

Concept Note for Webinar on 16 Aug 2025

Startup Opportunities in the New Global Order –

A New Perspective based on the

Underwater Domain Awareness (UDA) Framework

Underwater Domain Awareness (UDA) is rapidly becoming one of the most critical pillars **for maritime security, sustainable ocean governance, and the advancement of the blue economy.** The oceans underpin global trade, energy, food security, climate resilience, and biodiversity. Yet, the underwater domain remains one of the least understood and most difficult spaces to monitor and manage effectively. As the blue economy expands—with increasing reliance on ocean-based resources, infrastructure, and services—there is an urgent need to enhance our ability to observe, analyse, and act upon underwater data. The Indian Ocean Region (IOR), in particular, is at the epicentre of these challenges, marked by intensifying geopolitical activity, expanding maritime trade routes, growing offshore energy production, and rising pressure on fisheries and coastal ecosystems. This dynamic landscape demands innovative, scalable, and collaborative approaches to governing the underwater space across both marine and freshwater systems.

Historically, UDA efforts have been led by governments, defence establishments, and specialized research institutions. While these have laid a critical foundation, the growing complexity and interdependence of economic, environmental, and security dimensions now call for a broader, more agile strategy. Increased investments and innovations are imperative—not only to meet national security objectives but also to unlock the full potential of the blue economy. This is where technological innovation and the startup ecosystem play a transformative role. Startups, with their agility, disruptive technologies, and interdisciplinary approaches, can complement traditional systems by delivering practical, scalable, and cost-effective solutions. Backed by accelerators, investors, and industry partnerships, these ventures can drive digital transformation in UDA through AI-enabled analytics, sensor networks, simulation tools, and adaptive decision-support platforms. These innovations are especially vital for resource-constrained regions and small coastal communities, where access to advanced monitoring and governance tools can significantly enhance resilience, livelihoods, and sustainable development outcomes—locally and globally.

This webinar will focus on how innovations in UDA are being shaped by emerging technologies and entrepreneurial ecosystems. It will showcase developments such as AI-driven acoustic data analytics for maritime surveillance, environmental monitoring, and underwater radiated noise (URN) management; and simulation tools that reduce dependence on traditional hardware-heavy infrastructure; and digital twins and real-time platforms that can transform decision-making in ports, fisheries, shipping, and offshore industries. The session will also explore how startups can be key drivers of this transformation, by leveraging collaborations with research bodies, industry stakeholders, and policymakers to build commercially viable and sustainable solutions.

A special focus will be on the pioneering work of **NirDhwani Technologies (NDT)**, a trailblazer in democratizing acoustic awareness and underwater technology. NDT has developed innovative tools such as the **Underwater Radiated Noise (SRN) Tool**, **Coastal management Tool**, **Sediment Management Tool** and many more, which utilizes AI to monitor and mitigate vessel noise impacts, and other acoustic monitoring systems designed in collaboration with **the Maritime Research Center (MRC)**. These solutions exemplify how startups can deliver affordable, scalable, and impactful and sustainable technologies for ports, shipping companies, and coastal economies. Beyond products, NDT actively invests in human capacity building, offering training and skilling programs that ensure these innovations can be adopted and utilized by local communities and industry professionals alike.

Proposal

M/S NirDhwani Technologies Pvt Ltd (NDT), in partnership with the Maritime Research Center (MRC), Pune, proposes to host a webinar on **16 Aug 2025 at 1600 hrs**. Through this dialogue, participants will gain a deep understanding of the innovation gaps and opportunities within UDA, how entrepreneurial ecosystems can accelerate technology adoption, and the pathways for fostering cross-sector collaboration. The webinar will present a roadmap for scaling ocean-tech innovations that strengthen maritime security, foster sustainable economic growth, and protect the marine environment. It will also highlight how startups, when supported by robust networks and partnerships, can evolve into central players in shaping a future-ready UDA ecosystem for India and the wider Indian Ocean Region (IOR).

This session will bring together policymakers, maritime governance authorities, technology leaders, investors, academic and research organizations, and industry leaders. Attendees will leave with actionable insights on how innovations and startup-led solutions can redefine UDA, unlock new economic opportunities, and ensure the oceans remain a secure, productive, and resilient domain for the future ahead.

Program

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| 1600 hrs | - | Opening Remarks by Shri P K Srivastava, Sc G
Senion Bureaucrat, Ministry of Earth Sciences, Govt of India. |
| 1610 hrs | - | Introductory Remarks by Dr(Cdr) Arnab Das,
Founder & MD M/S NirDhwani Technologies Pvt Ltd. |
| 1620 hrs | - | Innovations in UDA by Shri Shridhar Prabhuraman,
Deputy Director Maritime Research Center (MRC), Pune. |
| 1635 hrs | - | Case Studies in Sediment Management by Mr. Romit Kaware,
MRC Research Fellow on Sediment Management. |
| 1650 hrs | - | Blue Economy & Coastal Management by Mrs. Cathrine J,
Head Research & Publication, MRC. |
| 1705 hrs | - | Interventions by Special Guests.
Rear Admiral Monty Khanna (Retd), AVSM, NM,
Member National Security Advisory Board.
Prof Balaji Ramakrishnan,
Director, National Institute of Ocean Technology, Chennai. |

Mr. P V Krishna, Founder, iTrade Analytics,
Former Managing Director of Goldman Sachs.
Mr. Amit Kumar, Partner and Business Consultant at
Ernst & Young (EY)

1745 hrs - Concluding Remarks by Shri Amitabh Kumar, IRS,
Former Director General of Shipping, Government of India.

1800 hrs - Vote of Thanks by Shri Praful Talera,
MRC Adviser on Blue Economy.

Convenor

Dr(Cdr) Arnab Das, Founder & Managing Director

M/S NirDhwani Technologies Pvt Ltd (NDT)

Email ID. director@nirdhwani.in

Mobile No. +91-9665033463