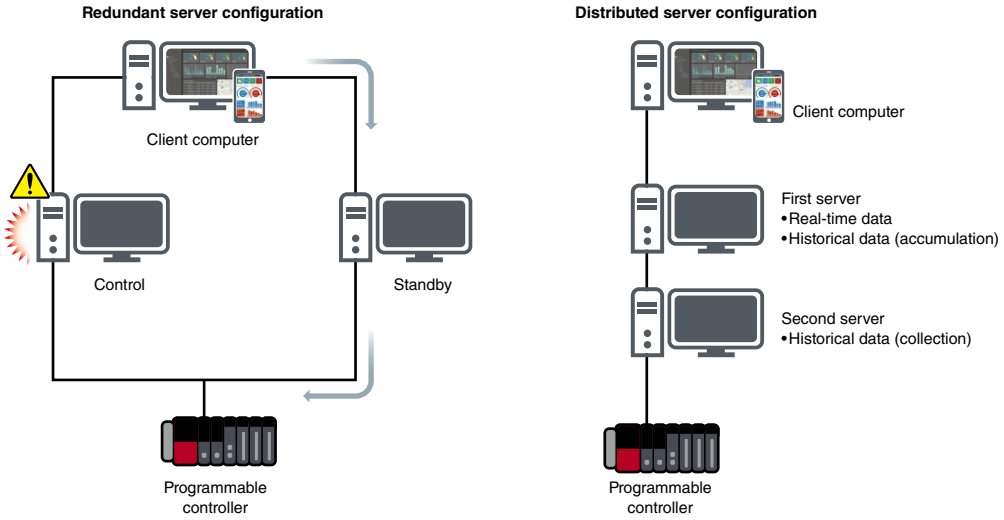
- Redundant GENESIS64™ Advanced servers (continuous monitoring is assured by automatic screen switching)
- Redundant Hyper Historian™ servers (secure data by continuous historical data collection)

▶❶GENESIS64™ and ❷Hyper Historian™ Enterprise (GEN64-HH-ENT) are necessary for each control and standby server

■ Distributed server configuration

- Distributed Hyper Historian™ servers for collection/accumulation function

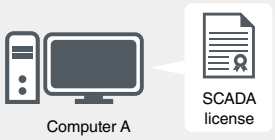
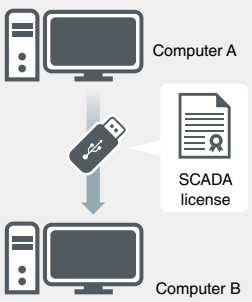
▶Hyper Historian™ Enterprise (GEN64-HH-ENT) is necessary



option 2

Select software or hardware license

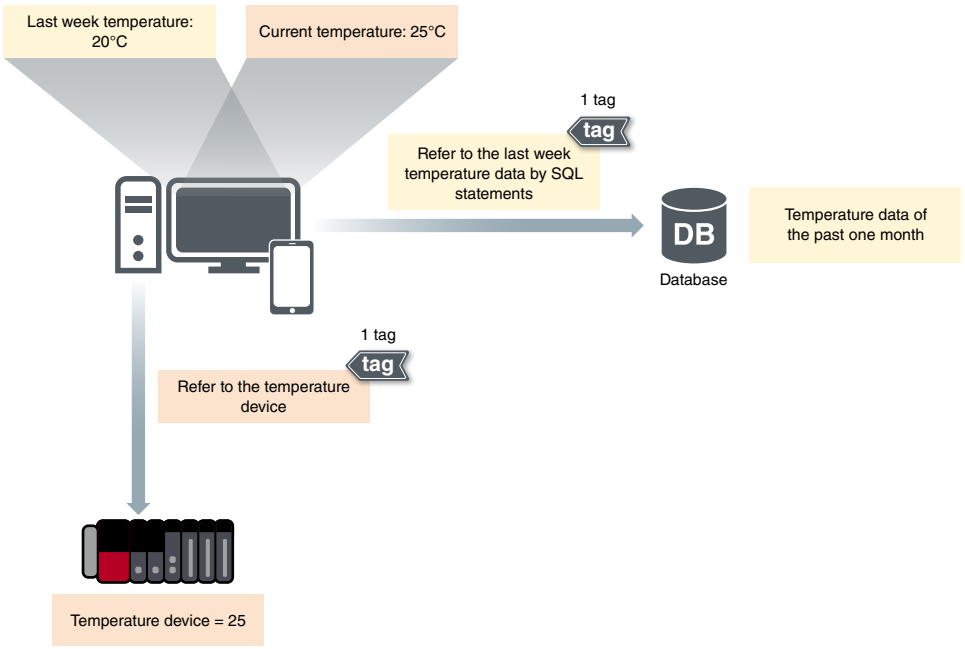
License is applied to either a server computer or USB hardware key. Choose either referring to the table below.

Options	Server computer	USB hardware key
Image		
Benefits	•Purchasing of USB hardware key is unnecessary •No risk of accidental loss of USB hardware key	•License migration from development server to production server is easy •In case of an issue with the production server, the license can easily be transferred to another server

Please refer to page 44 for license registration procedure.

What are tags?

Tags are data sets for GENESIS64™ to access external devices. The number of data sets used in runtime of GENESIS64™ are counted. The example below shows two tags being counted, one real-time value of a programmable controller = 25 and another from a SQL statement that refers to last week's temperature = 20.



