

PEGASUS Smart Watch system

TOMAS TECH CO., LTD.

Introducing Smart Watch system

What is the Smart Watch system?

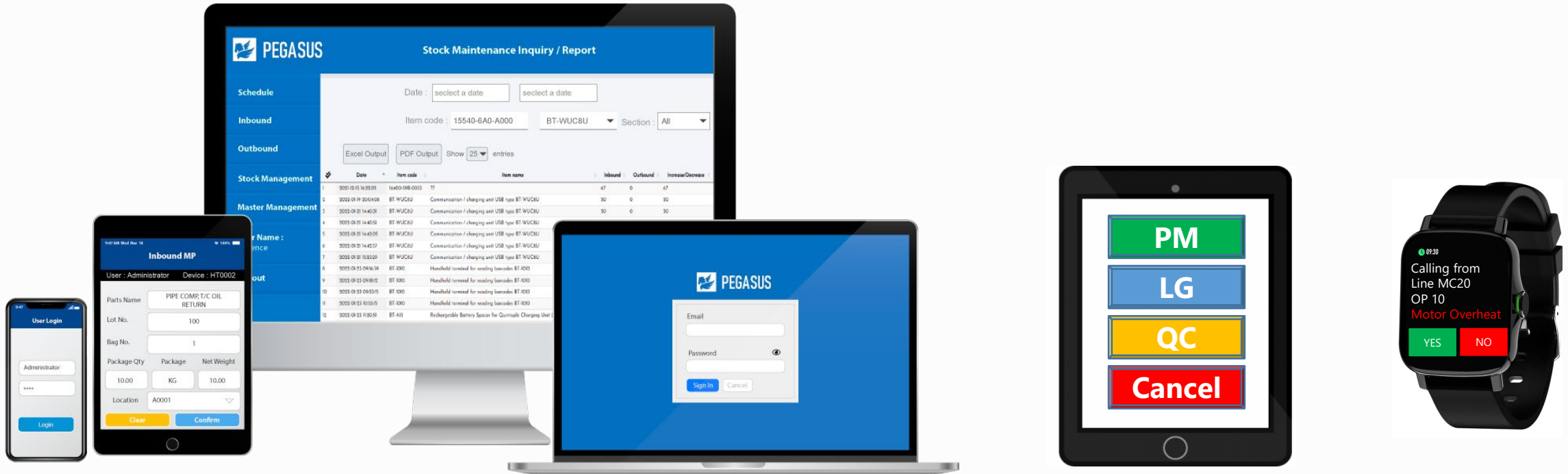
The Smart Watch system is one of the PEGASUS series modules.

By linking the server application and the Smart Watch device, it **can be used as a "Call system" for workers etc. from the site.**

In addition, drivers such as **forklifts can issue instructions for transportation work by wearing Smart Watch.**

Since the call operation uses a touch display, it is possible to respond flexibly, such as changing the call destination.

Various devices such as tablets, smartphones, and smartwatches can be used as calling terminals.



Benefits of the Smart Watch system

By using the Smart Watch system, it is possible to solve various problems and obtain results. It plays a very important role in realizing digitization.

Poor operational efficiency

When there is equipment trouble, the equipment alarm sounds but no one notices it, and even when the person in charge of the site tries to contact the PM, the downtime is lengthened.

- I don't notice the equipment tower lights.
- I can't get in touch with the person in charge of the facility.
- The fork list cannot be called.



Management cost

In order to deal with a problem, multiple workers are working at the same time. Efficient use of forklifts is not possible.

- Reduction of redundant personnel
- Efficient allocation of forklifts



Business as a black box

There is no record of the call because the call is made using a personal mobile phone, walkie-talkie, etc.

- The frequency and timing of calls is unknown.
- Response time after calling is unknown.
- The load factor differs for each worker.



Improve operational efficiency

By digitizing, it is possible to reduce management man-hours and achieve efficient "calling".

