

# FA Application Package

## iQ Monozukuri Process Remote Monitoring



Easily introduce IoT technologies to the shop floor

Visualization of operation status improves manufacturing process and productivity



- Incorporating the package into existing equipment makes system implementation easy
- Collectively manage information that used to be managed individually
- Template screens to analyze the equipment status are included
- Remote monitoring is easy with a mobile app

# GLOBAL IMPACT OF MITSUBISHI ELECTRIC



Through Mitsubishi Electric's vision, "Changes for the Better" are possible for a brighter future.

## *Changes for the Better*

"Changes for the Better" represents the Mitsubishi Electric Group's attitude to "always strive to achieve something better", as we continue to change and grow. Each one of us shares a strong will and passion to continuously aim for change, reinforcing our commitment to creating "an even better tomorrow".

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.

Our advances in AI and IoT are adding new value to society in diverse areas from automation to information systems. The creation of game-changing solutions is helping to transform the world, which is why we are honored to be recognized in the 2019 "Forbes Digital 100" as one of world's most influential digital corporations.



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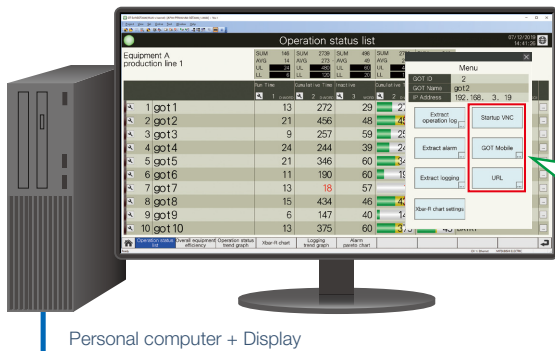
# iQ Monozukuri Process Remote Monitoring

iQ Monozukuri Process Remote Monitoring is an application package to easily introduce IoT technologies to the shop floor, collect and visualize information of multiple devices, and collectively manage the information.

Manufacturing process and productivity of the whole production can be improved by analyzing the data displayed on GT SoftGOT2000.

The operation status of the shop floor and the information such as operation logs and alarms can be collected from each device via an on-site GOT.

iQ Monozukuri Process Remote Monitoring + GT SoftGOT2000

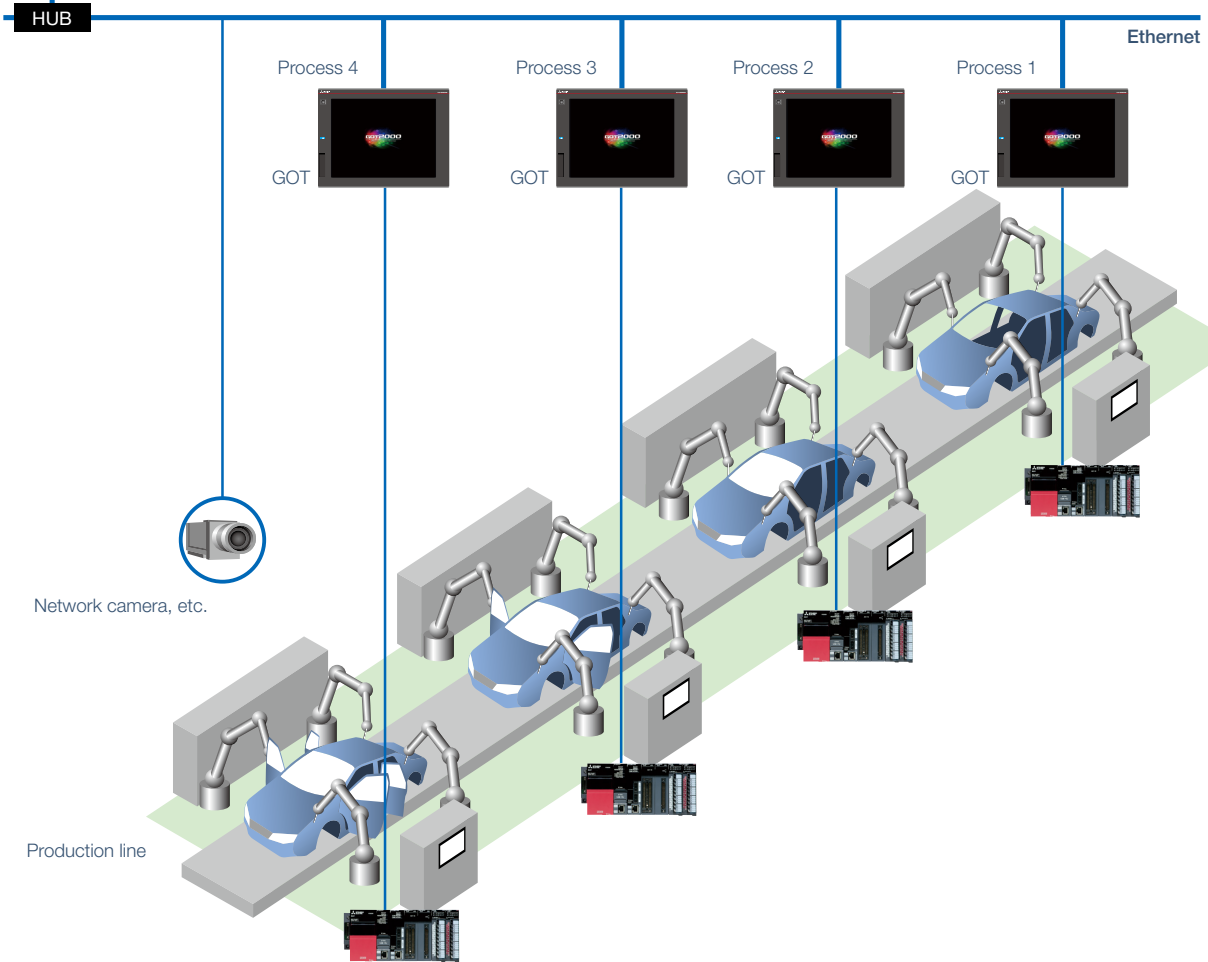


Information of multiple GOTs can be displayed and checked.

Other applications can be started to check information.

Example) Checking camera images at the shop floor

Example) Checking error screens of on-site GOTs





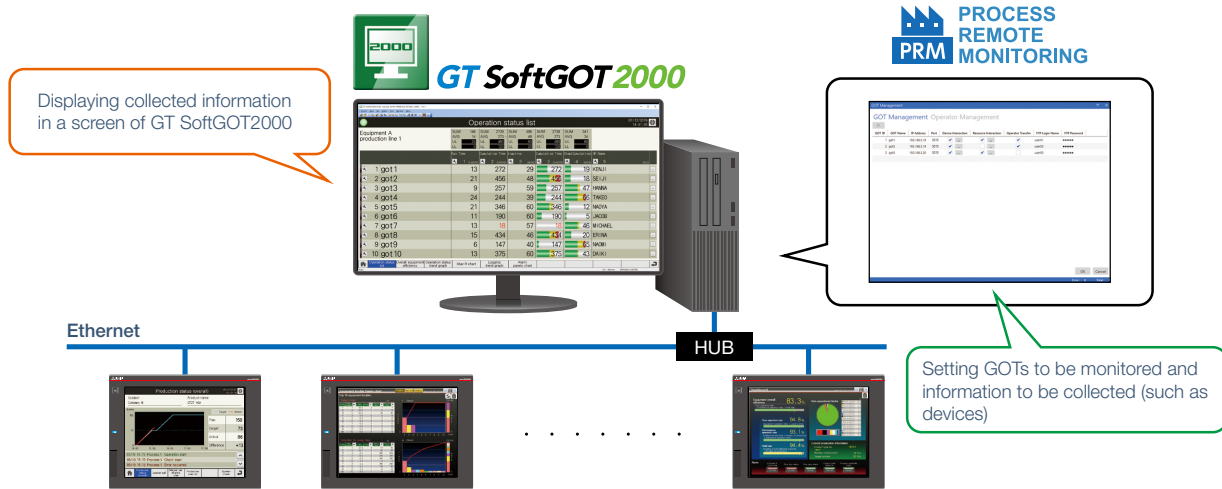
## iQ Monozukuri Process Remote Monitoring

iQ Monozukuri Process Remote Monitoring consists of the Process Remote Monitoring setting tool and an iQ Monozukuri Process Remote Monitoring template project for GT SoftGOT2000 that easily realize "collection, visualization, and management of the information collected from multiple devices."

### Collecting information of the shop floor

#### Process Remote Monitoring setting tool

Process Remote Monitoring setting tool collects and visualizes information of the shop floor. This tool can be used by selecting GOTs (more than one) that have the information to be collected and setting the information needed (such as devices or resource data). Without specialized knowledge such as programming, information to be displayed in GT SoftGOT2000 can be easily set.



### Visualizing collected information

#### iQ Monozukuri Process Remote Monitoring template project for GT SoftGOT2000

An iQ Monozukuri Process Remote Monitoring template project for GT SoftGOT2000 is the project data (template screens) for GT SoftGOT2000 to visualize information that the Process Remote Monitoring setting tool collected from on-site GOTs. The following screens are included in the project data.

- A screen to monitor information of multiple kinds of equipment in a batch (operation status list, operation status trend graph)
- A screen to extract data that suits demands from resource data (extract resource data)
- A screen to analyze statuses of facilities (Xbar-R chart, alarm pareto chart)

**Operation status list**

Equipment A production line 1	Serial	Model	IP	Serial	Model	IP	Serial	Model	IP	Serial	Model	IP	Serial	Model	IP	Serial	Model	IP
1 got1	13	272	29	272	19	KENJI												
2 got2	21	456	48	456	13	SEIJI												
3 got3	9	257	59	257	47	HANNA												
4 got4	24	244	39	244	86	TAKED												
5 got5	21	346	60	346	12	NAOYA												
6 got6	11	190	60	190	5	JUNCOB												
7 got7	13	18	57	18	46	MICHAEL												
8 got8	15	434	46	434	20	ERINA												
9 got9	6	147	40	147	35	NAOYA												
10 got10	13	376	60	376	43	DAIKI												

**Xbar-R chart**

**Extract resource data**

Extract alarm

Process:  Extract alarm  Compare operation logs  Pareto Chart

Pareto Chart Display:  Frequency  Cumulative Time

Specify comment row:  Comment row No.  Use the smallest comment row No.

