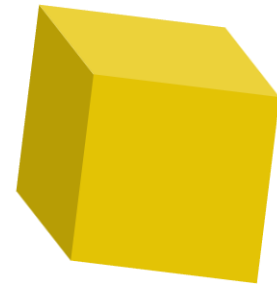




**TOMAS TECH**

# ***Production Management System Pegasus***

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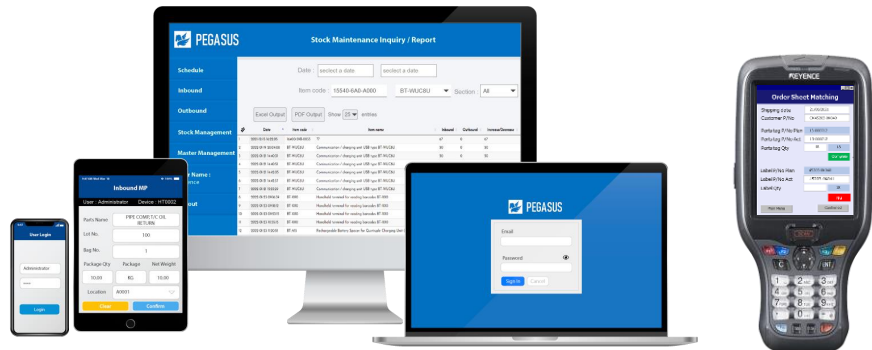
Presentation by TOMAS TECH CO., LTD.

# AGENDA

- 1. Overview of the Production Management System**
- 2. Details of the Production Management System**
- 3. Case Studies**
- 4. Appendix**

# **Overview of the Production Management System**

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**.



