

# Indian Ocean Forum: MDA, Information Fusion, and Technological Tools



## Executive Summary Report 24–26 June 2024

*Sponsored by: Near East South Asia (NESAs) Center for Strategic Studies, National Maritime Foundation, and Daniel K. Inouye Asia-Pacific Center for Security Studies (DKI APCSS)*





## **Indian Ocean Forum: MDA, Information Fusion, and Technological Tools**

**Report/Executive Summary**

**24–26 June 2024**

**Location: Bangkok, Thailand**

**Sponsors: NESAC Center, National Maritime Foundation, and DKI APCSS**

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### **EXECUTIVE SUMMARY:**

From 24–26 June 2024, the Near East South Asia (NESAC) Center for Strategic Studies, the National Maritime Foundation (NMF) of India, and the Daniel K. Inouye Asia-Pacific Center for Security Studies (DKI APCSS) conducted a program examining how traditional and non-traditional data sources for maritime domain awareness can be better fused to lend towards more effective coordinated maritime security efforts in the Indian Ocean Region (IOR) and wider Indo-Pacific. Entitled, the Indian Ocean Forum, this event featured thirty-one participants from thirteen different countries. The event took place in Bangkok, Thailand.

Plenary sessions covered issues like new technological tools, the effectiveness of fusion efforts, state-driven maritime security efforts and their effectiveness, and options by which to respond to maritime transnational crime and asymmetrical threats, among others. The participants were broken into two separate breakout groups for a discussion of ways to progress information sharing based upon a state/non-state division of stakeholders.

This was the ninth formal partnership between NESAC and NMF on the maritime domain and the fourth coordinated effort between NESAC and DKI APCSS over the past 18 months. Participants lent their expertise to conversations on traditional and non-traditional security threats in the maritime domain that can build a sustainable and effective network of maritime security cooperation in the Indo-Pacific. A network emphasizing deliverables that serves as a comprehensive positive development for all regional states. The following report details the program's findings and highlights key takeaways/recommendations.

## KEY TAKEAWAYS/FINDINGS:

- The emergence of minilaterals has caused regional reactions, as strategic competition considerations factor in, along with how smaller and developing IOR and Indo-Pacific states navigate such groupings. Yet, the idea of minilaterals is not tied to major maritime actors alone and they could be seen as coalitions built around a common theme or technical challenge. This perspective is worth greater exploration, analysis, and discussion. In relation to regional contexts where minilaterals are viewed with apprehension or disinterest.
- Discussions occurred routinely on the effectiveness of existing regional structures and multilateral institutions. In the IOR, regional separations, a lack of trust, and even regional tensions have kept institutions like IORA from gaining much ground. How can such institutions be made more effective? Could minilaterals help? Do regional concepts like IPOI provide a measure? Do new institutions need to be built?
- Conversations on MARSEC and MDA have specific technical requirements if they are to be effectively made operational in nature. One technical aspect that is often bypassed by track 1.5 meetings in deference to specialized training or technical exchanges, is the legal dimensions of MDA. How do legal concepts, agreements, procedures, and the overall legal finish tied to operational efforts specific to maritime criminality fit into larger MDA conversations?
- Discussions routinely brought up the divergence between public sector actors in MDA (states and state-aligned institutions) and private sector actors (firms, NGOs, etc.) is how each respective treats MDA-related data. For states, the default setting, namely because security services dominate MDA-related conversations, is to classify data as intel or intel-adjacent information. Private sector actors may default to protecting their data through proprietary functions, but data tends to be defined as information. This tensions, which relates to the efficacy of information sharing, has not been resolved.
- Trust was discussed routinely and in different fashions. Trust among various actors engaged in maritime security can determine the scale of information sharing and cooperative operations. How do we build person to person trust within institutions? Trust in data was also explored. How can we trust data received is accurate? Is it about controlling the process or trusting the agents that accumulate the data? Trust in cooperative efforts was also mentioned – namely how much trust a state can give to an outside actor in relation to its own sovereignty.
- Standards for MDA were discussed by participants in sessions and in breakouts. Can there be a global or regional standard for MDA that in turn helps to organize data that is trusted, digital tools used, operational standards adopted, and networks established? What actor would be responsible for initiating such a project or what venue would be optimal for initiating concerted efforts at initiating standards?

