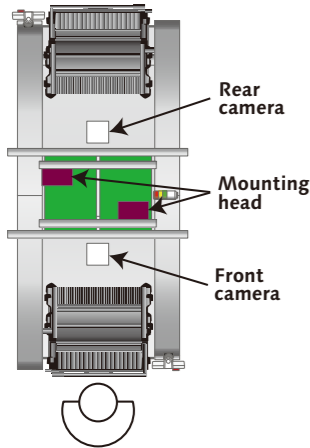


Machine configuration

Supply unit layout



Layout 1	Layout 2	Layout 3	Layout 4	Layout 5
8 mm taping : 120 Tray : 0	8 mm taping : 136 Tray : 0	8 mm taping : 94 Tray : 24	8 mm taping : 102 Tray : 24	8 mm taping : 68 Tray : 48
ASF *1 cart ( 60-slot ) ITF *2 cart ( 30-slot )	ASF *1 cart ( 34-slot ) × 2 ITF *2 cart ( 17-slot ) × 2	ASF *1 cart ( 34-slot ) / tray ITF *2 cart ( 17-slot ) / tray	ASF *1 cart ( 34-slot ) / tray ITF *2 cart ( 17-slot ) / tray	ASF *1 cart ( 34-slot ) / tray ITF *2 cart ( 17-slot ) / tray
ASF *1 cart ( 60-slot ) ITF *2 cart ( 30-slot )	ASF *1 cart ( 34-slot ) × 2 ITF *2 cart ( 17-slot ) × 2	ASF *1 cart ( 60-slot ) ITF *2 cart ( 30-slot )	ASF *1 cart ( 34-slot ) × 2 ITF *2 cart ( 17-slot ) × 2	ASF *1 cart ( 34-slot ) / tray ITF *2 cart ( 17-slot ) / tray

\*1 : Auto Setting Feeder \*2 : Intelligence Tape Feeder

Model ID			NPM-GW			
Model No.			NM-EJM2F			
PCB dimensions	Single conveyor		Batch mounting      : L 50 mm × W 50 mm to L 760 mm × W 687 mm	2 position mounting    : L 50 mm × W 50 mm to L 360 mm × W 687 mm		
	Dual conveyor	PC size PCB width 300 mm	Dual transfer ( Batch ) : L 50 mm × W 50 mm to L 760 mm × W 300 mm	Dual transfer ( 2 position ) : L 50 mm × W 50 mm to L 360 mm × W 300 mm		
			Single transfer ( Batch ) : L 50 mm × W 50 mm to L 760 mm × W 590 mm	Single transfer ( 2 position ) : L 50 mm × W 50 mm to L 360 mm × W 590 mm		
		M size PCB width 260 mm	Dual transfer ( Batch ) : L 50 mm × W 50 mm to L 760 mm × W 260 mm	Dual transfer ( 2 position ) : L 50 mm × W 50 mm to L 360 mm × W 260 mm		
			Single transfer ( Batch ) : L 50 mm × W 50 mm to L 760 mm × W 510 mm	Single transfer ( 2 position ) : L 50 mm × W 50 mm to L 360 mm × W 510 mm		
Electric source			3-phase AC 200、220、380、400、420、480 V   2.5 kVA			
Pneumatic source *1			Min.0.5 MPa、200 L / min ( A.N.R. )			
Dimensions *2			W 1 410 mm × D 2 320 mm × H 1 444 mm *3      / W 1 410 mm × D 2 468 mm × H 1 444 mm *4			
Mass			2 810 kg *3      / 2 840 kg *4			
Placement head			FC16 head ( Per head )	FC08 head ( Per head )	FC03 head ( Per head )	
Max. speed *5			52 000 cph ( 0.070 s / chip )	26 500 cph ( 0.136 s / chip )	10 000 cph ( 0.360 s / chip )	
Placement accuracy ( Cpk≥1 ) *5			±25 μm /chip	±25 μm / chip ±25 μm / QFP	±25 μm / chip ±20 μm *6 / QFP	
Component dimensions (mm)			0201 chip *7 *8 / 03015 chip *7 to L 10 × W 10 × T 6 *9	0402 chip *7 to L 45 × W 45 or L 100 × W 40 × T 12	0603 chip to L 120 × W 90 or L 150 × W 25 × T 40 or L 135 × W 135 × T 18 *10	
Component supply	Taping		Tape : 4 / 8 / 12 / 16 / 24 / 32 / 44 / 56 mm		Tape : 4 to 56 / 72 mm	Tape : 4 to 56 / 72 / 88 / 104 mm
			Max.136 ( 4、8 mm tape )			
	Stick		—————		Max.16 ( SF3 *11 )	
Tray		—————		Max.48		

Please refer to the specification booklet for details.

\*1 : Only for main body  
\*2 : Excluding the monitor and signal tower  
\*3 : Machine dimensions and mass for standard configuration  
( NPM-GW and ASF \*12 cart ( 60-slot ) × 2 or cart ( 34-slot ) × 4 ).  
They differ depending on the optional configuration.