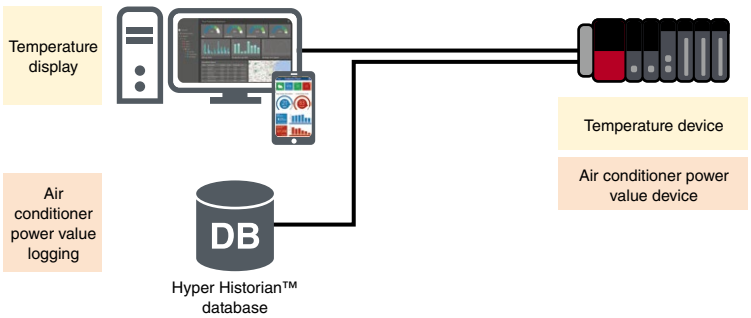
■ In the case of Hyper Historian™

- When using Hyper Historian™, tags are counted separately from GENESIS64™*1*2
- "The number of historical data collection settings" are counted as the number of tags

Difference of counted tag

Type of data	Real-time data	Historical data
When using Hyper Historian™	GENESIS64™ tag	Hyper Historian™ tag
When using Hyper Historian™ Express	GENESIS64™ tag	GENESIS64™ tag

*1. When using historical data collection/accumulation (Hyper Historian™ Express) included in GENESIS64™ server product (refer to the product list on page 48), a tag is counted as GENESIS64™ tag.
*2. Historical data collection setting that exceeds the number of tags of Hyper Historian™ in use cannot be counted as GENESIS64™ tag.



How to count tags -GENESIS64™ Basic SCADA-

Data to be used for displaying alarm conditions and screen/table need to be defined as asset tag on AssetWorX™.

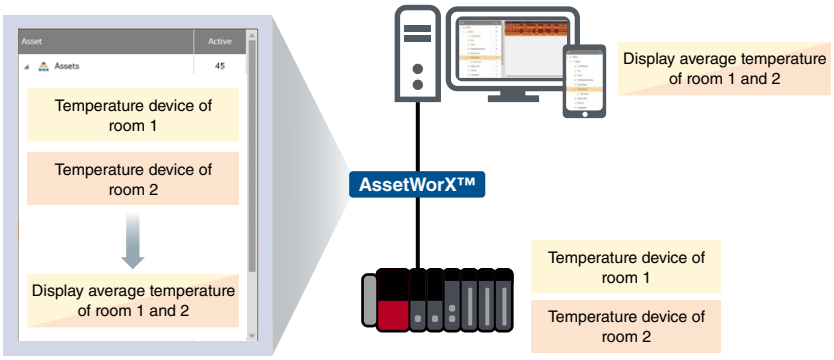
Example

Display average temperature of two rooms

Number of asset tags are defined during configuration of the tag database in AssetWorX™. Counting method of tags differs according to building method of asset tags.

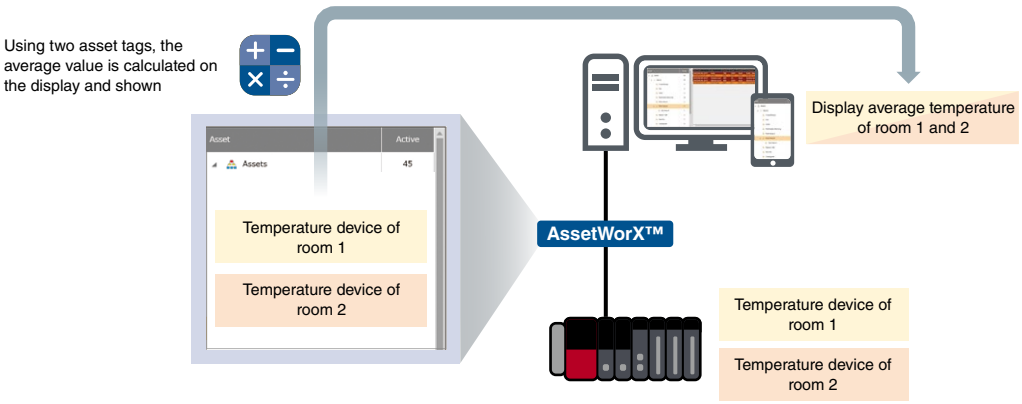
Building method 1

To assign an asset tag to display “average temperature of room 1 and 2” (when calculating the average temperature of room 1 and 2 in the programmable controller outside the SCADA), the following three tags are necessary: “room 1 temperature”, “room 2 temperature”, and an expression for “average temperature of room 1 and 2”.



Building method 2

To assign a defined formula to calculate “average temperature of room 1 and 2” on the display, two asset tags “temperature of room 1” and “temperature of room 2” are necessary.



■ Timing of counting tags

All tags are counted at a start of a server according to the configuration of the AssetWorX™ tag database.

■ How to count tags when accessing from multiple clients

Tags are counted at the timing of server starting, the number of clients being accessed will not affect the number of tags counted.

■ How to count tags when Hyper Historian™ is used

Both asset tags and Hyper Historian™ tags are counted.

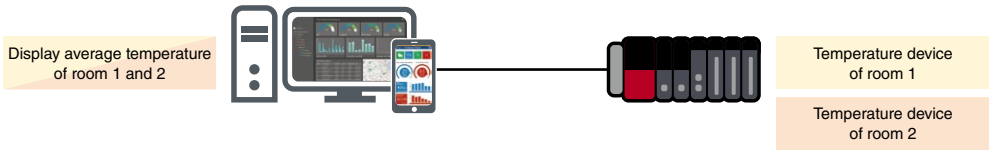
How to count tags -GENESIS64™ Advanced-

Tags are counted by data set unit for read and write.

Example 1

Display average temperature of two rooms on the screen

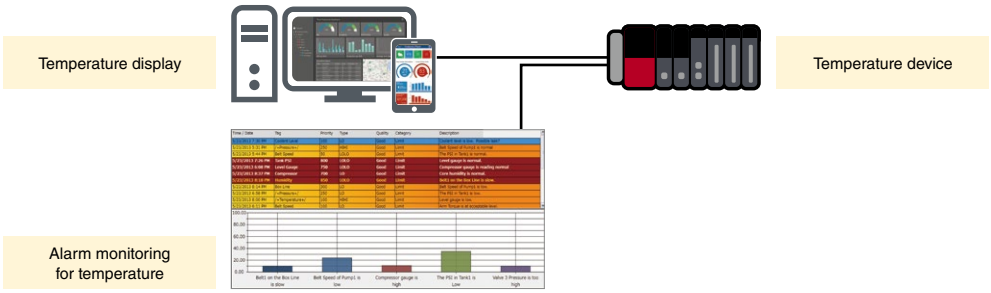
Only one data set is displayed with this setting, however, it is counted as **two tags** since two data sets are read.