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

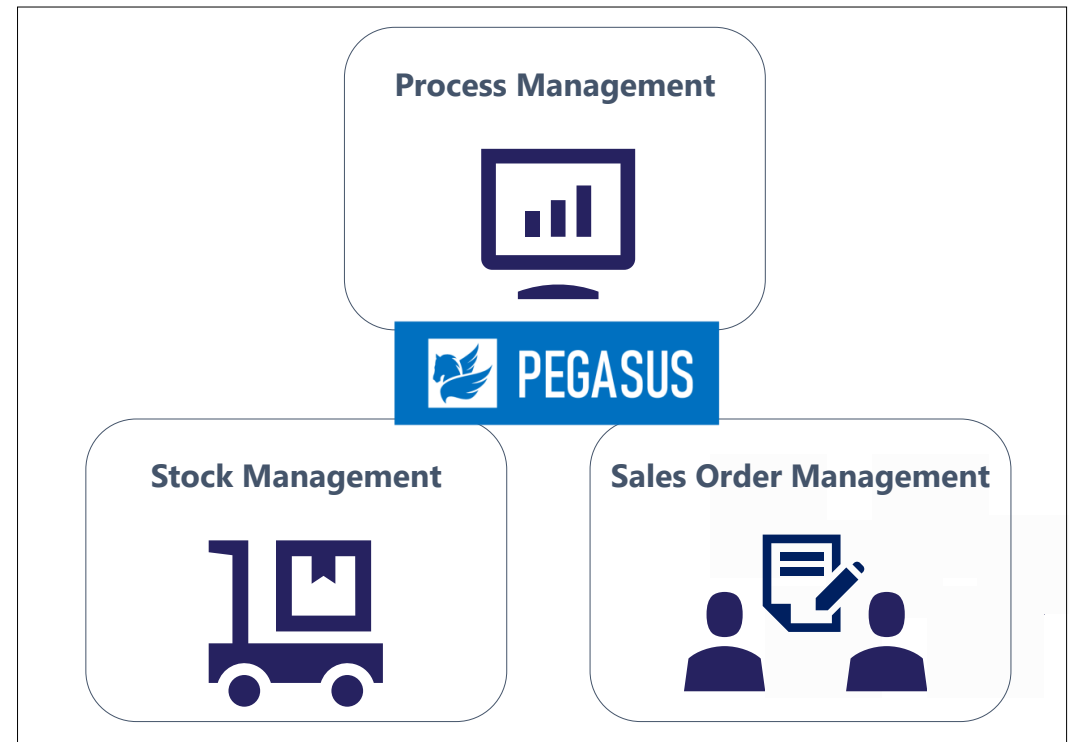
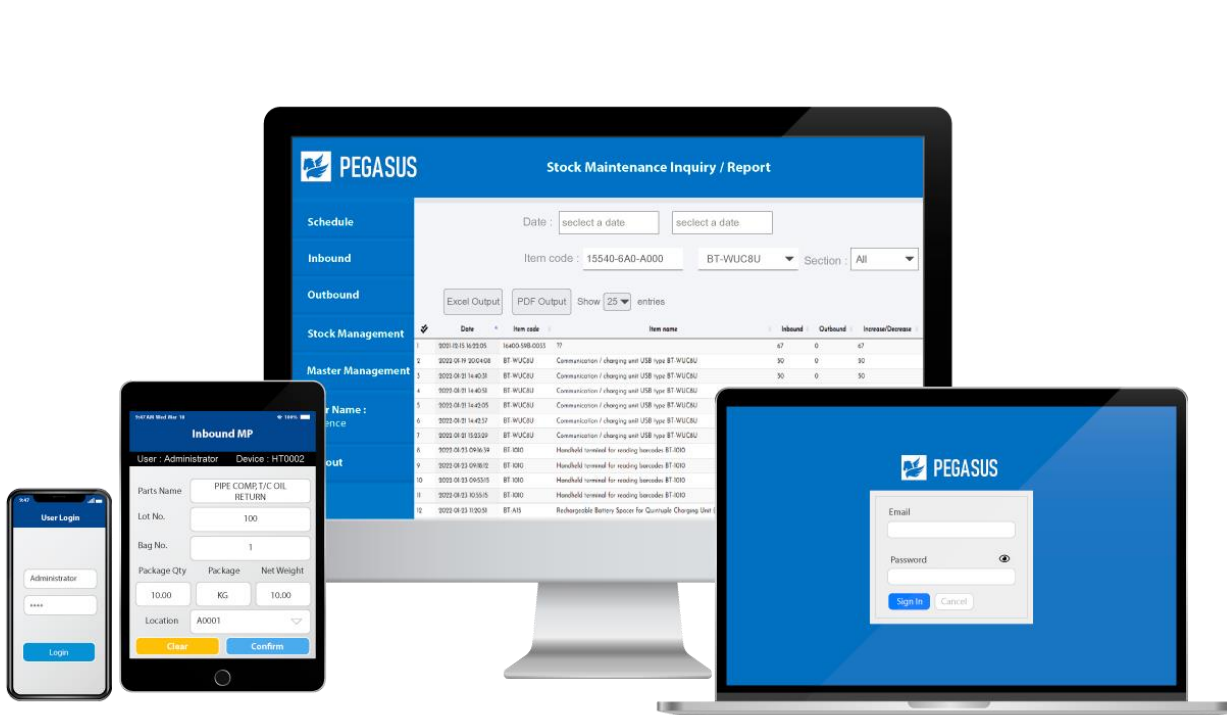
# Overview of the Production Management System

The PEGASUS Process Management System is designed to achieve **effective process management in the manufacturing industry**.

It is comprised of three key modules: Stock Management, Process Management, and Order Management.

From material procurement and order management to process performance tracking and Stock control, the system enables **seamless end-to-end management**.

With the PEGASUS Production Management System, businesses can achieve **"improved operational efficiency"** and **"cost reduction."**



1

## Inefficient Operations

Managing processes with paper and Excel consumes considerable time in "collection", "organization", and "analysis" of information.



## Improvement of Operational Efficiency

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



2

## Management Costs

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



## Reduction of Management Costs

By implementing digitalization, management workload can be reduced, leading to significant "cost" savings.



