



## **News Release**

### **AUO Digitech Provides Smart Upgrades for Semiconductor Assembly and Packaging Plants**

*Creating fully automated production line solutions with K&S and Leyu*

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In recent years, the semiconductor assembly and packaging industry, which has been known for its labor-intensive nature, has been facing talent shortages due to the issue of declining birth rates. To address the labor shortage challenge faced by semiconductor assembly and packaging field, AUO Digitech, a subsidiary of AUO specializing in providing smart industrial services, has independently developed the Intelligent Automated Material Handling System (iAMHS). By combining the world-leading ball bonder from Kulicke & Soffa Industries, Inc. (K&S) and the rail guided vehicle (RGV) system from Leyu Precision Co., Ltd. (Leyu), AUO Digitech has created a comprehensive solution that has been successfully implemented at multiple semiconductor production sites. This solution not only helps client achieve full automation of their production lines, but also increases production capacity by at least 10%.

#### **AUO Digitech Collaborates with K&S and Leyu to Create a Comprehensive Solution, Reducing the Risk of Material Mishandling and Alleviating Labor Shortages Problems**

AUO Digitech has paid close attention to the needs of the smart manufacturing industry, and together with K&S and Leyu, AUO Digitech provides one-stop service solutions that target the issues faced by the semiconductor assembly and packaging field. The iAMHS solution incorporates autonomous mobile robots (AMRs) that are specifically designed for semiconductor factories and advanced manufacturing industries. The AMR feature omnidirectional drives and utilize AI algorithms, 2D LiDAR, 3D cameras, and other technologies to enable precise movement and obstacle avoidance even in the limited spaces of factories. They serve as invaluable assistants to production line personnel. By automating material transportation, the solution improves coordination and streamlines the manufacturing process, eliminating the communication issues and interruptions that can arise from manual handling.

Furthermore, the integrated intelligent automated material handling system utilizes computerized equipment and robotic arms, combined with intelligent scheduling, to optimize the efficient transport of magazines, carriers, and production equipment within the material area of the production line, resulting in zero material mishandling risk. The highly automated ball bonder production line is controlled by a material control system (MCS) with smart scheduling. This system complies with the semiconductor equipment and materials standard SECS/GEM (SEMI Equipment Communication

Standard/Generic Equipment Model) enabling direct integration with customers' existing manufacturing execution system (MES).

By implementing the iAMHS solution, the worker-to-machine ratio of the ball bonder production line has been significantly improved by two to eight-fold from 1:30 before, effectively alleviating labor problems and accelerating line changeovers. The result of the implementation is greater flexibility in production scheduling. By managing the ball bonder production line with the smart scheduling of the material control system (MCS), the production capacity can be further improved by approximately 15%.

Daniel Yang, General Manager of the Intelligent Service BG of AUO Group, stated, "AUO's Longtan Fab was the first to adopt the iAMHS solution, AUO Digitech's Intelligent Automated Material Handling System has been extensively validated within the AUO Fab, achieving a remarkable increase in unmanned handling efficiency. It is an honor to witness AUO Digitech's further integration of K&S ball bonder and Leyu RGV system. They are actively advancing in the semiconductor field to address customer pain points. The collaboration of these three leading companies aims to create a complete automated solution for ball bonding, with the hope of accelerating the digital transformation of semiconductor packaging production lines."

Chan-Pin Chong, Executive Vice President and General Manager of K&S's Products and Solutions, stated, "We are delighted to collaborate with AUO and AUO Digitech to develop this unique automation and digital transformation solution. This partnership demonstrates our commitment to providing cutting-edge solutions to accelerate our customers' smart manufacturing processes."

### **AUO Digitech Aims to Transfer Successful Cases to Other Sites and Drive Painless Transformations for Manufacturing**

AUO has long been promoting digital transformation and smart manufacturing, actively implementing the concept of sustainable production. Furthermore, AUO has also received international accolades such as being named a "Global Lighthouse Factory" by the World Economic Forum (WEF), the "Manufacturing Leadership Award" (MLA) by the American Manufacturing Association, and the "Smart Automation" award of the ROI-EFESO Industry 4.0 Awards in Germany. AUO's smart manufacturing capabilities are being seen and recognized throughout the world.