Example 2

Set temperature device of a programmable controller to “screen display” and “alarm conditions”

Only one “temperature” data set is accessed for read and write with this setting, it is counted as **one tag**.



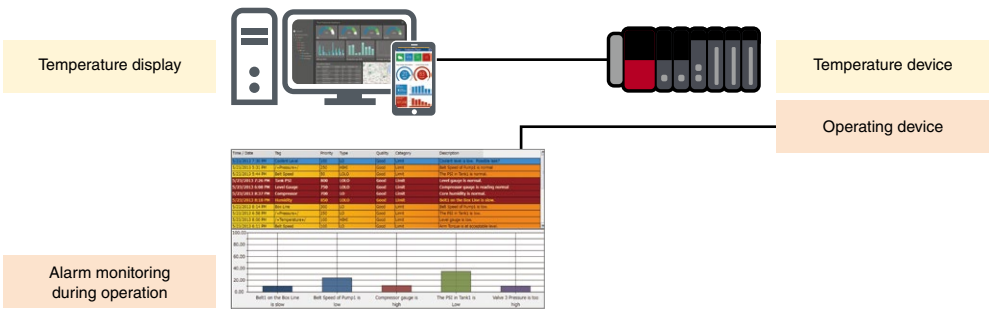
■ Timing of counting tag- Catch and release

Tags are counted in runtime at the start of reading from/writing to external data sources. GENESIS64™ Advanced stops counting (releasing tags) upon completion of reading from/writing to external data (e.g. closing a screen).

Example

System to display temperature device of a programmable controller and monitor alarm of operating device

Tag is counted as **one tag** upon start of alarm monitoring. **Another tag** is counted when opening a display.



Tag count increase and decrease

●: Counted -: Not counted

	Start	Alarm monitoring start	Display	Close display*1	Alarm monitoring end
Temperature tag	-	-	●	-	-
Operating tag	-	●	●	●	-
Total tags	0	1	2	1	0

*1. After closing the screen, connection is maintained for a while and counting status is kept to promptly redisplay.

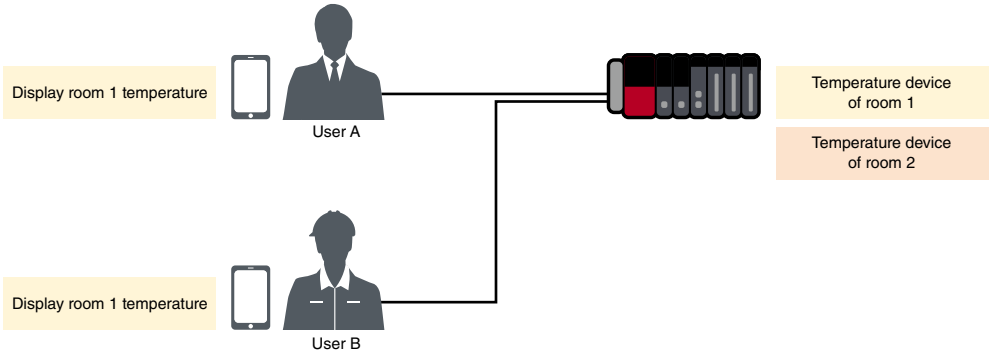
■ How to count tags when viewed from multiple clients

When viewing the same screen, the total number of tags on one screen are counted. When accessing other screens, the total number of tags on accessed screens are counted.

Example 1

When multiple users display the same screen (same data set)

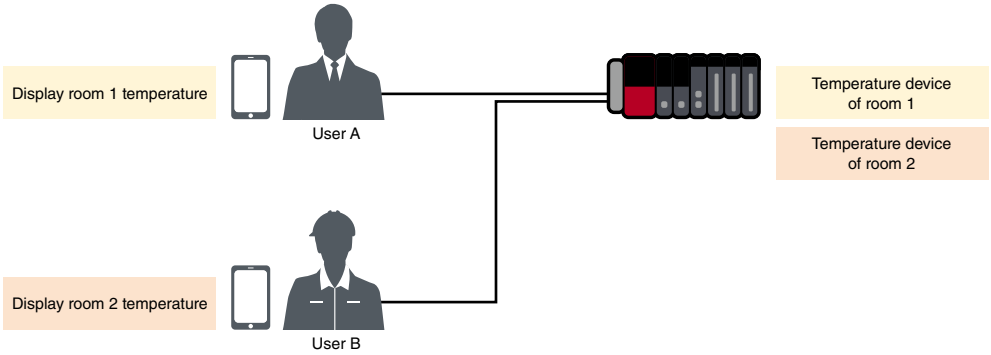
Only room 1 temperature is read, it is counted as **one tag**.



Example 2

When multiple users display different screens (different data sets)

