

## Total Solutions for SMT

### In this newsletter:

#### Page 2

- Foreword by Maurits van der Laken
- Nordson Test & Inspection: a new name for well-known brands
- Partnertec invested in latest laser cut technology for stencil fabrication!

#### Page 3

- TEKNEK, the leading specialist in solving contamination problems, launches two new products supporting the drive to “zero defects”
- ASMPT marks latest milestone with global rebrand

#### Page 4

- Solderstar SLX, the new benchmark in thermal profiling
- Modi, the specialist in Incoming goods scanning systems, signs distribution contract with Partnertec

#### Page 5

- ASMPT Process Lens HD
- Cleaning and coating

#### Page 6

- Pieter's Tips & Tricks: How to set Stencil Printer Parameters
- ASMPT introduces DEK TQ L, top quality performance stencil printer





# Foreword

Dear reader,

We are entering a period of great uncertainty due to the exorbitantly high energy prices. It also puts pressure on capital provision and payments. Energy prices do not appear to be falling, and government support measures have become almost impossible. In addition, prices for raw materials, components and transport have also increased significantly.

Regarding our industry, experts agree that both US and European tech companies are facing a difficult time. But the prognosis differs on how heavy the blow will be. The cause of the decline is mainly due to external factors. ASML has been able to realize significant revenue growth in the third quarter. And they expect even higher turnover figures for this quarter (Q4). There are no problems due to economic circumstances for ASML and so they are a bright spot in the negative tech market at the moment with the current macroeconomic developments. ASML sees a changing demand in certain markets, but the demand for production machines remains high worldwide. With regard to the EMS market in the Benelux, this is a positive outlook for the coming year.

In this Newsletter we are proud to inform you about our recent investment in the latest laser cut technology from LPKF to deliver high quality laser cut stencils. This is a major step forward for Partnertec.

We are also pleased to inform you about the new high performance ASMPT DEK TQ (L) printer from which we have already installed two units and expect the third machine order in soon.

With our new representation of Modi in the Benelux we are entering a new market for Partnertec. Modi is the market leader for incoming goods scanning systems for the electronic assembly industry.



Enjoy reading our Newsletter.

Maurits van der Laken  
Managing Director Partnertec

## **Nordson** *TEST & INSPECTION*

### a new name for well-known brands

Nordson has merged its daughter companies Dage, Matrix, Sonoscan, Yestech and Assure under one new corporate brand and logo; "Nordson Test & Inspection"

Partnertec has been Nordson Dage distributors for many years and a lot of customers in the Benelux are using Dage Manual X-ray Inspection systems to verify the quality of their PCB assemblies.

Over the years Nordson acquired several companies, such as Matrix for automated X-ray inspection equipment, Assure for automated component counting and Sonoscan for acoustic imaging. Partnertec added their products to expand our portfolio. Now all these companies will operate under one brand, Nordson Test & Inspection.

Nordson Test & Inspection is also restructuring its sales and support channel to better serve the needs of customers and distributors. Cross training among all staff will improve the service level and a central spare-part hub in Germany should resolve logistic issues experienced since Brexit.

For Europe, all demo equipment is now available in one large modern application center in Feldkirchen, only a few minutes drive from Munich Airport.

Please note this reorganization and rebranding does not affect other Nordson Divisions and companies such as Nordson Asymtek.

[www.nordson.com](http://www.nordson.com)

## Partnertec invested in latest laser cut technology for stencil fabrication!

To meet projected demands in the years ahead, Partnertec is investing in people and High Tech production equipment. This new state of the art LPKF laser cutting machine for stencil fabrication is a major step forward.

Partly due to a strong growth in our stencil production and further expansion of our stencil department, Partnertec has recently invested in the latest state of the art laser cutter from LPKF Laser & Electronics AG.

This high speed and high yield production machine from LPKF is not only extremely accurate (2 um) but is also capable of locally applying different thicknesses to a stencil by means of nitrogen laser welding, also known as Step Stencil Technology.

The Innovative variant of the high-end LPKF Stencil laser system sets new benchmarks in two dimensions: Extremely small openings of the highest quality enable new stencil applications and precision parts to be manufactured with the highest precision of stainless steel sheets in a range of 30 um up to 1000 um thickness.

From our (new) location in Eindhoven we are now even better able to supply more flexible, faster, and above all, a higher quality laser cutted stencils ranging in thicknesses from 80-250 um with max frame sizes of 740x1800x40 mm and a cutting range of max 600x800 mm.

For more information please contact [stencils@partnertec.nl](mailto:stencils@partnertec.nl) or our manufacturing department.