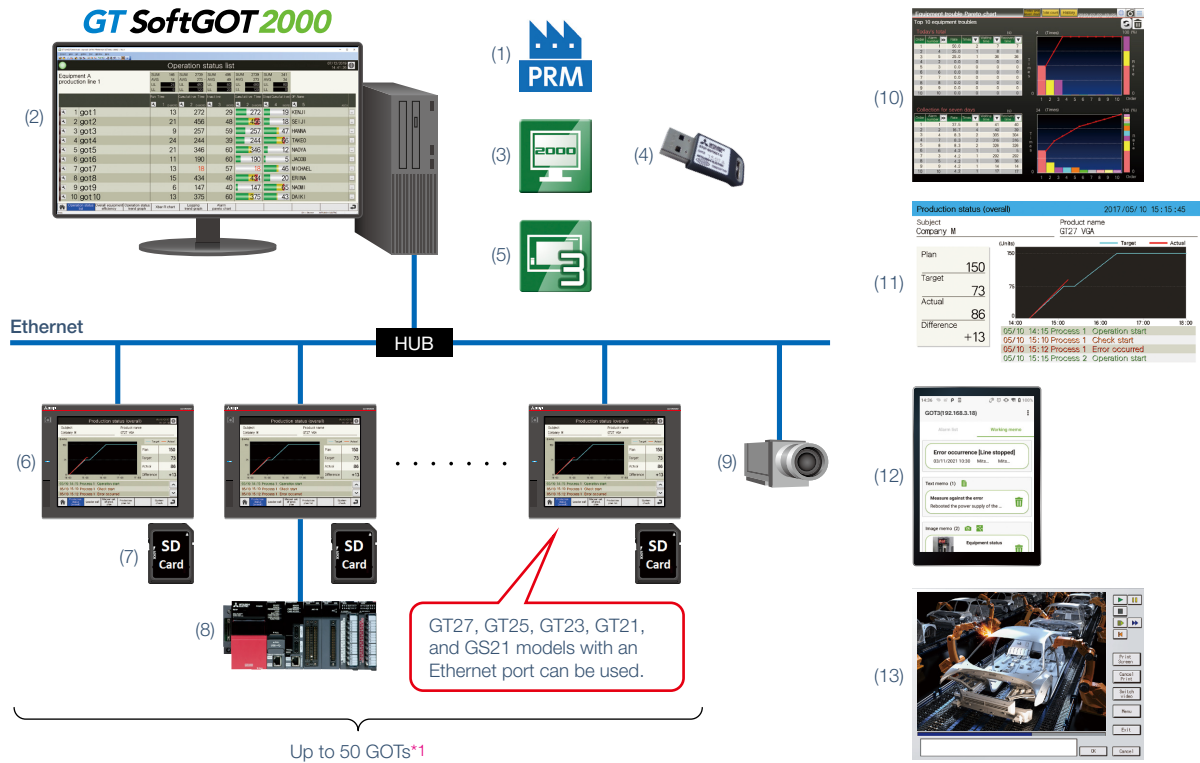
Extract all:  Device

Target GOT:  IP Address  Serial  Model

Specify date/time:  From specified date/time  Limit specified date/time

# Easily implement iQ Monozukuri Process Remote Monitoring system

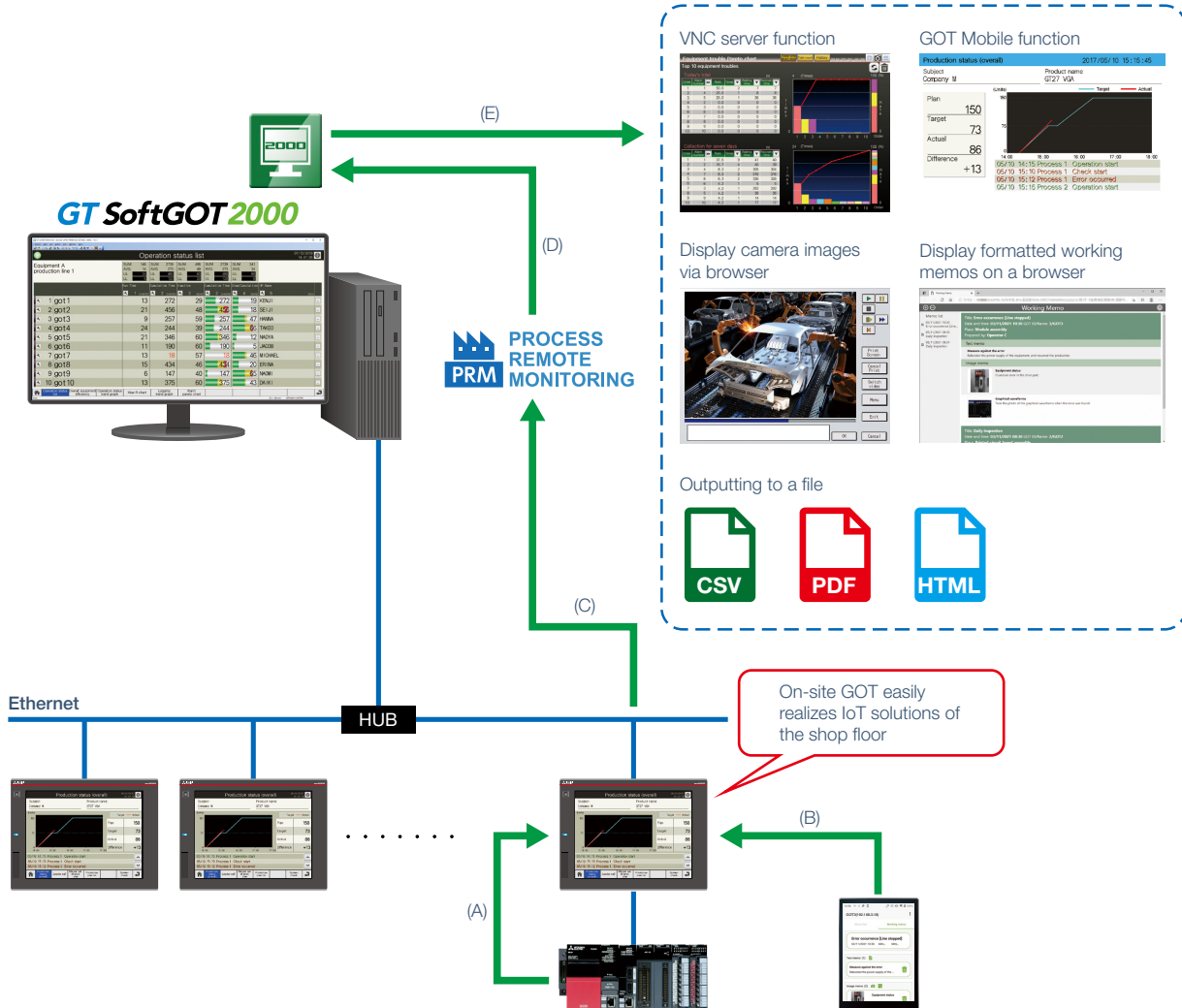
## System configuration example



\*1 Up to five GOTs can be managed for each license. To manage information of 50 GOTs, purchase the product including 10 licenses.

Mitsubishi Electric FA application package		
(1)	iQ Monozukuri Process Remote Monitoring	Process Remote Monitoring setting tool iQ Monozukuri Process Remote Monitoring template project for GT SoftGOT2000
Products to be prepare by users (Required)		
(2)	Personal computer + display or MELIPC MI3000	A personal computer to run the software necessary for iQ Monozukuri Process Remote Monitoring.
(3)	GT SoftGOT2000	Software to display processes monitoring and analysis results of resource data on the personal computer screen. The software is included in HMI/GOT Screen Design Software GT Works3.
(4)	GT SoftGOT2000 license key	License key to use GT SoftGOT2000. When using MELIPC MI3000 (see (2)), the license key is pre-installed so that it is not required to purchase separately.
(5)	GT Designer3	Software to create or change an iQ Monozukuri Process Remote Monitoring template project for GT SoftGOT2000 and on-site GOT project files. The software is included in HMI/GOT Screen Design Software GT Works3.
(6)	GOT2000	GT27, GT25, GT23, GT21, and GS21 models with an Ethernet port can be used.
Products to be prepare by users (Optional)		
(7)	Data storage	Required to use resource interaction or operator information management of iQ Monozukuri Process Remote Monitoring functions.
(8)	Devices such as programmable controller or drive equipment	Provides information of shop floor such as operating time, production quantity, and operating conditions to on-site GOTs. Models that support a communication driver of an on-site GOT can be used.
(9)	Network camera, etc.	Used to check the on-site conditions by video.
(10)	VNC server function license	License necessary to browse on-site GOT screens via a personal computer which uses this application package.
(11)	GOT Mobile function license	License necessary to browse on-site GOT Mobile screens via a personal computer which uses this application package.
(12)	Mobile terminal	Required when using the working memo function of the Pocket GOT mobile app for Android™ OS.
(13)	Others	Prepare necessary items depending on the devices and functions to be used (browsers to display camera images or display web pages, user-created applications, etc.).

Data flow and each purpose



- (A) On-site GOTs collect data of connected devices.
- (B) The mobile app sends the information entered with the working memo function to the on-site GOTs.
- (C) Process Remote Monitoring setting tool collects data collected by on-site GOTs.
- (D) The data collected by Process Remote Monitoring setting tool is displayed in GT SoftGOT2000.
- (E) GT SoftGOT2000 outputs collected resource data files or starts other applications.

# iQ Monozukuri Process Remote Monitoring solves issues at the shop floor

Issues in introduction	Solutions
Effective use of the information separately stored in each device	<b>1</b> Easy data collection from multiple devices <span style="float: right;">P.9</span>
Easy visualization of collected information	<b>2</b> Displaying operation status obviously in a "visualize" template screen <span style="float: right;">P.9</span>
Monitoring of the shop floor from a remote location	<b>3</b> More detailed remote monitoring with GOT Mobile function and a general-purpose camera <span style="float: right;">P.10</span>
Widely collecting information of both new and old facilities	<b>4</b> Monitoring wide variety of targets with various kinds of equipment connectable to on-site GOT <span style="float: right;">P.10</span>

Issues in operation	Solutions
Central management of resource data separately stored in each device	<b>5</b> Collecting and managing resource data of multiple kinds of equipment in a batch <span style="float: right;">P.11</span>
Central management of operator information separately stored in each device	<b>6</b> Unifying the management of operator information in multiple kinds of equipment <span style="float: right;">P.11</span>
Management of the daily inspection results and alarm occurrence reports	<b>7</b> <span style="background-color: red; color: white; padding: 2px;">NEW</span> Managing the daily on-site status records in a document format <span style="float: right;">P.12</span>

Issues in analyzation	Solutions
Analyzation of quality variation	<b>8</b> Analyzing product quality in the Xbar-R chart screen <span style="float: right;">P.13</span>
Analyzation of factors that reduce operation rate	<b>9</b> Analyzing factors by displaying alarms in a pareto chart <span style="float: right;">P.13</span>
Analyzation of data trend by comparing with the past data	<b>10</b> Comparison and analysis by overlapping two logging trend graphs <span style="float: right;">P.14</span>

Improvement
Extract a problem from the analysis results. Identify the root cause of the problem, and plan and implement countermeasures.