- Workers wearing Smart Watches can be called from devices (PCs, smartphones, tablets).
- In the event of an equipment error, a notification can be sent to the Smart watch along with the details of the error, so you can head to the site with the correct person in charge and preparations.

Reduce administration costs

Digitization can reduce "costs" by reducing management man-hours.

- After calling with Smart watch, you can notify the other person in charge of the person in charge.
- - JIT operations are possible because the forklift driver can be given transportation instructions.
- The person in charge can be notified immediately after an equipment error.

Visualization of the entire business

Digitization makes the business situation visible.

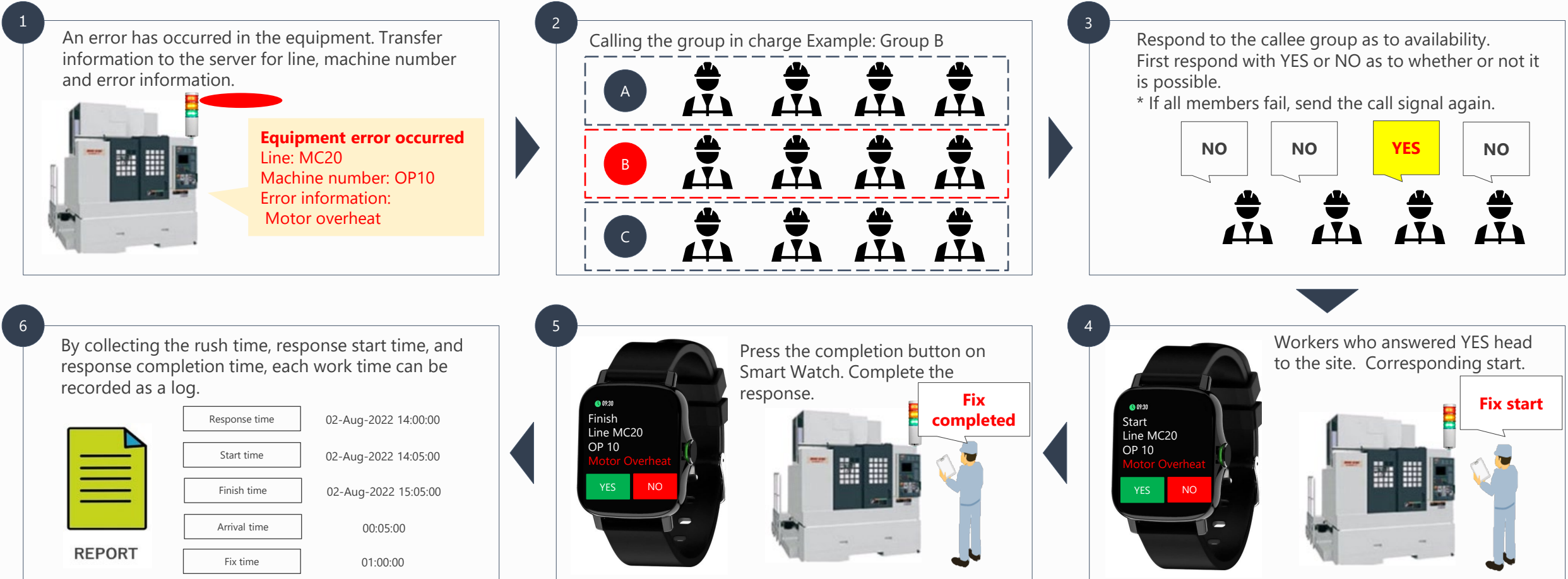
- The call status can be monitored in real time.
- Since all call records are logged, it is possible to aggregate by call frequency (by equipment, worker, line).
- It is possible to record the response time when a problem occurs.
- It is possible to grasp the load factor distribution for each worker when dealing with trouble.

