Industry-Academia Seminar on Intelligent Mold Design and Manufacturing Successfully Concludes — Pioneering the Future of Smart Manufacturing through Digital Twin Technologies

The Industry-Academia Seminar on Intelligent Mold Design and Manufacturing, co-hosted by the Department of Mechanical and Energy Engineering at National Chiayi University (NCYU) and CoreTech System (Moldex3D), was recently held at NCYU's Lantan Campus. Centering on Smart Manufacturing 4.0, Digital Twin technologies, and Cloud-Based AI applications, the seminar drew the enthusiastic participation of representatives from leading companies across the mold, automotive parts, electronics, and optoelectronics industries, alongside NCYU faculty and students. The event showcased the dynamic potential of industry-academia collaboration in shaping a new era of innovation in manufacturing.

The Department of Mechanical and Energy Engineering at NCYU is committed to cultivating high-tech professionals in the fields of mechanical and energy engineering. It aims to equip students with strong foundations in scientific knowledge and problem-solving capabilities, empowering them to thrive in their future careers. Moldex3D, a global leader in molding simulation technology, continues to drive innovation in the plastics industry, serving over 5,500 prestigious clients worldwide and playing a pivotal role in advancing smart manufacturing.

During the seminar, Moldex3D unveiled several cutting-edge technological solutions, including a Cloud-Based Big Data Simulation-Driven AI Platform, applications in the semiconductor and electric vehicle sectors, and practical implementation strategies for Smart Manufacturing 4.0 through Digital Twin technologies. One of the major highlights was the launch of the Moldex3D iSLM AOI Solution (Automation, Optimization & Intelligence), which integrates AI and big data analytics to streamline data import processes, enhance data integrity and support, and significantly boost the development efficiency and optimization of injection molding tools.

The Digital Twin-based solutions presented emphasized deep integration between physical and virtual systems, enabling intelligent management across the entire product lifecycle—from design and development to process optimization and quality control—bringing the vision of the smart factory into tangible reality.

The seminar not only deepened the dialogue between academia and the industrial sector but also provided NCYU faculty and students with valuable exposure to

advanced technologies and industrial practices, laying a solid foundation for future careers in smart manufacturing. Following the presentations, participants engaged in lively discussions on topics such as Digital Twin applications, AI-driven data solutions, and mold development workflows. The exchange of ideas underscored the high level of interest in smart manufacturing and its expanding relevance in academic research. Both faculty and students expressed that they had gained significant insights and looked forward to more opportunities for cross-sector collaboration to further align academic theory with industry practice and jointly propel Taiwan's smart manufacturing sector to new heights.