3

## Black Box Operations

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



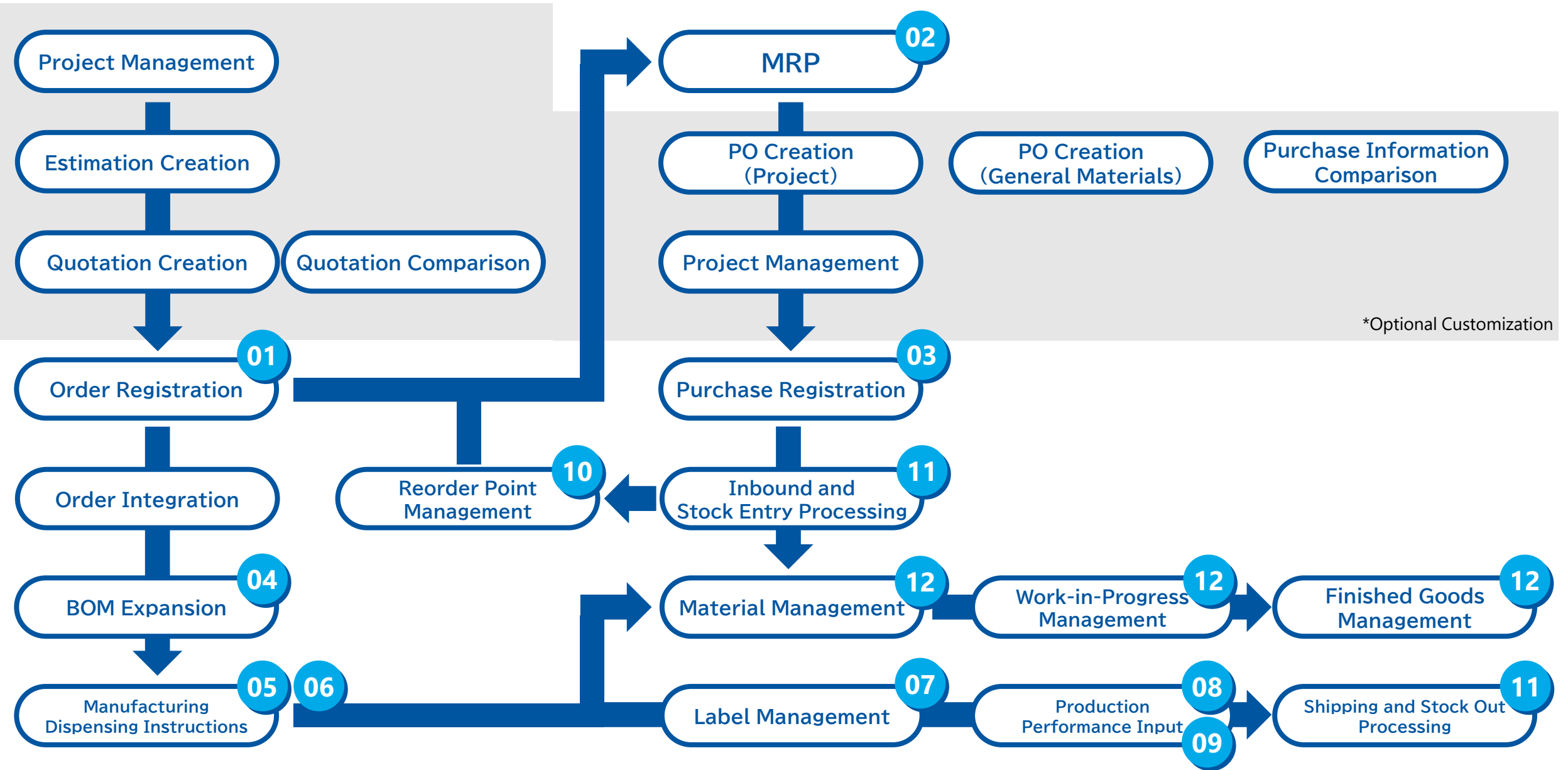
## Visibility of Overall Operations

Through digitalization, the status of operations becomes fully visible.