Function of Smart Watch system

Smart Watch system for calling Worker

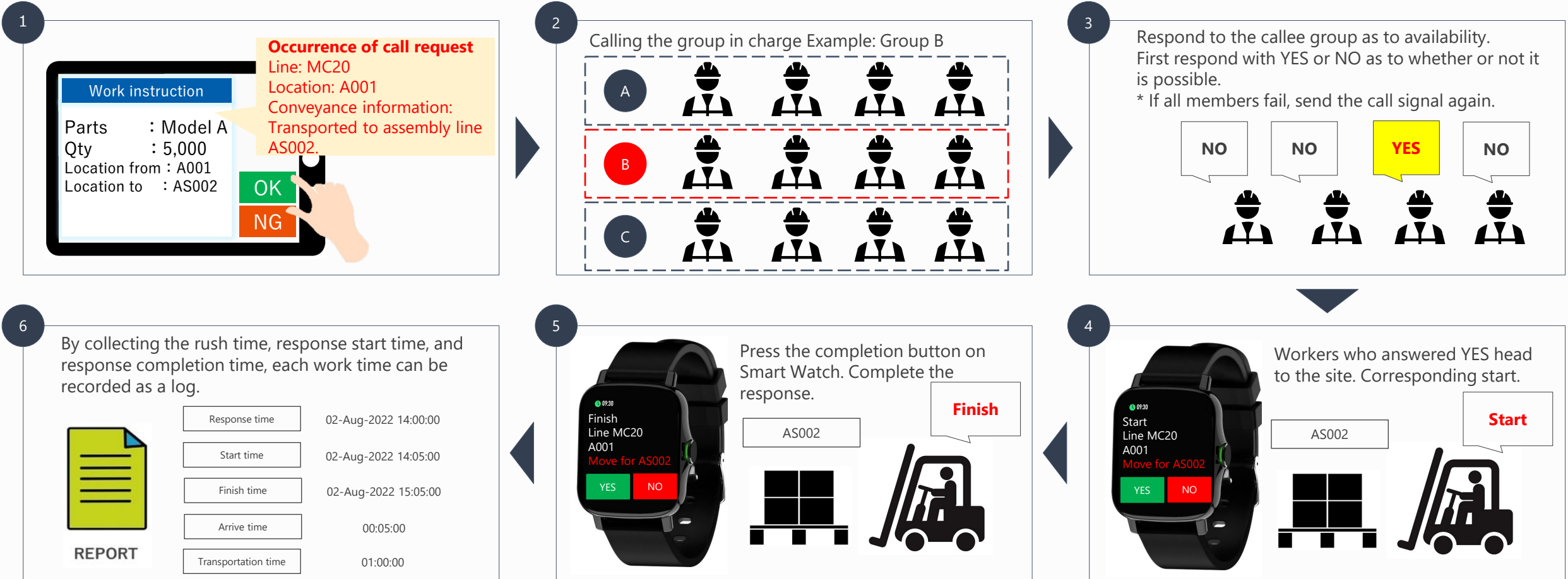
This is a system configuration diagram assuming a worker call in the smart watch system.

It is possible to catch error signals and error details from equipment and send out call signals to the necessary teams and groups according to the error details.



Smart Watch system for calling Forklift

This is a system configuration diagram assuming that a forklift operator is called by the Smart watch system. It is possible to catch the signal from the caller and send the call signal to the necessary team or group according to the transport location and the transported item.



Smart Watch system function list

Supports multiple devices

It is compatible with multiple terminals such as handy terminals, smartphones, tablets, and smart watches.

*Standard-Customize

Cloud environment operation

We support various cloud environments such as AMAZON AWS and Google Cloud Platform.

*Standard-Customize

Simultaneous call function

It can make a call to all groups at once.

*Standard

Group call function

It is possible to select and call members for each group.

*Standard

Report issuance function

Reports can be output based on the data accumulated on the server. It is possible to analyze data from various perspectives, such as response time and rush time.

*Standard-Customize

Camera shooting function

Images taken with a smartphone or tablet can be saved.

*Standard-Customize

Status management

By managing the status, it can grasp the response status in real time.