Introduction

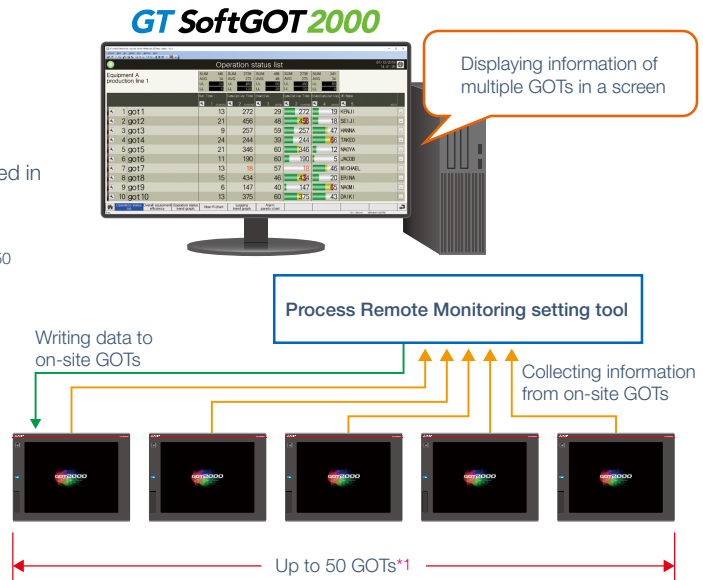
Easily collect and visualize information of multiple devices on a production line

1 Easy data collection from multiple devices

In an iQ Monozukuri Process Remote Monitoring system, information of up to 50 GOTs installed in a facility can be managed by collecting data with a dedicated tool (Process Remote Monitoring setting tool).\*1

The collected facility information can be displayed and checked in the display screen of a personal computer.

\*1 Up to five GOTs can be managed for each license. To manage information of 50 GOTs, purchase the product including 10 licenses.



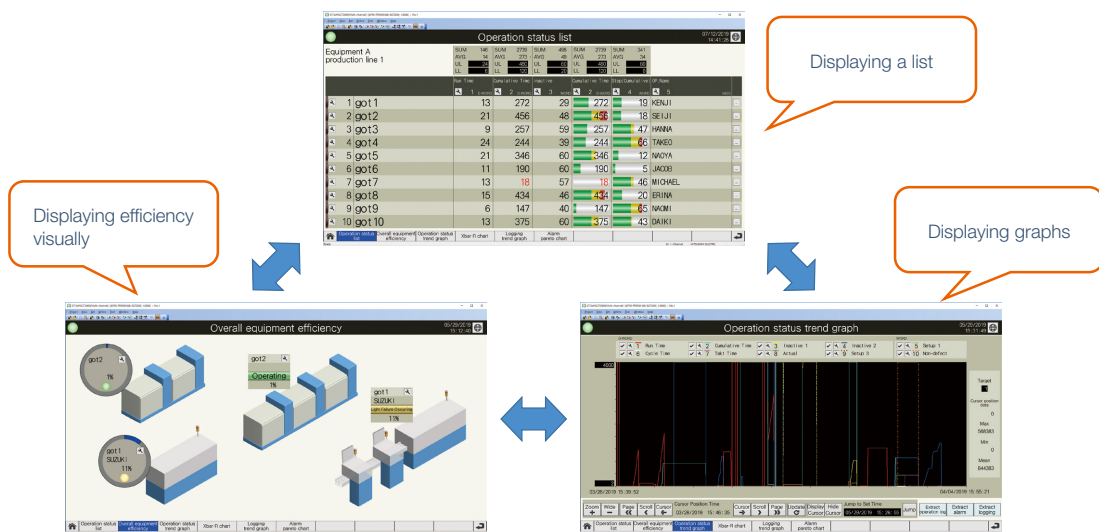
Applicable Scenes

2 Displaying operation status obviously in a "visualize" template screen

This package includes template screens for Process Remote Monitoring to display collected data in GT SoftGOT2000.

Product lines can be visualized by displaying operation statuses in a list or on trend graphs.

Whether loss is occurring in facilities can be checked in the overall equipment efficiency screen so that the loss time decreases and early detection of error locations improves the effectiveness.



Introduction

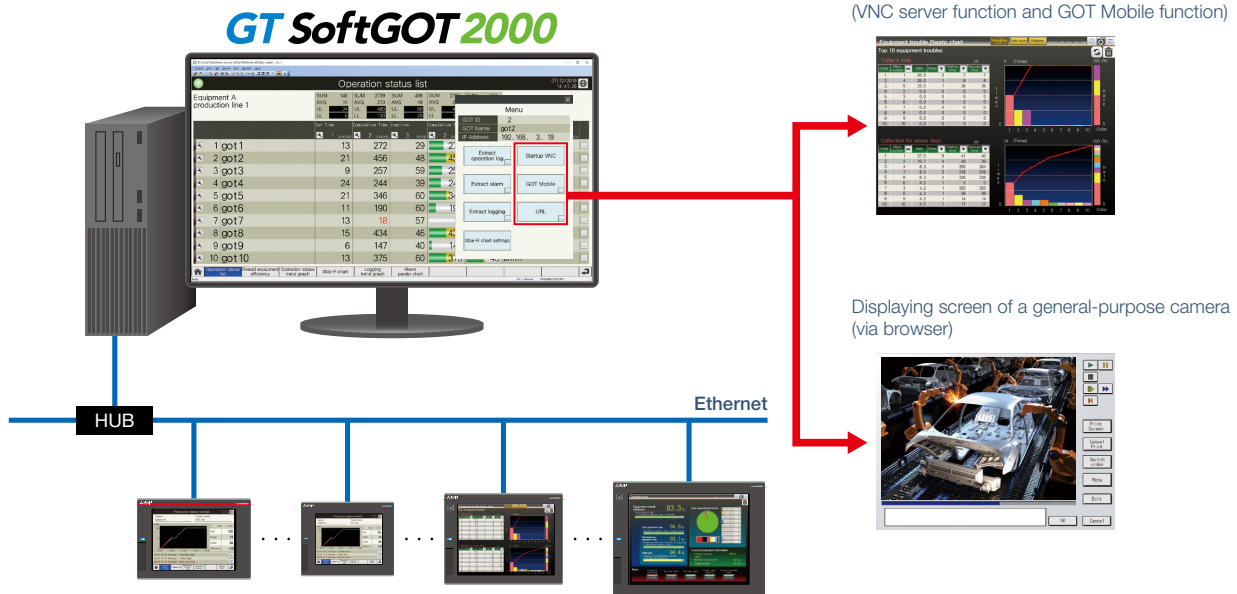
Easily collect and visualize information of multiple devices on a production line

3 More detailed remote monitoring with GOT Mobile function and a general-purpose camera

By starting other applications from GT SoftGOT2000 in a personal computer, the screens of on-site GOTs can be checked on a personal computer apart from the on-site GOTs with remote connection (VNC server function, GOT Mobile function) and images of network cameras installed in the shop floor can be checked with a browser; therefore, the situation can be monitored without going to the shop floor.