- Adaptation by states in relation to progress in MDA was also in focus in several conversations. Private actors, whether firms, NGOs, or even academic institutions, are pushing ahead with various data accumulating means. These means include technological-related tools, community-engagement, scientific data accumulation, and a variety of other processes. In some cases, this process is outpacing state functions as to what is occurring in the maritime domain in specific contexts. Should states embrace these actors and the MDA tools they are developing? Should private sector actors remain bordered in their efforts based upon the interests of regional states? Such discussions are essential today and will only become more important in the coming days as certain networks further grow and certain technological tools, such as machine learning predictive modelling become more mature.
- Related to the above, are aspects of MDA lost with the emergence of certain technological tools? Is the community deferring to looking at a screen and trusting unseen processes instead of traditional community engagement, physical patrols, and traditional government-government and person-person exchange? The age of data deluge has arrived, and data availability will only increase as markets mature and data processes advance.
- One frontier of discussion in MDA and maritime security communities are the elements that constitute underwater domain awareness (UDA). UDA is often poorly understood and the source of ample speculation. It is also an extremely complicated area in which to stand up conversations, due to the highly technical aspects of the underwater domain and the sensitive technologies that are often key to gain understanding. Yet, the security of key coastal infrastructure, certain developments related to autonomous vehicles, various sensors, biomass and environmental protection, shipping efficacy, and even global communications depend on knowing what is happening beneath the surface.
- Related to networks, what is the state of tying together the various institutions that exist in the IOR or even the wider Indo-Pacific? How is the IFC-IOR tied to the RMIFC and RCOC? How does the Colombo Security Conclave relate to IONS or IORA? How does CMF interface with the DJOC/JA? Not only do conversations about the institutions already existing need to continue to familiarize actors with what has already been built or is being built, but we need to evaluate how these institutions could be connected, cooperate, and progress together.
- MDA conversations routinely emphasize state institutions and international organizations (like the IMO). Increasingly private sector firms and NGOs are part of conversations. What relevant community that is still haphazardly a stakeholder in MDA processes throughout the IOR are coastal communities. These communities have a wealth of information regarding the state of our coastal environments, insights into the presence of maritime criminality, and even key recommendations on how to improve our collective efforts. How can such communities be better integrated? Does it fall upon states, or should such communities be defined as a key private stakeholder like shippers?

- It is clear that the various subregions of the IOR, for instance, face common maritime challenges but the connective tissue between these areas is not present, or at least not sufficiently deep. How do we connect conversations between ASEAN and the Gulf, the Western IOR and the Bay of Bengal, the IOR Island States and the Pacific Island States? This a call to all of us and our institutions to facilitate such conversations.

## RECOMMENDATIONS:

- The framing of minilaterals as the development of coalitions focused on thematic and/or technical aims should be explored by regional states more earnestly, as it frames the emerging of these efforts in a new political light.
- An IOCAT exercise should be explored for the IOR, as it could be potentially connected to the existing SEACAT exercise in Southeast Asia and provide an MDA-related exercise series that could be inserted into existing regional maritime exercises.
- Regional forums should be adapted or stood up to tackle the issue of data vetting for the maritime domain, how to ensure greater reliability of data feeds, and active efforts at disinformation/misinformation.
- Track 1.5 efforts discussing MDA data from the vantages of “intel” and “info” need to occur with greater regularity. State/security services will defer to an intel perspective on MDA data, while the private sector and NGO/advocacy community default to information.
- Not only should active providers of MDA data/information sets intensify training opportunities with foreign partners, but such providers should explore ways to provide joint training sessions to help fuse information streams/digital tools.
- All regional states, whether wanting to or not, must track private sector developments regarding the accumulation, interpretation, and analysis of maritime-domain adjacent data.
- Underwater Domain Awareness (UDA) is a regional security challenge and collaborative efforts by research institutions and government offices in a track 1.5 format should be intensified.

