

## **AUO Recognized with Manufacturing Leadership Awards for Painless Upgrade to Sustainable Smart Factory through AI for Old Factories**

*Harnessing AIoT, Digital IoT and Data Analysis to Solve Pain Points in Old Factories and Realize the Vision of Sustainable Assets*

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**Hsinchu, Taiwan, July 1, 2022—**

AUO today announced that it has been recognized by the Manufacturing Leadership Awards (MLA) in categories of Digital Network Connectivity as well as AI and Machine Learning, and especially honored the High Achiever in Sustainability and the Circular Economy category by the National Association of Manufacturers (NAM) in the US. Drawing up on its years of experience in smart manufacturing and digital transformation, AUO combined AIoT, digital IoT and data analytics technologies to build a machine doctor for carrying a comprehensive health exam of factories. Applying its wealth of green manufacturing expertise to transform old factories into sustainable smart factories, AUO successfully won the international recognitions.

“AUO drew on the extensive experience in smart manufacturing to actively invest in digital transformation and cultivation of AI talent. The AUO Group also embraced sustainability as our core philosophy and continued to refine our green production process technologies,” said AUO Chairman and CEO Paul SL Peng. “AUO was selected for the Global Lighthouse Network by the World Economic Forum last year and is honored to be recognized by yet another top international award. We will continue to spearhead industry developments and put our corporate philosophy of inclusive sustainability into practice.”

“AUO is truly a champion of sustainability and the goal of a circular economy,” said David R. Brousell, Co-Founder of the Manufacturing Leadership Council and one of the judges in this year’s Manufacturing Leadership Awards competition. “AUO’s accomplishments in water resource management, specifically in water reduction and recycling, should be held high as an example to other companies on what can be achieved when a well thought out and committed strategy is in place. We are pleased to honor AUO with the ‘Sustainability and the Circular Economy’ category award, the only Taiwanese company to be so recognized this year.”

### **Realizing Smart Manufacturing through Digital IoT Strategy**

AUO has been an active proponent of digital transformation in recent years. AUO Digital Network Connectivity (AUDNC) was developed to collect equipment data through sensors and transmit them through Wi-Fi base stations deployed throughout the factory. Big data analysis is then carried out by the prognostics and health management platform (PHM platform) to provide early warning and troubleshooting of potential equipment problems to effectively reduce unexpected production line stoppages and improve equipment activation.

### **Building a Machine Doctor for AI-powered Health Exams of Production Lines**

AUO was able to use the combination of AUDNC deployment and PHM monitoring to design a machine doctor for conducting AI-powered “visual inspection” and “auscultation” that assess and diagnose the health of machine equipment and their components.

For visual inspection, the “GRAPIC” smart visual recognition software developed by AUO has a wide variety of applications in three areas: factory quality management, equipment maintenance, and personnel safety management. In quality management, smart visual inspection can be used to pick up product flaws, carry out precision measurements of dimensions during production, and monitor operator SOP. In equipment maintenance, it enables active detection of deviations in machine components, ensures equipment operating at right angles, and reduces scrapping costs from equipment failures. In personnel safety management, it helps verify that factory workers are wearing proper protective gears, and also detect hazardous situations such as mobile phone use within the factory or falls in single-worker zones. By translating its extensive manufacturing expertise and experience into smart visual detection technologies, AUO was able to develop software that personnel from non-programming backgrounds could use to obtain a “clearer picture” during production and effectively reduce the factory’s operation and maintenance costs.

Auscultation is another important skill that the machine doctor can use for health exams in addition to visual inspection. The “stethoscope” used by clinical physicians inspired the use of “vibration pickups” by AUO to capture equipment sounds. Edge computing technology is then used to analyze the audio data and visualize the results for the PHM platform to help production line personnel track the health of their equipment. By “listening” for equipment anomalies or potential hazards, equipment management and maintenance can be conducted more efficiently.

AUO’s manufacturing experience and domain know-how combined with AI health exams by the machine doctor and PHM monitoring can solve the pain points of old factories with high precision and boost productivity by up to 30%. AUO also transformed its years of internal experience into smart manufacturing solutions offered by its subsidiary AUO Digitech. These solutions provide old factories with an upgrade and the industry with greater impetus for transformation.

### **Realizing the Sustainability Vision through Refinements to Green Production Process**

In the face of global climate change, AUO leveraged its excellence in smart manufacturing to implement sustainable production and make continued refinements to green production process technologies. Connecting smart water and power grids to the AUDNC effectively improved the water and power efficiency of production machines. In 2021, the production process at AUO Longtan Plant could recycle each drop of production water up to 27 times. The production water recovery rate of all fab in AUO also increased to around 95%. Absolute carbon emissions have been reduced by 18% compared to 2018 as well. At the same time, AUO is reprocessing waste copper acid into copper rods and waste solvent into auxiliary fuel as part of the factory’s waste reduction and recycling program. Successful internal experience with green manufacturing is now being offered as sustainable solutions through the AUO

subsidiary AUO Envirotech in the hopes of encouraging the rest of the industry to join in supporting the vision of sustainability.

As a leader in smart manufacturing, AUO is focusing on digital transformation and making the value-oriented transition from competition on scale to competition on value. By combining its extensive manufacturing experience with AIoT, digital IoT and data analytics, AUO is able to identify maintenance requirements and pain points in old factories and assist with their transformation towards sustainable development. At the same time, it continues to create new opportunities for green manufacturing in the hopes of inspiring other global manufacturing partners to join in mitigating climate change, protecting environmental sustainability, and ultimately, bringing about a new future of endless possibilities based on smart sustainability.

**AUO photos can be downloaded at the Company's website:**  
[https://auo.com/en-global/Download\\_Photos](https://auo.com/en-global/Download_Photos)

**Any use of photographs must cite the source thereof as AUO Corporation.**

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#### **ABOUT AUO**

AUO Corporation ("AUO") is one of the world's leading providers of optoelectronic solutions. Based on its profound R&D and manufacturing experience, AUO offers a full range of display applications and smart solutions integrating software and hardware, and leverages its core expertise to enter new business areas such as solar, smart retail, general health, circular economy and smart manufacturing service. Additionally, AUO has also been named to the Dow Jones Sustainability World Index since 2010. AUO's consolidated net revenues in 2021 were NT\$370.69 billion. For more information, please visit AUO.com.

#### **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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