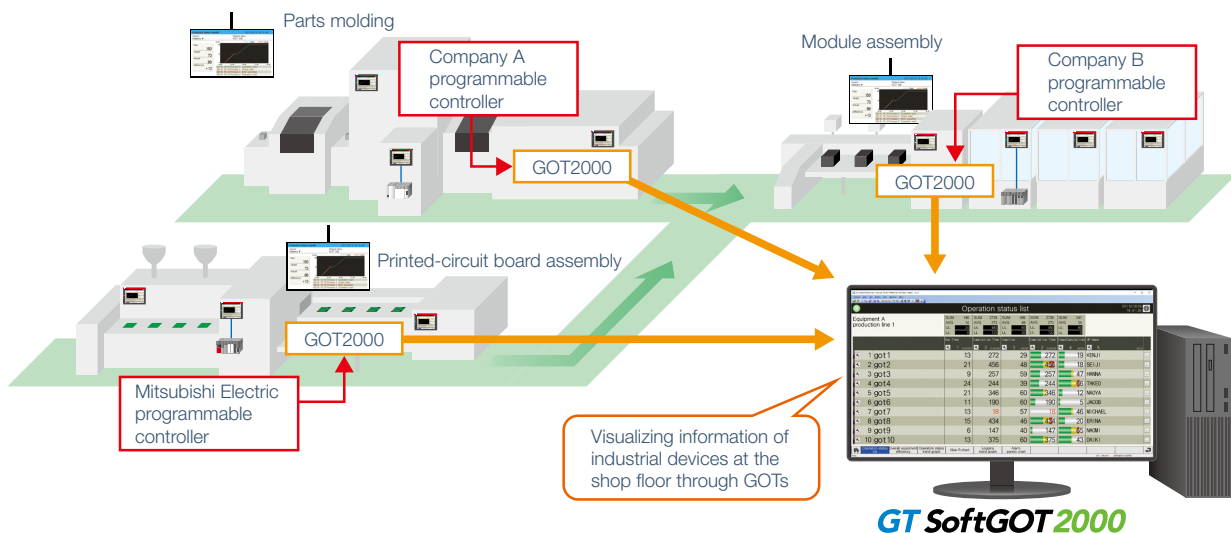
3

Applicable Scenes



4 Monitoring wide variety of targets with various kinds of equipment connectable to on-site GOT

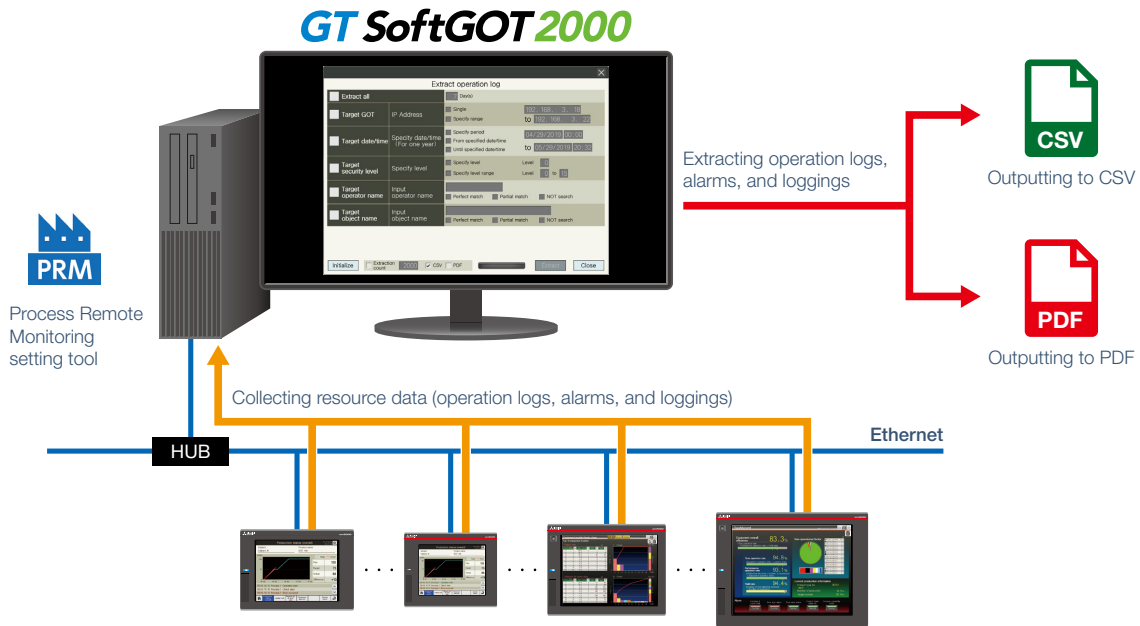
GOT acts as a gateway to collect information of industrial devices that are connected in various connection types (Ethernet, serial, etc.) and iQ Monozukuri Process Remote Monitoring aggregates the information. GOTs can be connected to a wide variety of industrial devices because various types of communication drivers are supported. Any types of equipment that can be connected to GOTs can be monitored with iQ Monozukuri Process Remote Monitoring so that each equipment can be visualized and monitored collectively.



Operation Managing multiple kinds of equipment on a production line

5 Collecting and managing resource data of multiple kinds of equipment in a batch

Resource data of operation logs, alarms, and loggings collected with GOTs on each equipment can be collected and managed in a batch. By extracting information that matches conditions such as date or operators from the stored data and outputting the information to a CSV file or a PDF file, the tendency of alarms can be analyzed.



Applicable Scenes

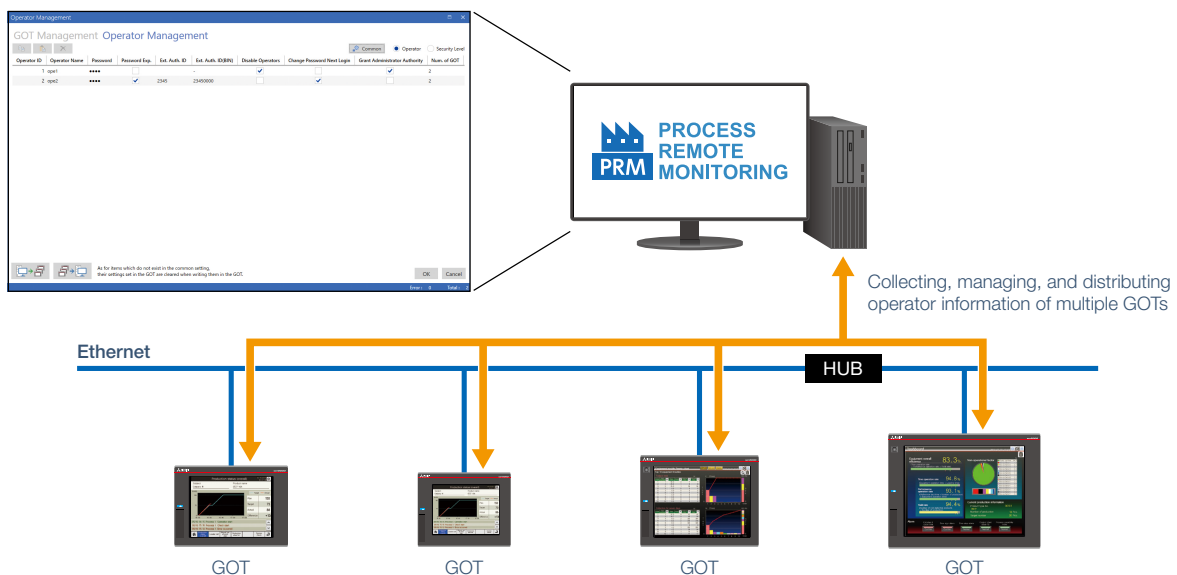
6 Unifying the management of operator information in multiple kinds of equipment

Operator information in multiple kinds of equipment can be read from on-site GOTs to a personal computer and can be edited on the personal computer with the Process Remote Monitoring setting tool.

The edited (added or deleted) operator information can be written to multiple on-site GOTs in a batch.

By doing so, operator information does not need to be set for each on-site GOT, and man-hours for managing can be reduced.

\* Set the same administrator password to all on-site GOTs.

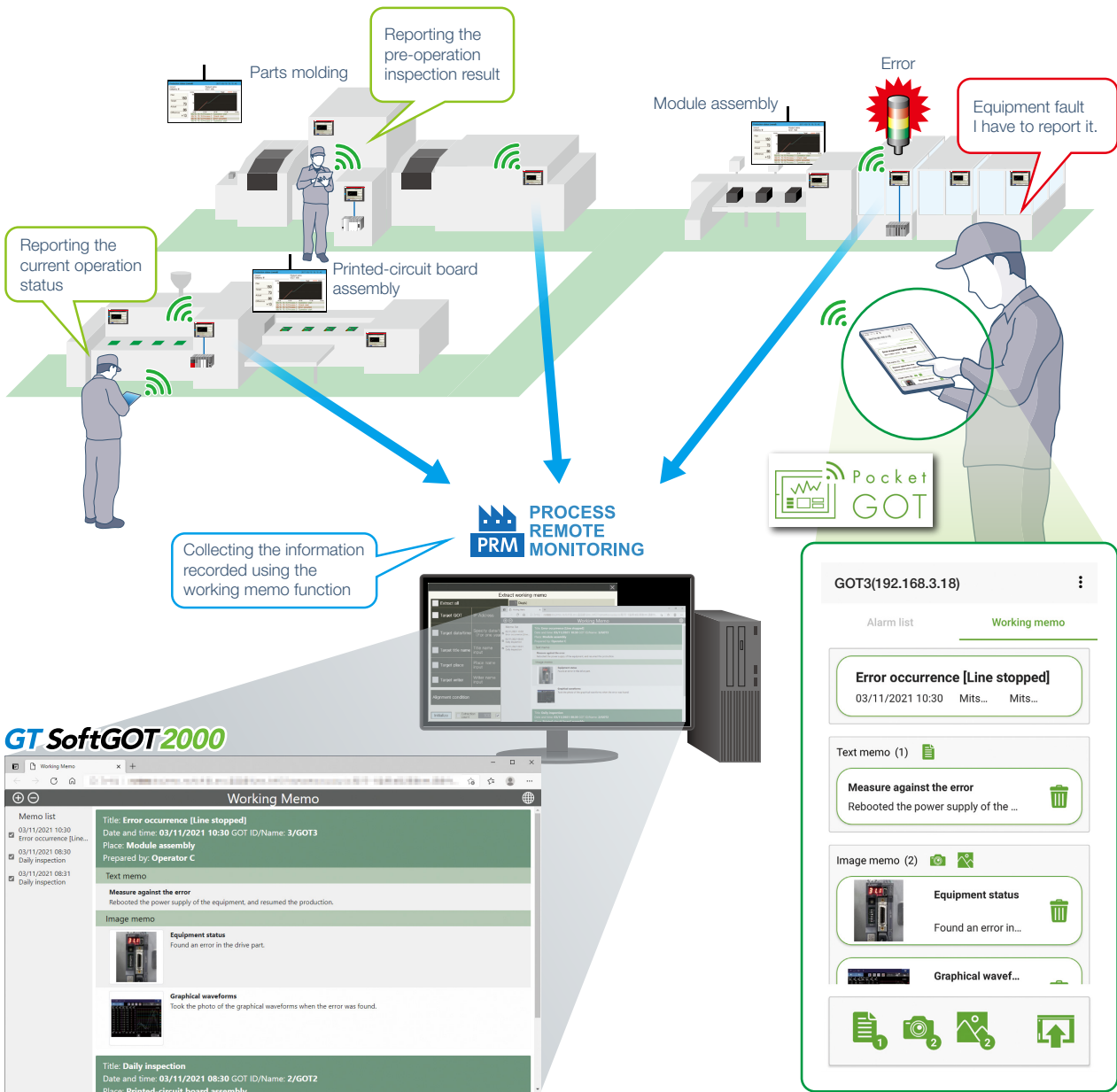


## 7 Managing the daily on-site status records in a document format NEW

The working memo function\*1 installed on the mobile terminal enables collective management of the daily inspection results, operation status, and alarm occurrence status that are recorded by date or place.

Managing data in a document format can reduce the workload for creating daily reports and other reports.

