



## Report on HQ SAC- CAPSS Maritime Seminar on 'Enhancing Air Operations in IOR' held at HQ SAC on 02 February 2026

### INTRODUCTION

1. The Indian Ocean region (IOR) has emerged as a critical arena. The strategic island territories, important sea-lanes and the growing presence of capable adversaries with increasing threats in the Indian Ocean Region, have led to great power rivalry in our backyard and we face evolving challenges as a nation. Southern Air Command is the lead IAF Command for maritime operations. As the Indian Ocean Region moves to the center-stage of geo-strategic power plays, the challenges in the IOR are only expected to increase. The maritime challenges while primarily a naval outlook, would require a multi-domain response, with the IAF's land based air power playing an important role in achieving favourable outcomes. SAC is cognizant of this challenge and is operationally focused towards enhancing capabilities through synergized joint operations in the maritime domain.

### SEMINAR OVERVIEW

2. HQ SAC in collaboration with Centre for Aerospace Power and Strategic Studies (CAPSS), conducted the second edition of the continuing series on *Air operations in the IOR* on 02 Feb 26, with the theme of '**Enhancing Air Operations in IOR**'. Building upon the deliberations of the first seminar, this edition strived to further examine emerging operational, technological and strategic challenges in the maritime domain. The various sessions focused on ISR, Communications and utilisation of our Island territories as springboards for enhancing offensive and defensive capabilities as part of multi-domain Ops in the IOR. The seminar aims to promote informed discourse among the defence forces and strategic community, while contributing to policy formulation and decision-making. Air power has the inherent ability to transform the character of operations in the maritime domain with its reach, flexibility and responsiveness. IAF can play a key role towards maritime security, stability and strategic influence in the IOR, in conjunction with the Indian Navy. **This seminar brings together subject matter experts who examine how air power can be optimally structured, networked and employed to meet emerging challenges in the Indian Ocean region.**



## PROGRAM OVERVIEW

4. The seminar was conducted across two sessions. These were as follows: -

**4.1 Session I – ISR and Combat Networking for Air Dominance in the Indian Ocean Region.** This session was chaired by AVM Anil Golani (Retd.), Director General, CAPSS, who also delivered the opening remarks.

### 4.1.1 Topics for Presentation.

4.1.1.1 **Presentation 1.** China's ISR Web in the IOR: Building a Real-Time Kill Chain in Air and Maritime Domains – presented by Brig Anshuman Narang (Retd) Director and Founder, Atma Nirbhar Soch.

4.1.1.2 **Presentation 2.** India's ISR and Communication Posture in the IOR: Strengths, Vulnerabilities and Enduring Fixes – presented by AVM Manu Midha, AVSM, VM, DG DSA.

4.1.1.3 **Presentation 3.** Next-Generation ISR and Comn for the IOR: Space, AI and Resilient Networks for Enhanced Integrated MDO – presented by Dr Anupam Sharma, Distinguished Scientist & Director DSP DRDO, Hyderabad.

**4.2 Session II - Multi-Domain Air Ops: Capitalizing on Integrated Offence and Defence.** This session was chaired by Air Mshl Tarun Chaudhry, AVSM, VSM, SASO, HQ SAC. Opening remarks were delivered by Shri Pankaj Saran, Convenor, NatStrat.

#### 4.2.1 Topics for Presentation.

4.2.1.1 **Presentation 1.** Integrated Offensive and Defensive Air operations in IOR for power projection, regional stability and countering China's influence – *presented by Air Mshl Saju Balakrishnan, PVSM, AVSM, VM (Retd).*

4.2.1.2 **Presentation 2.** Indian Archipelago as 'Springboards' to enhance reach of Air Power into the IOR – *presented by Gp Capt KD Singh, VM.*

4.2.1.3 **Presentation 3.** Leveraging Island Nation's partnership in IOR to build a robust, integrated aerospace security framework in the Indian security framework in the Indian Ocean – *presented by Ms Radhey Tambi Research Associate, CAPSS.*

5. **Welcome Address.** Air Mshl Manish Khanna, UYSM, AVSM, VM, AOC-in-C, SAC delivered the welcome address. AOC-in-C highlighted a complex and evolving security environment in the IOR, where multiple non-traditional and traditional security threats coexist. Key salient points from the address are as follows:-

5.1 **Geopolitical divides** are undermining international law and driving states to prioritise survival and power competition.

