TOMAS TECH

Process Management System Pegasus

Presentation by TOMAS TECH CO., LTD.

AGENDA

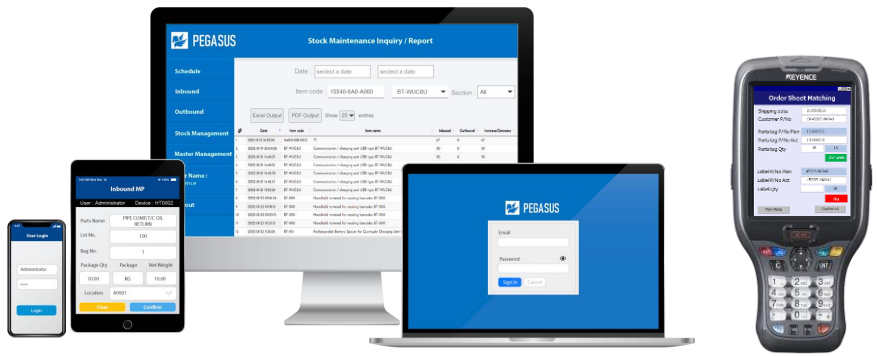
1. Overview of the Process Management System
2. Details of the Process Management System
3. Case Studies
4. Appendix

Overview of the Process Management System

Introduction to PEGASUS

The PEGASUS Production Management System is **an application designed to streamline complex management tasks.**
In recent years, the manufacturing and logistics industries have faced increasing demands to adapt to diverse market needs through **small-batch, high-variety production and shortened lead times.** Many factories handle both high-volume production and small-lot orders simultaneously, making management tasks even more complex and **requiring meticulous scheduling and inventory control.**
PEGASUS was developed to improve operational performance in manufacturing and logistics settings.
By utilizing Handy Terminal, it digitalizes the previously cumbersome management tasks that were often handled through whiteboards and Excel, providing **complete visibility and significantly reducing costs.**