# **Details of the Production Management System**

# Introduction to the Production Management System Functions

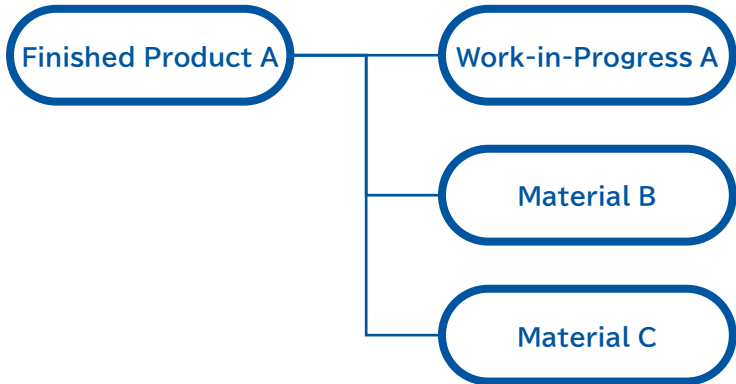




### 01

#### Order Registration & Forecast Registration

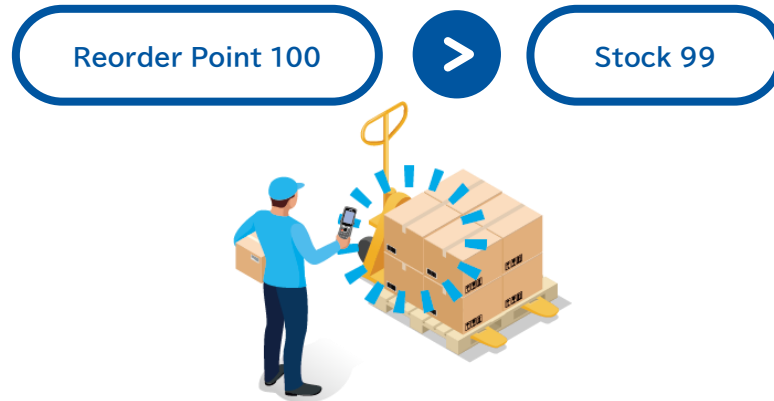
Order and forecast information can be registered in PEGASUS based on customer data. Registration is possible at two levels: confirmed PO or unconfirmed forecast. This allows the creation of production and shipment plans for finished products.



### 02

#### Material Requirement Planning MRP

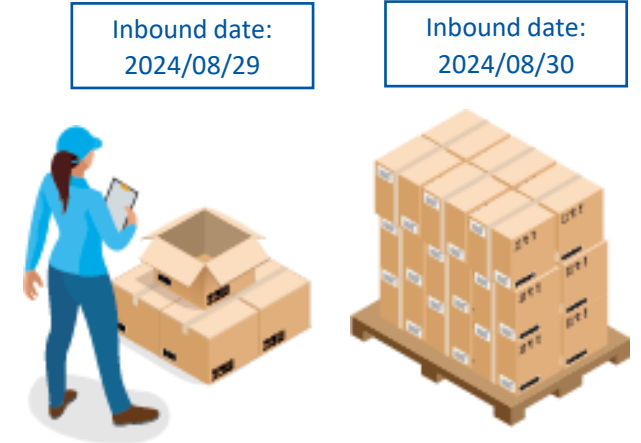
Material requirements are calculated based on order and forecast data, considering inventory levels, reorder points, and scheduled arrivals. Ordering conditions, such as minimum lot sizes, enhance convenience and optimize usage.



### 03

#### Purchase Registration

After MRP, order processing is carried out with suppliers by entering ordered items, quantities, and arrival dates to plan the incoming materials schedule. Materials receipt is registered via Handy Terminal upon arrival to complete the receiving plan.