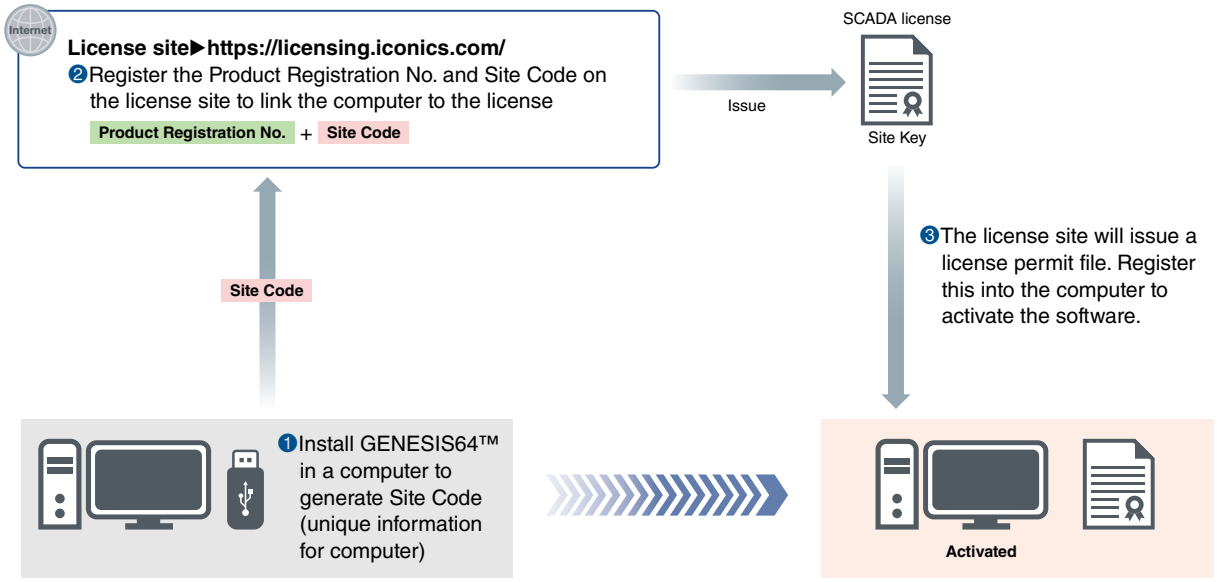
Room 1 and 2 temperatures are read, it is counted as **two tags**.



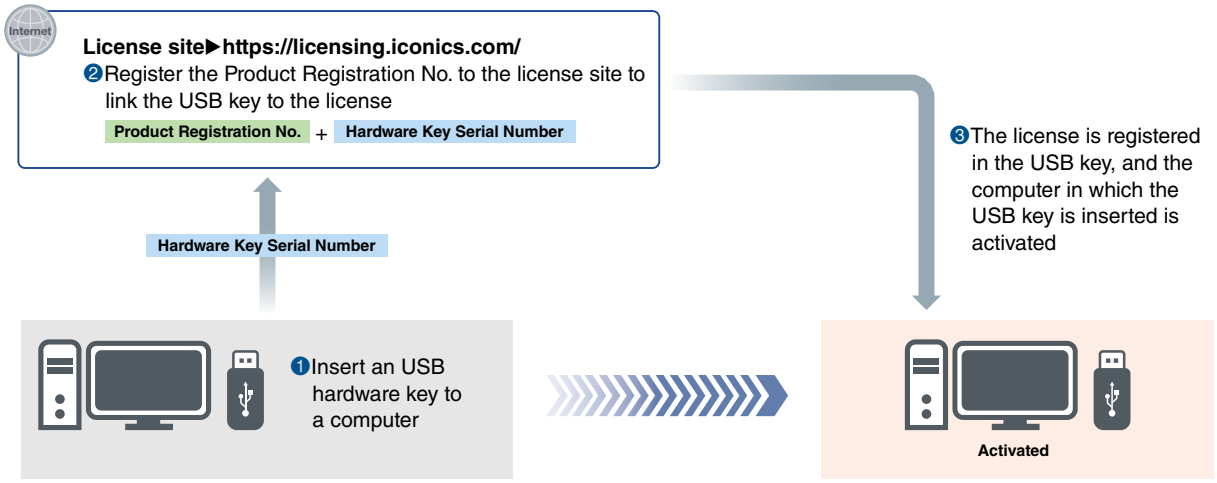
License registration procedure

Upon purchase of a product, a license to use GENESIS64™ is provided.

Software license



USB hardware key



Discover the latest information in Factory Automation

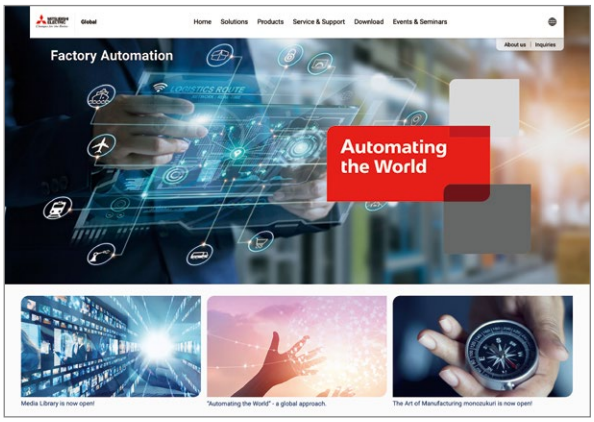
Factory Automation Global website

Mitsubishi Electric Factory Automation provides a mix of services to support its customers worldwide.
A consolidated global website is the main portal, offering a selection of support tools and a window to its local Mitsubishi Electric sales and support network.

From here you can find:

- Overview of available factory automation products
- Library of downloadable literature
- Support tools such as online e-learning courses, terminology dictionary, etc.
- Global sales and service network portal
- Latest news related to Mitsubishi Electric factory automation

Mitsubishi Electric Factory Automation Global website:
www.MitsubishiElectric.com/fa



Online e-learning

An extensive library of e-learning courses covering the factory automation product range has been prepared.
Courses from beginner to advanced levels of difficulty are available in various languages.

Beginner level

Designed for newcomers to Mitsubishi Electric Factory Automation products gaining a background of the fundamentals and an overview of various products related to the course.

Basic to Advanced levels

These courses are designed to provide education at all levels. Various different features are explained with application examples providing an easy and informative resource for in-house company training.

Find information on products, factory automation, e-F@ctory solutions and other topics

Follow us on Social Media

YouTube

Mitsubishi Electric FA Global

LinkedIn

Mitsubishi Electric FA Global

X

Mitsubishi Electric FA Global
@Mitsubishi_FA

Innovative next-generation, e-Manual

e-Manual Viewer

The e-Manual viewer is a next-generation digital manual offered by Mitsubishi Electric that consolidates factory automation products manuals into an easy-to-use package with various useful features integrated into the viewer. The e-Manual allows multiple manuals to be cross-searched at once, further reducing time for setting up products and troubleshooting.

