(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :17/10/2025
(21) Application No.202511100846 A
(43) Publication Date : 05/12/2025

(54) Title of the invention : AN IoT-BASED PLATFORM FOR SMART MARINE ENVIRONMENT MONITORING

(51) International classification	:H04L0067120000, H04L0067100000, H04L0009400000, H04L0067010000, H04B0013020000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	: :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
The invention discloses an IoT-based platform for smart marine environment monitoring, comprising distributed sensor nodes (101), underwater communication modules (102), edge gateways (103), cloud analytics platform (104), visualization dashboard (105), and early warning system (106). The platform enables real-time monitoring, anomaly detection, predictive forecasting, and automated alerts for marine ecosystem hazards. It provides a scalable, energy-efficient, and intelligent solution to support marine conservation, fisheries management, and sustainable resource utilization through AI-driven analytics and secure cloud integration.

No. of Pages : 15 No. of Claims : 6