\*4 : Dimensions and mass of the machine and two ITF \*13 carts ( 30-slot ).  
They differ depending on the optional configuration.  
\*5 : Values such as the maximum takt time and placement accuracy may differ slightly depending on conditions.  
\*6 : The placement angle recognition setting needs to be enabled.  
\*7 : 0201 / 03015 / 0402 component requires a specific nozzle / tape feeder.

\*8 : 0201 component placement is optional.  
( Under conditions specified by Panasonic )  
\*9 : T 6 needs dedicated short nozzles and is □ 6.5 mm or less.  
\*10 : □ 135 mm is option.  
\*11 : Stick Feeder 3-slot  
\*12 : Auto Setting Feeder  
\*13 : Intelligent Tape Feeder

⚠ Safety Cautions

- Please read the User's Manual carefully to familiarize yourself with safe and effective usage procedures.
- To ensure safety when using this equipment, all work should be performed according to that as stated in the supplied Operating Instructions. Read your operating instruction manual thoroughly.

Panasonic Group products are built with the environment in mind.

For details here



Panasonic GREEN IMPACT

Inquiries...

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Ver. January 16, 2025

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Panasonic  
CONNECT

Electronics Assembly System

Modular Placement Machine

Catalogue

Model ID

NPM-GW

Model No.

