

## Panasonic Factory Solutions Europe at Productronica & Semicon 2017

*Introducing a new era of full process optimization.*



Panasonic Industry Europe GmbH  
Robert-Koch-Strasse 100  
85521 Ottobrunn, Germany  
industry.panasonic.eu  
[www.panasonic.eu](http://www.panasonic.eu)

Division Contact:  
Iván Rodrigo Flor Cantos  
Planning & Marketing  
PFSE.info@eu.panasonic.com  
[PFSE.panasonic.eu](http://PFSE.panasonic.eu)

**Munich, 9<sup>th</sup> November 2017:** Panasonic Factory Solutions Europe, a business division of Panasonic Industry Europe GmbH, is introducing a new era of full process optimization in connection to the Smart Factory on 14<sup>th</sup> to 17<sup>th</sup> November 2017, in Hall A3 Booth 177 at Productronica and at the same time at the Semicon exhibition, Panasonic will present its Microelectronics Solutions in Hall B1 Booth 1147.

Hiroyuki Nagai, President of Panasonic Factory Solutions Europe, comments: "Today, manufacturers require improvements not only in process automation but also in productivity and quality across the entire production cycle and factory as a whole. The key technology to realize a Smart Factory is to connect various equipment through the Internet of Things (IoT), to link/synchronize them and collect/control data from the equipment in real time for entire production processes. A mounting line, in fact, has a set of equipment from different vendors, so that multiple systems are needed to control the entire line."

### **The All-in-One Revolution**

#### **iLNB**

Panasonic's new iLNB enables the entire production line comprising different vendors' equipment to be controlled by one PC simultaneously and improves the total productivity of mounting lines, even with 3<sup>rd</sup> party equipment, in the process of placing electronic components on printed-circuit boards. Against this background, Panasonic has developed a line controller system to centrally control mounting lines by combining its mounting line control software and process know-how. The aim is to virtually design an optimized production process by calculating the production time for each process, taking into consideration the operator work time and the equipment operation loss time. Conventional line control systems meant that separate control of Panasonic and non-Panasonic machines was required. Panasonic machines had been connected directly to Panasonic's LNB. 3<sup>rd</sup> party equipment, however, required an individual PC for every single machine set up in the production line. As a consequence, information collection and display and automatic production changeover was only possible for Panasonic machines but not for 3<sup>rd</sup> party equipment, such as SPI, AOI, reflow ovens and others. This has been changed significantly by the introduction of iLNB. All equipment set up in a production line can be connected directly to the iLNB and fully controlled by it. Information collection, display of information such as machine production data or machine condition can be seen on a remote control centre. Small errors like suction error (pickup error) can be seen on the remote PC screens and the machine in question can be re-started from that place. Automatic production changeover is now possible as well.

Panasonic offers a wide range of placement machines compatible with the iLNB system. The current modular placement machines of the NPM series are fully compatible with iLNB. Even placement machines of the previous generation can be connected: CM-family and DT are compatible with iLNB. In addition to the placement machines, Panasonic screen printers can also be controlled by iLNB.

Even outside an SMT line, iLNB can communicate with industrial PLCs through OPC protocols so that the status of the entire assembly line can be controlled and visualized with one single GUI and one single controller, even if it is made up of an SMT line and a manual assembly line.

## **NPM Generation NeXt**

### **NPM-W2S**

Following on from the introduction of the all-rounder NPM-W2 model, the new NPM-W2S is based on the award-winning NPM-W2 platform and continues the best-in-class functionality focussing on applications geared towards large feeder setups and smaller lot sizes. It is the perfect solution for high-mix lines building complex assemblies or to complement the NPM-W2 as a lower-cost, flexible line booster.

### **NPM-X Series**

The new NPM models are not only faster and more accurate but also offering overall flexibility.

Feeder cart flexibility: Select the existing 30 input feeder cart or insert 2 times a 17 input feeder cart.

Tray flexibility: Tray installation in front and rear side of machine

Changeover flexibility: Independent changeover as standard specification. Exchange front cart while rear lane is working without stopping machine itself to guarantee non-stop production.

Additional: The autonomous recovery and remote control function is now available to increase efficiency with less intervention. The autoloader feeder has already been introduced into the market.

NeXt: Large tray option for large components (e.g. automotive/infotainment sector connectors).

## **Automation Solutions for Manual Assembly and Processes**

### **NPM-VF**

Panasonic's current machine models offer something to suit all manufacturing requirements and every production need. High volume and low mix or high mix and low volume, Panasonic equipment is designed to be adaptable and flexible. Chip components as small as 0250125 in metric, QFPs, up to odd-form components such as connectors with sizes of 150 x 25 mm / 120 x 90 mm, PCB sizes from 50 x 50 mm up to 1500 mm in length – Panasonic can provide the right solution. But Smart Factory is not just limited to SMT production. Many special components or PTH components have to be placed. In addition, manual work is still required to finish a product. Under the slogan "Beyond SMT" Panasonic offers special equipment to place odd-form SMT components or to process PTH components: the newly launched NPM-VF is a versatile and flexible machine that allows various configurations of head tools and machine feeder configurations to adapt to different types of components. It can handle components up to max 130 x 35 x 60 mm or max 150 x 38 x 29 mm. Components can be supplied from stick, radial tape, tray or bulk feeder. It is possible to mount SMT components with a minimum size of 5 x 5 mm from tape feeders from 12 to 56 mm width.

