



REVOLUTIONISING METALWORKING: AIDA'S IOT TRANSFORMATION

The Internet of Things (IoT) found numerous applications in the field of metalwork and manufacturing, helping to improve efficiency, quality control, safety, and maintenance. AIDA Engineering is one of the leading metal forming players embracing IoT's potential.

The manufacturing industry is facing major challenges which include a decreasing number of young workers and aging skilled engineers. Utilising DX technologies, such as visually monitoring operation conditions and production, and using AI to identify signs of potential issues serve to reduce the burden on operators and make it possible to maintain stable operations that will not be affected by the experience levels of individual workers.

Strengths That Drive Corporate Value

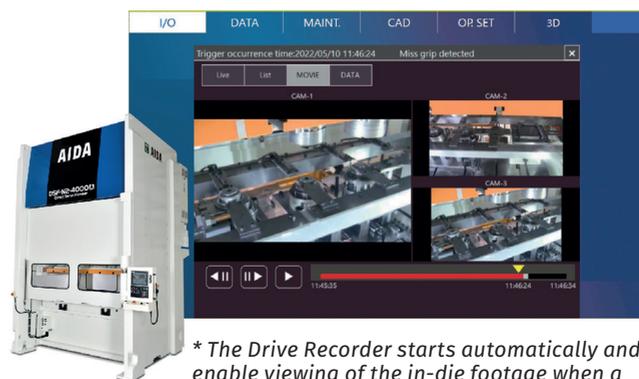
AIDA continues to improve corporate value through enabling customers achieve optimal production lines via leveraging strengths, including unique technologies and product development capabilities amassed as a pioneer in press forming. AIDA's comprehensive solutions include auxiliary equipment and forming methodology development, as well as comprehensive after-sales services.

1. Technological And Product Development Capabilities

As a specialist in press forming systems, AIDA develops and provides optimal press lines that leverage the

unique technologies and product development capabilities accumulated for more than a century. The firm developed the world's first direct-drive servo press which revolutionised press forming systems, and also developed many press machines that were the first of their kind in the history. AIDA continues to evolve as a specialist in press forming systems by leveraging the technological capabilities developed through the years.

Moreover, AIDA provides press optimising and customising in accordance to clients' needs to help the



* The Drive Recorder starts automatically and enable viewing of the in-die footage when a fault occurs.



**Showcasing AIDA new servo press control system with integrated AI technology*

latter agilely respond to market fluidity. It has an extensive lineup of high-value-added presses machines suited for a wide array of applications and objectives—including the forming of thick plates and high-speed precision forming—and by internalizing the production of critical components.

2. Comprehensive Solutions

As a forming systems builder that optimises production lines, AIDA offers customers optimal solutions spanning from press machines and auxiliary equipment to forming methodology development. Given manufacturing sites becoming increasingly sophisticated and diverse in terms of technological innovation and energy conservation, a perspective that considers the entire production line is needed to resolve challenging issues. AIDA provides optimal solutions by recommending comprehensive press forming systems, auxiliary equipment such as material feeders and automated transfers, and forming methodology development.

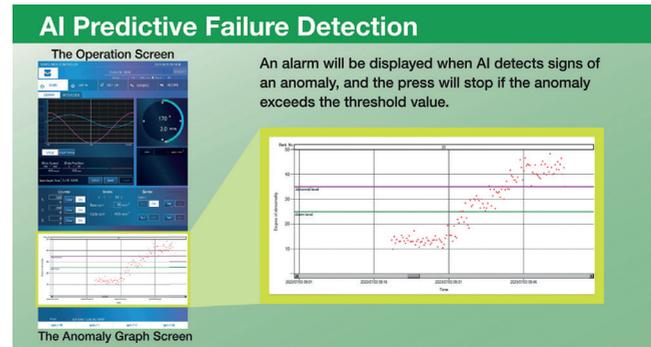
Service and Support Capabilities Powered By IoT

AIDA actively maximises IoT's advantages in both equipment and after sales. In terms of equipment, the company is a strong supporter of preventative maintenance, which is powered by IoT. With IoT sensors and data analytics, metalworking companies can predict when a machine is likely to fail based on its usage and condition. This allows for proactive maintenance, reducing unplanned downtime and improving overall equipment effectiveness.

In the aspect of Artificial Intelligence (AI), AIDA debuted its latest DSF-N2-4000A series control system in Southeast Asia. The precision engineering, advanced software for DSF-N2-4000A series control panel is set to revolutionise industries' managing and controlling press equipment. AIDA's latest state-of-art press control panels is engineered for:

- Easy servo motion setting
- Integrating seamless press and peripheral equipment operations
- Detecting occurring faults
- Real time monitors
- AI predictive failure detections

- An alarm will be displayed when AI detects signs of anomaly



**The press operation will pause if the anomaly exceeds the threshold value.*

The above ensures operators can easily manage the press equipment, ideal for industries striving for operational excellence.

AIDA's DSF-N2-4000A is a perfect illustration of the firm's leveraging the power of AI — being equipped with an AI embedded load monitoring system to ensure longevity of expensive dies. During the press forming process, dies are used to apply the load needed to form materials. Failure to appropriately apply these loads could result in defective products or damaged dies. The customary load monitoring method is to use a 2D graph to display 4 load points on the bolster, but AIDA's monitoring system enables users to see the fault locations in a 3-D graph at a glance. The fault list screen displays the method for remedying the fault as well as the related circuit diagram.

For AIDA, integrating IoT into metalworking is a transformative leap towards greater efficiency, precision, and competitiveness. By harnessing the power of real-time data, predictive analytics, and remote monitoring, metalworking companies can optimise their processes, reduce downtime, and enhance product quality. The ability to adapt to changing market demands, improve sustainability, and remain at the forefront of technological advancements makes IoT an indispensable tool for modern metalworkers. As the industry continues to evolve, embracing IoT will not only be a strategic advantage but also a necessity to thrive in an increasingly connected and data-driven manufacturing landscape.

The latest control system for the AIDA's new servo press DSF-N2-4000A series debuted at Metalex Thailand 2023 at Bangkok, Thailand on 22-25 Nov 2023. Its next appearance will be at IMTEX 2024 at Bangalore, India, on 19-23 Jan 2024. Don't miss this exciting opportunity to witness the cutting-edge technology in action for the very first time in Thailand & India! For more information, please log on to www.aida.com.sg



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