\*1 Function of the mobile app Pocket GOT

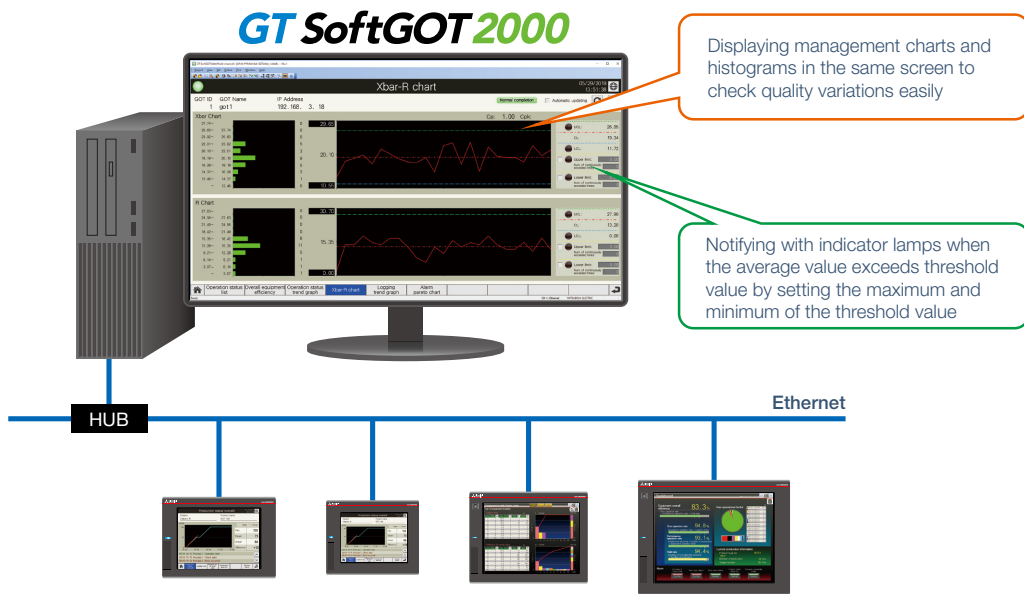




Analyzation Easily analyze with a template for analyzation

8 Analyzing product quality in the Xbar-R chart screen

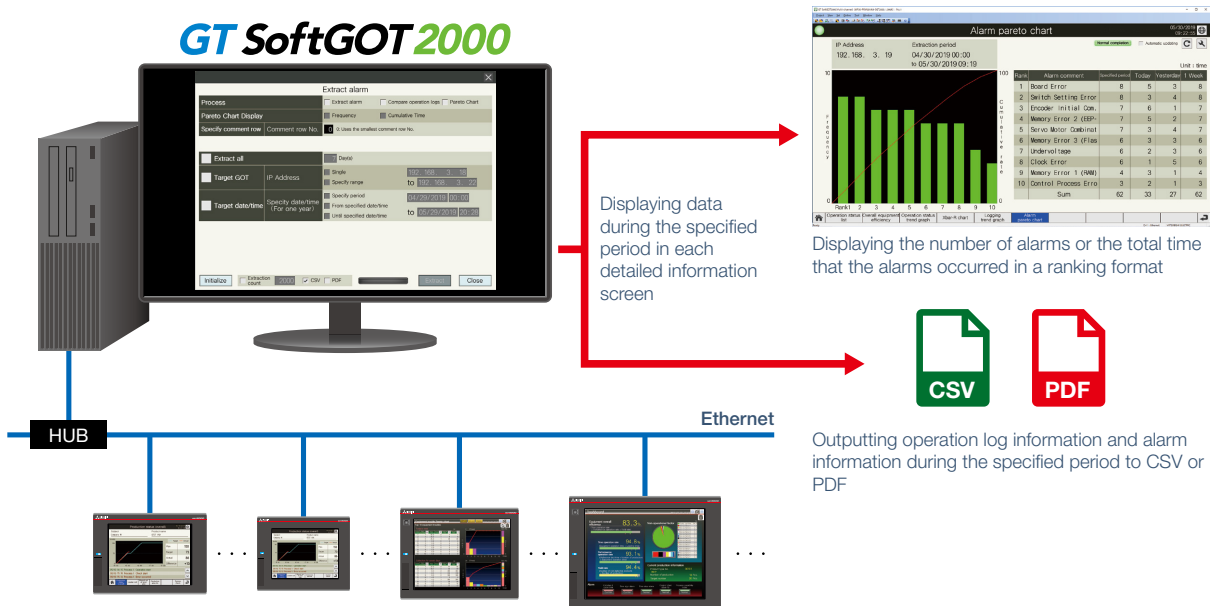
The logging data collected and extracted with GOTs on each equipment can be displayed and checked in the Xbar-R chart screen and the process capability index (Cp and Cpk).  
 By displaying the Xbar-R chart and the histogram in the same screen, the variation of quality can be checked.  
 In addition, the notification can be displayed on the Xbar-R chart when the average value exceeds threshold value by setting the maximum and minimum of the threshold value.



Applicable Scenes

9 Analyzing factors by displaying alarms in a pareto chart

The alarm pareto chart can be displayed by using the alarm information collected from GOTs of each equipment. The number of alarms or the total time that the alarms occurred displayed in the chart can be used for analyzing the tendency of the alarms.  
 In addition, the condition to occur an alarm can be analyzed by extracting operation log information and alarm information during the same period (to a file) with simultaneous extract function for operation logs and alarms.



## 10 Comparison and analysis by overlapping two logging trend graphs

Two sets of logging data collected with different IDs can be selected and overlapped on a screen.

By overlapping the normal data and the data of the current state, the waveforms can be compared and analyzed.

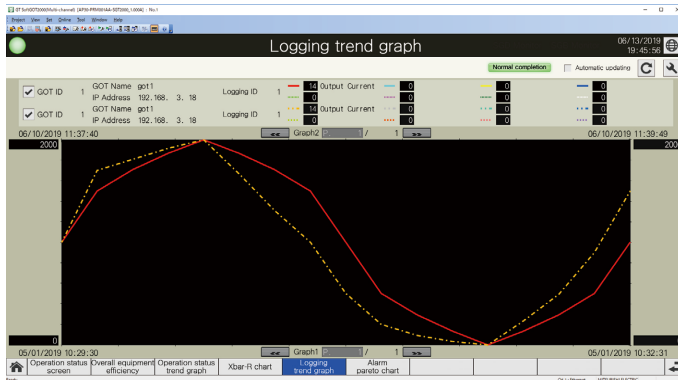
The logging data can be output to a file.

<Usage example 1>

When selecting sets of logging data of different GOTs at the same time, the differences for each equipment can be compared.

<Usage example 2>

When selecting sets of logging data of electric current values that have the same ID, error detection and deterioration diagnosis can be performed by comparing the normal data and the data of the current (actual) state.



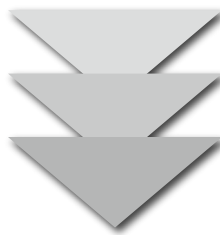
Output the logging data to a file



Outputting to CSV



Outputting to PDF



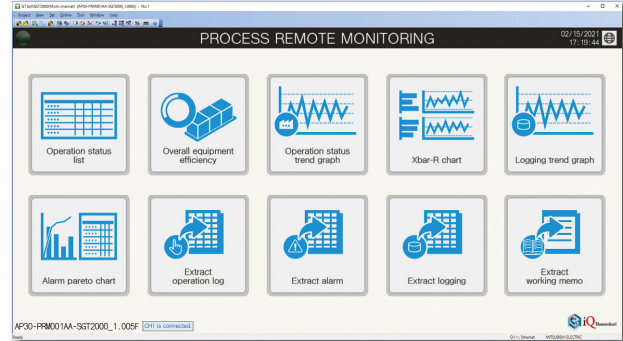
### Improvement

Extract a problem from the analysis results.  
Identify the root cause of the problem, and plan and implement countermeasures.

# Ready-to-install template screens for Process Remote Monitoring

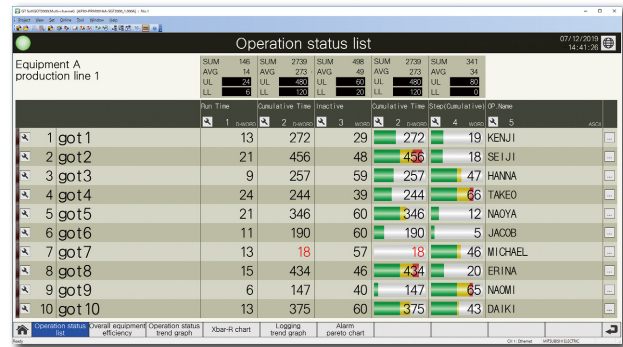
## Main menu

The screen to switch to template screens of each function.



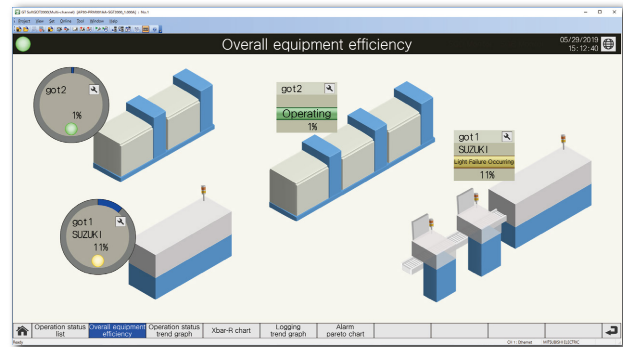
## Operation status list

Displaying the operation statuses of selected on-site GOTs (devices) in a table format. Sum and average display and the upper and lower limit setting are available for each column.



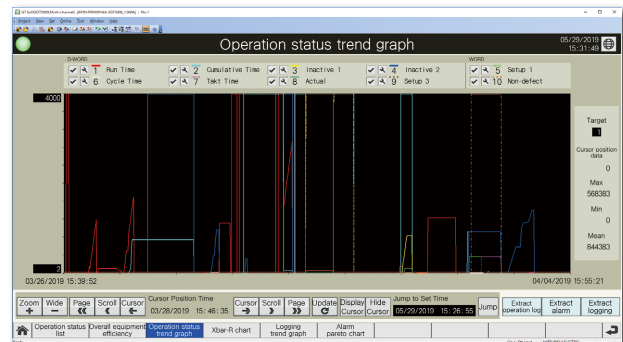
## Overall equipment efficiency

Displaying the operation statuses of selected on-site GOTs (devices) with overall equipment effectiveness (OEE) on a schematic diagram of the production line.



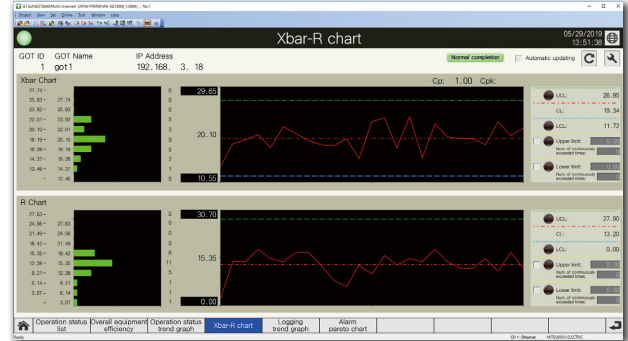
## Operation status trend graph

Displaying the operation statuses of selected on-site GOTs (devices) in a graph format.