*Standard

Coordination with other sensors

By using a sensor terminal such as a temperature sensor, it is possible to build a mechanism to detect and notify errors that exceed specified values.

*Standard-Customize

Smart Watch system Function

Status management

By managing the status, it can grasp the response status in real time.

PC screen

#	Invoice date	Invoice no	IV type	Order no	Customer code	Customer name	Group	Route	Type	Status	Short ship	Photo
1	01/09/21	192273	AR INV	192818	LC000029		F	F12	IV Soft	COMPLETED 21 Mar 2022 18:35:26	SHORT SHIP 21 Mar 2022 18:35:26	6
3	01/09/21	192315	AR INV	192860	LC000046		B	B01	IV Soft	UNDELIVERED 03 Apr 2022 12:02:49	-	1
5	01/09/21	5800	AR Credit	5800	LC000059		-	-	IV Soft	COMPLETED 06 Feb 2022 09:12:15	-	-
7	01/09/21	192357	AR INV	192902	LC000061		B	B22	IV Soft	UNDELIVERED 21 Feb 2022 19:21:02	SHORT SHIP 21 Feb 2022 19:21:02	-
9	01/09/21	192294	AR INV	192839	LC000067		C	C15	IV Soft	COMPLETED 08 Mar 2022 10:08:12	-	1
11	01/09/21	192346	AR INV	192891	LC000110		G	GO4	IV Soft	COMPLETED 25 Feb 2022 10:53:40	-	-
13	01/09/21	192326	AR INV	192871	LC000128		C	C02	IV Soft	COMPLETED 10 Feb 2022 18:26:18	-	-
15	01/09/21	192365	AR INV	192910	LC000131		A	A01	IV Soft	COMPLETED 10 Feb 2022 18:25:46	-	-
17	01/09/21	192201	AR INV	192746	LC000140		D	D10	IV Soft	UNDELIVERED 01 Feb 2022 09:07:27	-	-
19	01/09/21	192340	AR INV	192885	LC000181		G	GO9	IV Soft	COMPLETED 25 Feb 2022 10:44:59	-	-

Case study of introduction effect

Introduction of case study

Renewal of forklift premises transportation work, which used to be analog, with the Smart Watch system

Regarding the forklift premises transportation work, since instructions were mainly given by walkie-talkie, many man-hours were spent due to omission of work instructions, incorrect instructions, and unnecessary waiting. By realizing digitization with smart watches, we were able to achieve a significant reduction in man-hours.

Issue

- There was confusion at the transport site due to worker omissions and mistakes.
- Operating rate was low due to unnecessary waiting time for forklifts.
- The daily transportation status became a black box, and the progress could not be grasped.

Solution

- We made it possible to realize all forklift transport operations within the system.
- By eliminating the transceiver, all data has been digitized.
- When there is progress for each transfer, the progress is managed by changing the status.