5.2 **Defence spending** has spiked globally and the nuclear debate has nearly reopened as states treat nuclear weapons as a credible security 'currency'.

5.3 **IOR** is a critical geopolitical and economic theatre. Island chains of Lakshdweep and Andaman & Nicobar provide strategic reach and vulnerability.

5.4 **Operational Planning.** Space and time are critical factors shaping almost every operational decision. Despite many options, vast areas and distances limit feasible action in the IOR. AOC-in-C noted that "our own course of action may get limited by this space-time paradigm" and that air power can mitigate these factors as "Air Forces compress the Factors of Time and Space". Key elements to guard against any contingency in IOR are:-

##### 5.4.1 Surveillance

5.4.2 Detection

5.4.3 Identification

5.4.4 Long range communications

5.4.5 Intelligence Assessment

5.4.5.1 Enemy Courses of Action

5.4.5.2 Own Course of Action

**5.5 Maritime Security Threats.** Piracy and hostage-taking in critical sea lanes threaten India's trade and energy imports, especially through choke points such as the Arabian Sea approaches. The presence of multiple foreign 'anti-piracy task forces' indicates internationalization of security in India's maritime backyard, potentially diluting India's primacy.

**5.6 Neighbouring State Linked Risks.**

**5.6.1 Pakistan.** Maritime terrorism risks, including the use of civilian vessels or coastal infiltration, remain a concern given past precedents.

**5.6.2 China.** Expanding naval deployments, port access arrangements and dual-use infrastructure across the IOR raise concerns of strategic encirclement. Increased Chinese naval presence under the guise of anti-piracy or evacuation missions affects India's freedom of maritime manoeuvre.

**5.7 Environmental and Nuclear Hazards.** Oil spills, potential 'nuclear-related maritime accidents' and Tsunamis pose indirect security threats by:-

5.7.1 Disrupting ports and coastal infrastructure.

5.7.2 Forcing large-scale humanitarian assistance and disaster relief (HADR) operations, stretching naval resources.

5.7.3 Such crises may invite prolonged foreign naval presence close to Indian waters.

**5.8 Search and Rescue (SAR) and Crisis Escalation.**

5.8.1 Incidents involving 'missing ships or aircrafts' require massive multinational SAR operations.

5.8.2 These operations, while humanitarian, can become platforms for intelligence gathering and extended deployments by extra-regional powers.

## 5.9 Strategic Implications for India.

5.9.1 The overlap of non-traditional threats (piracy, disasters) with traditional power rivalry complicates India's maritime security planning.

5.9.2 India must balance cooperation with deterrence while safeguarding its role as the 'preferred security provider' in the IOR.

5.9.3 Maritime control is not binary. Effective operations require synchronizing air power's time-space compression with sustained maritime presence to achieve maritime control.

5.9.4 Joint operations are imperative. Failure to exploit niche capabilities or maintain force balance produces operational inefficiency and logistical complexity.



### Welcome Address by AOC-in-C

6. **Keynote address.** Air Mshl Ashutosh Dixit, PVSM, AVSM, VM, VSM, CISC, HQ IDS, delivered the keynote address. Key salient points from the address are as follows:-

6.1 He highlighted the vast maritime expanse of the Indian Ocean stretching from India to Antarctica, emphasizing that the ocean is no longer a natural protective moat.