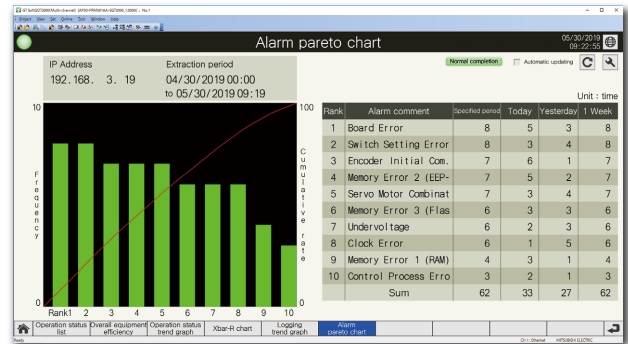
### Xbar-R chart

Calculating the mean value (Xbar) and range (R) from the logging data collected as measurement values, and displaying them in an Xbar-R chart.



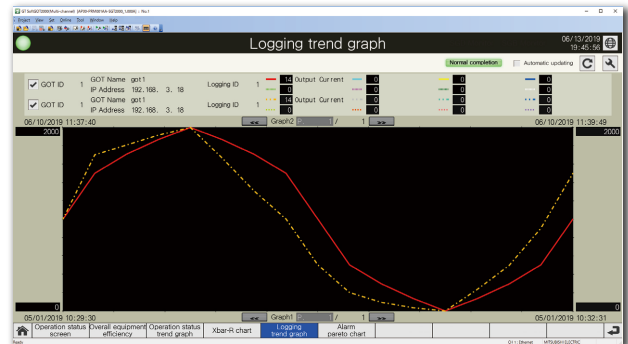
### Alarm pareto chart

Aggregating alarms that occurred on multiple on-site GOTs and displaying them in a pareto chart and list.



### Logging trend graph

Select two different time axes and logging data of different on-site GOTs that have been collected and display them in the same graph.



### File output and screen display of resource data

Extracting the resource data under the set conditions and outputting the data to a file or displaying the data to a relevant template screen

Target resource data types

- Operation log
- Alarm information
- Logging information
- Working memo **NEW**

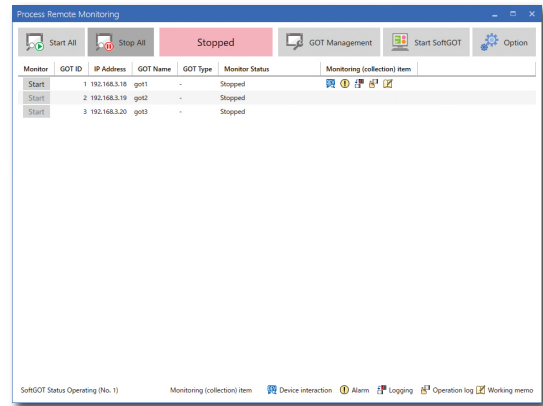


# Ready to start with simple settings of Process Remote Monitoring setting tool

## 1. Starting up Process Remote Monitoring setting tool

The Process Remote Monitoring screen appears.

Process Remote Monitoring



## 2. Setting options

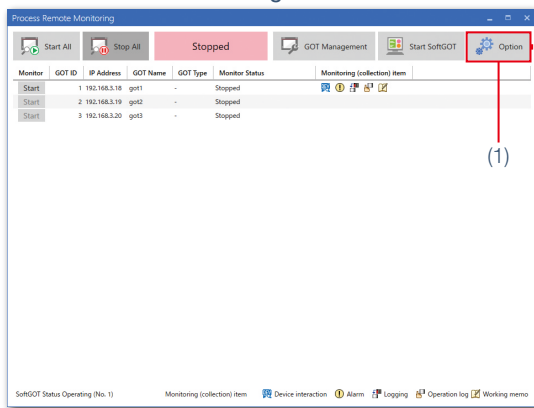
Click (1) button and the Option screen appears. Set the following items in this screen.

→(2) Activation: register the license key

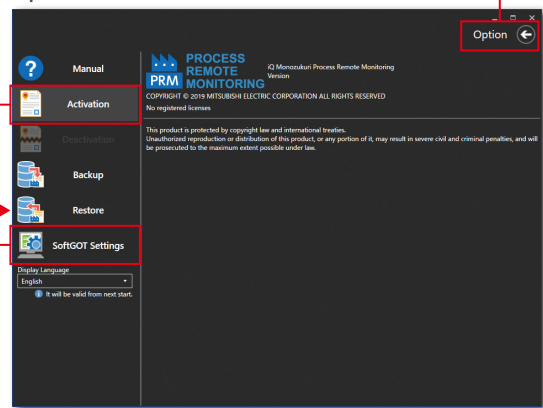
→(3) SoftGOT Settings: set the GT SoftGOT2000 project data that interacts with the Process Remote Monitoring setting tool (only when changing initial settings)

After setting, click (4) to go back to the Process Remote Monitoring screen.

Process Remote Monitoring



Option

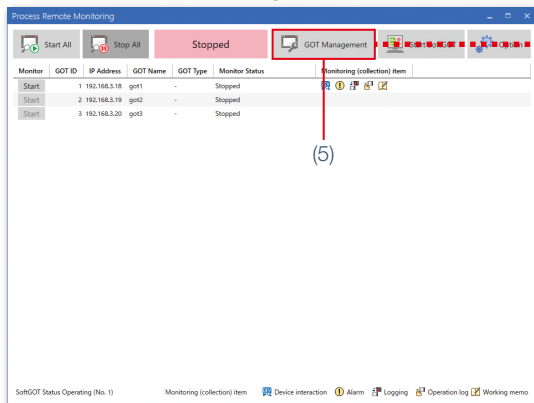


## 3. Setting GOTs to monitor

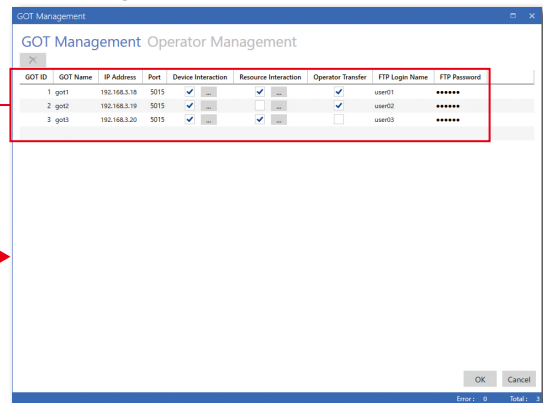
Click (5) on the Process Remote Monitoring screen and the GOT Management screen appears.

Set on-site GOTs to monitor in (6).

Process Remote Monitoring



GOT Management

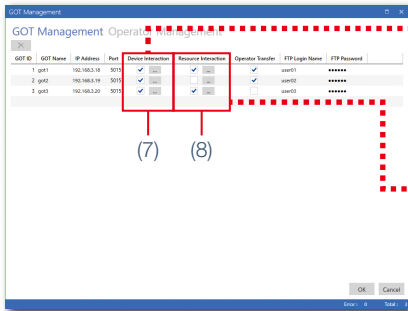


#### 4. Setting data to collect from target GOTs

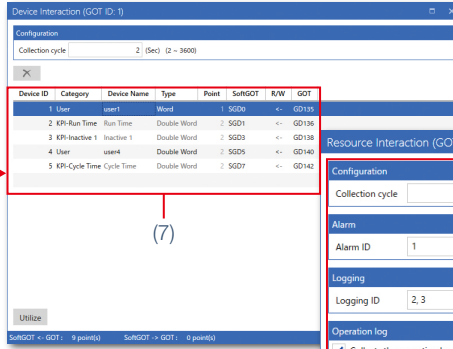
Set the following items in each screen depending on the purpose.

- (7) Collect device values: Device Interaction screen
- (8) Collect resource data: Resource Interaction screen

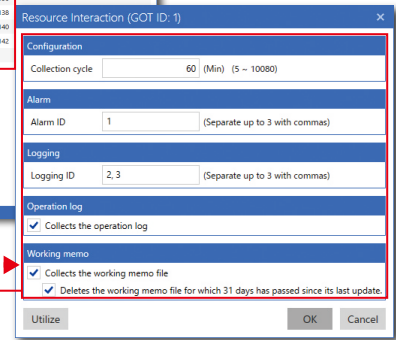
#### GOT Management



#### Device Interaction



#### Resource Interaction

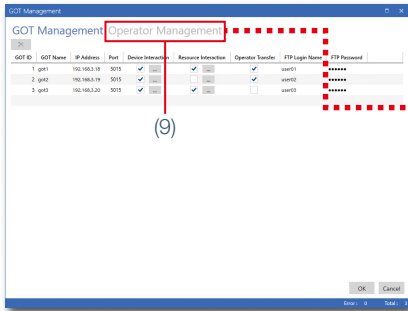


#### 5. Setting operator management information

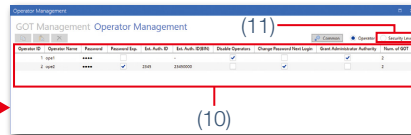
To manage the operator information, click (9) in the GOT Management screen and switch to the Operator Management (Operator) screen to set the following items.