[www.partnertec.nl](http://www.partnertec.nl)

# TEKNEK, the leading specialist in solving contamination problems, launches two new products supporting the drive to “zero defects”

ITW's TEKNEK focusses entirely on contact cleaning equipment. They solve customer contamination problems in high-end industrial processes and aim to help in achieving zero defects in production. PCB cleaning after laser marking and/or prior to Solder Paste Printing can solve many issues related to particle contamination. But it is still not commonly adopted, while the investment is relatively low and very effective. Two recently launched products for the PCB assembly industry will make it even more attractive.

## The cleaning technology

TEKNEK has invented and developed contact cleaning method that can pick up loose particles and contamination ranging from sub-micron size up to 5mm, for examples, general dust particles, metal, glass-fibers, human hairs and skin. Such “mechanical” contaminations can cause defects in your PCB assembly when blocking stencil apertures or when ending up under or between solder joints, creating poor connections or potential short circuits.

Parts are easily picked up while one or more Elastomer rollers softly roll over the surface. The contamination is then transferred to special designed “sticky adhesive sheets”, that are refreshed at regular intervals. The cleaning systems are available for hand-cleaning and for automated Inline cleaning.

## New inline TEK-BC-10 & 20 machines

TEK-BC is the next generation of “low static” and “low strain” board cleaners for the SMT Industry. Equipped with the unique NTtm “low static” elastomer rollers, the system complies with the demanding International Ansi / ESD S20.20 rules. The latest generation GAR dissipative Adhesive Rolls will take care that all particles picked up from the NT Rollers are effectively transferred to the adhesive and later easily disposed of.

TEK BC 20 is equipped with a board staging conveyor, that will always keep one cleaned PCB ready for the downstream printer. This will avoid potential cycle time loss in the SMD line. Sensors detect board height to ensure effective, low strain cleaning and detect anomalies i.e. double board feeds.

An Industrial Controller with 10” touch screen makes it very easy to set-up the machine and to integrate the system in your Smart Factory. The system supports IPC Hermes and other M2M communication.

Replacement of GAR adhesive paper rolls can be done very quickly, and the machine can easily be accessed for maintenance.

TEK BC is a single side cleaning system and is available in two sizes:

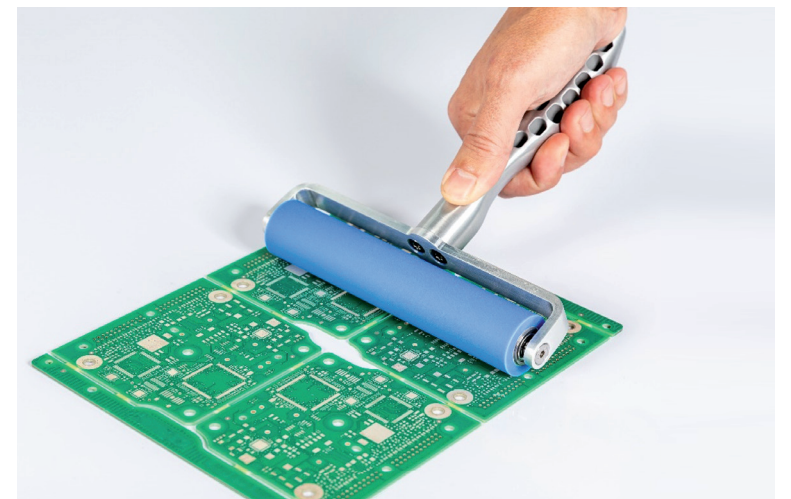
- TEK BC 10 for PCB's up to 200 mm wide and 350 mm long
- TEK BC 20 for PCB's up to 400 mm wide and 350 mm long

## Hand Cleaning Revolution – the new Teknek HR

TETEKNEK has released the first Hand Roller that uses a novel design process that incorporates contemporary ergonomics and sustainability thinking. This “Eco-Ergo” approach resulted in the all new TEK-HR, a long lasting, easy to use environment friendly hand roller, ready for the future. The new light weight hand grip reduces operator fatigue and offers maximum grip comfort. The metal design is long lasting and impact resistant. All parts are recyclable and produced in a low waste manufacturing process.

Four different unique designed contact elastomer rollers are available for various surface cleaning applications. This includes the latest low static NTtm roller and the silicon free Nanocleentm roller for clean room application. Collected contamination is transferred to adhesive DCRPADS, available in paper DCRPADS/BT and film material FILMIC PAD for cleanroom applications.