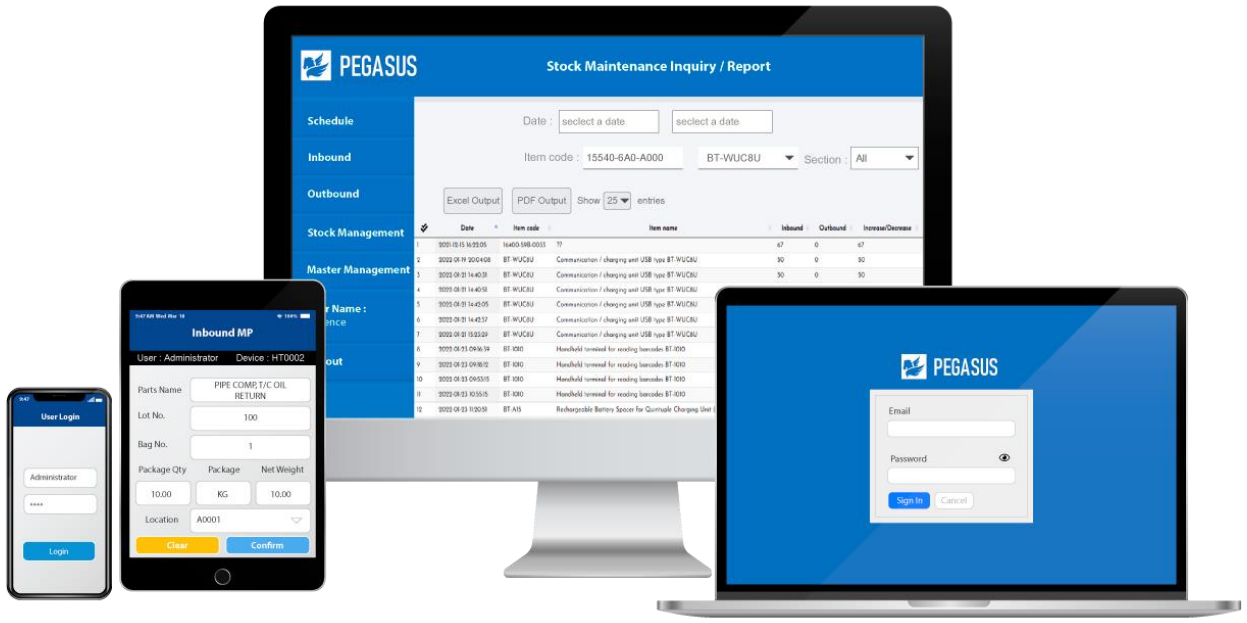
PEGASUS



- Stock Management
- Process Management
- Sales Order Management
- Fixed assets management
- Stocktaking system
- POKA Inspection system
- Traceability system
- Unlock system
- Operation monitoring system
- Weight checker system
- Label printing system
- RFID system

Overview of the Process Management System

The PEGASUS Process Management System is designed to achieve **effective process management in the manufacturing industry.**
It enables seamless management **from material input through to stock management of work-in-progress products and finished products.**
At each stage of the process, it collects information such as part numbers, **process names, the number of good products, the number of defective products, and the start and end times of processing.**
The performance data that was previously recorded manually on-site and aggregated in the office **can now be collected in real time.**



Benefits of the Process Management System

1

Inefficient Operations

Managing processes with paper and Excel consumes considerable time in “collection”, “organization”, and “analyzation” of information.

2

Management Costs

Analog management generates unnecessary "costs" due to inefficiencies and potential errors.

3

Black Box Operations

Reliance on individuals and lack of digital management obscure process status and work visibility.

Improvement of Operational Efficiency

Digitizing processes reduces workload and enables efficient information "collection," "organization," and "analysis."

Reduction of Management Costs

Implementing manufacturing BOM expansions through the system streamlines operations and reduces losses from rework.

Visibility of Overall Operations

Real-time progress monitoring enables effective product traceability management.

Details of the Process Management System

Introduction to Process Management System Functions

Order Management
Order Reception Management

Order Management
Production results management

Order Management
Stock management

Order reception

Production results data

Stock data

01 02 **Link with order receipt and manage the BOM**

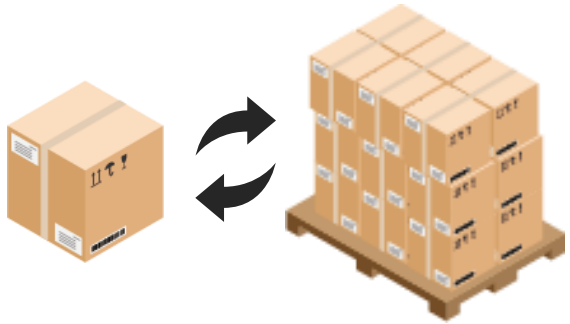
03 **Access the material management system and issue material dispensing orders**

04 05 **Input production results and generate product labels**

06 **Control work-in-progress/ finished products, and manage traceability**

Work-in-Progress A(N) > Material B(N-1)

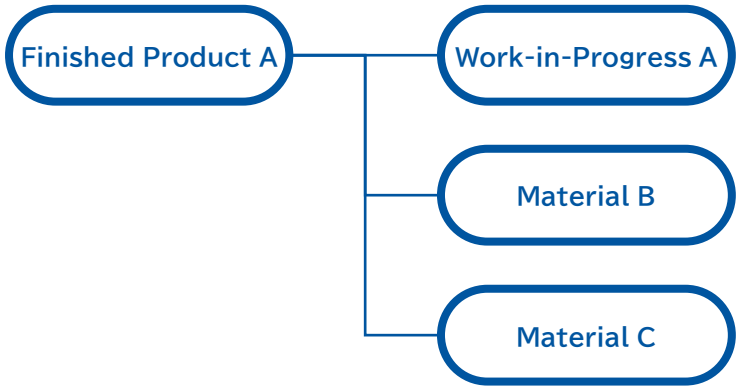
Lot 2024/08/29 Lot 2024/08/30



Introduction to Process Management System Functions

01 Creating Dispensing Instructions for the Next Process from Order Information

Based on the order's finished product code and quantity, required materials are calculated and compared to current stock quantities, confirming if stock meets order requirements. Manufacturing instructions can also be entered per process. If production load considerations are desired, an additional scheduling option is required.