Effect

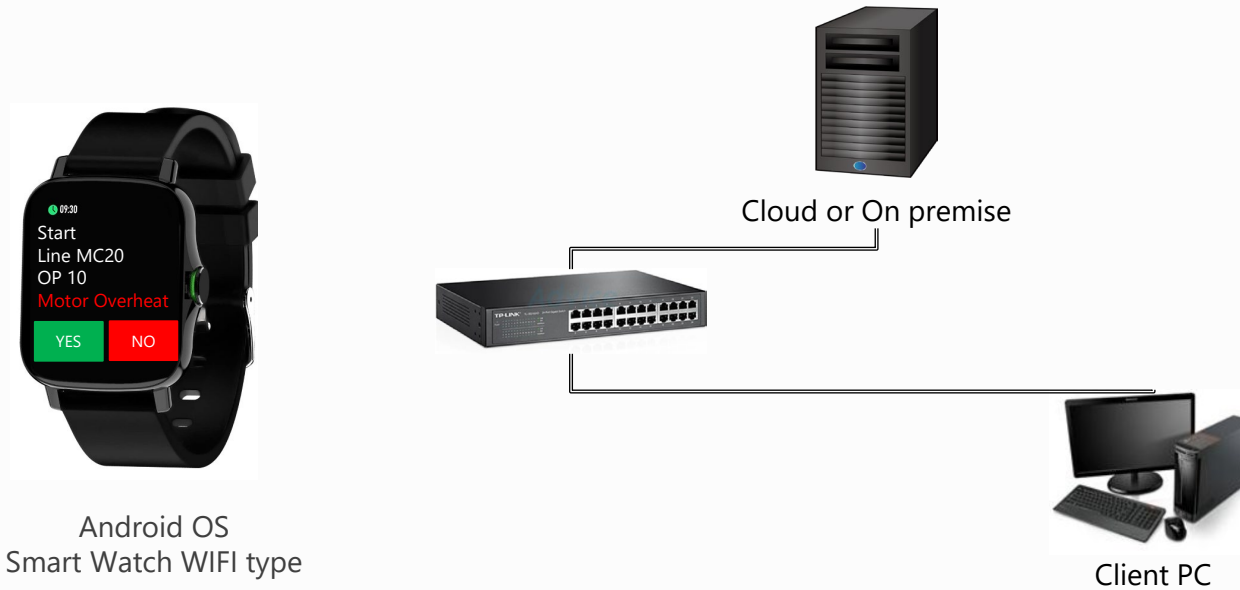
- **By using the system, we were able to standardize work, which made it possible to share work among employees.**
- **By digitizing the work instructions, human errors could be reduced, and man-hours could be reduced.**
- **Since the status can be monitored in real time, the transportation status can be visualized.**



Country	Singapore
Scale	51-500 people
Industry	Food distribution company
Purpose / Effect	Work man-hour reduction

Appendix

System configuration



No	Item	Recommended specifications and models
1	On premise or Cloud Server for AWS, Google	OS: Windows Server 2019R2 Standard / Memory: 8GB or more / Hard disk: Free space 50GB or more / Display: Resolution 1366 x 768 or more / Browser: Google Chrome (latest version) *Server machine with recommended model specifications or higher
2	Client PC	OS: Windows 10 / Memory: 4GB or more / Display: Resolution 1366 x 768 or more / Browser: Google Chrome (latest version) *PC machine with recommended model specifications or higher
3	Smart watch WIFI type	Android OS type with WIFI

Maintenance

#	Software maintenance		Standard / Option
1	Operation support / recovery support	We will open a support window and provide operational support by phone and email, and recovery support in the event of a software failure.	Standard*1
2	Upgraded software provided	We will provide an upgraded version when the software functions are improved. We provide the latest software compatible with the latest OS free of charge. It can reduce your life cycle cost by eliminating the need to purchase software when updating the server.	Standard*1
#	Software re-setup		
1	Software re-setup	If it need to re-set up the software after repairing a server failure Perform restoration work. (Repair of inventory data is not included in software re-setup)	Standard*1

* 1) Service is provided at the system purchase fee in the first year of the contract. Contract on a yearly basis from the second year onwards

Schedule | Go live schedule

1. Current situation analysis	We will inspection the current business and the system being used, confirm the requirements, and analyze the customer's current situation. And will make an estimate based on customer requirements.	Within sales
2. Requirement definition	Detailed requirement definition will be performed based on the analysis result. Check the detailed requirements so that the system can be implemented in a manner that matches actual operation.	1-4 weeks
3. Design	While a process meeting, we will perform basic design, detailed design, and preparation for transfer based on the requirements.	1-3 weeks
4. Development / Test	Perform the test that fits with customer work and start the test. We will consider a transfer every method for let smooth working process.	1-20 weeks
5. Introduction support	We will have an operation training to introduce the system that is currently being used or work in parallel with the work, and after confirming the usability, etc., And the final acceptance will be continue to process.	1 week
6. Production operation	When start operation. We will provide a long-term support for safe and comfortable system by providing operation maintenance support, information provision, and revision edition.	Min : 4 weeks Max : 28 weeks