NM-EJM2F



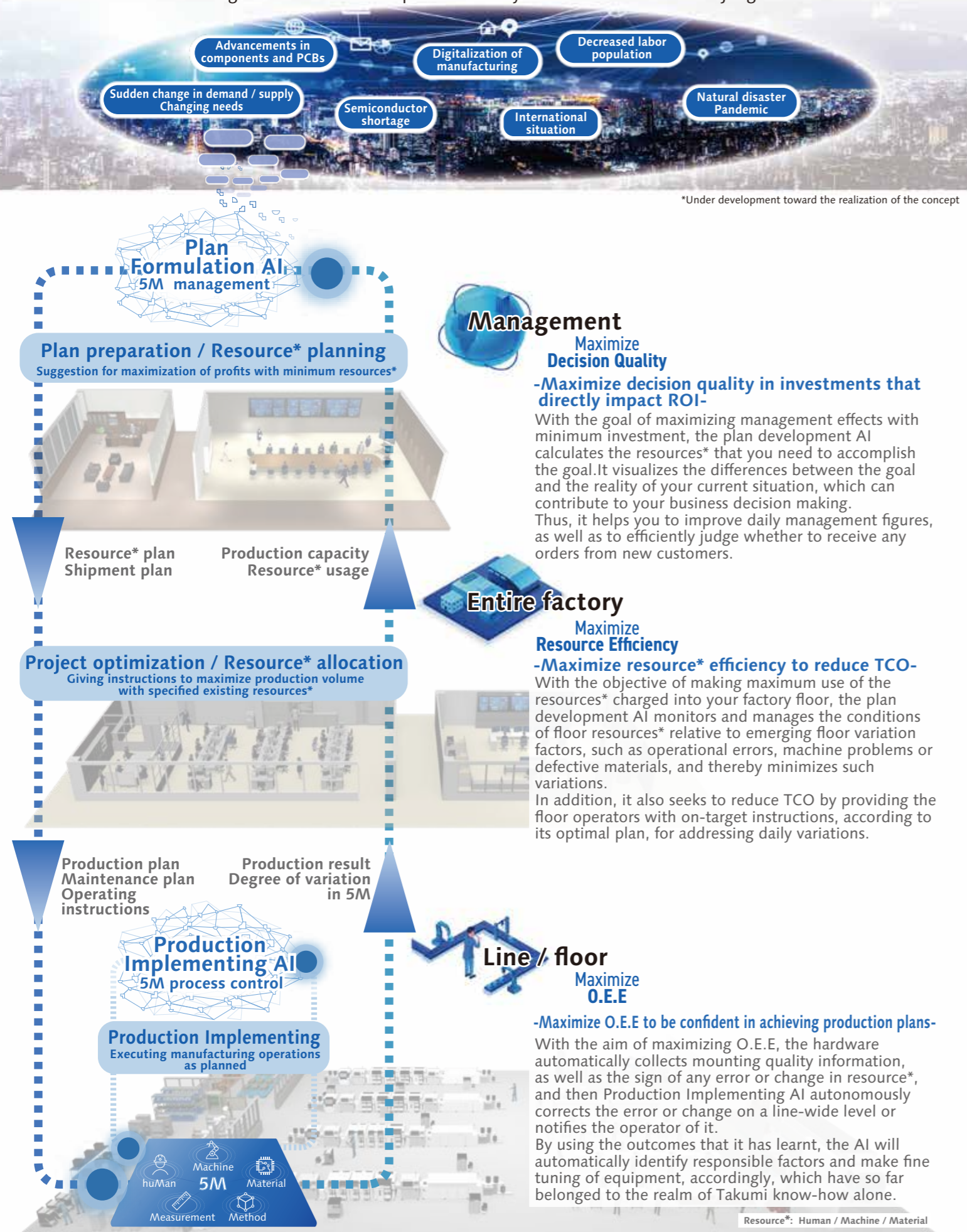
NPM G



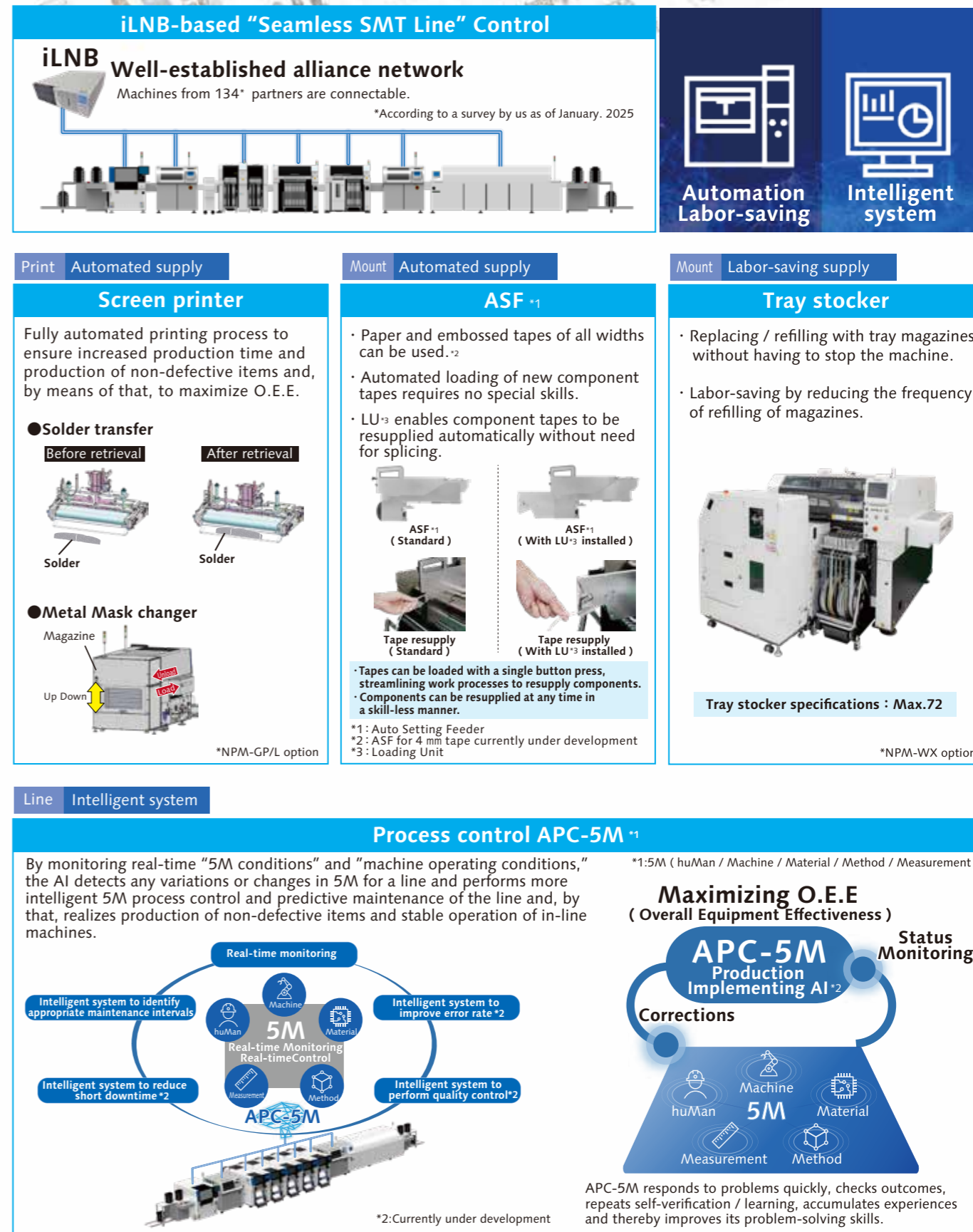
\*It may not conform to Machinery Directive and EMC Directive in case of optional configuration and custom-made specification.