02 Manufacturing Lead Time Calculation

Based on manufacturing instructions, a production schedule for each work-in-progress and finished product is created, with lead time input in days (e.g., N-1) and calendar considerations. This generates a schedule for material and work-in-progress issuance, with instructions issued on N-1 for controlled picking. BOM management also supports material distribution at both material and work-in-progress levels, with dispensing conducted at the material level.

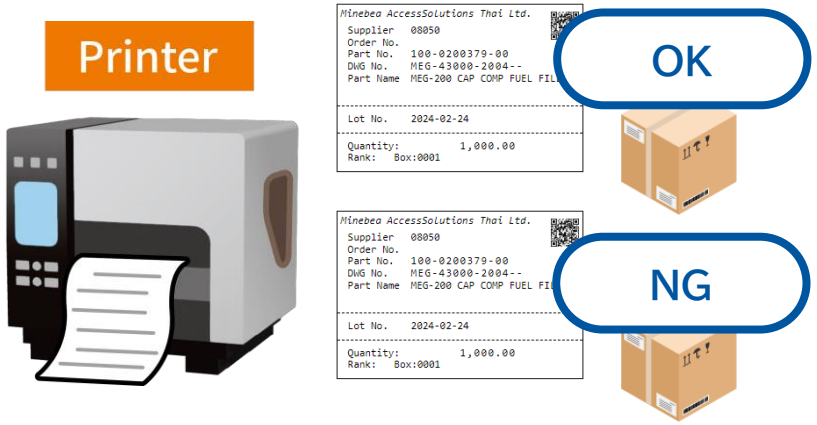
03 First-In, First-Out (FIFO) Dispensing

Materials and work-in-progress products will be allocated based on the youngest lot number first (First-In, First-Out method). If there is a shortage of materials or work-in-progress products against the planned quantity, the system will display the plans that are experiencing shortages. Allocation processing will be performed for plans that have completed the planned input.

Introduction to Process Management System Functions

04 Label Issuance for Work-in-Progress and Finished Products

After dispensing materials and work-in-progress, production proceeds with system verification to ensure output meets the planned quantity, preventing under- or over-production. Upon completion, labels are printed and affixed to work-in-progress or finished products before transport to the next stage. Two labels will be printed: one for good products and one for defective products.

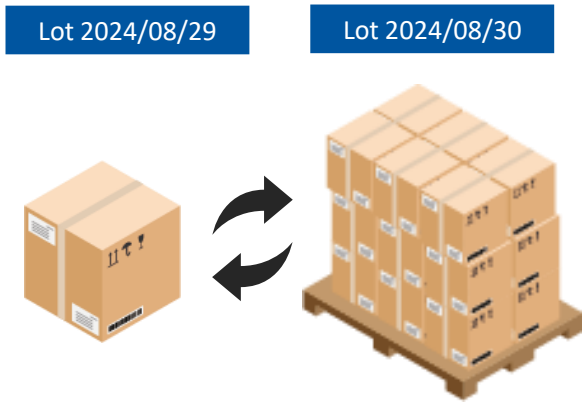


05 Real-Time Collection of Good and Defective Product Counts, Start and End Time of Production

After production, counts of good and defective products are entered into the Handy Terminal, updating the server in real-time for accurate inventory management. Defective product causes can also be recorded. By logging start and end times, actual working hours for each production order can be measured, enabling operational analysis and improvement by comparing actual and standard times.

