Press Release

SFO Technologies and Cochin Shipyard jointly develops India's First Indigenous Hybrid Laser Arc Welding Technology

Kochi, 11 November 2026: In a significant boost to India's advanced manufacturing capabilities, SFO Technologies Pvt. Ltd., the flagship company of NeST Group, and Cochin Shipyard Limited (CSL) have unveiled the country's first indigenously designed and manufactured Hybrid Laser Arc Welding (HLAW) technology.

The announcement was made at the inauguration of the Advanced Laser Engineering Centre and Hybrid Laser Arc Welding R&D Facility at NeST Hitek Park, Kalamassery. The facility was inaugurated by Shri Jose V. J., Chairman and Managing Director, CSL, and Dr. N. Jehangir, Chairman and Managing Director, SFO Technologies.

Jointly developed by Cochin Shipyard Limited (CSL) and SFO Technologies, the Hybrid Laser Arc Welding (HLAW) system integrates laser welding, conventional arc welding, robotics and advanced automation, powered by a high-power fibre laser source indigenously developed by SFO Technologies. The technology is expected to deliver faster welding speeds, deeper penetration, lower distortion and improved weld consistency across shipbuilding, defence, heavy engineering, railways, energy and other strategic manufacturing sectors like large tanks, wagons etc. for improving productivity.

The development is seen as a step towards reducing India's dependence on imported laser welding platforms and strengthening domestic capability in high-end industrial technologies. For shipbuilding in particular, where welding is central to vessel construction, the system could help improve productivity, structural quality and manufacturing repeatability.

"This is a proud moment not only for SFO Technologies but for Indian manufacturing. By developing the high-power fiber laser source in-house and integrating it with advanced welding, robotics and automation, we have demonstrated that high-end manufacturing technologies can be conceived, engineered and built in India," said Dr. N. Jehangir.

Shri Jose V. J. said the partnership showed how engineering innovation could address real industrial needs.

"Cochin Shipyard's collaboration with SFO Technologies has enabled the joint development of a technology that is relevant to shipbuilding and other manufacturing industries. The Indigenous Hybrid Laser Arc Welding has the potential to improve productivity, quality and competitiveness across Indian manufacturing," he said.

The new centre will focus on research, testing, validation, and commercialisation of advanced laser technologies, supporting the national vision of Atmanirbhar Bharat while positioning Kochi as an emerging hub for industrial innovation.

Official Spokesperson
Cochin Shipyard Limited

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About SFO Technologies Pvt Ltd (A NeST Group Company)

SFO Technologies Pvt. Ltd., a NeST Group Company, is a leading technology and engineering enterprise delivering advanced manufacturing, automation, transportation, aerospace and defense, space, healthcare, energy and industrial solutions. Leveraging the NeST Group's global expertise and innovation-driven approach, SFO Technologies supports the development and deployment of cutting-edge technologies for domestic and international markets.

About Cochin Shipyard Ltd

Cochin Shipyard Limited (CSL), a Government of India (GoI) enterprise established in 1972 under the Ministry of Ports, Shipping and Waterways (MoPSW) is a leading shipbuilding and ship repair company with pan India presence with facilities in Kochi, Mumbai, Kolkata, Andaman & Nicobar Islands and Udupi. CSL is a renowned entity in shipbuilding and ship repair, delivering state-of-the-art vessels to clients across continents. With a legacy of excellence, CSL has built an impressive portfolio, including high-tech ships for defense including aircraft carrier, commercial shipping, and offshore. CSL has also earned a reputation for quality, reliability and as a trusted partner for all its stakeholders. In the ship repair industry, CSL has an impeccable track record of more than 2600 successful repair, refit and conversion projects. Its expertise spans a wide range of vessels, including tankers, dredgers, bulk carriers, offshore vessels, passenger vessels, seismic & geological research vessels and all types of naval and coast guard vessels. CSL is the only shipyard in India equipped to handle aircraft carrier refits, underscoring its technical prowess and infrastructure. Its portfolio also includes revamps, upgrades and conversion of jack-up rigs, mobile offshore drilling units as well as offshore oil platforms.

CSL has also fore-fronted skill development and training with many of the programs being run for upskilling maritime professionals in the field marine engineering and marine trade. CSL is also involved various programs supporting maritime start-ups in India. As a leading yard in the country, CSL is enhancing cooperation with various stakeholder in making India a global hub for skilled professional in the field of Ship building and Repairs.

As a forward-thinking player in sustainability and innovation within the maritime industry, CSL has ambitious plans to expand its footprint and capabilities in the global maritime sector.