# "Autonomous Factory" Concept \*

A factory that immediately responds to every situation and continues to evolve autonomously  
Ensuring the production of non-defective items through the integrated control of autonomous uninterrupted mounting lines and floors independent of any human intervention and judgment



## Automation / Labor-saving Solution + Intelligent system Solution to Achieve Manufacturing That Is Further in Line with Production Plan



## Realization of Autonomous Mounting Line

# NPM-GW Aiming for Actualization of Autonomous Factory

## NPM-GW's features

### New platform to realize "Autonomous Factory"



NPM-GW

1 The industry's top-class edge device

2 Autonomous control of variations in 5Ms

3 Departure from skill-based operations



1 The industry's top-class edge device

#### Increased productivity

##### 【FC16 head】

Max.speed : 104 000 cph\*1  
IPC9850 (1608) : 70 000 cph\*1

##### 【FC08 head】

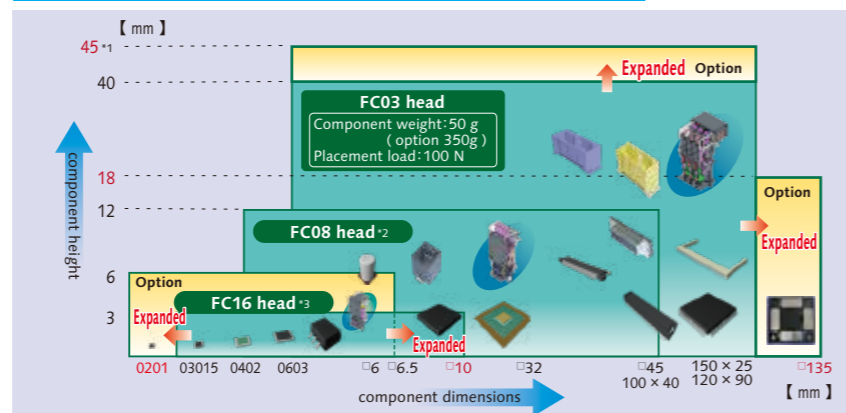
Max.speed : 53 000 cph\*2  
IPC9850 (1608) : 42 000 cph\*2

##### 【FC03 head】

Max.speed : 20 000 cph\*3  
IPC9850 (1608) : 13 800 cph\*3

\*1 : Tact time for the machine with FC16 x 2 heads  
\*2 : Tact time for the machine with FC08 x 2 heads  
\*3 : Tact time for the machine with FC03 x 2 heads

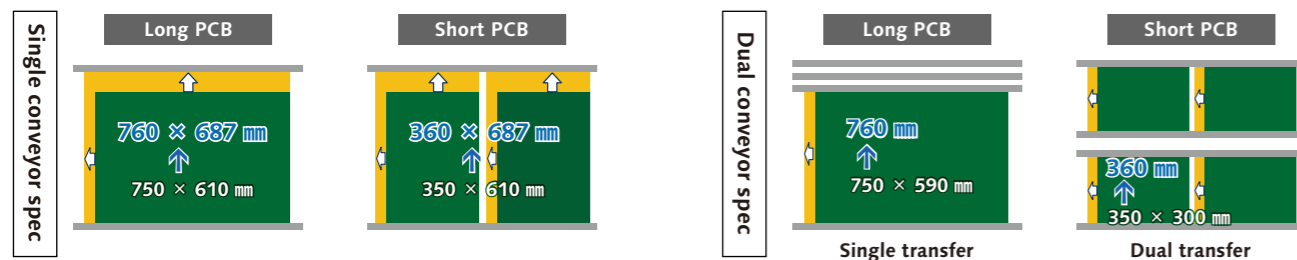
#### Improved ability to support components



\*1: When the PCB thickness is at the maximum (8.0 mm), the height of a component will be 45 mm.  
(PCB thickness + Max component height ≤ T53)  
\*2: High-speed head placement constant load control option enables to support a placement load of 1.0 N.  
\*3: High-speed head placement constant load control option enables to support a placement load of 0.5 N and 1.0 N.

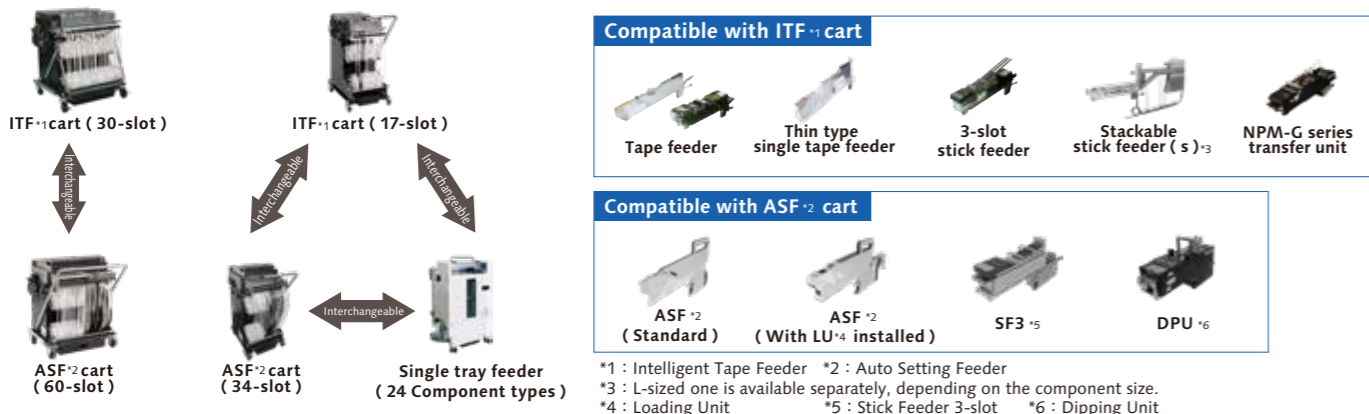
#### Increased PCB adaptability

Increase in transportable PCB size. (The following figures show increases compared to NPM-WX.)



