Panasonic

Panasonic Factory Solutions Europe at SMT Hybrid Packaging in Nuremberg

100 year anniversary of expertise - trendsetting the Smart Factory

Panasonic Industry Europe GmbH
Robert-Koch-Strasse 100
85521 Ottobrunn, Germany
industry.panasonic.eu
www.panasonic.eu

Division Contact:
Iván Rodrigo Flor Cantos
Planning & Marketing
PFSE.info@eu.panasonic.com
PFSE.pansonic.eu

Hamburg, 7th May 2018: Panasonic Factory Solutions Europe, a division of Panasonic Industry Europe GmbH, is one of the world's leading companies in the field of Smart Factory. Since its foundation, Panasonic has been providing proven technology to its customers everywhere in the world. Celebrating its 100 year anniversary and based on a century of combined expertise, as a manufacturer and equipment provider, Panasonic will be presenting a new era of full process optimization covered by its own brand new solutions in the Cyber-Physical-System field on 5th to 7th June 2018, in Hall A4 Booth 4-311 at SMT Hybrid Packaging in Nuremberg - Germany.

iLNB – The Connector

The revolutionary integrated line management system is the base for controlling the entire production line. It is not limited to Panasonic machines but also integrates third party equipment such as PCB transfer systems, laser markers, AOI, SPI and ovens. Conventional systems require a number of PCs to control different machine types from different suppliers. The iLNB controls the entire line with only one PC. iLNB significantly improves overall productivity. Production data and production changeover of all equipment such as Panasonic's placement machines as well as non-Panasonic machines like AOI, SPI, Reflow oven and others can be controlled. All collected data are transferred to a remote central computer. Small errors such as pick up errors can be recovered from that central point. Automatic production changeover is possible as well.

MFO – The Optimizer

The Manufacturing Operations Optimizer is a newly developed product for drawing up production plans required for on-site operations to reduce the man-hours needed for the production plan and, at the same time, to enhance production efficiency. MFO creates detailed schedules for productions and pre-set up operations and calculates the required resources for production by simulating the manufacturing process of the entire SMT production floor. Using simulation of a planned production MFO answers questions about estimated production completion, indicates which production sequence is to be used for higher efficiency, proposes optimal machine set up for higher efficiency and indicates the number of staff needed to achieve the plan. MFO models the required production line taking into account errors that can occur at the production machines, such as parts exchange. It optimizes the production taking into account multiple production lines. The off-line set up sequence can be optimized to adjust the requirement of staff and material. MFO support is not limited to machines of the NPM-series but supports also CM- and DT series machines and screen printers. It also supports non-Panasonic equipment such as SPI, AOI, reflow oven, screen printer and others).

PanaCIM – More than an Executer
PanaCIM Enterprise Edition is an extremely powerful system for integrated management of the entire SMT production floor. It realizes enhanced quality, reduces costs and increases production floor productivity. PanaCIM EE comprises 8 modules. All of the modules can be installed individually according to customer needs and requirements. Modules are available for Material control and verification, Production control for production changeover, Traceability, Analysis, Monitoring and Maintenance module. The module Enterprise link is the interface between PanaCIM EE and the customer's MRP/ERP system for the export of all data collected by PanaCIM EE. PanaCIM EE is a multi-level manufacturing execution system for any size of customer. It supports from machine level to cloud level with added new capabilities. It automates processes across an entire enterprise and manufacturing operation. Thanks to its modularity the system is scalable to support 1 machine or over 1000 machines and integrates any machine platform. PanaCIM EE helps to eliminate redundant manual processes and decrease material cost.

PanaCIM – Asprova – The Scheduler
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 a 3rd party scheduler for results feedback so that plan-results difference analysis can be performed automatically and the schedule can be optimized.

DGS Automatic Program Generation and BOM Update – The Must-Have
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.

Hardware Innovation: Exquisite!