## APPENDICES:

### AGENDA:

Note: Chatham House rule of non-attribution applies to all discussions.

Dress Code: Business Casual.

### Monday, 24 June 2024

0700–0845 Breakfast at Leisure

0900–0930 **Introduction of Workshop**

Speakers:

- *Commodore Manish Sinha, Executive Director, NMF*
- *Mr. Jeff Payne, NESAs*
- *Dr. Srinivasa Sitaraman, DKI APCSS*

0930–1115 **1<sup>st</sup> Session: The IOR and Our Problem Set**

This session will serve as an introductory session for our conversations. The speakers shall lay out the variables that define the current state of the IOR and highlight the strategic and geoeconomic importance of the region's waters.

Guiding Questions:

- What are the key constants and variables that define the importance of the IOR as a maritime region?
- What are the policy discussions that currently are the focus of IOR regional states?
- What strategic factors must all actors engaged in regional stability factor into their analyses?

Moderator: *Dr. Srinivasa Sitaraman, DKI APCSS*

Speakers:

- *Mr. Hideshi Tokuchi, President, RIPS*
- *Dr. Frederic Grare, Senior Research Fellow, National Security College, Australian National University*
- *Commodore Manish Sinha, Executive Director, NMF*
- *Ms. Jane Chan, RSIS*

1115–1130 Coffee/Tea Break

1130–1315 **2<sup>nd</sup> Session: State of Maritime Cooperation, Information Sharing, and Prospects for Progress**

In our second session, the state of maritime cooperation will be evaluated throughout the region. Our speakers will highlight both the success stories and

missteps throughout the community. The conversation will also emphasize variables from both the public and private sectors.

Guiding Questions:

- What is the status of regional cooperation among both state and non-state actors in addressing maritime security?
- What challenges are not being sufficiently addressed or where is policy slow to respond to emerging threats?
- What are the strengths of regional maritime security efforts that should be recognized as a basis for further progress?

Moderator: *Jeff Payne, NESAs*

Speakers:

- *Dr. Srini Sitaraman, DKI APCSS*
- *Commodore (Retd) Debesh Lahiri, Senior Fellow, NMF*
- *Captain Sam Gontier, Regional Director, Regional Coordination Operations Centre (RCOC)*
- *Ms. Emmanuelle Hoareau, Legal Advisor, Regional Coordination Operations Centre (RCOC)*

1315–1430 Lunch

1430–1545 **3<sup>rd</sup> Session: Applications of New Tools for MDA**

Maritime Domain Awareness is one of the current buzzwords within the maritime security community. Perceived in various ways with divergent degrees of applause, MDA seeks to emphasize the importance of data in maritime security conversations and to expand the audience that pays attention to the maritime domain. Our speakers in this panel will explore what MDA has added to our community's conversations and evaluate its value to the larger aim of greater security.

Guiding Questions:

- Does MDA's emphasis on 'data' assist or hinder actors that seek to further maritime security?
- How is MDA data being used and do all actors have the same probability of accessing existing information?
- How must MDA advance within the IOR to have a greater impact on policy?

Moderator: *Commodore Manish Sinha, Executive Director, NMF*

Speakers:

- *Dr. David Brewster, ANU*
- *Mr. Benjamin Blandin, YCAPS*
- *Commander (Retd) Sérgio Bryton, Executive Director, EurOcean*

1545 Conclusion of Day

**Tuesday, 25 June 2024**

0700–0845 Breakfast at Leisure

0900–0910 **Introduction to Day 2**

Speakers:

- *Commodore Manish Sinha, Executive Director, NMF*
- *Mr. Jeff Payne, NESAs*

0910–1055 **4<sup>th</sup> Session: Views from Private Sector / Non-Traditional Stakeholders**

Our 4<sup>th</sup> will explore the views of private sector actors towards the waters of the IOR and the ways in which they believe that maritime security can be advanced. Our panelists will explore how tools being developed in the private sector can assist the larger aim of security.

Guiding Questions:

- What are the interests of private sector actors in the maritime domain and what solutions do such actors advocate for throughout the IOR?
- How does the diverse roster of private maritime actors engage with one another and interact with regional states?
- Do private sector recommendations enhance, complicate, or progress existing maritime security efforts?