#### Greater versatility in supply units

Its overall versatility has been enhanced as it now allows you to make the following exchanges on your own.  
· Exchanging ITF\*1 cart (30-slot) for ASF\*2 cart (60-slot)  
· Exchanging ITF\*1 cart (17-slot) / ASF\*2 cart (34-slot) for single tray feeder (24-product type)

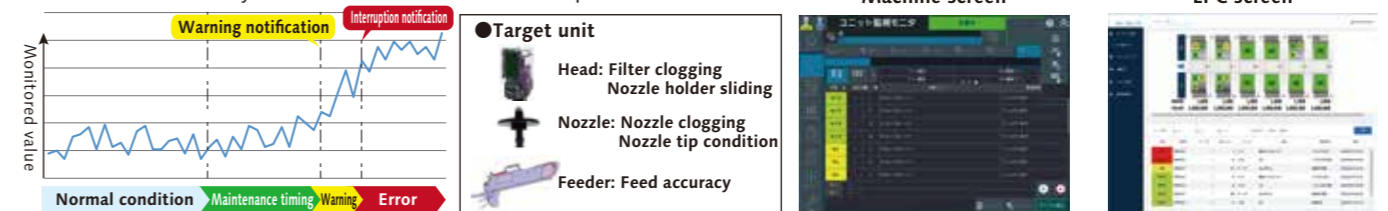


## 2 Autonomous control of variations in 5Ms

### APC system

#### APC-5M: Real-time unit monitoring

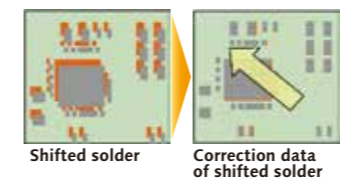
APC-5M monitors the conditions of target units in real time and provides notification of the timing of maintenance of each unit or any error condition that could interrupt production, depending on variations in monitored unit values. This function enables you to conduct maintenance at optimal times.



#### APC-FB\*1

##### Feedback to the printing machine

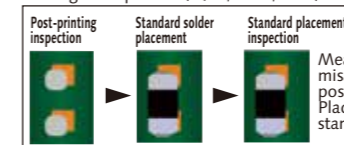
· Based on the analyzed measurement data from solder inspections, it corrects printing positions. (X, Y, θ)



#### APC-FF\*1

##### Feedforward to the placement machine

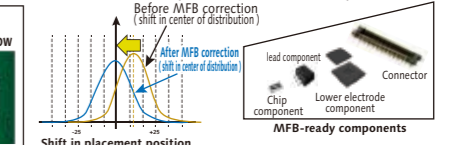
· It analyzes solder position measurement data, and corrects component placement positions (X, Y, θ) accordingly.  
Chip components (0402C / R ~)  
Package component (QFP, BGA, CSP)



#### APC-MFB2

##### Feedforward to AOI / Feedback to the placement machine

· The system analyzes AOI component position measurement data, corrects placement position (X, Y, θ), and thereby maintains placement accuracy.  
Compatible with chip components, lower electrode components and lead components\*2



\*1 : APC-FB (feedback) / FF (feedforward) : 3D inspection machine of another company can be also connected. (Please ask your local sales representative for details.)  
\*2 : APC-MFB2 (mounter feedback2) : Applicable component types vary from one AOI vendor to another. (Please ask your local sales representative for details.)

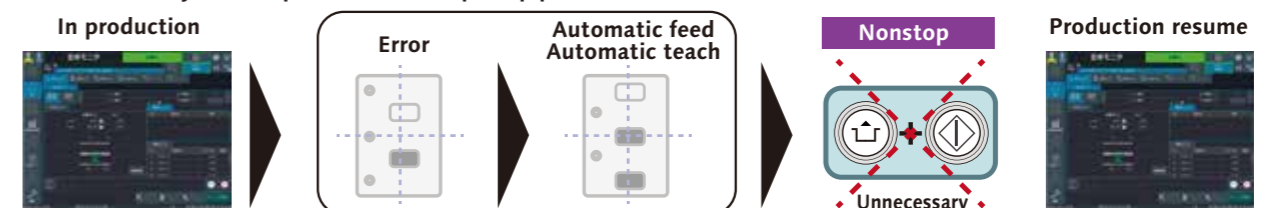
### Automatic recovery option

### Pickup position automatic teach in case of an error

When pickup / recognition error occurred, the machine automatically corrects the pickup position without stopping, and resumes production. That improves machine operation rate.