6.2 Historically seen as a zone of peace, the Indian Ocean has now transformed into a critical global economic and strategic arena, carrying most of the world's oil and undersea communication cables. He stressed that peace can only be ensured through strength, foresight and preparedness - an idea rooted in ancient Indian strategic thought (Chanakya).

6.3 He referred to the Indian Ocean as the "heartbeat of the world", asserting that it is the responsibility of Indian Defence Forces to safeguard its security amid rising competition, new actors and evolving technologies.

#### 6.4 **Indian Ocean's Global Importance.**

6.4.1 Carries ~80% of global oil trade and critical undersea internet cables.

6.4.2 Acts as the economic and strategic heart of the world.

6.4.3 Once peaceful, now increasingly contested by multiple global players.

#### 6.5 **Multi-Domain Warfare**

6.5.1 Modern conflicts span sea, air, space and cyber as one continuum.

6.5.2 Victory depends not on size of firepower, but on who sees first and decides first.

6.5.3 Battles involve interconnected chains: satellites → drones → aircraft → ships → missiles.

#### 6.6 **Importance of Surveillance & Decision Superiority**

6.6.1 Use of satellites, drones, MQ-9B and High Altitude Pseudo Satellites (HAPS).

6.6.2 Emphasis on understanding data, not just collecting it.

6.6.3 IACCS highlighted as the "powerful mind" integrating data across services.

#### 6.7 **Jointness and Integration.**

6.7.1 Successful integration of Army, Navy and Air Force during recent operations.

6.7.2 Strong push for moving beyond cooperation to true tri-service integration.

## 6.8 **Strategic Geography Advantage.**

6.8.1 Andaman & Nicobar Islands (east) and Lakshadweep (west) are an springboards in the Indian Archipelago.

6.8.2 Upgraded runways and bases act as strategic gates into the Indian Ocean.

6.8.3 These enable monitoring, deterrence and rapid response.

## 6.9 **Actionable Strategic Proposals.**

6.9.1 Create framework for continuous choke-point monitoring using HAPS (High altitude Pseudo Satellites).

6.9.2 Debate cost-benefit analysis of maritime strike bombers force vs long-range missiles.

6.9.3 Build credible deterrence capabilities to project power across the IOR.

6.9.4 Deliberate on a joint maritime air warfare course at CAW which will ensure mid-level officers have mutual understanding of air force and naval requirements.

## 6.10 **India's Strategic Vision.**

6.10.1 Aligns with India's role as a "lighthouse" and first responder in global security. India's real-world response to piracy cited as proof of capability.

6.10.2 Emphasis on MAHASAGAR vision: mutual security and growth across oceans.

6.10.3 Functioning in siloes is no longer viable.

6.10.4 Mastery of technology, strategy and adaptability is essential.

6.10.5 Control of the skies and information dominance will define future power.

6.10.6 India must evolve into a reliable global stabilizer in the maritime domain.

6.10.7 He emphasized that future belongs to those who control the skies above the sea.



### Keynote Address by CISC

7. **Session I: ISR and Combat Networking for Air Dominance in the Indian Ocean Region.** AVM Anil Golani (Retd) Director General, CAPSS delivered the opening address and chaired this session focusing on ISR and Combat Networking for Air Dominance in the Indian Ocean Region. Key salient points from the talk are as follows:-

7.1 **Maritime Security.** He emphasized on the expanded role of maritime domain including air, space, cyber and geopolitical aspects.

7.2 **Maritime Domain Importance.**

7.2.1 A volatile security environment exists in the Indian Ocean Region, where multiple crises can emerge simultaneously. The maritime domain is no longer just for maritime purposes. It involves military and geopolitical interests.

7.2.2 The region's security depends on preserving, influencing and accessing this domain.

7.3 **Role of Air and Space Power.**

7.3.1 Air and space power will play a critical role, due to their flexibility, reach and responsiveness, when compared to surface forces.

7.3.2 Power projection is not limited to a single service but will be the sum total of land, maritime, air, cyber and space domains. These domains collectively contribute to maritime security.