Moderator: *Jeff Payne, NESAs*

Speakers:

- *Mr. Peter Horn, Project Director, International Fisheries, The Pew Charitable Trusts*
- *Dr. Cdr. Arnab Das, Founder, Maritime Research Center*
- *Mr. Martijn Rasser, CRO and Managing Director, Datenna*
- *Mr. Ray Powell, Director, SeaLight*

1055–1110 Coffee/Tea Break

1110–1120 **Breakout / Group Policy Tabletop Instructions:**

All participants in our second day of conversations will be broken down into separate small working groups. Each group will be given a distinct challenge based on larger, overarching themes. Group 1 will address the responsibilities, operations, and strategies of states for maritime security. Group 2 will address the stakes and efforts of private sector actors, including NGOs, private firms, academic institutions, and scientific communities for maritime security. The aim of each group is to reach a set of specific recommendations, premised on their conversations, that they will turn into a PowerPoint/Digital presentation which will be shared with the larger plenary. Each group's scenario will be designed to emphasize innovative solutions to existing challenges, consideration of the secondary effects of their decisions, and the real-world efficacy of their proposals.



- 1120–1230 **Small Group Roundtables**
- Group 1: State Actors
  - Group 2: Non-State/Private Sector Actors
- 1230–1330 Lunch
- 1330–1515 **5<sup>th</sup> Session: Existing Methods and Operational Considerations for Security**  
Our 5<sup>th</sup> panel will examine how forces that shape state operations and strategy will be discussed. Our panelists will discuss how maritime security connects to larger geopolitical considerations, domestic considerations, and operational realities across the region.
- Guiding Questions:
- What has remained constant in how regional states approach the challenge of maritime security?
  - How do regional or global political trends influence a state’s policy towards the maritime domain and its security?
  - What operational realities tied to the maritime domain must states never lose focus on when engaging with neighbors and partners?
- Moderator: *Commodore (Retd) Debesh Lahiri, Senior Fellow, NMF*
- Speakers:
- *Dr. Charmaine Misalucha-Willoughby, Associate Professor of International Studies, De La Salle University*
  - *Admiral (ret.) Jayantha Perera, former Commander of the Sri Lankan Navy*
  - *Dr. Kasira Cheeppensook, Associate Dean for Academic Affairs, Faculty of Political Science, Chulalongkorn University*
- 1515–1530 Coffee/Tea Break
- 1530–1630 **Small Group Roundtables**
- Group 1: State Actors
  - Group 2: Non-State/Private Sector Actors
- 1630 Conclusion of Day

**Wednesday, 26 June 2024**

- 0700–0845 Breakfast at Leisure for roundtable participants
- 0900–1045 **6<sup>th</sup> Session: Comparative Views on Maritime Security**  
Our final session will examine maritime security factors that do not routinely factor into conversations about the health of the wider Indian Ocean. Our panelists will introduce these lessons and then relay them to the IOR context IOR.

Guiding Questions:

- What do the experiences from the Atlantic, Gulf of Guinea, and Western Pacific indicate for the future of maritime security in the IOR?
- What comparative advantages and disadvantages exist in the IOR for furthering maritime security?
- How much of our policy solutions must be determined by locality? Can there be IOR solutions to maritime security challenges?

Moderator: *Professor Dave McElyea, DKI APCSS*

Speakers:

- *Ms. Anuttama Banerjee, Research Associate, NMF*
- *Dr. Jean-Loup Samaan, Senior Research Fellow, Middle East Institute, NUS*
- *Dr. Jagannath Panda, Head of the Stockholm Center for South Asian and Indo-Pacific Affairs (SCSA-IPA), ISDP*

1045–1100 Coffee/Tea Break

1100–1215 **Small Group Roundtables**

- Group 1: State Actors
- Group 2: Non-State/Private Sector Actors

1215–1315 Lunch

1315–1400 **Small Group Roundtables and Report Construction**

- Group 1: State Actors
- Group 2: Non-State/Private Sector Actors

1400–1430 **Small Group Recommendation Presentations and Discussion**

Moderator: *Jeff Payne, NESAs*

1430–1500 **Findings, Note of Thanks, and Farewell**

Remarks:

- *Commodore Manish Sinha, Executive Director, NMF*
- *Mr. Jeff Payne, NESAs*
- *Professor Dave McElyea, DKI APCSS*

1500 **Event Concludes**

**BREAKOUT SCENARIO AND PRESENTATIONS:**

**Breakout Scenario**

*Maritime security in today's world is an effort in prioritization, nimbleness, and speed. Given the number of challenges that all states face from the maritime domain, there is no single actor that can effectively respond to everything. Therefore, maritime security is also a collaborative effort if any of us are to ensure the safety of our seas.*

*All participants will be broken up into two separate breakout groups. Your respective group is charged with analyzing, addressing, and presenting a plan regarding your respective scenario. Each group should keep their discussions within the group until the final results are presented before the entire plenary.*

**The Scenario:**

In today's Indian Ocean, there are numerous challenges that pose a problem for all regional states. Environmental degradation and climate change create obstacles for maintaining coastal communities, protecting our ecosystems, and securing territorial waters. Non-state criminal networks continue to pose threats through piracy, smuggling, and various forms of trafficking. Disputes between states facilitated the rise of asymmetry in the maritime domain. These are but a few of the challenges we face.

The good news is that we have answers to many of the challenges. Greater cooperation amongst regional states can counter, if not eliminate the threat, of criminal networks. Common commitment to specific rules can raise the costs for states who use asymmetry. Collaboration also creates success stories regarding protecting our natural resources and ecosystems.

Just because we know the answers to our challenges, does not mean that we are effectively implementing solutions. The region features actors of far-ranging capabilities in the maritime domain. Who should lead cooperative efforts is a continuous question asked. How to fund effective solutions is a perpetual problem. Where to even start on addressing our challenges can prove immensely complicated.

In this exercise, you will work collaboratively to devise specific recommendations and policy proposals on a specific element to maritime security – information sharing. Information is a part of the complicated matrix of factors that determine the security of our seas. Your task is to devise ways to deepen, expand, and make more efficient the ways in which maritime information is shared among engaged actors.

Your group's recommendations should be centered on the Indian Ocean Region to the greatest extent possible. Your recommendations can be based upon existing efforts, existing ideas, or be completely innovative. What each group must do, beyond specificity, is to keep in mind the diversity of the region and disparate levels of maritime capabilities that exist. Your ideas cannot lose sight of practicality.

Group 1 Specific Instructions:

In addition to the base scenario presented to the entire plenary, your group has a more specific point of view to consider. You represent the state institutions of the Indian Ocean Region and through that lens you should craft your recommendations and proposals for better information sharing. You represent regional coast guards, navies, maritime constabularies, port authorities, and other similar institutions that are tied to state functions.

What considerations must help define your conversations given you represent state entities?  
What opportunities loom largest on the horizon to make progress?  
What stakeholders or scenarios likely prove problematic for your intentions?

The benefit to you is that state actors have long been the most active actors in maritime security, and you enjoy a track record to evaluate in helping your decisions. The burden on you is that you represent institutions known for their slow pace and many, many regulatory impediments.

To assist you in your conversations, do keep in the mind the following variables:

- What information is most essential for maritime security?
- What information can/should be shared?
- Do your decisions speak for the IOR alone or for the IOR and engaged non-regional actors?
- What tool or format will information sharing be centered around?
- Does information sharing need to emphasize effectiveness or comprehensiveness?

The above list is merely meant to inspire conversation. Feel free to consider these questions or completely chart your own path.

One final requirement – you must create a PowerPoint presentation that will be provided to the entire plenary. You must also elect a presenter who will reveal the results of your conversation to the plenary. The presentation will be included in the final report following the event.

Group 2 Specific Instructions:

In addition to the base scenario presented to the entire plenary, your group has a more specific point of view to consider. You represent the non-state institutions engaged in the Indian Ocean Region and through that lens you should craft your recommendations and proposals for better information sharing. You represent private sector firms, non-government organizations, international organizations, private research institutions, and academia.

