

Kulicke & Soffa and PDF Solutions Announce Collaboration to Deliver New Smart Manufacturing Solutions

Industry leaders are driving production process enhancements through comprehensive data collection, artificial intelligence, and machine learning capabilities

SINGAPORE and SANTA CLARA, Calif., April 12, 2022 /[PRNewswire](#)/ -- [Kulicke and Soffa Industries, Inc.](#) (NASDAQ: KLIC) and [PDF Solutions, Inc.](#) (NASDAQ: PDFS) today announced their existing relationship is expanding to address the challenges of production system control and variability reduction in semiconductor assembly and packaging. As more companies adopt innovative packaging and assembly technologies to bring new products to market, it has become essential to apply smart manufacturing methods to identify the root cause of packaging and assembly issues that impact product yield, quality, and cost.

Fast-growing advanced packaging methodologies such as System-in-Package (SiP) and Multi-Chip Modules (MCM), are providing performance, power, form-factor and cost improvements, without relying on traditional device-scaling techniques. However, the shift from a transistor focus to a packaging and assembly focus has brought new engineering challenges. The increased demands placed on tool control in assembly will require big-data collection and analytical techniques to optimize these emerging packaging solutions.

The Kulicke & Soffa (K&S) and PDF Solutions collaboration is intended to combine assembly Fault Detection and Classification (FDC) data, collected by K&S' RPM™ (Real-time Process Monitoring) data-enabled tools, with artificial intelligence (AI) and machine learning (ML) capabilities from PDF Solutions' Exensio® platform. The unification of RPM and Exensio analytic capabilities is being designed to enable insights to directly enhance advanced assembly issue dispositioning and containment, driving yield and efficiency gains for customers. In addition to these production benefits, this collaboration is also intended to help alleviate the ongoing chip shortage. These combined capabilities are being architected to also identify out-of-control process and equipment issues before they require unanticipated downtime, enhancing system throughput and delivering more chips to market from existing manufacturing capacity.

"It is Kulicke & Soffa's mission to be our customer's ally in technological discovery, accelerated via strategic partnerships across the value chain," said Shawn Sarbacker, Vice President and Head of Ball Bonder Business Unit at K&S. "The extension of our partnership with PDF Solutions immediately increases the breadth and value of our data-enabled equipment offerings, including RPM, to address the growing enterprise challenges faced by our customers across our broadening end-markets."

"Through our Cimetrix equipment connectivity solutions and Exensio Assembly Operations (formerly ALPS), K&S and PDF have been delivering advanced analytics to mutual customers for over a decade," said Bill Lee, Head of Global Corporate Partnerships at PDF Solutions. "Moving forward, our partnership will encompass additional Exensio products and includes full support for the SEMI E142 standard. By integrating the analytics and E142 traceability capabilities of Exensio

with K&S FDC, customers will be able to seamlessly connect their test results to back-end manufacturing. We expect this collaboration to benefit OSATs and chip companies by accelerating root-cause analysis, and providing data-driven insights across the assembly and packaging process that can identify the best combination of performance, quality, and cost for our customers."

K&S and PDF Solutions will support early adopters through an Early Access Program. Contact your local K&S or PDF Solutions sales representative for more details.

About Kulicke & Soffa

Kulicke & Soffa (NASDAQ: KLIC) is a leading provider of semiconductor, LED and electronic assembly solutions serving the global automotive, consumer, communications, computing and industrial markets. Founded in 1951, K&S prides itself on establishing foundations for technological advancement - creating pioneering interconnect solutions that enable performance improvements, power efficiency, form-factor reductions and assembly excellence of current and next-generation semiconductor devices.

About PDF Solutions

PDF Solutions (NASDAQ: PDFS) provides comprehensive cloud analytics platforms designed to empower engineers and organizations across the semiconductor ecosystem to increase the yield and quality of their products, and improve operational efficiency for increased profitability. The company's products and services are used by Fortune 500 companies across the semiconductor ecosystem to impact business outcomes and achieve smart manufacturing goals by connecting and controlling equipment, collecting data during manufacturing and test operations, and performing advanced analytics and machine learning to drive profitable, high-volume manufacturing.

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Caution Concerning Results and Forward-Looking Statements – K&S

This press release contains statements relating to future events and anticipated benefits of the PDF Solutions and K&S collaboration. These statements are "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995. While these forward-looking statements represent our judgments and future expectations concerning our business, a number of risks, uncertainties and other important factors could cause actual developments and results to differ materially from our expectations. These factors include, but are not limited to, the effects of the COVID-19 pandemic on our business, the effects of supply chain constraints on our business, and the other factors listed or discussed in our Annual Report on Form 10-K for the fiscal year ended October 2, 2021, filed on November 18, 2021, and our other filings with the Securities and Exchange Commission. Kulicke and Soffa Industries, Inc. is under no obligation to (and expressly disclaims any obligation to) update or alter its forward-looking statements whether as a result of new information, future events, or otherwise.

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differ materially from our expectations. These factors include, but are not limited to, continued adoption of PDF's solutions by new and existing customers; project milestones or delays and performance criteria achieved; cost and schedule of new product development; the continuing impact of the coronavirus (COVID-19) on the semiconductor industry and on its operations or demand for its products; the time required of its executive management for, and the expenses related to, as well as the success of its strategic growth opportunities and partnerships; its ability to successfully integrate; and other risks set forth in PDF Solutions' periodic public filings with the Securities and Exchange Commission, including, without limitation, its Annual Reports on Form 10-K, most recently filed for the year ended December 31, 2021, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K and amendments to such reports. PDF Solutions is under no obligation to (and expressly disclaims any obligation to) update or alter its forward-looking statements whether as a result of new information, future events, or otherwise.

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