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ePropulsion opens marine testing platform in south China



Opening of the GIST Onshore Joint Debugging Laboratory

ePropulsion has opened the Green and Intelligent Ships Testing (GIST) Onshore Joint Debugging Laboratory in Songshan Lake, in the southern Chinese city of Dongguan.

The facility, described by ePropulsion as the first onshore joint debugging test platform for green and intelligent vessels in south China to be recognised by the China Classification Society (CCS), will be used to test and verify new-energy vessel systems in the Greater Bay Area.

The laboratory has been established by ePropulsion Technology, Songshan Lake Science City Group and the Songshan Lake International Robotics Research Institute.



Testing for electric and hybrid vessels

The facility covers approximately 1,000sqm and supports simulation and verification of multiple marine power system configurations, including fully electric and hybrid propulsion systems.

Testing equipment enables close to 30 standardised procedures across systems such as battery, propulsion and power, remote propulsion control, frequency conversion modules, power distribution, energy management and cooling. These systems can be assessed under simulated operating conditions to identify potential risks and verify system integration before installation.

The laboratory operates alongside a hydrodynamics laboratory, an electrical simulation platform and the Songshan Lake Water Application Test Base. Together, these facilities provide a process that moves from design and simulation through to onshore integration and full-scale vessel trials.



The site provides onshore testing before full-scale vessel trials



According to Danny Tao, co-founder and CEO of ePropulsion, the platform is designed to strengthen technical infrastructure and support product development timelines. “Companies in the Greater Bay Area can now conduct authoritative testing aligned with CCS standards locally, significantly shortening R&D cycles and reducing certification costs,” he says. “By simulating real operating conditions, the platform also allows developers to evaluate different power architectures and identify potential risks before systems are deployed on vessels.”

The laboratory will be available to industry users and is expected to provide services including testing, certification support, joint standards development and technical training. “The laboratory will be open to the entire industry,” Tao adds, “providing public services such as testing and certification, joint standards development and talent training, with plans to expand into strategic emerging fields such as intelligent robotics, high-end equipment and electric aviation.”



The laboratory forms part of the wider Songshan Lake testing infrastructure

Zhou Liwei, deputy general manager of the Guangzhou branch of the China Classification Society, says the CCS approval reflects ePropulsion’s technical and management capabilities. “We hope the GIST Onshore Joint



Debugging Laboratory will play a leading role as the first onshore joint debugging test institution in South China, providing more professional and efficient inspection and certification services for the development of the new energy vessel industry,” he says.

Professor Li Zexiang, founder of the Songshan Lake International Robotics Industry Base, says the laboratory may contribute to regional development activity. “By leveraging the Greater Bay Area’s strong industrial supply chain, the platform can help accelerate the transition from technology R&D to real-world industrial applications.”