

Manpower-
Saving



Reduced **93%** Time Investigating The Cause of Equipment Trouble with The System Recorder!

Company A was unable to reproduce the error at the time of the equipment trouble in the automated assembly process, which is producing a large variety of products in small quantities, and it took time to investigate the cause. By introducing the 'system recorder' we succeeded in reducing the time needed to identify the cause by 93% and improving the OEE (Overall Equipment Effectiveness).

What's the secret?

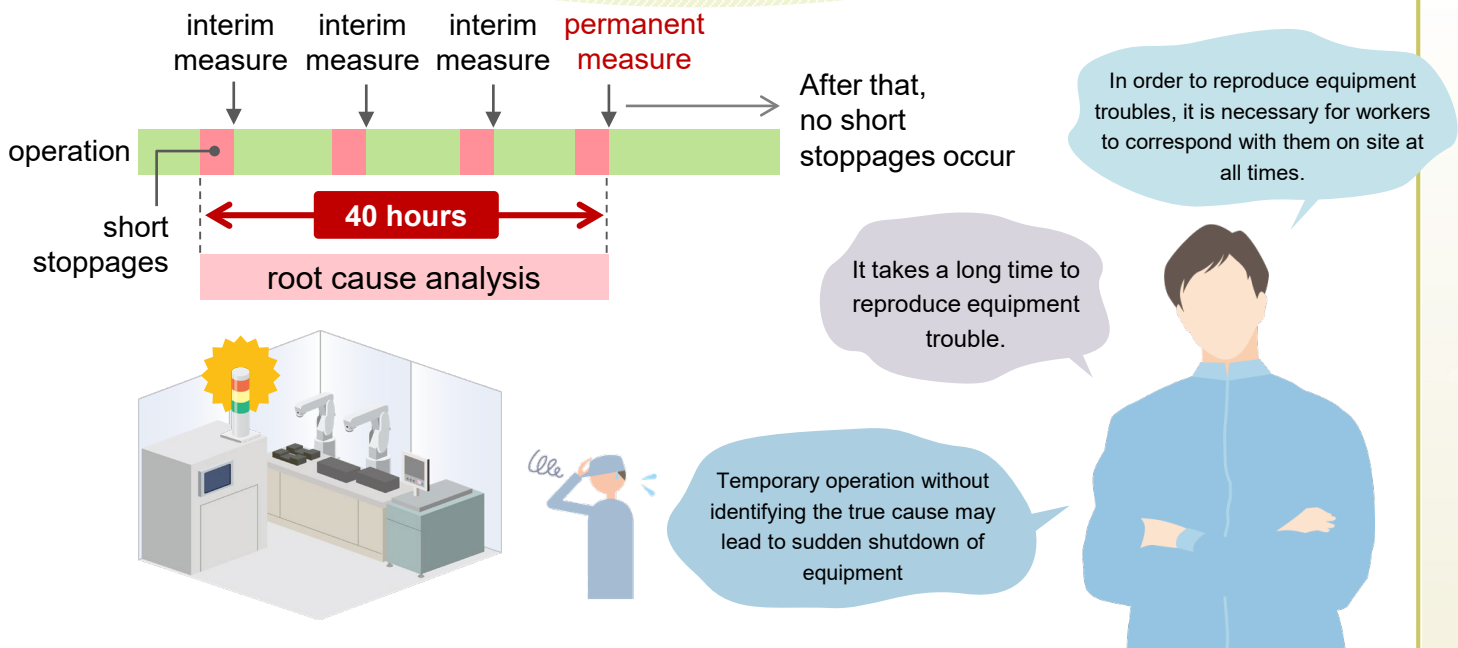
See inside
for details!



Customer's Concern

Even if an equipment trouble occurs during production, it is difficult to identify the cause only by confirming the situation afterwards.

It was also difficult to reproduce the state of equipment trouble, and as the machine was restarted without finding the true root cause, short stoppages reoccurred, resulting in large lost costs.



What has improved

Data recorded before and after equipment trouble by the introduction of 'system recorder'.

By making it easier to reproduce equipment trouble conditions and identify the cause of equipment troubles via recorded data, the time required to determine the cause of equipment stoppage errors decreased from 40 hours per trouble to 3 hours per trouble, about 93%.



*"Time to investigate the cause" is the time it takes to identify the true cause, during which time temporary measures have been taken and the equipment is in operation.