What considerations must help define your conversations given the institutions you represent?  
What opportunities loom largest on the horizon to make progress?  
What stakeholders or scenarios likely prove problematic for your intentions?

The benefit to you is that the pace and regulatory burdens that state actors must deal with do not exist at the same scale for you. Beyond your immediate boards/investors/stakeholders you are

relatively free to move directly towards the challenge. The burden placed upon you is that you are not affiliated with state institutions and therefore lack the same concentration of power and resources that they enjoy.

To assist you in your conversations, do keep in the mind the following variables:

- What information is most essential for maritime security?
- What information can/should be shared?
- Do your decisions speak for the IOR alone or for the IOR and engaged non-regional actors?
- What tool or format will information sharing be centered around?
- Does information sharing need to emphasize effectiveness or comprehensiveness?

The above list is merely meant to inspire conversation. Feel free to consider these questions or completely chart your own path.

One final requirement – you must create a PowerPoint presentation that will be provided to the entire plenary. You must also elect a presenter who will reveal the results of your conversation to the plenary. The presentation will be included in the final report following the event.

#### Breakout Scenario Add-On

You just heard some good news! An actor not engaged in your conversations on information sharing in the Indian Ocean Region has announced the development of a comprehensive information sharing tool that can serve the whole globe. It provides funding for regional efforts to acquire specific forms of data. Funding is also provided to maintain existing data sets, as well as to engage in experiments / proof of concept actions to further information sharing. This tool also features a digital and communications platform where information can be uploaded, shared, stored, and analyzed by all participating institutions.

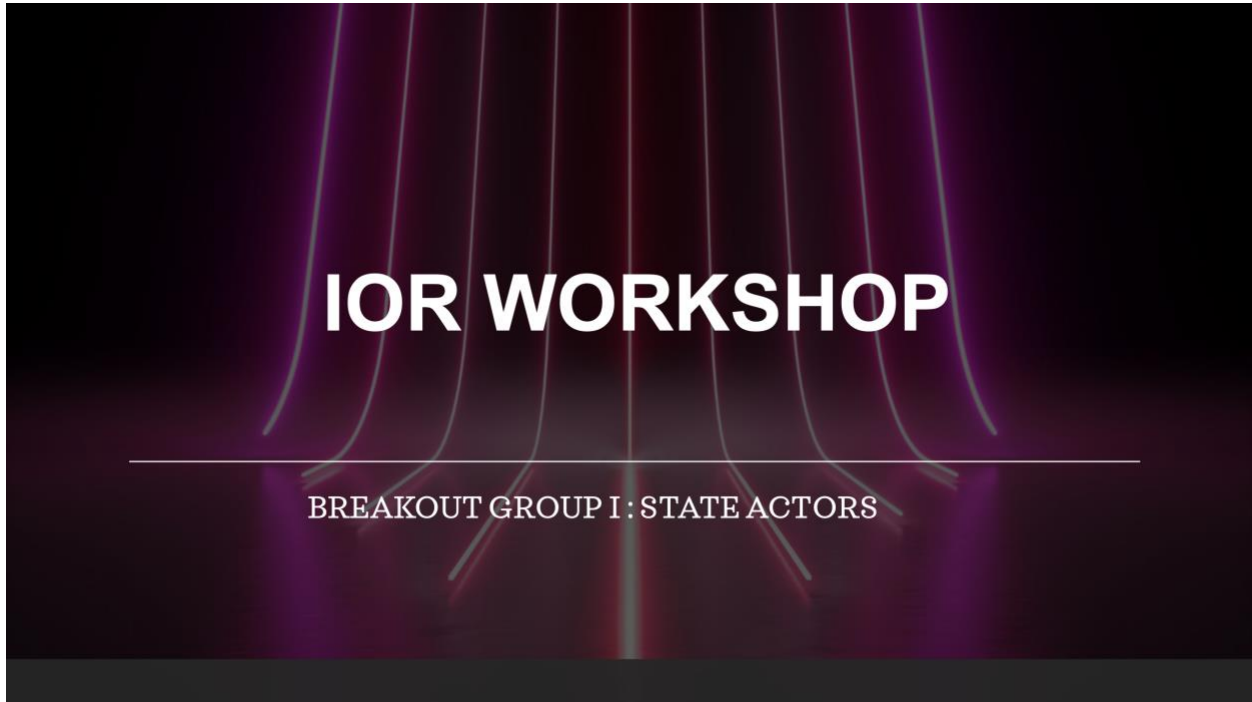
The outside actor developed this tool for its own set of maritime problems but realized that it could be of use many other actors. This actor accepts the costs associated with joining this tool / platform. It is not intended to undermine other cooperative efforts, displace existing agreements or information sharing tools, and does not request access to propriety data of any participating state or private sector actor.

