



V.O. Chidambaranar Port becomes First Indian Major Port to Implement Digital Twin

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New Delhi, 12 March 2026: The V.O. Chidambaranar Port Authority has achieved a major technological milestone by becoming the first port in India to launch the Digital Twin initiative for port management. The Port has marked a significant step toward smart, efficient, and technology-driven maritime management. The platform was inaugurated on 23.02.2026 by Sarbananda Sonowal, Hon'ble Union Minister of the Ministry of Ports, Shipping and Waterways, marking a significant milestone in the Port's journey toward intelligent and technology-driven maritime management.

The Digital Twin platform will create a real-time virtual replica of the port's infrastructure, operational assets, and maritime ecosystem, enabling enhanced operational visibility, predictive analytics, and data-driven decision-making across the port. By integrating advanced technologies such as IoT sensors, GPS tracking, LiDAR mapping, drone imaging, and CCTV networks, the platform will continuously mirror real-time conditions, enabling efficient coordination among all operational departments.

The Digital Twin Platform enables real-time operational monitoring, providing live visualisation of berth occupancy, vessel movements, crane utilisation, and yard capacity across the port. It supports predictive maintenance of cargo handling equipment through AI-based asset monitoring, helping to minimise equipment downtime and improve operational reliability. The system facilitates berth and traffic optimisation by enabling intelligent scheduling of vessels and cargo operations, thereby reducing congestion and waiting time. In addition, the platform shall also provide energy and emissions tracking to support data-driven sustainability management and include scenario simulation capabilities that allow operators to conduct "what-if" modelling to prepare for peak demand situations and operational disruptions.

The platform is designed to support the Port's transformation into a smart and efficient maritime gateway by reducing vessel turnaround time by up to 25%, improving equipment availability and reliability, enhancing operational safety through predictive alerts, and optimising energy utilisation to lower carbon emissions. The project is being implemented in a phased and planned manner. The full-fledged Digital Twin initiative is expected to strengthen resilience against potential operational disruptions while enabling more efficient, sustainable, and data-driven port operations.

Under Maritime India Vision 2030 and Amrit Kaal Vision 2047, Shri Narendra Modi, Hon'ble Prime Minister of India, has envisioned the importance of digitalisation and technological advancement in the maritime sector to improve efficiency, transparency, and the global competitiveness of Indian ports. As part of MIV Vision 2030, globally benchmarked targets have been defined to enhance EoDB and achieve high operational efficiency through technology. V.O.C Port is all set to achieve this national vision and continue to move forward toward achieving international port standards through the adoption of advanced digital and smart port technologies.

Shri Susanta Kumar Purohit, IRSEE, Chairperson of V.O. Chidambaranar Port Authority, stated that the implementation of the Digital Twin platform marks an important step in the Port's modernisation journey. By leveraging technologies such as Artificial Intelligence, IoT, and real-time data analytics, the initiative will enhance operational efficiency, improve vessel turnaround time, and strengthen safety and sustainability while aligning the Port with global smart port standards.



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