Point

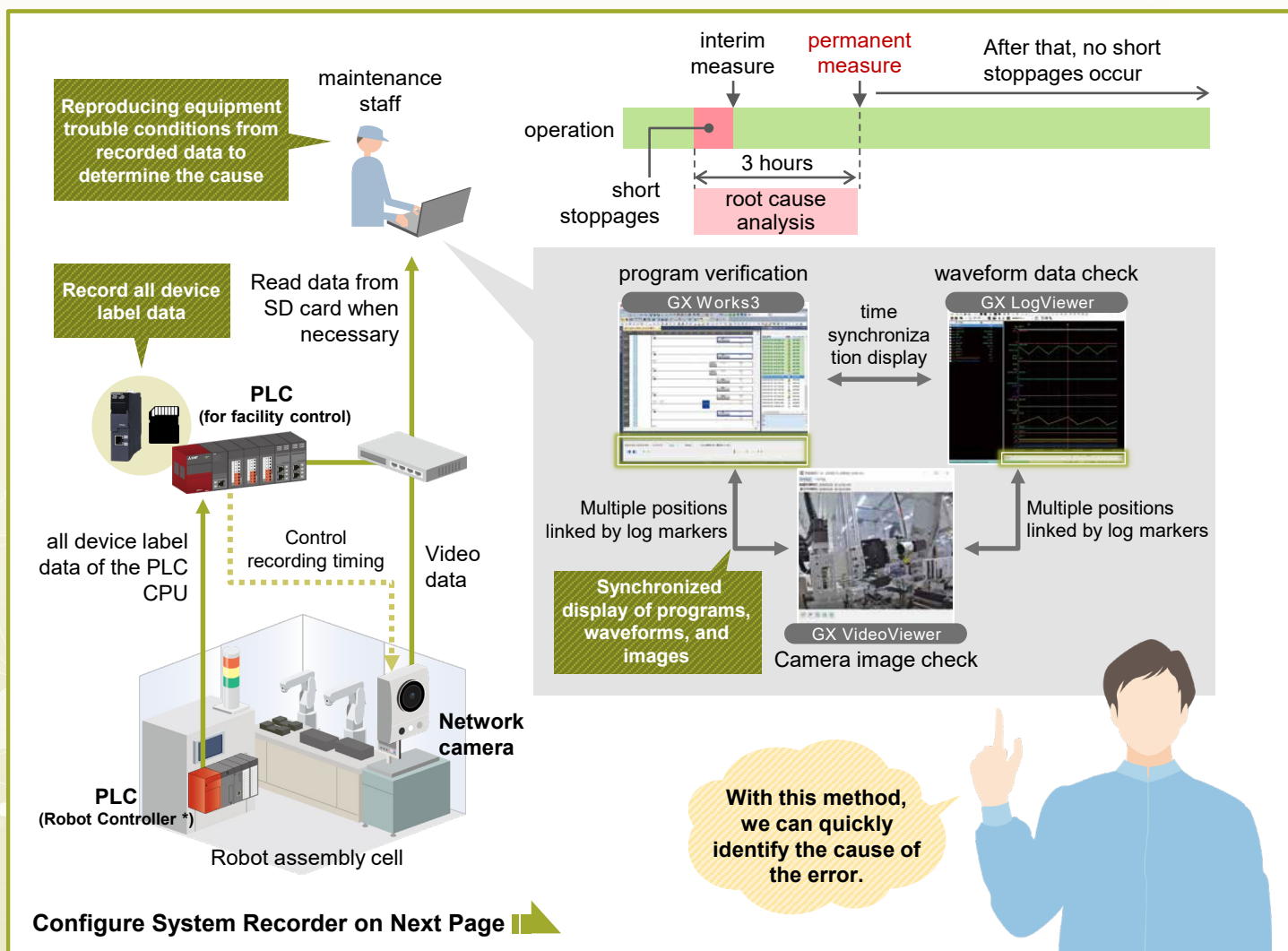
1

Record all device label data and images before and after equipment trouble without overlooking the cause of abnormality.

Point

2

Synchronized display of waveforms, programs, and images makes it easy to reproduce equipment troubles and reduces the time needed to determine the cause.



*Multi-CPU configuration with iQ-Platform compatible PLC, equipped with robot CPU module

Return on investment (ROI)

Cost

Approx.
¥700,000 / Equipment
 (system construction cost included)