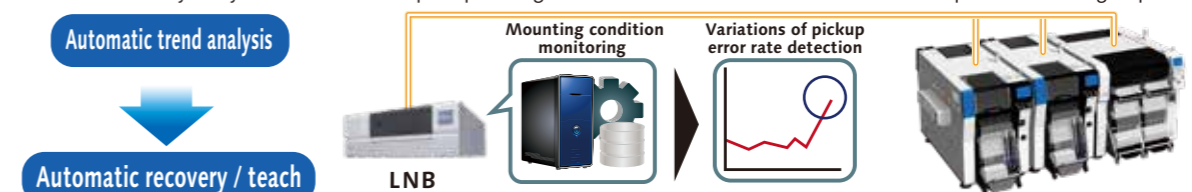
(Components : 4 mm embossed (black) / 8 mm paper / embossed (black) tape component. \*Embossed tape (transparency) is not supported.)

#### 【Automatically resume production after pickup position teach】



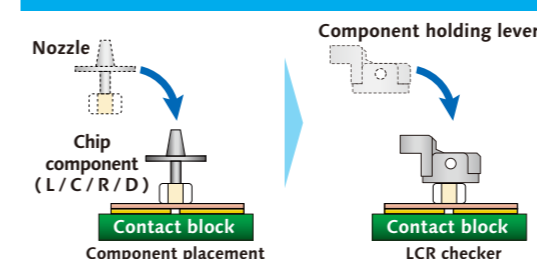
### Evolved automatic recovery (predicted control)

LNB automatically analyzes the variation of pickup / recognition error rate and instructs the machine to perform teaching to prevent machine error stop.



### LCR checker

An LCR check is performed on mounted components at the start of production, or during component supply or product changeover. It helps detect wrong reels loaded and defective components. In addition, because verified data is output to a file on LNB (FA PC), the data can also be used for trace management.



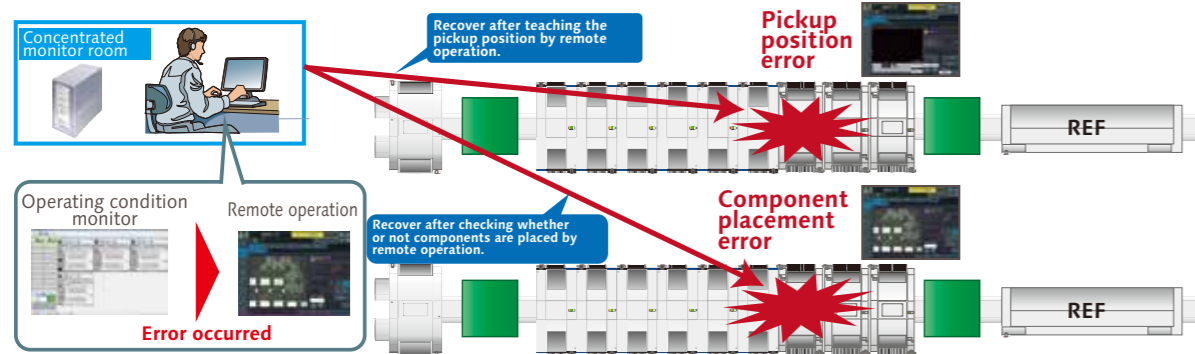
Component size	0402 to 6 mm
Component	Resistance, Capacitor, Inductor, Diode

# NPM-GW Automation / Labor-saving Solution + Intelligent system

## 3 Departure from skill-based operations

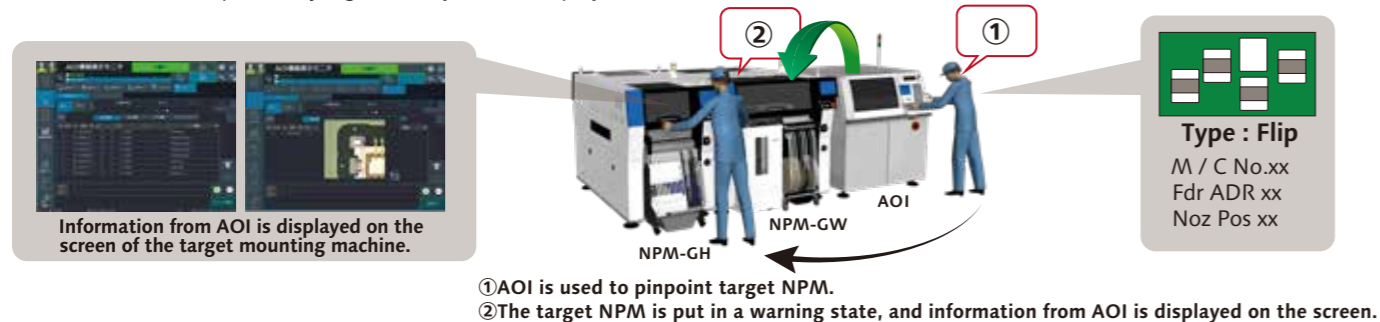
### Remote operation option

Recovery by remote operation is available for the error of which recovery can be made based on human judgment alone. This enables concentrated on-the-floor monitoring, eliminating the time lost for the operator to detect error and take appropriate action, reducing the error recovery time, and thus achieving labor saving and improved operating rate.



