

Background

The Indian Ocean Region (IOR) and the South China Sea (SCS) have attained significant strategic relevance in the 21st century for multiple reasons than one. More and more global powers want to maintain their strategic presence in the region and claim their stake in the power play. The Indo-Pacific Strategic Space has multiple aspects to it including political, socio-economic and military. Extra-regional powers are increasingly deploying their maritime forces and research vessels in the region to ensure enhanced Maritime Domain Awareness (MDA). More nuanced collaboration is the need of the hour and suitable frameworks are required. Europe and some of the developed nations in the west could collaborate with India and build partnerships.

The traditional MDA got significant push post the 9/11 incident and the American establishment made it a high priority strategic objective. Massive maritime infrastructure and capacity building efforts took shape within the US and through their allies to ensure effective MDA. In India, post the 26/11 incident, similar efforts were initiated and the MDA infrastructure got prioritized in the IOR. However, in both the cases, being an event driven initiative, it remained a security centric formulation with minimal penetration with the other stakeholders. The MDA that we see today is largely limited to the sea surface and the underwater component is still a work in progress, even in the US led effort. The Underwater Domain Awareness (UDA) will require, very specialized focus and high-end Science & Technology (S&T) support.

The UDA in the tropical littoral waters of the Indo-Pacific Strategic Space has some very unique challenges and opportunities. The sub-optimal sonar performance is a major impediment to any UDA initiative. The socio-economic status of the nations in the region is a major road block for maritime governance and also prioritizing S&T for enhancing sonar performance with indigenous efforts is a cause of concern. The extra-regional powers continue to push their hardware with least performance in the tropical littoral waters. "Digital Oceans" today can have a far greater relevance particularly in the tropical littoral waters of the Indo-Pacific Strategic Space. It will encourage Safe, Secure, Sustainable Growth for all in the region.

The UDA framework proposed by the Maritime Research Centre (MRC), Pune tries to encourage pooling of resources and synergizing of efforts across the stakeholders, namely the maritime security, blue economy, environment & disaster management and the science & technology providers. The framework can minimize the ongoing fragmented approach across stakeholders within the nations and also among the nations in the region. Enhanced S&T, will require far more indigenous R&D efforts with field experimental validation to overcome the local site-specific challenges of the tropical littoral waters. Acoustic capacity and capability building becomes the most critical component of effective UDA. Underwater signal processing, data science, robotics, oceanographic studies, modelling & simulations need special attention. Geo-economics will play a greater role given the level of globalization that is required to drive the safe, secure, sustainable growth model and effectively manage the challenges and opportunities of blue economy in the Indo-Pacific Strategic Space.