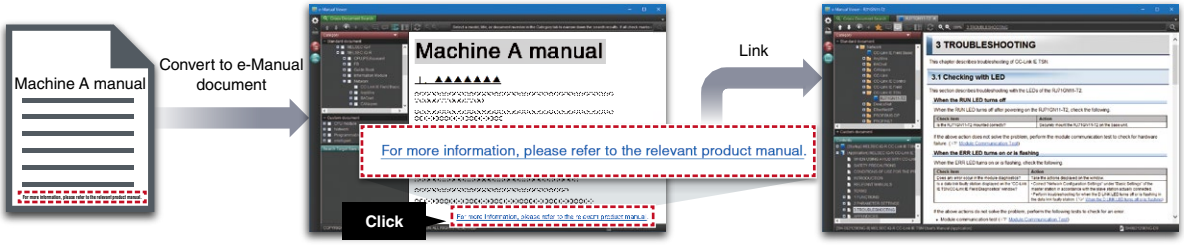
Key features included

- One-stop database containing all required manuals, with local file cache
- Included with GX Works3 engineering software
- Also available in tablet version
- Easily download manuals all at once
- Multiple users can share the latest manuals and knowhow with document sharing function
- Directly port sample programs within manuals to GX Works3
- Downloaded manuals are usable offline

Windows®-compliant

e-Manual Create

e-Manual Create is software for converting word files and chm files to e-Manual documents. e-Manual Create allows users to directly refer to Mitsubishi Electric e-Manuals from user's customized device maintenance manuals and such, supporting quick troubleshooting and reduction in document creation process.



Windows®-compliant

* To obtain the Windows® version of e-Manual Viewer and e-Manual Create, please contact your local Mitsubishi Electric sales office or representative.

■ Server product

System requirements (see https://documentation.iconics.com for the latest updates)

Item	Specifications
CPU	Quad Core 64-bit processor or better
RAM	8 GB or larger
Storage	4 GB or larger (adequate physical memory for the actual data to be saved)
Virtual memory	16 GB or larger (2x RAM capacity recommended)
Operating System (OS)*1	64-bit Windows® OS
Display	Resolution: 1024 × 768 pixels or more
Database*2	Microsoft® SQL Server®
Microsoft® .NET Framework	4.8, 3.5
Web server*3	Microsoft® Internet Information Services (IIS) 7.0 or later
Web browser*3	HTML5 WebHMI™ displays: Microsoft Edge®,Google Chrome™,Safari®,Mozilla Firefox® WPF WebHMI™ displays: Microsoft Edge®(in Internet Explorer® mode), Internet Explorer® 11*4

*1. Please refer to "Supported OS" table for details.
*2. Please refer to "Supported database" table for details.
*3. Use when displaying a screen on the client. For details on supported web browsers, please refer to "Supported web browser" table.
*4. Internet Explorer® 11 is only supported for Windows® Presentation Foundation (WPF) WebHMI™, not for HTML5 WebHMI™.

Supported OS

OS*5	GENESIS64™	Hyper Historian™	Energy AnalytiX® Facility AnalytiX® Quality AnalytiX®
Microsoft® Windows® 11*6	●	●	-
Microsoft® Windows® 10 x64*7	●	●	-
Microsoft® Windows Server® 2022	●	●	●
Microsoft® Windows Server® 2019*8	●	●	●
Microsoft® Windows Server® 2016 x64	●	●	●
Microsoft® Windows Server® 2012 R2 x64*9	●	●	●
Microsoft® Windows Server® 2012 x64*9	●	●	●

*5. Operation on Embedded system is not supported.
*6. Operation on Windows® 11 Professional, Enterprise, and IoT Enterprise is supported.
*7. Operation on Windows® 10 Professional, Enterprise, and IoT Enterprise (including 2021 LTSC/2019 LTSC/2016 LTSB) is supported.
*8. Includes Microsoft® Windows Server® IoT 2019.
*9. Operation on Microsoft® SQL Server® 2019 is not supported.

Supported database

Database	GENESIS64™
Microsoft® SQL Azure	●
Microsoft® SQL Server® 2019 (including Express)*10	●
Microsoft® SQL Server® 2017 (including Express)*10	●
Microsoft® SQL Server® 2016 (including Express)*10	●
Microsoft® SQL Server® 2014 (including Express)*10	●

*10. When using Microsoft® SQL Server® Express (free edition), a capacity of one database is limited to 10 GB.

■ IoT device

System requirements

Item	Specifications
CPU	Intel Atom® 38□□ Dual Core/Arm® 32v7 Dual Core, or comparable processor
RAM	2 GB (4 GB recommended)
Storage	32 GB or larger
OS	Raspberry Pi OS Stretch (Arm®32v7) Ubuntu 20.04 (AMD 64) Ubuntu 18.04 (AMD 64) Ubuntu Server 20.04 (AMD 64) Ubuntu Server 18.04 (AMD 64) Microsoft® Windows® (using EFLOW*11)
Microsoft® Azure® service	Microsoft® Azure® IoT Hub (tier S1 or higher), Microsoft® Azure® Storage Account
Communication	Ethernet, Wi-Fi®, or cellular (3G/4G)

*11. For details on EFLOW, please visit Microsoft Corporation's website.

■ Screen display

Supported web browser

Web browser	HTML5 technology	Windows® Presentation Foundation (WPF) technology
Microsoft Edge®	●	●*12
Firefox®	●	-
Safari®	●	-
Google Chrome™	●	-
Internet Explorer® 11	-	●

*12. Only Internet Explorer® mode (IE mode) is supported.

Product list

GENESIS64™ server product

Product name	Model	Number of tags	Outline
GENESIS64™ Basic SCADA	GEN64-BASIC	75, 150, 500, 1500, 5k, 15k, 30k	Server for configuration and runtime with modular licensing for small to medium applications.
GENESIS64™ Advanced*1	GEN64-APP	75, 150, 500, 1500, 5k, 15k, 50k, 100k, 250k	Server for configuration and runtime with comprehensive licensing for large and distributed applications.

*1. Runtime-only license version is available. Please consult us when you are requesting for quotation.