7.4 For India, this region is critical for maritime trade, energy security and national defence, making instability in these waters a direct geopolitical concern. He reinforces the need for continuous monitoring, flexible strategy and early response mechanisms to avoid being strategically surprised in the Indian Ocean space.



### Session 1: Chair & Speakers

8. **Presentation 1.** Brigadier Anshuman Narang (Retd.) gave a detailed presentation on “China’s ISR Web in the IOR: Building a Real-Time Kill Chain in Air and Maritime Domains.” Key salient points from the talk are as follows:-

8.1 **Strategic Timeline.** He emphasized that China’s ambition to become a world-class military by 2049 has driven the PLA to adopt Multi-Domain Integrated Joint Operations as its default doctrine since 2019.

8.2 **Operational Concept.** In line with its “Two-Oceans” strategy, the PLA is stitching together a Multi-Domain Kill Web over the Indian and Pacific Oceans to expand its anti-access/area-denial (A2/AD) bubble.

8.3 **Core Capabilities.** This kill web hinges on two core capabilities - Multi-Domain ISR and Multi-Domain Precision Strike. The ISR component draws on three principal force arms - Aerospace, Information and Cyberspace and fuses the capabilities of all four services (Navy, Ground, Air and Rocket Forces) together with reserve and militia assets.

**8.4 Implications.** Its mission is to provide persistent, real-time detection and targeting across the air, maritime and space domains thereby feeding a seamless, rapid kill chain that can be employed at will throughout the IOR.



**Brig Anshuman Narang (Retd)**

**9. Presentation 2.** AVM Manu Midha, DG DSA presented a detailed lecture on “India’s ISR and Communication Posture in the IOR: Strengths, Vulnerabilities and Enduring Fixes”. Key salient points from the talk are as follows:-

**9.1 Strategic Context.** Indian Ocean Region (IOR) maritime theatre has become a space-enabled battlespace, where compressed decision cycles and the rise of grey-zone competition have rendered space-based ISR and satellite communications indispensable for India’s maritime security, deterrence and power projection.

**9.2 Challenges.** The challenges for space based ISR were discussed with the prominent ones being:-

- 9.2.1 Geography
- 9.2.2 Swath vs resolution
- 9.2.3 Orbital dynamics
- 9.2.4 Weather/ Cloud cover
- 9.2.5 Op considerations

**9.3 Current Capability.** The current architecture relies on a modest constellation of satellites linked to maritime and joint-intelligence networks,

delivering limited strategic and operational awareness and real-time targeting. The forthcoming SBS-3 system will shorten revisit times and furnish persistent maritime electro-optical, SAR and AIS sensing tailored to joint-force requirements.

**9.4 Long Term Solution.** Requirement of low-latency, high-throughput communications with built-in redundancies, meeting the strategic user's needs for the next decade was discussed. A way ahead plan was given as follows:-

- 9.4.1 Enhance space-based capability.
- 9.4.2 Integration of all national sensors.
- 9.4.3 Cooperative arrangement with FFC.
- 9.4.4 Increased investment in technology.



**AVM Manu Midha PVSM, AVSM, VM**

**10. Presentation 3.** Dr Anupam Sharma, Distinguished Scientist & Director DSP DRDO, Hyderabad presented a detailed lecture on “**Next-Generation ISR and Comn for the IOR: Space, AI and Resilient Networks for Enhanced Integrated MDO**”. Key salient points from the discussion are as follows:-

**10.1 Space based ISR as the Backbone.** He emphasized that a robust, space-based ISR architecture - capable of monitoring maritime traffic, detecting

anomalous behavior, supporting naval operations and countering threats across the expansive Indo-Pacific region in near-real-time is essential.

**10.2 AI Enabled Cognitive Networking.** By integrating AI-enabled intelligence fusion and decision-making superiority, this architecture will evolve from a simple sensor network into a true cognitive network.