Inline systems such as the new TEK-BC and the TEK HR Hand-Rollers will achieve the same cleaning results. Please allow us to provide an onsite demonstration to surprise you how much contamination can still be removed from your PCB's or other flat products.



Prevent defects –  
Contamination is not  
inevitable!

teknek

[www.teknek.com](http://www.teknek.com)

# ASMPT marks latest milestone with global rebrand

**Leading semiconductor & electronics equipment maker formerly known as ASM Pacific Technology, has aligned all its world wide companies under one new global brand and logo; 'ASMPT'.**

Founded in Hongkong in 1975 as a daughter of Dutch ASMI, ASMPT quickly developed her portfolio and strong position in the fast developing semi-conductor industry. After purchasing the SMT division from Siemens in 2010, ASM also became the leading supplier in the SMT market.

Since the separation in 2012, ASMI and ASM Pacific Technology kept similar names and logo for a long time but now it's time to introduce a new fresh brand and logo for ASMPT.

The company still holds two strong segments, ASMPT SEMI for the Semi-conductor Industry and ASMPT SMT Solutions for the Surface Mount Technology market.

ASMPT's new modern futuristic logo is integrally paired with the company's Vision “Enabling the digital world”.

Partnertec is distributor in the Benelux for the SMT Solutions segment.

The SMT Solution segment comprises best-in-class hardware and software solutions such as SIPLACE placement machine, DEK printing solutions, Storage solutions, the smart shop floor management suite WORKS as well as Critical Manufacturing flexible manufacturing execution system (MES).

**ASMPT** enabling the digital world





## Solderstar SLX, the new benchmark in thermal profiling

Solderstar, a leading manufacturer of dedicated thermal profiling systems for electronics soldering processes, has successfully launched the successor of the famous SolderstarPro.

The new Solderstar SLX is 100% compatible with existing accessories, but offers great improvements.

The system features 12 thermocouple channels, offers a 10x faster USB connection, is loaded with much more internal memory and can automatically detect in what accessories the unit is being used and how many channels are connected, without any set-up time in the software.

Solderstar SLX can be used for profiling Reflow ovens, Vapor Phase Soldering -, Wave Soldering - and Selective Soldering Equipment. The large internal memory allows 12 independent profiles to be measured from various soldering processes, before it needs to be connected to a computer. This reduces the time to check all your equipment. With the optional RF connection the data download can even be done wireless.

Solderstar's advanced software with smart prediction functions will minimize the required amount of measurements and will assist in achieving the best soldering quality.

A large amount of dedicated unique fixtures is available for easy repeatable measurements of all relevant process parameters in your machines. Solderstar SLX is the new heart of all these devices and can easily be exchanged by simply sliding the profiler in the SmartLink connector of each device.

The system is designed for new features such as pressure- and vacuum sensing and other releases to come.

Please let us know if you want to learn more about the unlimited possibilities of the SolderstarSLX or if you wish support from one of our application engineers in optimizing your soldering processes.



**solderstar**

[www.solderstar.com](http://www.solderstar.com)

## Modi, the specialist in incoming goods scanning systems, signs distribution contract with Partnertec

Just before summer we signed a distribution contract with Modi GmbH from Germany. Modi is the market leader for incoming goods scanning systems for the Electronic Assembly industry. Their scanning tables make it very easy to check and re-label incoming goods..

All important data on delivery notes and manufacturer/vendor labels is collected and checked against expected data in the ERP system and ASN (Advanced Shipping Notification) Goods are relabeled with a customized label containing a Unique Identifier (UID). This UID can be created by the MODI software or collected from the customers ERP. UID's link to all relevant data, such a part numbers, batch and lot ID's, MSD information, production and expire dates, Quantity on the reel etc. Unique Identifiers are indispensable for traceability and stock transparency.

### What does a Modi system offer:

- Avoid misplacements and expensive rework due to wrong labels.
- Avoid unexpected component shortage and line-down time.
- Provide complete information for component level traceability.
- Data for Full stock transparency, what is located where and in what quantity.
- Process time Reduction for incoming goods scanning/relabeling.
- Avoid human mistakes when hand scanning multiple barcodes.
- Improve overall efficiency.

### The method

Operators simply place components on the Modi work table and the integrated camera system reads the barcodes on the reel. Once all data is collected, checked and stored, a new barcode is presented to the operator, that must be attached to the reel. Then the system will check if the label is correctly mounted and fully readable. This entire process will only take a few seconds. Fully automated Modi systems using robots and transport belts are available too, for further reduction of operator time.