The only requirement upon you for joining this free-to-use platform is to accept that all information deposited, analyzed, accessed, or shared is accessible to them. They do not require access to your systems, nor do they request to join organized efforts you have for information sharing. This is proposed as a public good.

Does the existence of this new tool / platform change any of your recommendations or proposals?

**BREAKOUT GROUP SLIDES/RESPONSES:**

Group 1:



Level	Challenges	Recommendations
<b>Political</b>	<ul style="list-style-type: none"><li>• Equitable Contribution Perception</li></ul>	<ul style="list-style-type: none"><li>• Leadership Summit</li><li>• Transparency</li><li>• Categorise Type of Information to be shared</li></ul>
<b>Legal</b>	<ul style="list-style-type: none"><li>• Frameworks</li><li>• Different Legal Systems</li><li>• IUU, Terrorism, Mar Sec definitions</li></ul>	<ul style="list-style-type: none"><li>• Find common Interests</li><li>• Identify Gaps in Domestic Law</li><li>• Bilateral/ Mini-lateral/ Multilateral Agreements for Info-Exchange</li></ul>
<b>Operational</b>	<ul style="list-style-type: none"><li>• Op Guidelines</li></ul>	<ul style="list-style-type: none"><li>• Thematic Working Groups at Bilateral/ Mini-lateral/ Multilateral to Develop Common SOPs, Build Trust and Augment Inter-operatbility</li></ul>

# CONSIDERATIONS

Level	Challenges	Recommendations
Technological	<ul style="list-style-type: none"><li>• Government Oversight</li><li>• Different Technologies</li><li>• Governance</li></ul>	<ul style="list-style-type: none"><li>• Centralised Control from Platform Provider</li><li>• Sovereignty issues on Governance of Systems</li><li>• Sustainability of Info Systems</li><li>• Cybersecurity: Security of Info</li></ul>
Information	<ul style="list-style-type: none"><li>• Quality, Incompleteness of Information</li><li>• Ambiguity</li></ul>	<ul style="list-style-type: none"><li>• Corroboration</li><li>• Refer to Ops Layer</li></ul>

Group 2:

## Role of the NonState Actors in the Indian Ocean Region (IOR) for generating Maritime Domain Awareness (MDA)

Recommendations from the Breakout Group

## MDA (Information Sharing for Maritime Security)

- What for
  - Strategic (long term)
  - Tactical (real time)
- What
  - Policy Intervention
  - Technology Intervention
  - Capacity & Capability Building
- How
  - Outreach
  - Engage
  - Sustain

## Why

- Create Critical Mass of Data
- Quality Control
- Testing Forum – AI/ML Driven
- Shop Window & Connections
- Incubator



## Proposals

- Create a Monster that controls the market (Ready to contribute majority seed fund)
- Brand Local Operate Global
- Create Market and not Chase one
- Consortium
  - Open Source
  - Open to all (membership)
  - Open to all kinds of funding
  - Incubator

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NESA Center

<https://NESA-Center.org/>

National Maritime Foundation

<https://MaritimeIndia.org/>

DKI APCSS

<https://DKIAPCSS.edu/>

Additional References:

Maritime Research Center (MRC) – Underwater Domain Awareness Framework

<https://MaritimeResearchCenter.com/UDA-Framework-1/>