



Smart measurements ensure top-quality prints

Precise solder paste printing with speedy SPI expert system



The challenge

With its highly flexible portfolio of services ranging from SMT and THT production to module inspection and testing, ESCD GmbH is committed to constant expansion. Since the company supplies many well-known industrial companies and wants to gain an even stronger foothold in the aviation sector, its manufacturing equipment is versatile and flexible. For high-mix/low-volume jobs, the solder paste printing process is particularly challenging because the results depend to a large extent on fluctuating environmental factors such as temperature and humidity. Frequent product changeovers can also cause faults in the solder paste application. And since reworking products is not an option, detecting faults early and without affecting the throughput is critical to success.



“In our high-mix/low-volume production we need an SPI system that measures with precision and intelligence without slowing down the production flow. Fortunately, ASMPT has provided us with the perfect solution.”

Matthias Warnecke,
Technical Manager and VP
at ESCD

Up to
70
percent
faster inspections

Combined
2D-3D
inspection

High-resolution
mode down to
10 μm

Creation of an
SPI program in
15
minutes

The solution

To operate with maximum flexibility and deliver the best possible quality, ESCD decided to work with innovation and market leader ASMPT. The company uses DEK Horizon and [DEK NeoHorizon](#) solder paste printers as well as the [SIPLACE SX](#) platform with the [OSC Package](#) in its SMT production. The paste printing process is monitored by the intelligent [Process Lens HD](#) SPI system from ASMPT. In a first step, the machine uses its 2D mode to determine all relevant areas of the PCB to be inspected before performing a detailed inspection in 3D mode.

Dream team: Process Lens HD and WORKS Optimization

ESCD supplements its high-precision SPI hardware with the [WORKS Optimization](#) application from ASMPT's [WORKS Software Suite](#). With features such as DFM Health Check and pre-print optimization, it ensures short changeover times for new products with just a few test prints. The intelligent inline expert system permanently analyzes the printing results and ensures the highest level of quality and process reliability by making continuous adjustments. To do this, it communicates directly with the printing platform.

Everything under control

With the combination of Process Lens and WORKS Optimization, the ESCD team has the demanding solder paste printing process fully under control. They configured the automatic offset correction in such a way that the employees only need to check the machine's adjustment recommendations for plausibility. As a result, WORKS Optimization reduces the need for operator assists considerably.

The success story

Since "Measure what matters" is the developers' mission at ASMPT, the Process Lens system understands what it measures and knows how to interpret the results correctly. The SPI system provides ESCD with all relevant data for process improvements, thus guaranteeing optimal printing



About ESCD GmbH

With its extensive portfolio of services, ESCD GmbH is on the cutting edge at all times. The company, which was established in 1978 as "Elektronik Service – Christoph Dichte", today offers SMT and THT production, complex mixed and power module production, surface preservation, device assembly and programming, module inspection and many other electronics manufacturing services. Its success story began in 1984 with the production of the "Speed-Dos" floppy-disk accelerator for the legendary Commodore 64 series of computers. ESCD has experienced continuous growth ever since – not only with regard to sales but also in terms of floor space and team size. Today, the company has more than 90 employees and occupies more than 7,000 square meters of state-of-the-art production and warehouse space.

results. Thanks to its innovative HD optical system, inspection times are reduced by up to 70 percent in high-speed mode with a resolution of 20 microns compared to conventional SPI systems. The high-resolution mode is only slightly slower, measuring with a resolution of up to 10 microns. These levels of performance make the Process Lens by far the fastest and most precise high-end inspection system in the industry. This also applies to the programming: Thanks to user-friendly software, a basic SPI program can be prepared in as little as 15 minutes.

ESCD is completely satisfied with the solution from ASMPT and plans as a next step to automate its entire material flow on the shop floor – with ASMPT as its proven equipment and service partner.

ASMPT

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