### The technology

Modi uses a patented ADOMO scanning system based on two cameras and a moving mirror. One overview camera scans the entire reel for available labels and barcodes. The powerful software will automatically determine which barcodes are relevant. A second more accurate camera looking via a moving mirror will then focus on relevant barcodes and collect required information.

Focusing on a smaller area requires less computer data and improves the reading process.

### The software

Over the last 20 years Modi has developed a powerful software in a SQL database structure, using modern web service based integration with ERP/MES systems and Pick & Place machine software. Advanced algorithms including OCR (text recognition) will assure that all data can be collected from any kind of label used in our industry.

### More information?

Please contact us if you wish to learn more about how Modi can help your organization to improve quality and become more efficient.



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Vision for Identification

[www.modivision.net](http://www.modivision.net)



## Introduction of the most advanced Solder Paste Inspection system

# ASMPT process lens HD

Recently ASMPT has released a next generation SPI that beats all existing technologies. The well-known and established ASMPT Process Lens is now also available in an even faster and more accurate HD version.

It is well known that issues in the stencil printing process contribute up to 60% of the detected End of Line defects. Integrating a Solder Paste Inspection machine (SPI) in the SMD line can avoid expensive rework and improve the Quality.

ASMPT's SPI systems combine 2D and 3D technologies, to make sure only paste, glue and/or contamination is measured and noise generated by copper tracks, silk screen, solder resist or holes in the PCB is completely filtered out. This results in very accurate measurement data and a drastic reduction of the number of false calls.

ASMPT's SPI machines are the only systems in the market offering true closed-loop process Control on ASMPT DEK stencil Printers.

Where the existing Process Lens model already uses a very impressive Moiré phase shifting digital light projector with 8 million digitally-controlled micromirrors and camera system, the new HD version goes beyond any imagination.

The new model offers a 50mmx50mm field of view, 25 Mega Pixel camera in combination with a digital projector that uses, mind blowing, 20 million micromirrors to create the desired flexible Moiré projection. This new SPI can achieve up to 70% shorter inspection times and is well able to cope with the output of the fastest stencil printers in the market.

Running in high-speed mode, the system can inspect 90 cm<sup>2</sup>/s, competing with the fastest laser inspection systems in the market but also offering the great benefits of digital Moiré projection like used in advanced AOI systems.

Running in high resolution mode, this new model offers a 10x10-micron pixel size and allows inspection of the smallest solder deposits, down to 70micron x 125- micron. But the system is also able to measure paste deposits up to 1000 micron height!

Both Process Lens and Process Lens HD can be combined with the advanced self-learning and fully automated Process Expert software, to create a perfect closed-loop process control on ASMPT DEK stencil printers.

The unique approach of ASMPT SPI systems consists of three integrated steps:

- STEP 1:** DFM analyzes stencil gerber data and recommends the best printer setup and initial printing parameters.
- STEP 2:** Automated process optimization with a Design of Experiment on the first initial production run and optimize printing parameters.
- STEP 3:** Proactive control during running production with closed-loop control and continuous improvement on the stencil printer process.

Closed-loop process control and autonomous improvements of the solder paste printing process are only possible when expert knowledge is available to understand how parameter changes affect the printing results. Process Expert's in-built exhaustive process knowledge database is based on 50+ years of stencil printing experience achieved from ASMPT DEK stencil printing.

The latest version of the software can also import measurement data from third party AOI systems, through the new IPC -CFX data format. This allows faster defect root cause finding analyses on end of line quality issues over the complete SMT line and offers user guidance to improve the entire SMD assembly process.

Please let us know if you would like to learn more about how ASMPT Process Lens and Process Lens HD can help you to improve your SMD assembly process.

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## Cleaning and coating

### It's all about reliability!

An Introduction to Zestron's unique research capabilities to help you. At Zestron in Germany, a company well known from the past for its advanced cleaning chemistries, they very well understand the challenges to build reliable electronics that can last many years in the most hazard environments.

The growing use of high density packages, decreasing sizes of electronics devices and the need of Higher Voltages in power electronics and use of Higher Frequencies has increased the threat of failures caused by leakage current and all sorts of electrical migration. Very often such issues are related to Humidity Robustness and insufficient Cleanliness and often only appear after usage of the products in the field.

Early involvement in the development and validation of a new PCBA product can help to avoid those issues. But also strong and quick research in those situations where products fail in testing or in the field is important to find the real root cause of a problem and propose solutions. In both scenarios Zestron is the right partner.

Zestron runs a special "Reliability & Surfaces" department with a strong team of PhD Scientist and other specialist which have built up expertise over many years, and that have access to a wide range of analytic tools and techniques. The goal is to quickly find the root cause of a failure and to offer a solution to make the product more robust and reliable.