**10.3 Resilient, Secure & Interoperable Communications Fabric.** All authorized users must have access to a resilient, secure and interoperable communications fabric for Maritime Domain Operations, enabling coordinated action throughout the region.

**10.4 Mission Assurance.** To guarantee mission assurance in contested and degraded environments, space-based ISR and communications must be operationalized through a blend of proliferation, autonomy, deception and multi-domain redundancy.

**10.5 Strategic End State.** The ultimate objective is to become the pre-eminent architect and operator of a resilient, intelligent and combat-ready space-based ISR system that secures maritime superiority across the Indo-Pacific.

**10.6 Way Ahead.** The nation that dominates the Space-AI-Network triad will dominate the IOR's information landscape.

10.6.1 Without Space: Awareness is limited to the horizon, and communications are fragile.

10.6.2 Without AI: Forces are drowned in data but starved of insight, reacting too slowly.

10.6.3 Without Resilient Networks: The entire digital kill chain collapses at the first sign of electronic or cyber conflict.



**Dr Anupam Sharma (DRDO)**

11. The session concluded with Q&A session, where participants posed thought provoking questions to the speakers, fostering a deeper understanding of the topics discussed.

12. **Session II: Multi-Domain Air Ops: Capitalizing on Integrated Offence and Defence.** Opening remarks for Session II was delivered by Shri Pankaj Saran Convenor, NatStrat. Key salient points from the discussion are as follows:-

12.1 He reflected on the growing complexity of the security environment in the Indian Ocean Region, emphasizing that threats and challenges are no longer isolated or predictable. Issues once considered peripheral or unlikely have evolved into serious concerns, requiring constant dialogue, reassessment and coalition-based responses. For India, this complexity directly affects national security, regional influence and strategic stability.

12.2 **Complex Threat Landscape.** Multiple security challenges (maritime, environmental, humanitarian and geopolitical) overlap and interact, making the region difficult to manage through single-issue responses.

12.3 **Need for Continuous Dialogue.** Emphasis is placed on the importance of conversations, diplomacy and shared understanding among regional and extra-regional actors to manage uncertainty.

12.4 **Coalitions as a Strategic Necessity.** No single country can address these challenges alone. Flexible coalitions and partnerships are required to respond effectively.

12.5 **Implications for India.** India must remain vigilant, adaptive and engaged thus balancing cooperation with strategic autonomy while safeguarding its interests in the Indian Ocean.

13. Air Mshl Tarun Chaudhry, SASO, HQ SAC, chaired Session II. He introduced the theme and objectives of the session and highlighted how it flows from the first session, wherein having discussed the requirement, capabilities and the works in progress; the way forward needs to be decided for achieving synergistic military operations in all domains of warfare. Key salient points from the discussion are as follows:-

13.1 **Strategic Importance of Air Power.**

13.1.1 Air power is “existential” to the strategic autonomy of any country and the same applies for India.

13.1.2 Historically air power has been considered escalatory however, based on the empirical evidence, it can be a politically usable and strategically calibrated tool, for the national leadership.

13.2 **Operational Integration.** Integrated multi-domain operations were emphasized as the way forward. Optimum use of ISR to enhance visibility in the IOR, through platforms, space assets and high altitude satellite systems, is the way forward.

13.3 **Use of Island Territories.** Reach and persistence can be effectively enhanced using the island territories. Ground based Air Defence weapons with long ranges as well as long range strikes by fighters / Bombers can effectively exploit geography for both offensive ops and deterrence.

13.4 **Partnerships for Air Domain Awareness.** India must stay alert to emerging risks, ensuring early detection and flexible responses. He highlighted the need for partnerships and collaborative arrangements with friendly nations, for a voluntary, partnership enabled ADA, to address future threats in IOR.