GENESIS64™ client product

Product name	Model	Number of clients	Outline
Client for monitoring control*2*3	WEBHMI-BRWSR	1, 5, 25, 100, 500	Fully interactive read/write clients for use on desktops, web browsers using WPF or HTML5, or as mobile app clients.
Client for monitoring control*3 (for mobile application)	MOBILEHMI-CLIENT	1, 5, 25, 100, 500	Fully interactive read/write clients dedicated to access via the MobileHMI™ app on smartphones, tablets, or AR devices.

*2. License for development (multiple persons can develop simultaneously on one server) is available.
*3. Read-only and browser-only client licensing is available.

Optional products

Product name	Model	Unit	Outline
Hyper Historian™	GEN64-HH-STD GEN64-HH-ENT GEN64-HH-R	75, 150, 500, 1500, 5k, 15k, 50k, 100k, 250k, 500k, 1M (tag)	Time series data historian collecting large amounts of shop floor data at high speed. STD: Supports performance calculations and predefined aggregates. ENT/R: In addition to the above, supports remote collectors, advanced data compression and redundancy. (Model numbers R include two ENT licenses for redundant system).*4
BridgeWorX™	BRIDGEWORX64	SVR (1 transaction) LITE (5 transactions) STD (25 transactions) ENT (1000 transactions)	Graphical data bridging tool to execute simple to very complex data transaction scenarios between automation and enterprise systems. The number of concurrently executing transactions determines which license to choose.*5*6 GENESIS64™ Advanced and Basic server products include BridgeWorX64 Server with 5 transactions.
ReportWorX™	REPORTWORX64	SVR (1 report) LITE (5 reports) STD (25 reports) ENT(1000 reports)	Report generation engine to configure and run reports on schedule or on demand. Finished reports can be delivered via email, SMS, and file copy. (Supported formats: Excel®, PDF, HTML, CSV). Number of concurrently executing reports determines which license to choose.*6*7
Asset Builder	ASSET-BUILDER-PA	-	This package supports creation of monitoring screens corresponding to the selected templates. The monitoring screen consists with screens used for process system as standard such as faceplates, tuning screen, and control panel screen.
Energy AnalytiX®*8	AX-EA-A	-	Energy monitoring, analysis, and management system delivering rich, real-time visualization for energy demand, consumption and cost.*9
	AX-EA-METER	1, 5, 25, 100, 500, 1500, 5K, 10K (meter)	Additional Energy AnalytiX® meters.
Quality AnalytiX®*8	AX-QA-A	-	This quality control package uses highly specialized Statistical Process Control (SPC) calculations for manufacturing quality management, and drive corrective actions based on process trends.*10
Facility AnalytiX®	AX-FA-A	-	This package provides advanced fault detection and diagnostics significantly reducing system downtime and improving operational efficiency.*11
	AX-FA-ASSET	1, 5, 25, 100, 500, 1500, 5K, 10K (asset)	Additional Facility AnalytiX® assets.
CFSWorX™	CFSWORX	-	This package can alert field service workers to respond to equipment service needs based on location. Worker availability and location is monitored. The package tracks field service worker responses and maintains a full audit trail.
IoTWorX™	IOT-CV IOT-CVCA IOT-CVCA-JSON-500 IOT-CVCA-JSON-5000	1, 5, 25, 100 (device)	A solution package running on IoT devices at the edge to monitor shop floor data in the cloud.*12 IOT-CV: Publish shop floor data to cloud platforms providing bidirectional real-time communication. On-premise visualization for read-only access to local data. IOT-CVCA: In addition to the above, store and forward of historical data points and merge in the cloud. Includes lightweight analytics module for fault detection. IOT-CVCA-JSON-500/5000: In addition to the above, send data in JSON format. Data sharing with third-party applications in the cloud.

*4. For difference of product functions, please refer to the function list (Hyper Historian™ products) on page 38.
*5. Purchase additional BridgeWorX64 transaction packs as needed.
*6. Add-ons to GENESIS64™ Basic SCADA require purchase of special models; contact customer service for details.
*7. Purchase additional ReportWorX64 report packs as needed. The ReportWorX Express functions come at no charge with GENESIS64™ Advanced and Basic servers.
*8. Not available for GENESIS64™ Basic SCADA. Please refer to the function list (Ⓐ server product) on page 37 for details.
*9. License per instrument (meter). This license includes 5 meters.
*10. Separate Hyper Historian™ and GENESIS64™ licenses are required.
*11. License per device (asset). This license includes 5 assets.
*12. This license applies to IoT devices.

USB hardware key

Product name	Model	Outline
USB hardware key	HW KEY-USB	USB device to store server/client /optional license. Just inserting this product to the server will activate stored license.*13

*13. Applying license to the server is possible. Please refer to the license registration procedure on page 44.