Zestron not only helps in product validation and failure analysis, but also offer a special Academy to transfer knowledge about the topics Reliability, Cleanliness, Humidity Robustness and Conformal Coating. A lot of content is available Free of Charge in their online white paper section, standard seminars can be joined via their training portal, but Zestron also offers customized technology coaching and class training addressing specific reliability topics This Technology coaching was successfully deployed in the electronics industry to OEMs and Tier 1.

The combination of Zestron reliability expertise with our partners product support namely MBtech, Gen3, Asymtek and Humiseal, gives Partnertec the capability to provide you as our customers, unique support to address your challenges regarding reliability, cleanliness, cleaning and coating.

Please contact us if you are facing issues or would like to avoid them and wish to learn more about what we can offer to help you.



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# Pieter's Tips & Tricks

## How to set Stencil Printer Parameters correctly?

I frequently notice that customers do not use optimum process parameters in their Stencil Printer for the specific solder paste used and the PCB size they are printing on. Let me give some examples:

Very often an existing program is copied without adjusting the printing pressure, while this should be adapted to the length of the squeegees and those should fit to the PCB size.

Too high print pressure can cause paste bridges and will create under stencil smearing. Too low pressure might cause skips and will leave a film of paste on the stencil. Too long squeegees will bend the stencil over the PCB, causing gaps between the stencil and PCB during printing. This might cause overprinting and under stencil smearing.

Another common made mistake is the use of the same printer settings for different brands of solder paste while the behavior of pasta's can be very different. Some pastes require/allow higher print speed and separation speed than others.

Most Stencil Printers offer "start-up" parameters to allow the solder paste to get in operational conditions but often these are not set correctly, resulting in poor printing results at the start of a production run.

In some cases wrong printer settings are compensated with more frequent under stencil cleaning wipes, but this will have negative side effects. With a little bit more attention to the Printer Settings, the printing results will be much better and more stable, resulting in less misprints and better solder joints. And the amount of underwipe paper and cleaning agent will be reduced and you can win on process cycle time.

If you need some help you may always contact [helpdesk@partnertec.nl](mailto:helpdesk@partnertec.nl) for recommendations or for on-site support to set your Stencil Printer correctly.

Pieter Verheggen  
Partnertec ServiceTeam



# ASMPT introduces DEK TQ L, top quality performance stencil printer

About a year after the successful launch of the new DEK TQ, ASMPT has now released the DEK TQ L suitable for larger board sizes. Both machine share the unique design and features, making it the most accurate and fastest printers in the world.

Where DEK TQ is limited to max board sizes of 400x400 mm, the new DEK TQ L can handle boards up to 600x510mm, making it more suitable for Contract Manufacturers. DEK TQ and TQ L set new benchmarks for:

- Precision
- Throughput
- Flexibility
- Floor space performance

DEK TQ and TQ L are equipped with a new three-stage conveyor with innovative clamping and off-belt printing technique, suitable for any kind of substrate and PCB.

The unique Linear NuMotion Controller with fiber-optic wiring and the new fiducial alignment vision system are based on many years of experience in designing accurate and fast Pick & Place machines. The new DEK machine uses Linear drives and guarantees ultimate accuracy and stability at high speed. Each manufactured DEK TQ (L) achieves a certified wet-printing accuracy of 17 microns @2Cpk (=6 sigma), without any compromise on throughput. The system accuracy is proven at 12,5 micron at 6 sigma.

DEK TQ L achieves a core cycle time of less than 6,5 seconds (DEK TQ is slightly faster with only 5 seconds core cycle time).

The new developed High speed under stencil cleaning system can use special 22mtr long fabric rolls and is up to 50% faster than previous systems.

The TQ family can be equipped with many new features, such as automated Paste Management, Automatic Smart-support pin placement and a Dual Access Cover for hot-swapping Solder Paste cartridges while the machine continues production.

DEK TQ and TQ L can run unattended for more than 8hrs, contributing to higher bottom-line output and lower operating cost.

The modern architecture and new software platform easily integrates in Smart factories. It supports IPC-Hermes-9852 and IPC-CFX and fits perfectly in ASMPT's Open Automation philosophy for seamlessly integration with MES, ERP and AIV fleet management systems.

DEK TQ L modern design not only looks perfectly on the shop floor, but also requires minimum floor space. The large model requires less than 2 square meters and the TQ model only 1,3 sq meter.

Please contact us if you like to learn more about ASMPT's new DEK TQ or TQ L.