### **Parallel Link Robot (PLR)**

Continuing on from the NPM-VF, the Panasonic Parallel Link Robot (PLR) is available for a number of applications like PTH component insertion, assembling, adhesive application, soldering and wiring and other work that is still manually done following the SMT production line. Parallel Link Robot (PLR) is a device that can easily be programmed for various different production applications that are to be automated. These include the insertion of electronic components of different types and sizes, wiring, assembly, applying adhesives, soldering and labelling. A combination of multiple applications with just one system is also possible. The incorporation of PLRs at the end of an SMT line makes it possible to comply with quality specifications and simplifies complicated placement procedures, such as processing special components. A reduction in production costs can also be expected. The simple "direct teaching" method is carried out by means of hand-guided "learning", in which the movement of a human hand is recorded and stored with extreme precision. The 6-axis PLR can work for 24 hours a day; unlike normal robots, no typical specialist or programming knowledge is required to program it.

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## **Innovation in the Printing Segment**

### **Paperless Cleaning**

Panasonic will introduce the revolutionary paperless cleaning technology for its screen printing machines to decrease consumable cost (cleaning paper and solvent) and on-line downtime significantly to improve overall printing process.

### **Production Control and Optimization**

#### **PanaCIM – Asprova – Connection**

Although SMT is only one part of the overall process, it does tend to be the bottleneck. This means that maximizing SMT efficiency will normally contribute to increasing throughput of the overall process. But in order to maximize SMT efficiency, it is necessary to make an accurate schedule and keep up-to-date with actual results in addition to plan-results difference analysis. Striving for total optimization, PanaCIM can now communicate with 3rd party scheduler for results feedback so that plan-results difference analysis can be performed automatically and the schedule can be optimized.

#### **Manufacturing Operations Optimizer (MFO)**

This technology dynamically analyses the whole production and simulates, based on the results, the most efficient allocation of resources, such as number of machines, operator, material replenishment, not only for manual assembly process, but also for the SMT process, enhancing overall productivity.

#### **DGS Automatic Program Generation and BOM Update**

While reducing the number of operators on the shop-floor is important, the time and effort of creating and updating programs under HMLV is also a key issue. With one simple command, either through command line, CUI, or even your existing GUI system, importing CAD / BOM, creating PCB data, choosing a line and setup, optimizing, creating a program, and downloading can be done automatically and seamlessly.

## **Completing the Total Solutions Concept**

### **The Smart Factory Experience live at Panasonic's Innovation Centre "Hotspot"**

#### **Tech-Days 13<sup>th</sup> to 14<sup>th</sup> December, 2017**

Kiyoharu Ito, Head of Sales of Panasonic Factory Solutions Europe: "Total solutions means not just sticking to your own equipment and own solutions but being open to cooperation and partnerships. This allows Panasonic equipment and 3rd party equipment to be combined and guarantees that it will interact. Error information sharing with SPI and AOI equipment, M2M communication, material management and full process optimization are all ensured. This is tested in practice in Panasonic's Technical Center "Hotspot" in Munich, where customers can also gain an impression of exactly how the total solutions concept performs for the factory of tomorrow."

Since its foundation, Panasonic has used its manufacturing technologies backed by its production know-how and expertise. The combined power of being both a manufacturer and an equipment provider is highly unique and enables Panasonic to offer proven technology and very efficient process solutions. In 2018, Panasonic will have been providing the world with innovation for 100 years.

For further product information, please  
visit: [PFSE.panasonic.eu](http://PFSE.panasonic.eu)  
contact: [PFSE.info@eu.panasonic.com](mailto:PFSE.info@eu.panasonic.com)

### **### About Panasonic Industry Europe**

Panasonic Industry Europe GmbH is part of the global Panasonic Group and provides industrial products and services in Europe. As a partner for the industrial sector, Panasonic researches, develops, manufactures and supplies technologies that support the slogan "A Better Life, A Better World". Looking back on almost 100 years of engineering know-how in electronics, Panasonic is the right supplier when it comes to engineering expertise combined with solutions competence. The company's portfolio covers key electronic components, devices and modules up to complete solutions and production equipment for manufacturing lines across a broad range of industries. Panasonic Industry Europe is part of the global company Panasonic Automotive and Industrial Systems, which generates over one third of Panasonic's overall revenue. More: <http://industry.panasonic.eu>

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