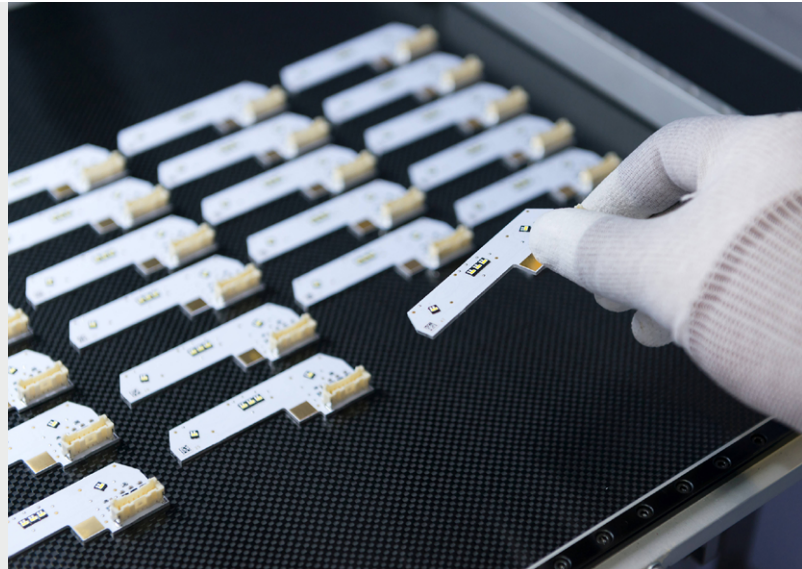




[A member of LG]

Quality and efficiency in the fast lane

Maximum flexibility and process stability with shorter setup and cycle times



The challenge

ZKW Group is an established specialist for innovative electronics with a special focus on premium headlights for the automobile industry. At its site in Vienna's Neustadt district, the company develops and manufactures intelligent light modules as well as controllers for autonomous vehicles.

The high product complexity and customers' rigid quality requirements demand maximum precision and efficiency. 400 product variants and many unusual solder paste footprints pose additional challenges, which is why ZKW has relied on manufacturing technology from ASMPT since 2015. Recently, the company wanted to further expand and improve its SMT lines, which were already equipped with proven DEK NeoHorizon printers and SIPLACE placement machines.



"We value ASMPT as a system partner because they are the clear innovation leader in the industry and respond very individually to their customers' requirements - and we have a lot of these with our broad product range."

Roland Eschker-Holzmann
SMT engineer at ZKW Lichtsysteme

30
percent

shorter
cycle times

80
percent

fewer false calls
from the SPI system

70
percent

shorter
inspection times

60
minutes

is all it takes
to adjust the solder
paste settings for NPIs

The solution

ZKW uses highly specialized and often strange-looking solder paste footprints that make it possible to achieve void limits (air pockets in the solder joint) without vacuum ovens – applications that place special demands on any SPI system. With the combination of the high-end [Process Lens](#) SPI system and the [WORKS Optimization](#) software from ASMPT, the company chose an integrated solution from ASMPT that leads the way in terms of inspection quality and flexibility for the printing process. Another plus: By integrating all SPI and AOI systems along the line, WORKS Optimization ensures more efficient manufacturing processes and reduces the fault rate.

Fast and precise control with Process Lens

The Process Lens system sets new standards in terms of speed and precision. It analyzes circuit boards in 2D mode before performing detailed inspections in 3D mode. By using modern algorithms and distortion-free moiré patterns, the Process Lens delivers accurate results and reduces false calls by up to 80 percent. As a result, ZKW was able to reduce its inspection times by 70 percent compared to conventional systems – a significant advantage given the company's broad product diversity.

Better processes with WORKS Optimization

As a tailor-made supplement to the Process Lens system, ZKW uses ASMPT's WORKS Optimization application, which continuously controls all printing results and automatically optimizes the printing process in a closed loop with the [DEK NeoHorizon](#) printer. During new product introductions, the system simulates the printing process and identifies critical stencil areas before the production starts. It calculates all relevant parameters based on just a few test prints, which reduces the setup time considerably. In combination with AOI systems, WORKS Optimization can also maximize the performance of the [SIPLACE SX](#) placement machines by providing operators with recommendations for improvement measures.



Roland Eschker-Holzmann, SMT engineer at ZKW Lichtsysteme at the company's Vienna location

About ZKW Lichtsysteme

ZKW is a valued and respected partner for the global automobile industry. In line with its motto "Bright Minds, Bright Lights", the Group develops and produces complex premium lighting systems for international automobile manufacturers with state-of-the-art production technologies. As a subsidiary of LG Electronics Vehicle Solutions, ZKW has been part of the LG Group since 2018. With twelve locations and headquarters in Wieselburg, Austria, the Group is represented worldwide. ZKW employed roughly 10,000 people and generated sales of 1.54 billion euros in 2023.

The success story

The combination of Process Lens hardware and WORKS Optimization software from ASMPT has led to significant quality and speed improvements at ZKW Lighting Systems. Cycle times dropped by 30 percent, and thanks to automatic offset correction and process optimization, most manual rework has been eliminated. Even special requirements like printing unusual LED paste patterns are being mastered reliably and efficiently. Introducing new products takes less than one hour now – a huge benefit in ZKW's high-mix/low-volume environment. By adding the Process Lens SPI system and WORKS Optimization software to its operations, the company has achieved significant improvements in cycle times and quality control that enable it to respond to market and customer requirements with even more speed and flexibility.

ASMPT

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