- (10) Manage and edit the operator information: Operator Management (Operator) screen
- (11) Set security level of each operator: Operator Management (Security Level) screen
- (12) Set the common information of all operators: Common screen

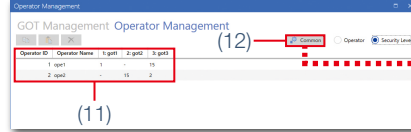
#### GOT Management



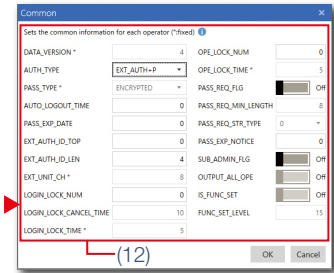
#### Operator Management (Operator)



#### Operator Management (Security Level)



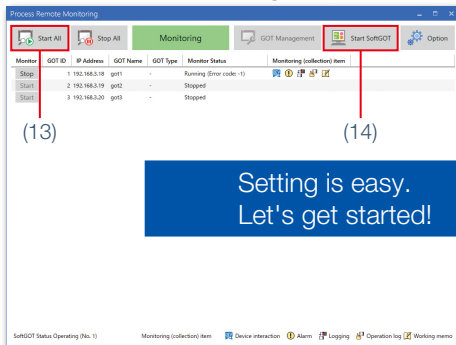
#### Common



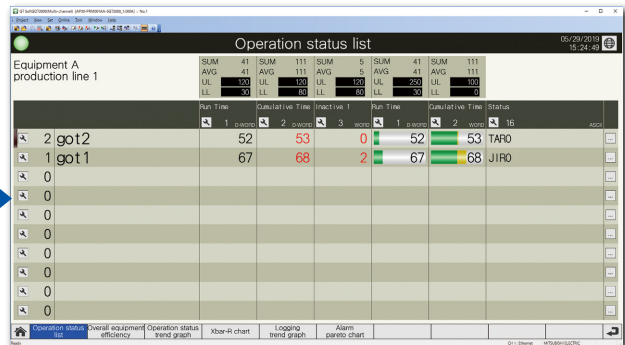
#### 6. Starting monitoring

Go back to the Process Remote Monitoring screen, click (13), and start monitoring of on-site GOTs. When clicking on (14), GT SoftGOT2000 starts and the monitoring status can be checked.

#### Process Remote Monitoring



#### GT SoftGOT2000



## Operating environment of iQ Monozukuri Process Remote Monitoring

Item	Description	
Personal computer hardware specification	<ul style="list-style-type: none"> <li>Personal computer that Microsoft® Windows® runs on.</li> <li>Industrial Computer MELIPC Series (MI5122-VW, MI3321G-W*1, MI3315G-W*1)</li> </ul>	
	CPU	An Intel compatible processor of 2.3 GHz with 2 Core, and i3 or more (3.0 GHz 4 Core or more is recommended)
	Required RAM	8 GB or more
	Storage	A solid-state drive is recommended
	Free storage space	<ul style="list-style-type: none"> <li>During installation: 20 GB or more</li> <li>During execution: 5 GB or more</li> </ul>
	Virtual memory	100 MB or more
	Interface	<ul style="list-style-type: none"> <li>Ethernet port: 1 channel or more (for GOT connection)</li> <li>USB port (USB-A): 1 channel or more (for GT SoftGOT2000 license key (GT27-SGTKEY-U) installation)*1</li> </ul>
OS (Japanese, English, Simplified Chinese)	Windows® 10 (Home, Pro, Enterprise, IoT Enterprise 2016 LTSC) (64-bit edition)	
Browser	<ul style="list-style-type: none"> <li>Google Chrome™ (For Windows) (Version 84 or later)</li> <li>Microsoft Edge® (Google Chrome base) (Version 84 or later)</li> </ul>	
Display	Resolution	1920 × 1080 or higher is recommended
	Display colors	High Color (16-bit) or better
Other software (required)	<ul style="list-style-type: none"> <li>Latest version compatible with .NET Framework 4.7.2 or later*2</li> <li>GT SoftGOT2000 Version 1.217B or later*3*4</li> <li>GT Designer3 (GOT2000) Version 1.220E or later</li> <li>Data Transfer Tool Version 3.45X or later*2</li> </ul>	
Other hardware (optional)	Mouse, keyboard, and DVD-ROM drive that can be used by the operating systems mentioned above	

\*1 A GT SoftGOT2000 license key is not required for the MI3321G-W and MI3315G-W because GT SoftGOT2000 (English version) is preinstalled.

\*2 It is included in the installation DVD-ROM (PROCESS REMOTE MONITORING).

\*3 iQ Monozukuri Process Remote Monitoring and GT SoftGOT2000 Version 1.217B or later run in coordination. Therefore, the operating environment of iQ Monozukuri Process Remote Monitoring has the same restrictions as GT SoftGOT2000. For the operating environment and restrictions of GT SoftGOT2000, please refer to the GT SoftGOT2000 Version1 Operating Manual.

\*4 GT SoftGOT2000 is included in HMI/GOT Screen Design Software GT Works3. To use the software, installation of the license key (GT27-SGTKEY-U) is required.



## Product list

### Application package

Product name	Model	Number of licenses	Number of monitorable GOTs
iQ Monozukuri Process Remote Monitoring*1	AP30-PRM001AA-MA	1 license	5
	AP30-PRM001AA-MB	5 licenses	25
	AP30-PRM001AA-MC	10 licenses	50

\*1 Process Remote Monitoring setting tool, iQ Monozukuri Process Remote Monitoring project file for GT SoftGOT2000, and the Process Remote Monitoring license are included.

### Equipment necessary for system configuration: Products prepared by users

GOT: One of the following is required

Product name				Model		Screen size		
GT27	GT2715	GT2715-XTBA	15" XGA	GT25	GT2508	GT2508-VTBA	8.4" VGA	
		GT2715-XTBD				GT2508-VTBD		
	GT2712	GT2712-STBA	12.1" SVGA			GT2508-VTWA		
		GT2712-STBD				GT2508-VTWD*1		
		GT2712-STWA				GT2508F-VTNA		
		GT2712-STWD*1				GT2508F-VTND		
	GT2710	GT2710-STBA	10.4" SVGA		GT2505	GT2505-VTBD	5.7" VGA	
		GT2710-STBD			GT25 Wide	GT2512	GT2512-WXTBD	12.1" WXGA
		GT2710-VTBA				GT2512-WXTSD		
		GT2710-VTBD				GT2510	GT2510-WXTBD	10.1" WXGA
	GT2710-VTWA	GT2510-WXTSD						
	GT2710-VTWD*1	GT2507	GT2507-WTBD		7" WVGA			
GT2710-VTWD*1	GT2507-WTSD							
GT2708	GT2708-STBA	8.4" SVGA	GT25 Rugged	GT2507T	GT2507T-WTSD	7" WVGA		
	GT2708-STBD		GT25 Handy	GT2506HS	GT2506HS-VTBD	6.5" VGA		
	GT2708-VTBA			GT2505HS	GT2505HS-VTBD	5.7" VGA		
GT2708-VTBD	8.4" VGA	GT23	GT2310	GT2310-VTBA	10.4" VGA			
GT2708-VTBD	8.4" VGA			GT2310-VTBD				
GT2705	GT2705-VTBD			5.7" VGA	GT2308	GT2308-VTBA	8.4" VGA	
GT25	GT2512	GT2512-STBA	12.1" SVGA	GT21 Wide	GT2107	GT2107-WTBD		7" WVGA
		GT2512-STBD			GT2107-WTSD			
		GT2512F-STNA		GT21	GT2104	GT2104-RTBD	4.3" [480 × 272 dots]	
		GT2512F-STND			GT2103	GT2103-PMBD	3.8" [320 × 128 dots]	
	GT2510	GT2510-VTBA	10.4" VGA	GS21	GS2110	GS2110-WTBD-N	10" WVGA	
		GT2510-VTBD			GS2107	GS2107-WTBD-N	7" WVGA	
		GT2510-VTWA						
		GT2510-VTWD*1						
GT2510F-VTNA								
GT2510F-VTND								

\*1 To comply with the ATEX directive and KCs regulation, options (protective sheet and special fitting) are required separately. (Only protective sheet is required for GT2508-VTWD.) Communication units and option units cannot be used. When using these units, GOT does not conform to the standards. For the details, please refer to the Technical Bulletin "GOT2000 Series in Compliance with the ATEX Directive and KCs Certification Requirements" (No. GOT-A-0101).

### Software: Required

Product name	Model	Description
HMI/GOT Screen Design Software MELSOFT GT Works3	SW1DND-GTWK3-E	English version, standard license product*1
License key for GT SoftGOT2000*2	GT27-SGTKEY-U	USB port license key

\*1 Volume license product and additional license product are also available. For details, please contact your local sales office.

\*2 License key for GT SoftGOT2000 is required for each personal computer that uses iQ Monozukuri Process Remote Monitoring.

### Memory card: Required to use resource interaction and operator management

Product name	Model	Specifications
SD memory card	NZ1MEM-2GBSD	SD memory card for GOT, 2 GB
	NZ1MEM-4GBSD	SDHC memory card for GOT, 4 GB
	NZ1MEM-8GBSD	SDHC memory card for GOT, 8 GB
	NZ1MEM-16GBSD	SDHC memory card for GOT, 16 GB

### Other options: Arbitrary

Product name	Model	Number of licenses
VNC Server Function License*1	GT25-VNCSKEY-1	1 license
	GT25-VNCSKEY-5	5 licenses
	GT25-VNCSKEY-10	10 licenses
	GT25-VNCSKEY-20	20 licenses
GOT Mobile Function License*1	GT25-WEBSKEY-1	1 license
	GT25-WEBSKEY-5	5 licenses
	GT25-WEBSKEY-10	10 licenses
	GT25-WEBSKEY-20	20 licenses

\*1 Each GOT requires one license.



Related materials



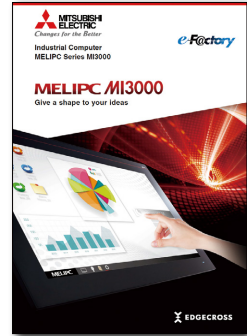
Graphic Operation Terminal  
GOT2000 Series/GOT SIMPLE Series  
L(NA)08270ENG



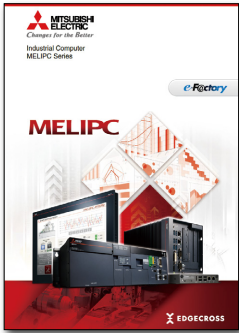
Graphic Operation Terminal  
GOT2000 Compatible  
HMI Software GT SoftGOT2000  
L(NA)08606ENG



Monitoring Control System  
Solutions  
L(NA)08577ENG



Industrial Computer  
MELIPC Series MI3000  
L(NA)08600ENG



Industrial Computer  
MELIPC Series  
L(NA)08578ENG

Mobile App  
**Pocket GOT**



### What is mobile app Pocket GOT?

Pocket GOT is a mobile app for GOT (Graphic Operation Terminal) that runs on Android™.

With functions such as notification of alarms generated by the monitored GOT, the app supports remote monitoring and management on mobile terminals in conjunction with GOT.

#### ■ Monitoring errors occurring in the shop floor by using a mobile terminal

The GOT Mobile function and **the user alarm reception function of Pocket GOT** solve the problem



#### ■ Sharing information of errors and daily inspection results created on a mobile terminal

iQ Monozukuri Process Remote Monitoring and **the working memo function of Pocket GOT** solve the problem



For the details of Pocket GOT, please refer to the following Technical Bulletin and GOT2000 NEWS.