Precautions before use

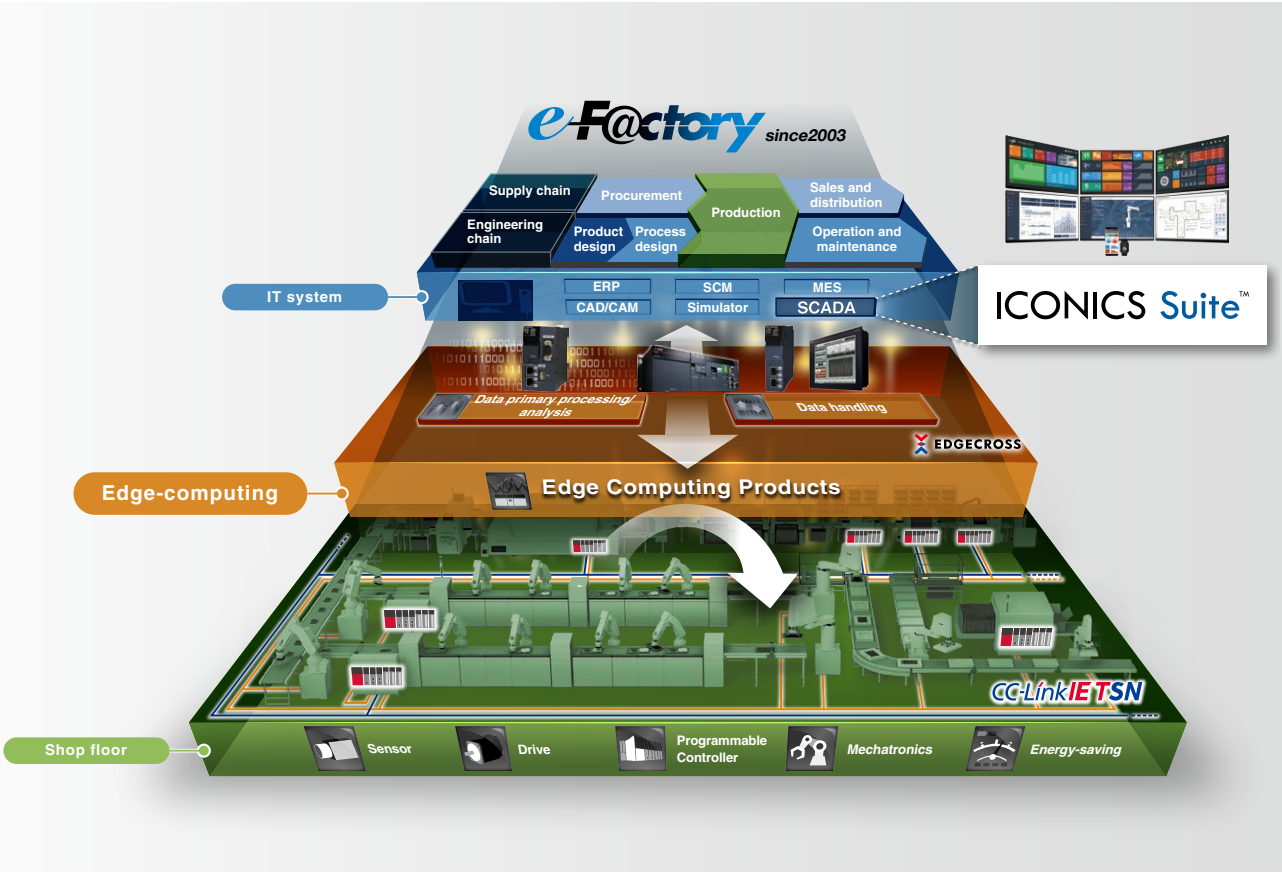
This publication explains the typical features and functions of the products herein and does not provide restrictions or other information related to usage and module combinations. Before using the products, always read the product user manuals. Mitsubishi Electric will not be held liable for damage caused by factors found not to be the cause of Mitsubishi Electric; opportunity loss or lost profits caused by faults in Mitsubishi Electric products; damage, secondary damage, or accident compensation, whether foreseeable or not, caused by special factors; damage to products other than Mitsubishi Electric products; or any other duties.

⚠ For safe use

- To use the products given in this publication properly, always read the relevant manuals before beginning operation.
- The products have been manufactured as general-purpose parts for general industries, and are not designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the products for special purposes such as nuclear power, electric power, aerospace, medicine or passenger-carrying vehicles, consult with Mitsubishi Electric.
- The products have been manufactured under strict quality control. However, when installing the products where major accidents or losses could occur if the products fail, install appropriate backup or fail-safe functions in the system.

e-F@ctory

e-F@ctory is the Mitsubishi Electric solution for adding value across the manufacturing enterprise by enhancing productivity, thereby simultaneously reducing maintenance and operating costs, and enabling the seamless flow of information throughout the plant. e-F@ctory uses a combination of factory automation and IT technologies in combination with various best-in-class partner products through its alliance program.



About ICONICS

ICONICS, a group company of Mitsubishi Electric Corporation, serves as the software center of excellence for Mitsubishi Electric's Factory Automation Systems Group. Its visualization, analytics, mobile, IoT, and cloud solutions improve productivity, reduce integration time and operating costs, and optimize asset utilization. ICONICS solutions, combined with the knowledge and industry expertise of Mitsubishi Electric, maximize value to the customer by monitoring and controlling automation processes. ICONICS award-winning software boasts over 375,000 installations in Factory Automation (FA), Process Automation (PA), and Building Automation (BA) customers in over 100 countries worldwide.

Make the Invisible Visible™

Creating Solutions Together.

Low-voltage Power Distribution Products

Transformers, Med-voltage Distribution Products

Power Monitoring and Energy Saving Products

Power (UPS) and Environmental Products

Compact and Modular Controllers

Servos, Motors and Inverters

Visualization: HMIs

Edge Computing Products

Numerical Control (NC)

Collaborative and Industrial Robots

Processing machines: EDM, Lasers

SCADA, analytics and simulation software

Mitsubishi Electric's product lineup, from various controllers and drives to energy-saving devices and processing machines, all help you to automate your world. They are underpinned by software, innovative data monitoring, and modelling systems supported by advanced industrial networking and Edgecross IT/OT connectivity. Together with a worldwide partner ecosystem, Mitsubishi Electric factory automation (FA) has everything to make IoT and Digital Manufacturing a reality.

With a complete portfolio and comprehensive capabilities that combine synergies with diverse business units, Mitsubishi Electric provides a one-stop approach to how companies can tackle the shift to clean energy and energy conservation, carbon neutrality and sustainability, which are now a universal requirement of factories, buildings, and social infrastructure.

We at Mitsubishi Electric FA are your solution partners waiting to work with you as you take a step toward the realization of sustainable manufacturing and society through the application of automation.
Let's automate the world together!