### AOI Info Display option

Information on components judged NG by AOI is displayed both on AOI and NPM.



### Feeder setup navigator option

It is a support tool to navigate efficient setup procedure. The tool factors in the amount of time it takes to perform and complete setup operations when estimating the time required for production and providing the operator with setup instructions. This will visualize and streamline setup operations during setup for a production line.

### Placement head maintenance

Good use is made of the machine's self-diagnosis function to automatically detect the maintenance timing of the placement head. In addition, the maintenance unit can be used to keep the placement head in working condition without requiring skills.

#### Load checker

Measures the "indentation load" imposed by placement head and has the machine and LNB displayed the measurement result (possible to measure even a low load of 0.5 N as well).

#### Head maintenance unit

To automate the inspection and maintenance of the placement head.

### Parts supply navigator option

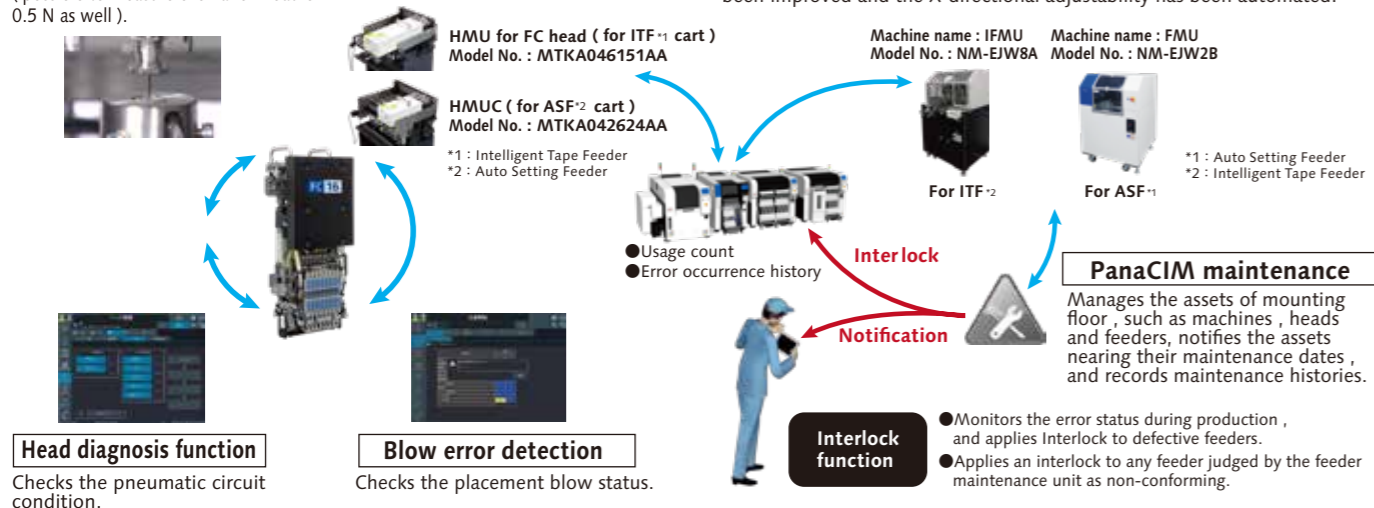
It is a parts supply support tool to present an efficient sequence of parts supply. Taking into account the length of time before parts shortage occurs and the least time-wasting moving path possible, the tool provides the operator with instructions for parts supply. This makes parts supply more efficient.

### Feeder maintenance

Independent of operator skill, the feeder maintenance unit automatically performs feeder performance inspections and calibrations. Its combined use with the PanaCIM maintenance module can automatically prevent the inclusion of non-conforming feeders into production.

#### Feeder maintenance unit

It automates an inspection of major parts affecting the feeder's performance and calibrates the pickup position to prevent short-time stoppages and maintain quality. For FMU (exclusive to ASF<sup>①</sup>), the judgment accuracy has been improved and the X-directional adjustability has been automated.

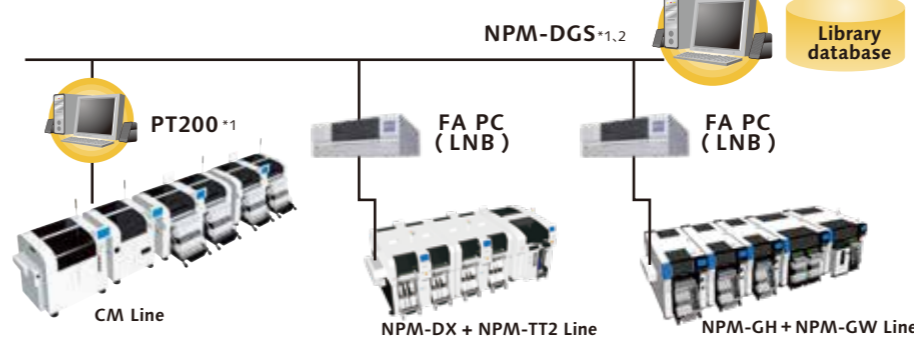


## Comprehensive control using system software

### Data Creation System

### NPM-DGS ( Model No.NM-EJS9A )

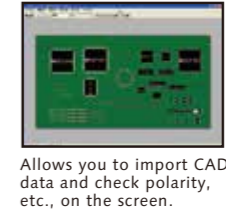
This is a software package that provides integrated management of component library and PCB data, as well as production data that maximizes mounting lines with high-performance and optimization algorithms.