**Session 2: Chair & Speakers**

14. **Presentation 1.** Air Mshl Saju Balakrishnan (Retd) gave a presentation on **Integrated Offensive and Defensive Air operations in IOR for power projection, regional stability and countering China's influence.** Key salient points from the discussion are as follows:-

14.1 **Strategic Environment.** He observed that China has been methodically extending its strategic footprint in the Indo-Ocean Region (IOR) through the Belt and Road Initiative, establishing ports and friendly bases in littoral states and normalising the presence of People's Liberation Army Navy (PLAN) and other

maritime assets. This aligns with Beijing's longstanding policy of asserting dominance over the South and East China Seas and it raises the spectre of a more aggressive posture particularly concerning the "Malacca dilemma".

**14.2 Security Threats in IOR.** He examined the security threats arising from the current geopolitical landscape in the Indian Ocean Region, which are listed as follows:-

- 14.2.1 Great power competition in IOR
- 14.2.2 Increased Chinese influence
- 14.2.3 Spillover of South China Sea dynamics
- 14.2.4 Unstable neighborhood
- 14.2.5 Increased piracy threat

**14.3 Air Power requirement.** In such a scenario, air power, with its intrinsic speed, range, flexibility and lethality, is uniquely suited to serve as the first responder.

**14.4 Current Indian Measures.** India's current response has taken the form of joint offensive and defensive exercises with the Indian Navy, the French-Australian-Indian (FFC) grouping and other foreign navies transiting the IOR.

**14.5 Integrated Approach Requirement.** Any future contingency will demand a tightly integrated approach by the Indian Navy and the Indian Air Force to ensure a credible and coordinated defence of the region.

**14.6 Way Forward.** He elaborated on the way forward which are as follows:-

- 14.6.1 Development of airfields in ANC & Lakshadweep
- 14.6.2 Speedy implementation of infrastructure projects
- 14.6.3 Additional Brahmos units in IOR
- 14.6.4 Enhancement of WSAs
- 14.6.5 Hasten leasing of FRA & procurement of additional ac
- 14.6.6 Early operationalisation of *IN* Rafale ac

## 14.6.7 Modify environmental regulations.



**Air Mshl Saju Balakrishnan PVSM, AVSM, VM (Retd)**

15. **Presentation 2.** Gp Capt KD Singh spoke on **Indian Archipelago as 'Springboards' to enhance reach of Air Power into the IOR.** Key salient points from the discussion are as follows:-

15.1 **Strategic imperatives.** India's evolving aspirations and emerging threat landscape compel a strategic shift in its maritime security posture. Situated near the world's busiest chokepoints, the Andaman-Nicobar Islands and Lakshadweep archipelago can become pivotal assets.

15.2 **Upgrade infrastructure.** With sustained capability development and the integrated application of military power, these islands can be transformed from traditional defensive outposts into forward-leaning launch platforms.

15.3 **Future Outlook.** Airpower by virtue of its reach and offensive lethality will be the cornerstone of this evolution, enabling the islands to serve as springboards for depth-focused operations.

15.4 **Long Range bombers.** Requirement of Long Range bombers and its importance and use in the IOR was discussed as follows:-

15.4.1 Increase in reach without AAR

15.4.2 Higher Armament Load

15.4.3 Large-sized Weapons

15.4.4 Deployment in Depth

- 15.4.5 Longer Loiter Time
- 15.4.6 Diversity of Weapons
- 15.4.7 Compact Force Packaging
- 15.4.8 Survivability



**Gp Capt KD Singh VM**

16. **Presentation 3.** Ms Radhey Tambi, Research Associate CAPSS, delivered a talk on **Leveraging Island Nation's partnership in IOR to build a robust, integrated aerospace security framework in the Indian security framework in the Indian Ocean.** Key salient points from the discussion are as follows:-

16.1 **Geostrategic Chokepoints.** Indian Ocean's small island states have become coveted platforms for major powers because of their geostrategic location on vital chokepoints and sea lanes. These nations now serve as arenas for expanding military influence, with powers continuously pursuing base-lease agreements, access arrangements and security partnerships to cement their presence.