Note: not all products are available in all countries

Country/Region, Sales office, Tel/Fax

USA and Canada MITSUBISHI ELECTRIC AUTOMATION, INC., 500 Corporate Woods Parkway, Vernon Hills, IL60061, U.S.A Tel :+1-847-478-2100 Fax:+1-847-478-2253	Mexico MITSUBISHI ELECTRIC AUTOMATION, INC. Mexico Branch Boulevard Miguel de Cervantes Saavedra 301, Torre Norte Piso 5, Int. 502, Ampliacion Granada, Miguel Hidalgo, Ciudad de Mexico, Mexico, C.P.11520 Tel :+52-55-3067-7500	Brazil MITSUBISHI ELECTRIC DO BRASIL COMERCIO E SERVICOS LTDA. Avenida Adelino Cardana, 293, 21 andar, Bethaville, Barueri SP, Brasil Tel :+55-11-4689-3000 Fax:+55-11-4689-3016
Germany MITSUBISHI ELECTRIC EUROPE B.V. German Branch Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany Tel :+49-2102-486-0 Fax:+49-2102-486-7780	UK MITSUBISHI ELECTRIC EUROPE B.V. UK Branch Travellers Lane, UK-Hatfield, Hertfordshire, AL10 8XB, U.K. Tel :+44-1707-28-8780 Fax:+44-1707-27-8695	Ireland MITSUBISHI ELECTRIC EUROPE B.V. Irish Branch Westgate Business Park, Ballymount, Dublin 24, Ireland Tel :+353-1-4198800 Fax:+353-1-4198890
Italy MITSUBISHI ELECTRIC EUROPE B.V. Italian Branch Campus, Energy Park Via Energy Park 14, Vimercate 20871 (MB) Italy Tel :+39-039-60531 Fax:+39-039-6053-312	Spain MITSUBISHI ELECTRIC EUROPE, B.V. Spanish Branch Carretera de Rubi, 76-80-Apdo. 420, E-08190 Sant Cugat del Valles (Barcelona), Spain Tel :+34-935-65-3131 Fax:+34-935-89-1579	France MITSUBISHI ELECTRIC EUROPE B.V. French Branch 25, Boulevard des Bouvets, 92741 Nanterre Cedex, France Tel :+33-1-55-68-55-68 Fax:+33-1-55-68-57-57
Czech Republic MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch Pekarska 621/7, 155 00 Praha 5, Czech Republic Tel :+420-734-402-587	Poland MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch ul. Krakowska 48, 32-083 Balice, Poland Tel :+48-12-347-65-00	Netherlands MITSUBISHI ELECTRIC EUROPE B.V.–Benelux Beechavenue 111, NL-1119 RB Schiphol-Rijk, Netherlands Tel :+31 297-250-350
Sweden MITSUBISHI ELECTRIC EUROPE B.V. (Scandinavia) Hedvig Mollersgata 6, 223 55 Lund, Sweden Tel :+46-8-625-10-00 Fax:+46-46-39-70-18	Turkey MITSUBISHI ELECTRIC TURKEY ELEKTRIK URUNLERI A.S. Serifali Mahallesi Kale Sokak No:41 Umraniye / Istanbul Tel :+90-216-969-2500 Fax:+90-216-661-4447	UAE MITSUBISHI ELECTRIC EUROPE B.V. Dubai Branch Dubai Silicon Oasis, P.O.BOX 341241, Dubai, U.A.E. Tel :+971-4-3724716 Fax:+971-4-3724721
South Africa ADROIT TECHNOLOGIES 20 Waterford Office Park, 189 Witkoppen Road, Fourways, South Africa Tel :+27-11-658-8100 Fax:+27-11-658-8101	China MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. Mitsubishi Electric Automation Center, No.1386 Hongqiao Road, Shanghai, China Tel :+86-21-2322-3030 Fax:+86-21-2322-3000	Taiwan MITSUBISHI ELECTRIC AUTOMATION (TAIWAN) CO., LTD. 6F, No.105, Wugong 3rd Road, Wugu District, New Taipei City 248019, Taiwan Tel :+886-2-2299-2499 Fax:+886-2-2299-2509
Korea MITSUBISHI ELECTRIC AUTOMATION KOREA CO., LTD. 7F to 9F, Gangseo Hangang Xi-tower A, 401, Yangcheon-ro, Gangseo-Gu, Seoul 07528, Korea Tel :+82-2-3660-9569 Fax:+82-2-3664-8372	Singapore MITSUBISHI ELECTRIC ASIA PTE. LTD. 307 Alexandra Road, Mitsubishi Electric Building, Singapore 159943 Tel :+65-6473-2308 Fax:+65-6476-7439	Thailand MITSUBISHI ELECTRIC FACTORY AUTOMATION (THAILAND) CO., LTD. 101, True Digital Park Office, 5th Floor, Sukhumvit Road, Bang Chak, Prakanong, Bangkok, Thailand Tel :+66-2682-6522-31 Fax:+66-2682-6020
Vietnam MITSUBISHI ELECTRIC VIETNAM COMPANY LIMITED 11th & 12th Floor, Viettel Tower B, 285 Cach Mang Thang 8 Street, Ward 12, District 10, Ho Chi Minh City, Vietnam. Tel :+84-28-3910-5945 Fax:+84-28-3910-5947	Indonesia PT. MITSUBISHI ELECTRIC INDONESIA Gedung Jaya 8th Floor, JL. MH. Thamrin No.12, Jakarta Pusat 10340, Indonesia Tel :+62-21-31926461 Fax:+62-21-31923942	India MITSUBISHI ELECTRIC INDIA PVT. LTD. Pune Branch Emerald House, EL-3, J Block, M.I.D.C., Bhosari, Pune-411026, Maharashtra, India Tel :+91-20-2710-2000 Fax:+91-20-2710-2100
Australia MITSUBISHI ELECTRIC AUSTRALIA PTY. LTD. 348 Victoria Road, P.O. Box 11, Rydalmere, N.S.W 2116, Australia Tel :+61-2-9684-7777 Fax:+61-2-9684-7245		

Mitsubishi Electric's e-F@ctory concept utilizes both FA and IT technologies, to reduce the total cost of development, production and maintenance, with the aim of achieving manufacturing that is a "step ahead of the times". It is supported by the e-F@ctory Alliance Partners covering software, devices, and system integration, creating the optimal e-F@ctory architecture to meet the end users needs and investment plans.

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

L(NA)08785ENG-E 2405(IP)

New publication, effective May 2024.
Specifications are subject to change without notice.