- ➔ Technical Bulletin: How to Use the Pocket GOT Mobile App (No. GOT-A-0168)
- ➔ GOT2000 NEWS Vol.16 Enhanced GOT Remote Interaction Function (L(NA)08808ENG)

# MI3000 with GT SoftGOT2000

Industrial Computer MELIPC Series MI3000  
with GT SoftGOT2000 pre-installed



MELIPC Series MI3000  
Panel computers equipped with  
integrated touch screens

## Useful at various stages of production

### Easy-to-install system

Since GT SoftGOT2000 is pre-installed on MI3000, the iQ Monozukuri Process Remote Monitoring system can be installed quickly.

### Suitable for use in edge computing

Utilization of pre-installed Edgecross Basic Software and SLMP Data Collector makes it easy to process big data of manufacturing and realizes coordination with IT systems.

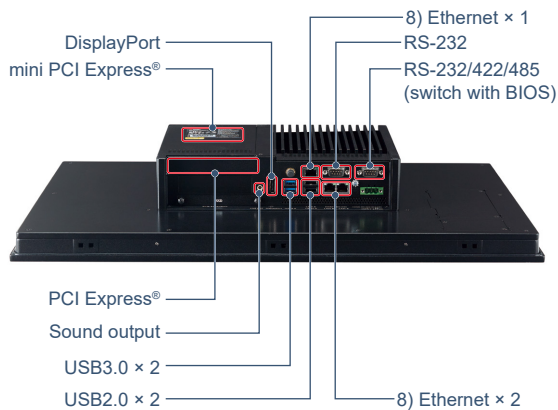
### Beautiful, stunning, large screen monitor

Large 21.5-inch widescreen display and 15-inch display models are available. Colorful images are displayed with 16.77 million colors.

### Windows® OS enables wider usage

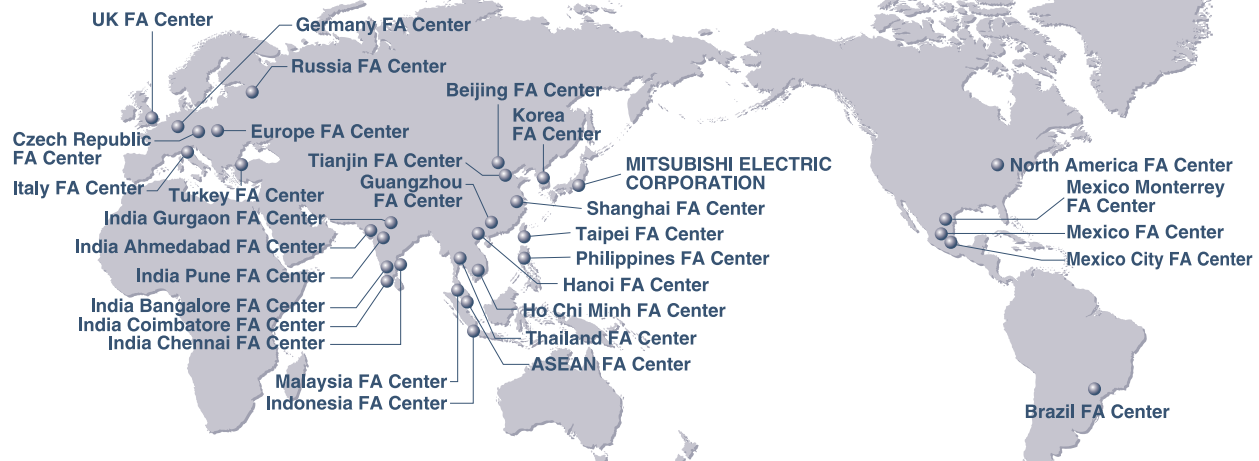
Not only familiar Windows® applications, but also user-created applications can be used to configure systems that meet requirements of individual customers.

## System expansion according to needs



Item	MI3315G-W	MI3321G-W
OS	Windows® 10 IoT Enterprise 2016 LTSP (64 bit)	
MPU	Intel® Core™ i3-6100U 2.30 GHz (Dual Core)	
Screen size	15"	21.5" widescreen
Resolution	XGA 1024 × 768 dots	Full HD 1920 × 1080 dots
Display color	16.77 million	
Touch panel type	PCAP (Projected Capacitive)	
Main memory	8 GB	
Internal storage	64 GB	

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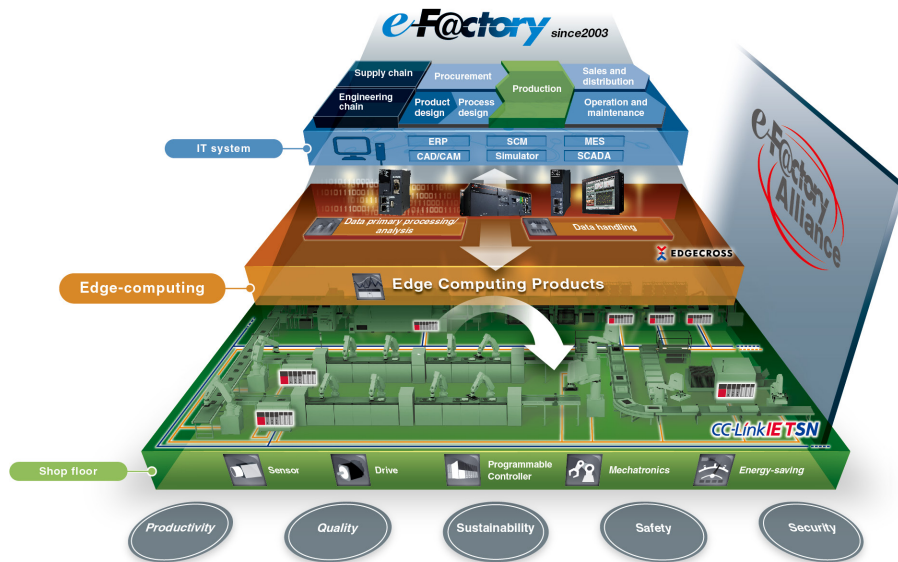
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# FUTURE MANUFACTURING



The Future of Manufacturing as envisioned by Mitsubishi Electric, e-F@ctory: “Manufacturing” that evolves in response to environmental changes in an IoT enabled world.

Established In 2003, e-F@ctory created a Kaizen<sup>#1</sup> automation methodology to help optimize and manage the increasingly complex business of “manufacturing”. Continuously evolving itself, it also utilizes the expanded reach of IT, which has brought “cyber world” benefits of analysis, simulation and virtual engineering, and yet has also placed greater demands on the “physical” world for increased data sensing, collection and communication. The continued success of e-F@ctory comes from understanding that each manufacturer has individual needs and investment plans but must still deliver; “Reduced management costs” (TCO); production flexibility to make a multitude of product in varying quantities; continuously enhanced quality. In short e-F@ctory’s goal is to deliver operational performance that is “a step ahead of the times”, while enabling manufacturing to evolve in

response to its environment. To do this it is supported by three key elements:

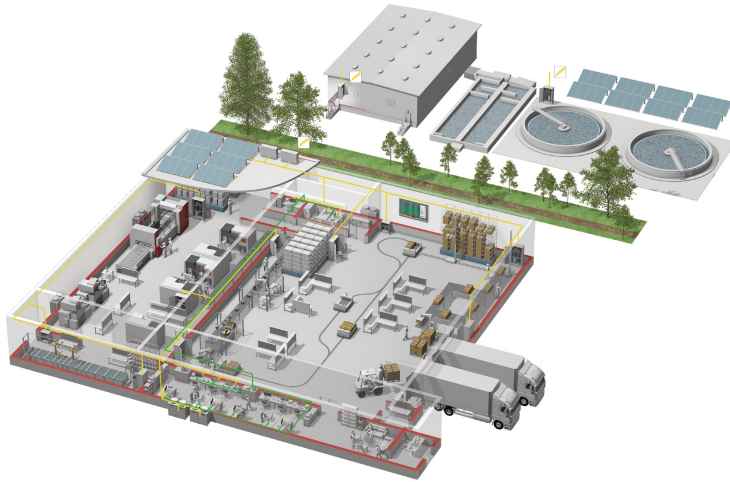
- The e-F@ctory Alliance Partners; who bring a wide range of software, devices, and system integration skills that enable the creation of the optimal e-F@ctory architecture.
- Advanced communication; utilizing open network technology like CC-Link IE, and communication middleware such as OPC, to open the door to device data, including legacy systems, while supporting high speed extraction.
- Platform thinking; to reduce the number of complex interfaces making it easier to bring together Robotics, Motion, Open programming languages (C language), PACs etc. strengthening the field of control,

yet operating on industrial strength hardware.



Kaizen<sup>#1</sup> = continuous improvement  
TCO = Total Cost of Ownership

# YOUR SOLUTION PARTNER



Mitsubishi Electric offers a wide range of automation equipment from PLCs and HMIs to CNC and EDM machines.

## A NAME TO TRUST

Since its beginnings in 1870, some 45 companies use the Mitsubishi name, covering a spectrum of finance, commerce and industry.

The Mitsubishi brand name is recognized around the world as a symbol of premium quality.

Mitsubishi Electric Corporation, established in 1921, is active in space development, transportation, semi-conductors, energy systems, communications and information processing, audio visual equipment and home electronics, building and energy management and automation systems, and has 183 factories, laboratories and offices worldwide in over 140 countries.

This is why you can rely on Mitsubishi Electric automation solution - because we know first hand about the need for reliable, efficient, easy-to-use automation and control in our own factories.

As one of the world's leading companies with a global turnover of over 4 trillion Yen (over \$40 billion), employing over 146,000 people, Mitsubishi Electric has the resource and the commitment to deliver the ultimate in service and support as well as the best products.



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Visualization: HMIs



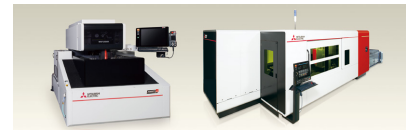
Edge Computing Products



Numerical Control (NC)



Collaborative and Industrial Robots



Processing machines: EDM, Lasers

\* Not all products are available in all countries.

# Global Partner. Local Friend.

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The release date varies depending on the product and your region. For details, please contact your local sales office.

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