16.2 **Forward Surveillance and Logistic Outposts.** The islands are essential nodes for maritime surveillance and reconnaissance, acting as forward outposts that monitor both commercial and military traffic. As technology fuels a race for seabed mining and other marine resources, the islands are poised to evolve into critical lay-over and logistics hubs for emerging supply chains.

16.3 **Regional Organisations.** Various regional organisations like India Chair of Indian Ocean Rim Association (IORA), Indian Ocean Naval Symposium (IONS)

and Colombo Security Conclave (CSC) were discussed with their overlapping areas of cooperation.

**16.4 Future Outlook.** The convergence of strategic, economic and technological interests guarantees that geopolitical competition among the major Indian-Ocean actors will intensify with each vying to become the islands' primary development and security partner. In this context, India's ability to harness partnerships with these island nations to construct a resilient, integrated aerospace-security framework will be pivotal in shaping the future security architecture of the Indian Ocean Region.



**Ms Radhey Tambi Research Associate, CAPSS**

17. A dynamic Q&A session followed, allowing participants to clarify important aspects which were brought out during the session.

18. **Closing Remarks.** Air Marshal George Thomas, AVSM, VM DG Air Ops delivered the closing remarks. Key salient points from the discussion are as follows:-

18.1 He reflected on a strategic reassessment in which previously secondary issues are now being recognized as central to national and even existential security. It emphasizes that such shifts are a natural part of state behavior, in a complex and uncertain international environment. For India, this reassessment is particularly relevant in the context of evolving challenges in the Indian Ocean Region, where geopolitical; security and non-traditional threats increasingly intersect.

18.2 **Shift in National Focus.** India is consciously redirecting attention toward areas that were earlier treated as peripheral but now carry strategic importance.

18.3 **Recognition of Existential Dimensions.** Some challenges are no longer viewed as routine risks but as issues that could affect long-term national stability.

18.4 **Normalization of Strategic Change.** He noted that such reassessments are normal and necessary for states operating in a dynamic global environment.

18.5 **Implications for Policy and Planning.** This shift demands adjustments in defence planning, diplomacy and resource allocation to address emerging realities more effectively.

18.6 **Long-Term Strategic Outlook.** The emphasis is on proactive adaptation to ensure resilience rather than reactive crisis management.



### Closing Remarks

19. **Vote of Thanks.** Air Mshl Tarun Chaudhry, AVSM, VSM SASO, HQ SAC while delivering the vote of thanks, thanked the CISC and the DGAO for having attended the seminar and sharing their views and insights on this important subject, which is also related to the ongoing efforts towards inter-Service synergy. He also thanked all the distinguished speakers for sharing their expertise and domain knowledge. In the end, the Air Mshl acknowledged the presence of the senior leadership from HQ IDS, sister services, Indian Coast Guard, Air HQ, representatives from the war colleges and officers from the various units of HQ SAC and those who have joined online.



### Vote of Thanks

20. **Felicitations.** The speakers were felicitated by the AOC-in-C after each session. The AOC-in-C also exchanged mementoes with dignitaries and Chair of each session.

21. **Key Takeaways from the Seminar.** The key takeaways from the seminar are as follows:-

#### 21.1 Strategic Implications for India.

21.1.1 The overlap of non-traditional threats (piracy, disasters) with traditional power rivalry complicates India's maritime security planning.

21.1.2 India must balance cooperation with deterrence while safeguarding its role as the 'net security provider' in the IOR.

21.1.3 Maritime control is not binary. Effective operations require synchronizing air power's time-space compression with sustained maritime presence to achieve maritime control.

21.1.4 Joint operations are imperative. Failure to exploit niche capabilities or maintain force balance produces operational inefficiency and logistical complexity.

