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Industry Cooperation

Publish Date : 2025-12-08

## NYCU Partners with Siemens Taiwan and Mega Flow to Build AI-Driven Engineering Simulation Platform



Edited by Chance Lai

National Yang Ming Chiao Tung University (NYCU) has partnered with Siemens Digital Industries Software Taiwan and Mega Flow Technology Ltd. to establish a comprehensive digital engineering simulation ecosystem across

Empowering Research and Student Innovation Through Advanced Simulation

Professor Chi-Chuan Wang and his mechanical engineering research team have long utilized Simcenter Flotherm for advanced

mechanical, civil, and materials engineering—advancing students' readiness for global industry demands.

Through this three-year collaboration, Siemens and Hydroinformatics will provide **480 licenses of advanced engineering software** at no cost, enabling NYCU to build an "AI-driven Multiphysics Intelligent Simulation Platform." The suite spans design, structural analysis, fluid dynamics, thermal management, and AI-based design optimization, forming a complete intelligent engineering toolchain.

### **Strengthening NYCU's Competition-Driven Engineering Culture**

NYCU President Chi-Hung Lin stated that the partnership will directly benefit the university's high-performing student teams, including NYCU Vulpes Racing, Formosan Fox Rocketry, UAV fixed-wing aircraft, ORCA autonomous underwater vehicles, and the iTron robotics team.

"These teams will now train

thermal management studies. Their current work on immersion cooling and DLC cold plates demonstrates strong alignment between simulation and experimental results, enabling effective optimization for high-power applications. The team will also adopt Simcenter STAR-CCM+ to investigate more complex thermo-solid coupling systems.

At the student level, NYCU's ORCA AUV, UAV fixed-wing, iTron robotics, NYCU Vulpes Racing, and Formosan Fox Rocketry teams will integrate CAE/CFD tools directly into their design projects, competitions, research, and coursework. This access allows students to operate within workflows that closely mirror real industrial engineering environments, significantly strengthening their technical capabilities and innovation potential.

### **Advancing Taiwan's Smart Manufacturing Talent**

Through this tripartite alliance, NYCU, Siemens Taiwan, and Mega Flow are building a robust simulation-driven engineering

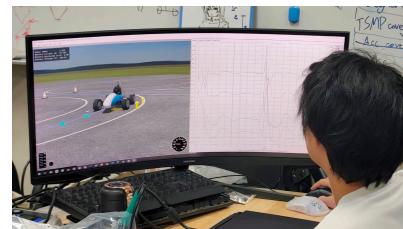
with world-class engineering tools, sharpen their technical capabilities, broaden their interdisciplinary vision, and elevate their competitiveness on global stages," President Lin said.

### Industry Partners Strengthen NYCU's Digital Engineering Ecosystem

Dr. Howard Chen, Chairman of Siemens Taiwan, emphasized that Siemens is committed not only to industrial digital transformation but also to advancing engineering education. "Our goal is to ensure students acquire industry-ready skills before they graduate," he said. "This cooperation establishes a complete digital simulation chain at NYCU—spanning structures, fluids, thermal analysis, and AI optimization."

Mr. Wei-Hua Lan, General Manager of Mega Flow, highlighted the company's 15 years of experience promoting Siemens' Simcenter™ STAR-CCM+™, Flotherm™, and FloEFD™ platforms in Taiwan. He noted that mastering international-grade

education platform that enhances teaching quality, accelerates innovation, and cultivates globally competitive engineering talent—injecting fresh momentum into Taiwan's smart manufacturing and technology development.



*A member of NYCU Vulpes Racing uses engineering simulation tools to analyze vehicle dynamics and performance parameters.*

simulation tools requires a deep understanding of their underlying theory. "This collaboration enables NYCU students to engage with world-leading CAE/CFD platforms early in their training," Lan said.

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NATIONAL  
YANG MING CHIAO TUNG  
UNIVERSITY

Contact Us



Yangming Campus

📍 Address :

No. 155, Sec. 2, Linong St. Beitou Dist., Taipei City 112304, Taiwan ↗

📞 Phone : +886-2-2826-7000

## Chiaotung Campus

📍 Address : No. 1001, Daxue Rd. East Dist., Hsinchu City 300093, Taiwan ↗

📞 Phone : +886-3-5712121

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