Building upon the company's past successes, AUO Digitech aims to continue its knowledge sharing and technological collaboration, maintaining strong partnerships and integration with ecosystem partners like K&S and Leyu. This will drive the manufacturing industry to accelerate the timeline of smart transformation, reducing the process from years to months. AUO Digitech is committed to both assisting customers in optimizing product quality and production capacity and to transferring successful cases in the field. The company plays a leading role in the global manufacturing industry's smart transformation and aims to achieve a vision of smart sustainability with its industry partners.

AUO Digitech, in collaboration with K&S, is advancing into the semiconductor assembly and packaging field to provide smart manufacturing solutions. In the latter half of the year, the companies will jointly participate in three major international semiconductor exhibitions: SEMICON Southeast Asia in Penang, Malaysia, from May 23 to 25 (Booth #C1613); SEMICON China in Shanghai New International Expo Center, China, from June 29 to July 1; and SEMICON Taiwan in Taipei Nangang Exhibition Hall, Taiwan, from September 6 to 8. They cordially invite industry pioneers to visit their booths and personally experience the brand-new solutions brought by AUO Digitech and K&S in the field of smart manufacturing.

**AUO photos can be downloaded at the Company's website:**

**[https://auo.com/en-global/Download\\_Photos](https://auo.com/en-global/Download_Photos)**

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### **ABOUT AUO**

Founded in 1996, AUO is an enthusiastic, technology-driven company, delivering products and solution services that advance the frontier of innovation for display, system solutions, industrial intelligence, healthcare, and energy. The company is based in Taiwan and operates across Asia, the US and Europe, with a global team of 38,000 people. Additionally, AUO has also been named to the Dow Jones Sustainability World Index since 2010. AUO's consolidated net revenues in 2022 were NT\$246.79 billion. For more information, please visit AUO.com.

### **About AUO Digitech**

AUO Digitech is a brand-new subsidiary of the smart industrial services of AUO. Dedicated to smart manufacturing solutions and digital transformation services, ADT adopts AI in all aspects of manufacturing including workers, machines, materials, methods, and environments, providing services from top-level design to integrated software and hardware solutions for verticals to assist customers in their process of digital transformation.

Website: [www.auodigitech.com/en-global/](http://www.auodigitech.com/en-global/)

### **About Kulicke & Soffa**

Founded in 1951, Kulicke and Soffa Industries, Inc. specializes in developing cutting-edge semiconductor and electronics assembly solutions enabling a smarter and more sustainable future. Our ever-growing range of products and services supports growth and facilitates technology transitions across large-scale markets, such as advanced display, automotive, communications, compute, consumer, data storage, energy storage and industrial.

### **Safe Harbour Notice**

AUO Corporation ("AUO" or the "Company") (TWSE: 2409), a global leader of TFT-LCD panels, today announced the above news. Except for statements in respect of historical matters, the statements contained in this Release include "forward-looking statements." These forward-looking statements are based on our management's expectations, projections and beliefs at the time regarding matters including, among other things, future revenues and costs, financial performance, technology changes, capacity, utilization rates, yields, process and geographical diversification, future expansion plans and business strategy. Such forward looking

statements are subject to a number of known and unknown risks and uncertainties that can cause actual results to differ materially from those expressed or implied by such statements, including risks related to the flat panel display industry, the TFT-LCD market, acceptance of and demand for our products, technological and development risks, competitive factors, and other risks. In addition, our Annual Report contains other information on these and other factors that could affect our financial results and cause actual results to differ materially from any forward-looking information we may provide. We undertake no obligation to update or revise any forward-looking statements to reflect subsequent events, new information or future circumstances.

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Possibilities