Construction period

3 days

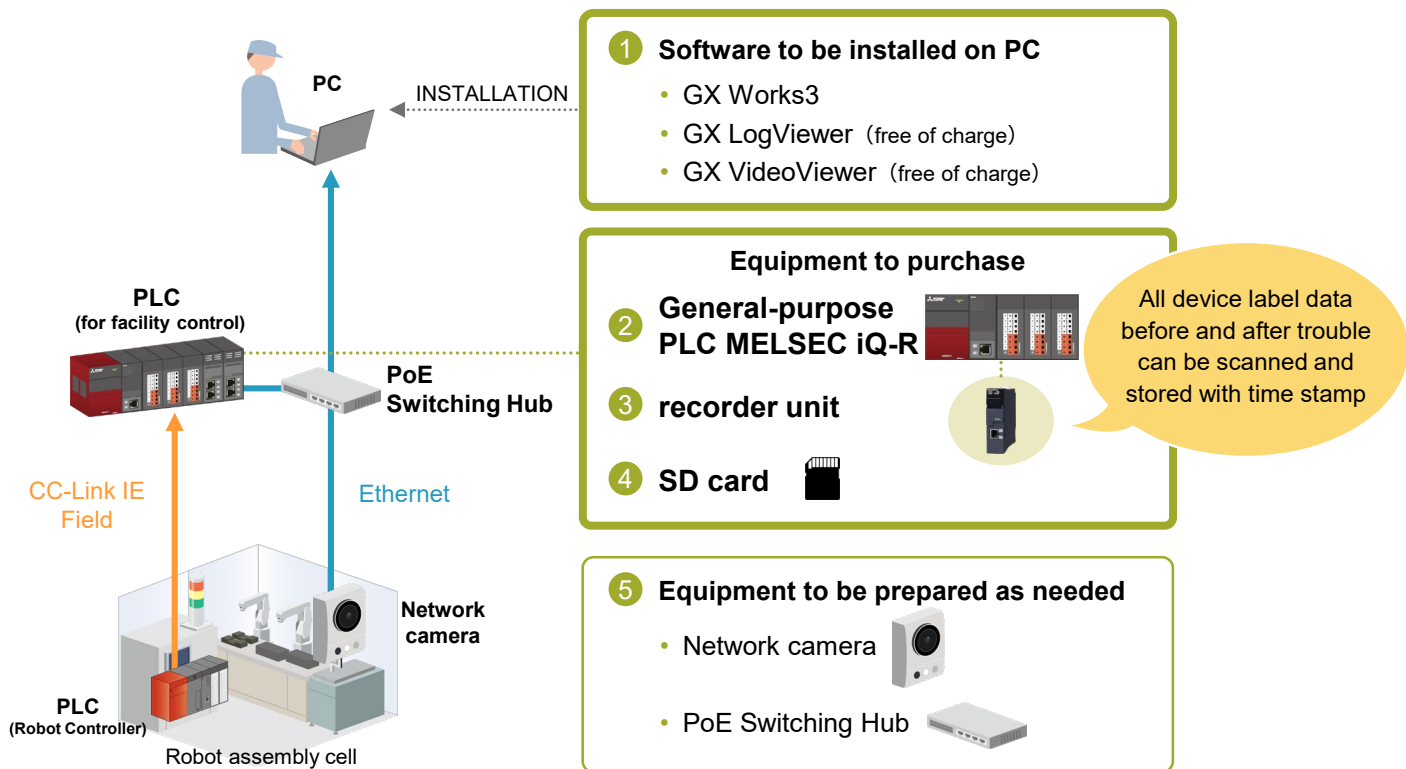
Payout period

Approximately
2 months

*Interpretation of payout period Each trouble can save 40 hours and -3 hours = 37 hours of troubleshooting time.
 In the case of a 5,000 yen wage rate, the cost of saving 1 trouble is 5,000 yen × 37 hours = 185,000 yen.
 If the construction cost is 700,000 yen, and 2 troubles per month are solved, the collection period is 700,000 yen ÷ (¥185,000 × 2) = 2 months.

system recorder overview

The system introduced in this application example consists of the **MELSEC iQ-R** general-purpose PLC. By using the **recorder unit**, equipment trouble conditions can be reproduced using the entire data recorded, and the cause can be identified in a short time.



Equipment Configuration (example)

Please separately prepare cables for connection to devices other than the major devices listed below.

Type	Model	Overview	Standard price (yen)
1 Software to be installed on PC			
GX Works3	SW1DND-GXW3-J	Ver. 1.070 Y or later	150,000
GX LogViewer	-	Ver.1.112R and later	free of charge
GX VideoViewer	-	Playback tool for recorded camera image	free of charge
2 General purpose PLC MELSEC iQ-R			
Power Supply	R61P	Input: 100 ~ 240 VAC, Output: 5 VDC, 6.5 A	20,000
Base Unit	R38B	8 slots	30,000
CPU Module	R04CPU	I/O points: 4096 points Program capacity: 40 K steps	120,000
Camera recording package	-	Sample FB for controlling recording timing and procedure manual	free of charge
3 recorder unit	RD81RC96	All devices/labels, collecting event history	90,000
4 SD Memory Card	NZ1MEM-4GBSD	Attached to the recorder unit. (4GB)	50,000
5 Equipment to be prepared as needed			
Network camera (Third party)	-	Check Technical News (FA-A-0306-A) for supported cameras.	-
PoE Switching Hub (Third party)	-		-

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Safety precautions

To use the products listed in this publication properly, be sure to read the relevant manuals before use.