06 Management of Work-in-Progress /Finished Products for Stock Information and Traceability Management

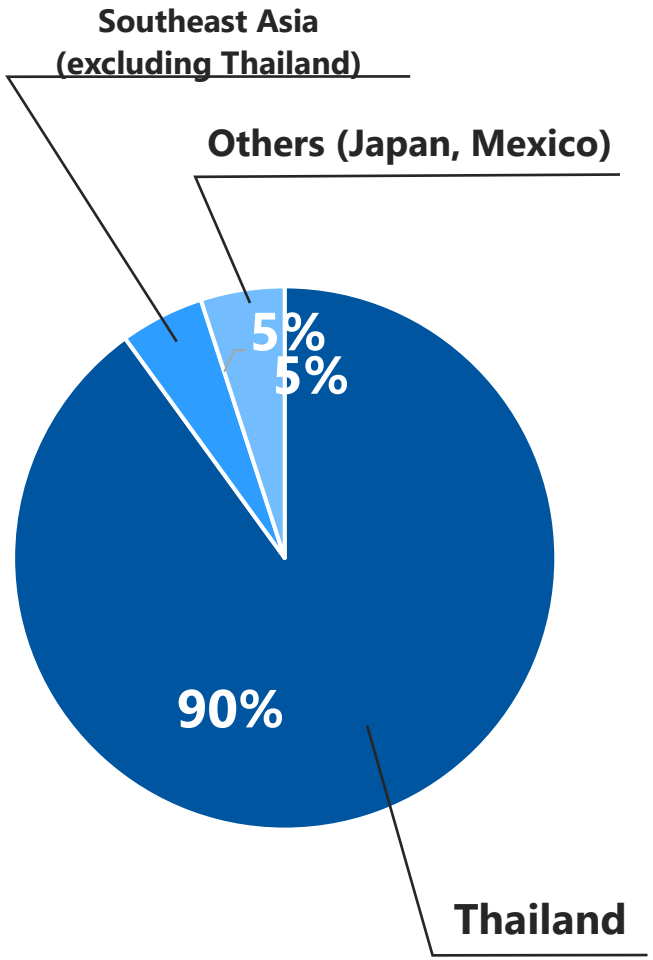
Stock management for work-in-progress and finished products enables tracking of quantities at each stage. Location management provides real-time location and quantity data for all items, supporting effective traceability between materials, work-in-progress, and finished products.



Implementation Results

Implementation Results of PEGASUS

Implementing Countries



Implementing Companies

(Production Management, Stock Management, Process Management, Order Management, Poka-Yoke)

A.N.I. LOGISTICS, LTD.
ACME INDUSTRY CO.,LTD.
ADVICS Manufacturing(Thailand)Co.,Ltd.
AIKAI LOGISTICS (THAILAND) CO., LTD
Asian Stanley. International Limited.
Asteer (Thailand) Co., Ltd.
ASUTO GLOBAL LOGISTICS(Thailand) CO.LTD.
ATA Casting Technology Co., Ltd.
BOLLORE LOGISTICS (THAILAND) CO.,LTD.
CHI CHANG Computer (Thailand) Co.,Ltd.
Ebisu Foods Co Ltd.
FEDERAL-MOGUL SERINA CO.,LTD.
HCAMB (CAMBODIA) CO., LTD.
Hitachi Astemo Chonburi Manufacturing ltd.
Isuzu Engine Manufacturing Co.,(Thailand) Ltd.
Isuzu Logistics Asia (Thailand) Co.,Ltd.
JYOHO SYSTEMS S.A. DE C.V.
Kaneka (Thailand) Co., Ltd.
KIMBALL ELECTRONICS (THAILAND) LTD.
KTX PRECISION (THAILAND) CO., LTD.
LF LOGISTICS (THAILAND) LIMITED
Mitsubishi Heavy Industries-Mahajak Air Comditioners Co., Ltd.
Logistics Alliance (Thailand) CO.,LTD.
LUMEN (THAILAND) COMPANY LIMITED.
MAX(THAILAND)CO.,LTD.
MEIJI (THAILAND) CO.,LTD.
Minebea AccessSolutions Thai Ltd.
Nidec Techno Motor (Thailand) Co.,Ltd.
Nidec Techno Motor Vietnam Corporation
Nippon Express Logistics (Thailand) Co., Ltd.
Nippon Steel Logistics (Thailand) Co., Ltd.
Nissan Motor (Thailand) Co., Ltd.
NMB-Minebea Thai Ltd.
NTPT Company Limited.
NTT DATA Cambodia
OIZURU (THAILAND) CO.,LTD.
Okaya (Thailand) Co., Ltd.
P&P Product Leadership Co.,Ltd.
PT.OKAYA INDONESIA
QUADEL SOLUTION PRINTING.CO.,LTD.
RIGHT EQUIPMENT CO.,LTD.
SAMSUNG SDS GLOBAL SCL (THAILAND) CO.,LTD.
SEIWA PIONEER LOGISTICS CO., LTD.
SHINSEI KOKI (THAILAND) CORPORATION LIMITED
Shodensha (Thailand) Co., Ltd.
Summit Showa Manufacturing Co., Ltd.
System Upgrade Solution BKK Co.,Ltd.
TADA (THAILAND) CO.,LTD.
Tang Chai Huad 1988 Co.,LTD.
Tantraphan Supermarket Co., Ltd.
THAI COCONUT PUBLIC COMPANY LIMITED
Thai Metaltech Co.,Ltd.
THAI SHIN MAYWA CO.,LTD.
THAI SIMON SAFETY INDUSTRIES CO.,LTD.
TOWA THAI CO.,LTD.
Trancom Transport (Thailand) Co.,Ltd.
Ueda Plastic (Thailand) Co.,Ltd
UFM Fuji Super Co., Ltd.
YAMATO ELECTRIC (THAILAND) CO.,LTD
YN2-TECH (THAILAND) CO.,LTD.
LG ELECTRONICS(THAILAND) CO.,LTD.