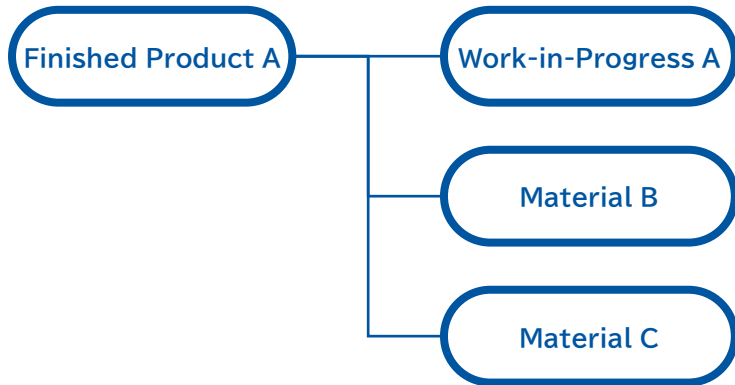


## -Process Management-

04

### 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.



05

### 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.



06

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

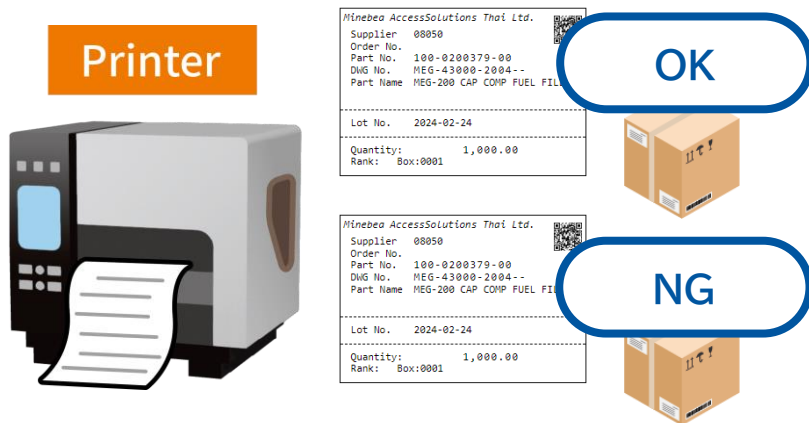
Materials and work-in-progress products will be allocated based on the youngest lot number first (First-In, First-Out method). If there is a shortage of materials or work-in-progress products against the planned quantity, the system will display the plans that are experiencing shortages. Allocation processing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



### 07

#### 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.



### 08

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

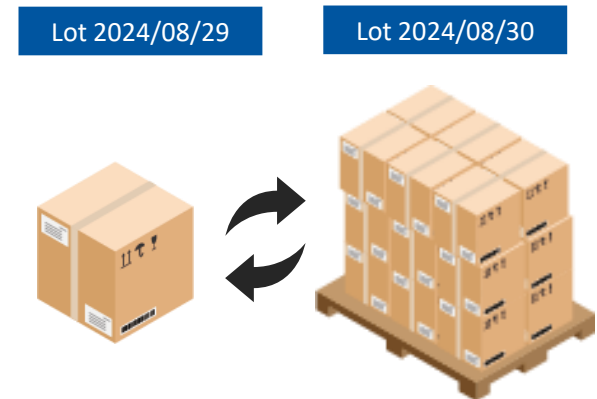
After production, counts of good and defective products are entered into the Handy Terminal, updating the server in real-time for accurate inventory management. Defective product causes can also be recorded. By logging start and end times, actual working hours for each production order can be measured,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



### 09

#### 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.



10

### Reorder Point Management

This function manages reorder points by determining the reorder quantity for each product. When the Stock level falls below the reorder point, a warning can be issued. Additionally, products that fall below the reorder point can be displayed in a list, similar to a pinch list. Warnings are shown on the top screen to prevent any oversight in management. The reorder point data is also used in the MRP (Material Requirements Planning) for calculating material requirements.



Material A 100

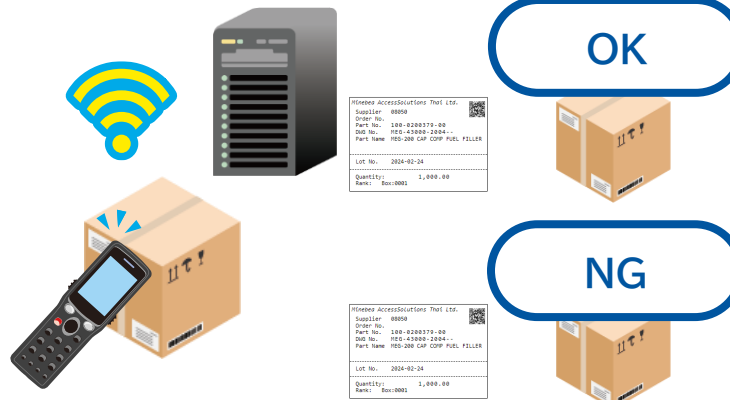
Material B 100

Material C 100

11

### Stock Count Inspection for Inbound and Outbound Shipments

Stock count inspection involves verifying that the quantity of products received matches the inbound and outbound (stock in/out) data using Handy Terminal. The data is checked against the physical items on the Handy Terminal, and product quantities are cross-referenced. After confirmation, labels are generated from the system. These labels are then used for management within the factory.