Generation neXt – The Newcomer
Panasonic's NPM-WX represents the next generation of Panasonics mounting production concept "Smart manufacturing". The NPM-WX stands for higher line throughput and improved quality at lower cost thanks to integrated automated systems. APC system and automatic recovery are integrated to realize an autonomous line control. The incorporated floor management system and remote operation option improves utilization combined with lower labour cost. Available feeder set up and component supply navigation systems helping to reduce the work variations. The NPM-WX can handle a wide variety of components – from 0402 chip components up to large components with a size of max. 150x25x40mm. Parts supply from tape, stick and tray feeder are possible. Feeder cart flexibility by selecting the existing 30 input feeder cart or inserting 2 times a 17 input feeder cart. 4 different types of placement heads are available. Placement speed max. 86.000cph at a placement accuracy of +/-25µm. Thanks to NPM-WX's integrated systems, component diversity and available options it represents the perfect solution for automated SMT production for all kind of products. The machine is fully compatible with other NPM-systems and can therefore also be fully integrated into existing production lines. Connection and control via Panasonics iLNB is ensured to get full control of production and required management data.

Marker – The Laser Beam
Panasonics Laser Marking Machine LPS-C can be integrated into production lines to produce high precision marks on PCBs. A marking size of minimum 0.1 x 0.1mm is possible. To ensure marks are placed on exactly the same position, a PCB recognition mark function is integrated for position correction. Marking speed is 0.3 sec/mark. Using the LPS-C machine significantly improves the quality of marks because laser marks cannot be worn off like paper marks can. The LPS-C has the function of automatic serialization which avoids wrong or duplicate serial numbers. The machine can be placed in line with any SMT production line and is to be integrated into PanaCIM.

Paperless – The Cleaner
The SPV-DC Dual Screen Printer now features Panasonic's patent-pending paperless cleaning solution. It introduces a new industry standard for eco-friendly operation by reducing waste while

increasing user cost-savings. The new cleaning option completely eliminates paper from the screen printing process. The state-of-the-art squeegee system cleans the bottom surface of stencils with superior performance when compared to traditional stencil cleaning solutions. The breakthrough paperless cleaning technology combines six squeegee blades and an innovative vacuum system, creating a sweeping motion across the bottom of the stencil surface and removing any solder and chemical debris. By pioneering new capabilities not previously offered in cleaning technology, Panasonic has improved quality and boosted performance, with easy-to-clean squeegee blades designed to last up to 400,000 cycles and exchangeable in seconds. Maintenance downtime is now virtually eliminated with this revolutionary technology. In comprehensive field testing of Panasonic's paperless cleaning technology, first pass yield results showed a 1.75% improvement compared to traditional paper and chemical cleaning solutions for a range of apertures, including those in 0402 metric chips, .4mm CSP and .4mm QFP componentry. The introduction of the SPV-DC paperless cleaning option is another milestone in Panasonic's pursuit to provide complete, smart solutions that lower customer material and labour costs and are eco-friendly.

NPM-VF – The Oddshape Component Tamer

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.

PLR – The A.I. Hand

Panasonic's Parallel Link Robot (PLR) is available for a number of applications such as PTH component insertion, assembling, adhesive application, soldering and wiring and other work that is still carried out manually 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.

Iván Rodrigo Flor Cantos, Planning & Marketing Manager of Panasonic Factory Solutions Europe:
"100 years of experience as both a manufacturer and solutions provider allows us to live production in our own factories day-by-day and to understand the needs of our customers better. Nowadays solutions on the cyber-physical-layer with regard to continuous process optimization and full production control are becoming a trend and are indispensable for the Smart Factory. We offer the complete package!".

For further product information, please
contact: PFSE.info@eu.panasonic.com
visit: PFSE.panasonic.eu

About Panasonic Factory Solutions Europe a Division of Panasonic Industry Europe GmbH

Panasonic is one of the world's leading companies in the field of the Smart Factory. Our combined power of being both a manufacturer and an equipment provider is highly unique and enables us to bring proven technology and process solutions to our customers anywhere in the world. Looking back on 100 years of engineering know-how, Panasonic provides solutions to your manufacturing challenges with best-in-class hardware and software from its own portfolio as turnkey solutions for your business. Panasonic Factory Solutions, introducing a new era of full process optimization!