Production Management System Implementation Case Study

PEGASUS Production Management System (Stock Management, Process Management, Order Management)

A small steps installation is implemented to ensure complete alignment with the requirements.

▲ Kaneka Thailand Staff
TOMAS TECH Staff

Kaneka (Thailand) Co.,Ltd.

Kaneka Corporation, a leading chemical manufacturer based in Osaka and Tokyo, established Kaneka (Thailand) Co., Ltd. in 2015 to produce expanded resin products for Southeast Asia. Recently, the company has diversified its product range, including food products, solar cells, and wigs, expanding into Thailand and other ASEAN countries.

Problems

1. Human Errors Due to Manual Operations

Errors occurred during the process of transferring paper production daily reports to Excel and reflecting them in the system, leading to information entry mistakes and loss of paper data.

2. Inability to Timely Access Accurate Stock Information

There was a time lag of 2 to 3 days after production before the information was reflected in the system, hindering the ability to obtain accurate inventory information in a timely manner.

Results

Timely access to stock information has significantly improved production efficiency. The entire process, from material intake to manufacturing and shipping, is now managed within a single system. By integrating quality inspection data, we have enhanced operational efficiency. Moving forward, we aim to improve management accuracy, reduce excess inventory, and expedite the handling of defective products.
(Kaneka Thailand, GM Hamamatsu)

Reasons for Choosing Us

The main deciding factor was the ability to develop and customize the system according to our needs through a small-step approach. By installing the system in two phases, we ensured that operations at the site ran smoothly. We have also benefited greatly from the detailed support provided after implementation.
(Kaneka Thailand, MD Yokoyama)

Production Management System Implementation Case Study

PEGASUS Production Management System (Stock Management, Process Management, Order Management)

Achieved management of over 5,000 items using PEGASUS.

ACME Industry Co., LTD.

The company, based in Higashi-Osaka City, specializes in designing and manufacturing home electric appliances, including microwaves and toaster ovens. The Thailand factory focuses on integrated production processes such as molding, pressing, painting, and assembly.

Problems

1. Human Errors Due to Manual Operations

Errors occurred during the process of transferring paper production daily reports to Excel and reflecting them in the system, leading to information entry mistakes and loss of paper data.

2. Inventory Count Conducted Only Twice a Year Due to Large Stock Quantity

Due to the vast number of items and management conducted manually, stock counts could only be performed once every six months. Conducting these counts allowed for awareness of stock levels.

Results

By being able to grasp inventory information in a timely manner, production efficiency has significantly improved. Previously, stock levels were understood through semi-annual counts, but now, with real-time stock tracking, the accuracy of orders has increased. Implementing MRP with PEGASUS has eliminated issues such as missed orders and over-ordering, allowing for optimal stock management.