12

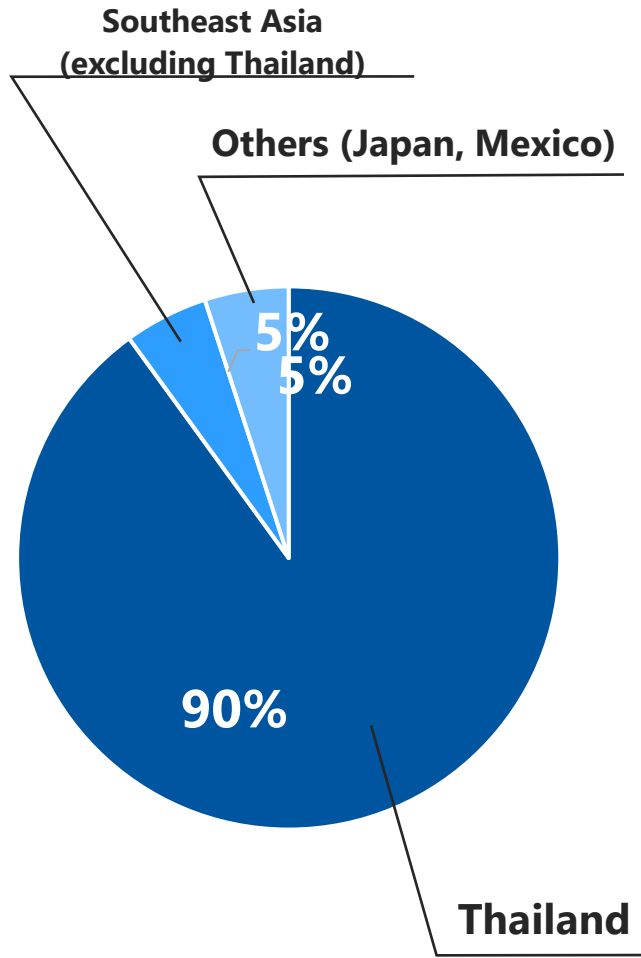
### Material Management, Work-in-Progress Management, and Finished Goods Stock Management

The system enables management of materials, work-in-progress, and finished goods inventory. It allows for tracking the quantity of work-in-progress items at each stage of the process. Additionally, by implementing location management, it is possible to track the location and quantity of each item. With the ability to calculate inventory turnover rates, the system facilitates improved operational efficiency through optimized location changes.



# Implementation Results

## Implementing Countries



## Implementing Companies

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

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



## PEGASUS Stock System

The custom-made stock management system resolves production issues in Thailand and boosts efficiency.



▲ From left: Mr. Nozaki from TOMAS TECH,  
Mr. Nakashima, Managing Director of SMPT

## Sanko Mold and Plastics (Thailand) CO.,LTD.

Sanko Mold Co., Ltd. (Headquarters: Miyoshi City, Aichi Prefecture) is a Thai subsidiary established in 2012. The company manufactures molds, mold parts, and plastic injection molded components at its own factory located in the Amata City Rayong Industrial Estate.

### Problems

1. Wanted to eliminate manual stock management to avoid **human errors**.
2. Needed to monitor stock status in real-time to **streamline production planning**.
3. Aimed to prevent **mistakes** in delivering different products.

### Results

1. Achieved **reorder point management** to eliminate excess inventory and stockouts.
2. Successfully **improved production planning efficiency** by ensuring strict adherence to the "First-In-First-Out" (FIFO) method, resolving overflow issues.
3. Enhanced work efficiency and **accuracy** by utilizing Handy Terminals during the inbound and outbound processes.

### Reasons for Choosing Us

"Initially, we were considering off-the-shelf software, but it was expensive and required us to adjust our business processes to fit the system. In contrast, TOMAS TECH's system offered custom-made solutions. They listened closely to our stock management flow and requirements, and after multiple rounds of discussions, they integrated the features we needed into the software. Since we were able to use Excel, which our staff is already familiar with, directly within the program, there was no discomfort for the on-site team."  
(SMPT, MD Mr. Nakashima)



## Production Management System Implementation Case Study

## PEGASUS Stock Management System, Operation Management System, Smartwatch System Customization of Functions to Fit the Manufacturing Site, Improving Productivity and Traceability



▲ From left: Mr. Nozaki from TOMAS TECH,  
Mr. Iijima, Managing Director of UPT

## UEDA PLASTIC (THAILAND) CO.,LTD.

Ueda Plastic Co., Ltd. (Headquarters: Ueda City, Nagano Prefecture) is a Thai subsidiary established in 2013. The company specializes in injection molding of thermoplastic plastics and the decoration of resin products, as well as the processing and manufacturing of plastic components. Their product range is diverse, covering parts for automobiles and motorcycles, as well as stationery items.