<sup>\*1</sup> : A computer must be purchased separately.

<sup>\*2</sup> : NPM-DGS has two management functions of floor and line level.

#### CAD import



Allows you to import CAD data and check polarity, etc., on the screen.

#### Optimization



Realizes high productivity and also allows you to create common arrays.

#### PPD editor



Update production data on PC during production to reduce the loss of time.

#### Component library



Allows unified management of the component library including mounting, inspection and dispensing.

### Offline Camera unit V2

New component data can be created offline without relying on an individual operator's skill and proficiency, thus contributing to quality improvement and O.E.E maximization.

Thanks to adoption of a new component recognition camera and a wider variety of dedicated software functions, it now enables you to create component data more efficiently.

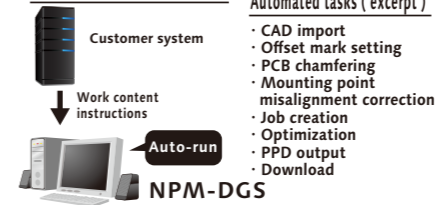


Offline Camera unit V2

### DGS Automation option

**Automated manual routine tasks reduce operation errors and data creation time.** Manual routine tasks can be automated. By collaborating with the customer system, the routine tasks for creating data can be reduced, so it contributes to a significant reduction in production preparation time. It also includes the function to automatically correct the coordinates and angle of the mounting point ( Virtual AOI ).

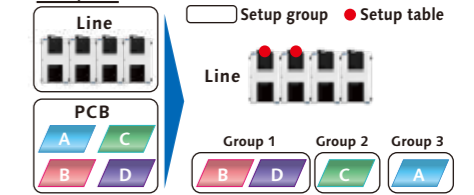
Example of entire system image:



### Optimization of setup option

**In production involving multiple models, setup workloads are taken into account and optimized.** For more than one PCB sharing common component placement, multiple setups may be required due to a shortage of supply units. In order to reduce the required setup workloads in such a case, this option divides PCBs into similar component placement groups, selects a table ( s ) for setup and thus automates component placement operation. It contributes to improving setup performance and reducing production preparation time for customer manufacturing various kinds of products in small quantities.

Example:



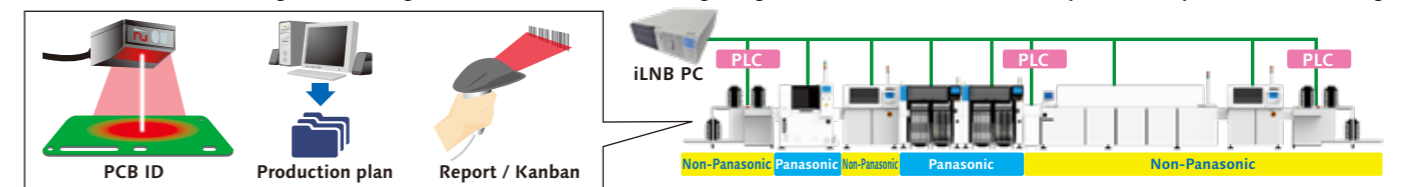
### Changeover ability

### Automatic changeover option

All machines, including NPM, in SMT line are connected via iLNB, which allows automatic changeovers to be performed sequentially, starting from the first machine in the line.

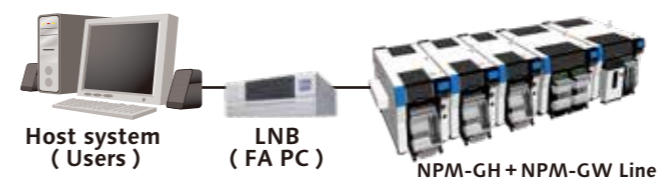
● **Trigger for changeover**

You can select from among the following three methods : PCB ID reading using an external scanner, Production plan, and Report / Kanban reading.



### Open interface

Able to standardize the interfacing with your systems currently used. Provides data communication with our standard interfaces.



### Host communication option

#### ● Events

Outputs a real-time event of equipment.

#### ● Other company's component verification

Communicates with your component verification systems.

#### ● Component management data

• Component remaining quantity data: Outputs component remaining quantity data.

• Trace data: Outputs data linked with component information\* and PCB information.

\*Entry of component information with PanaCIM material verification or other company's component verification ( this option ) is required.