Reasons for Choosing Us

The primary reason for selecting TOMAS TECH is its flexibility in customizing the system without increasing our workload. This capability ensures a seamless implementation process, enabling employees to operate efficiently within the system without any disruptions.

Production Management System Implementation Case Study

PEGASUS Production Management System (Stock Management, Process Management, Order Management)

Achieved integrated management from the purchasing warehouse to the manufacturing process.

MinebeaMitsumi
Passion to Create Value through Difference

Minebea AccessSolutions Thai Ltd.

Minebea Access Solutions Inc. is an automotive parts manufacturer headquartered in Miyazaki City, Miyazaki Prefecture. Minebea Access Solutions Thai Ltd. operates as its Thai branch, focusing primarily on the manufacturing and sales of automotive parts.

Problems

1. Human Errors Due to Manual Operations

Errors occurred during the process of transferring paper production daily reports to Excel and reflecting them in the system, leading to information entry mistakes and loss of paper data.

2. Inefficiencies Due to Manual Work

Managing with paper documents and Excel makes it challenging to accurately track stock levels and delays the inbound and outbound processes of products.

Results

By issuing work instructions to operators via Handy Terminal, we can expect an improvement in work efficiency and prevent dependency on individual operators. With the implementation of the system, on-site managers, office managers, and personnel from other processes can now grasp the status of work activities, enabling the realization of "visibility in operations."

Reasons for Choosing Us

The system implementation in the warehouse has been completed in 2023. In 2024, we will proceed with the implementation of the process management system and order quantity control system in the molding and painting processes.

Production Management System
Implementation Case Study

PEGASUS Production Management System (Process Management, POKA-YOKE)

After the successful installation in Thailand, the system is being rolled out to other branches.

Nidec

Nidec Techno Motor (Thailand) Co., Ltd.

Nidec Techno Motor Vietnam Corporation

Nidec Techno Motor specializes in motors for home appliances and industrial applications, holding the world's top market share in brushless DC motors for air conditioning. By creating better products with high technological capabilities and quality, the company contributes to the advancement of the air conditioning and industrial sectors.

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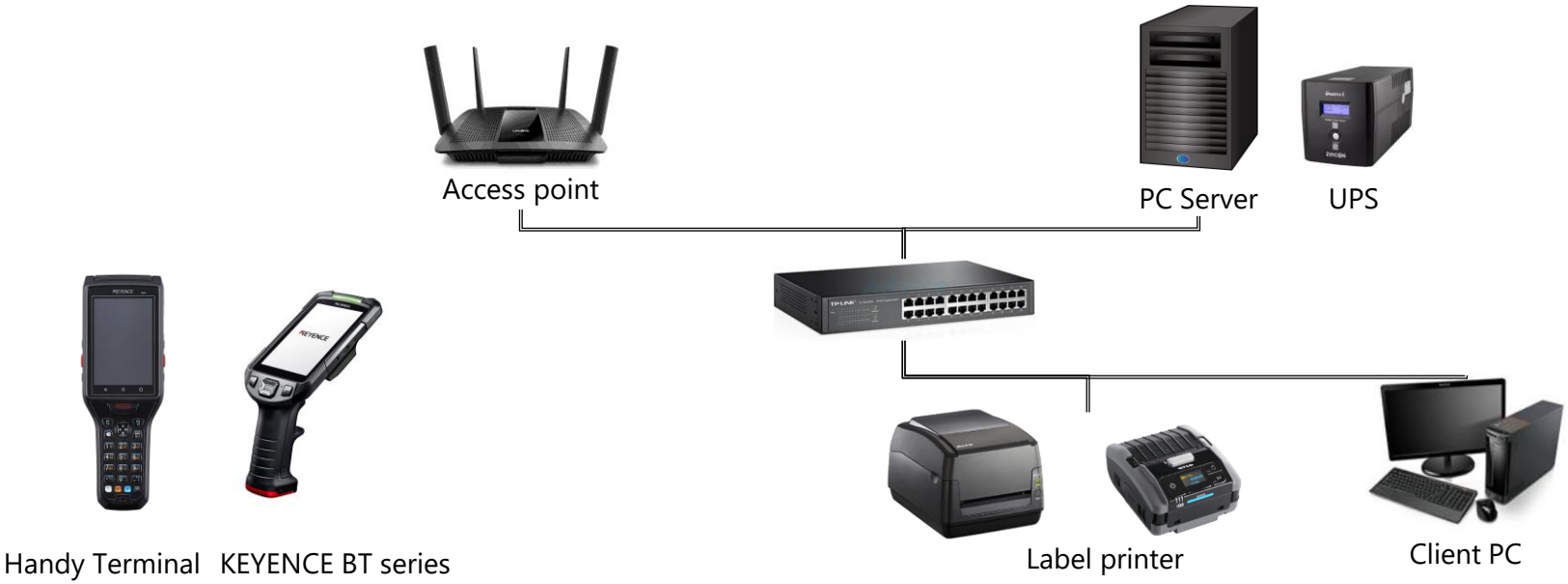
Appendix