### Problems

1. Wanted to **eliminate the task of manually entering handwritten daily report data.**
2. Aimed to **manage production information in real time.**

### Results

1. The system enables **the management of historical data** from material receipt and production input to product shipment. In case of defects, it is now easy and quick to identify the affected lot.
2. In addition to **real-time tracking** of molding machine operation and production completion quantities, integrating with smartwatches allows receiving abnormality notifications even from remote locations, **reducing response time losses.**

### Reasons for Choosing Us

"We wanted to focus only on the functions we needed and eliminate unnecessary ones. The key factor in choosing TOMAS TECH was their flexibility in adding and modifying features to suit our business operations. We have always felt that changing on-site tasks to fit the system was the wrong approach. TOMAS TECH designs their system to align with our manufacturing process, making it easy for on-site staff to operate and creating a system with a low operational burden. Throughout the development process, they made sure to listen to the opinions of on-site staff, aiming to create a system that is user-friendly for them." (UPT, Mr. Iijima) 17



## 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.

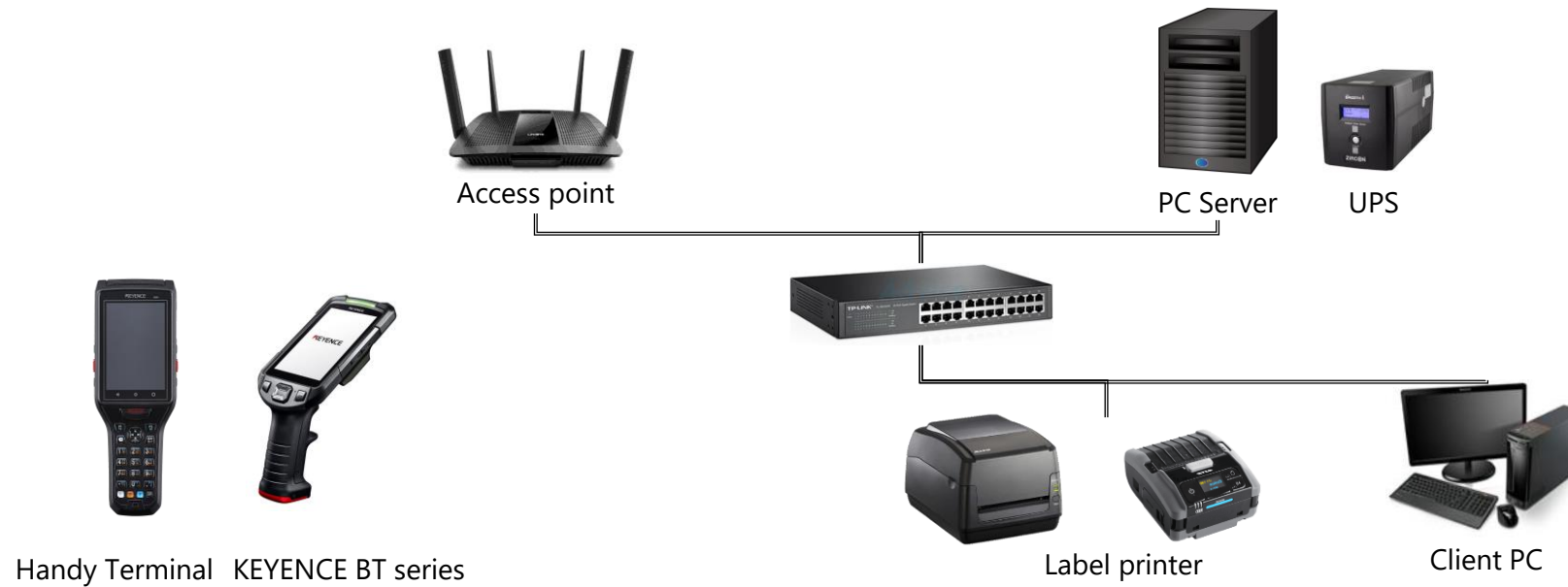
### Results

**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.

# Appendix



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 (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

<b>1. Current Situation Analysis</b>	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.	<b>Within sales</b>
<b>2. Requirements Definition</b>	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.	<b>1-8 weeks</b>
<b>3. Design</b>	We will conduct design activities, including basic design, detailed design, and migration preparation, based on the requirements while holding progress meetings.	<b>1-3 weeks</b>
<b>4. Development and Testing</b>	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.	<b>1-12 weeks</b>
<b>5. Implementation Support</b>	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.	<b>1 week</b>
<b>6. Go-Live</b>	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.	<b>Min : 4 weeks Max : 24 weeks</b>

#	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.





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