System configuration



No	Item	Recommended specifications and models
1	PC Server	OS: Windows Server 2019R2 Standard / Memory: 8GB or more / Hard Disk: Available space of 50GB or more / Display: Resolution of 1366×768 or higher / Browser: Google Chrome (latest version) ※Ensure that the server specifications exceed these recommendations for optimal performance.
2	Client PC	OS: Windows 7/8.1/10 / Memory: 4GB or more / Display: Resolution of 1366×768 or higher / Browser: Google Chrome (latest version) ※Ensure that the PC specifications exceed these recommendations for optimal performance.
3	Handy terminal	KEYENCE BTシリーズ (Windows OS / Android OS type)
4	Access point	IEEE802.11a/b/g/n
5	Label printer	WIFI compatible model/Material: Art Permanent/Size: 55 x 85 mm.
6	UPS	UPS shutdown signal type

System maintenance

1. Current Situation Analysis	We will conduct interviews to gather information about the current business operations and the systems in use. This will allow us to confirm requirements and analyze the customer's current situation. Based on these requirements, we will prepare a quotation.	**Within sales**
2. Requirements Definition	Based on the results of the current situation analysis, we will conduct a detailed requirements definition. We will verify the detailed requirements to ensure that the system can be implemented in line with actual operational needs.	**1-8 weeks**
3. Design	We will conduct design activities, including basic design, detailed design, and migration preparation, based on the requirements while holding progress meetings.	**1-3 weeks**
4. Development and Testing	We will develop the system to fit your business needs and proceed to testing. To ensure a smooth implementation, we will also consider migration methods.	**1-12 weeks**
5. Implementation Support	During the implementation, we will conduct training sessions while operating in parallel with the currently used system or processes. After confirming the user experience, we will proceed with the final acceptance inspection.	**1 week**
6. Go-Live	The system will officially start operation. We will provide long-term support for safe and comfortable system usage through operational maintenance support, helpdesk services, information provision, and updates.	**Min : 4 weeks** **Max : 24 weeks**

System maintenance

#	Software Maintenance		Standard / Option
1	Operation Support and Recovery Assistance	We will establish a support contact to provide operational support via phone and email, as well as recovery assistance in the event of software malfunctions.	Standard*1
2	Providing updated software versions	Upgraded software versions will be provided at no cost when improvements are made, ensuring compatibility with the latest operating systems. This eliminates software costs for server updates, reducing lifecycle expenses.	Standard*1
#	**Hardware Maintenance**		
1	Hardware Maintenance	In the event of a server failure, our company or the hardware manufacturer will carry out on-site repairs, including parts replacement.	Option*2
#	**Software Reinstallation**		
1	Software Reinstallation	In the event that software reinstallation is required after server repair, we will carry out the restoration process. (Please note that stock data recovery is not included in the software reinstallation.)	Standard*1

*1) Services will be provided at the system purchase price for the first year of the contract.
Starting from the second year, contracts will be on an annual basis.
*2) Services will be provided only if hardware is purchased from our company.

Contact us

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TOMAS TECH

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