21.1.5 India should embrace its role as a "lighthouse" and first responder in global security.

21.1.6 Emphasis on MAHASAGAR vision: mutual security and growth across oceans.

21.1.7 Functioning in siloes is no longer viable.

21.1.8 Mastery of technology, strategy and adaptability is essential.

21.1.9 Control of the skies and information dominance will define future power.

21.1.10 India must evolve into a reliable global stabilizer in the maritime domain.

21.1.11 Future belongs to those who control the skies above the sea.

21.1.12 India must stay alert to emerging risks, ensuring early detection and flexible responses. Future wars would be hybrid in nature and a whole of the nation approach would be required to address future threats.

21.1.13 Historically air power has been considered escalatory however it is now a politically usable and strategically calibrated tool.

**21.2 Multi Domain Integrated Joint Operations of China.** China's drive to field a world-class military by 2049 has made Multi-Domain Integrated Joint Operations (MDO) the PLA's standard doctrine since 2019. Under its "Two-Oceans" strategy, the PLA is weaving a Multi-Domain Kill Web across the Indian and Pacific Oceans to enlarge its anti-access/area-denial (A2/AD) envelope. This kill web rests on two pillar capabilities: Multi-Domain ISR and Multi-Domain Precision Strike. The ISR element unites aerospace, information and cyber assets, fusing the Navy, Ground, Air and Rocket Forces with reserve and militia components to deliver continuous, real-time detection and targeting across air, maritime and space. The resulting seamless, rapid kill chain can be activated at will throughout the Indo-Pacific region.

**21.3 Way Forward for India's ISR and Communication Posture in the IOR.** To meet the strategic user's demand for low-latency, high-throughput communications with built-in redundancies over the next decade, the following roadmap outlines the way forward for India's ISR and communication posture in the Indian Ocean Region.

21.3.1 Enhance space-based capability.

21.3.2 Integration of all national sensors.

21.3.3 Cooperative arrangement with FFC.

#### 21.3.4 Increased investment in technology.

#### 21.4 **Space-Centric ISR as the Engine of Indo-Pacific Maritime Dominance.**

A resilient, space-based ISR architecture is the foundation for near-real-time monitoring of maritime traffic, anomaly detection, naval support and threat mitigation across the vast Indo-Pacific. By embedding AI-driven intelligence fusion and autonomous decision-making, this sensor grid will evolve into a true cognitive network. All authorized operators must be linked through a secure, interoperable communications fabric that enables coordinated maritime-domain actions. To assure mission success in contested or degraded environments, the system must leverage proliferation, autonomy, deception and multi-domain redundancy. Ultimately, India aims to become the premier architect and operator of an intelligent, combat-ready space-based ISR capability that guarantees maritime superiority throughout the region.

#### 21.5 **Evolving Security Dynamics in the Indian Ocean Region – Implications for India.**

The security environment across the Indian Ocean has become increasingly intricate, with threats that were once peripheral now emerging as serious, inter-linked challenges that defy simple prediction or isolation. A mosaic of maritime, environmental, humanitarian and geopolitical risks overlap, rendering single-issue responses ineffective and underscoring the need for continual dialogue, diplomatic engagement and shared situational awareness among regional and extra-regional actors. Consequently, flexible coalitions and partnerships have become a strategic imperative, as no lone nation can tackle the full spectrum of challenges alone. For India, this heightened complexity directly shapes its national security calculus, regional influence and strategic stability, demanding a vigilant, adaptive posture that balances cooperative engagement with the preservation of strategic autonomy in the Indian Ocean. Partnerships and collaborative arrangements with friendly nations, for creating a voluntary network towards Air Domain Awareness, needs to be explored.

#### 21.6 **Way Forward for Integrated Offensive and Defensive Air operations in IOR.**

21.6.1 Development of airfields in ANC & Lakshadweep and speedy implementation of infrastructure projects.

21.6.2 Enhancement of WSAs

21.6.3 Procurement of additional FRA. Early operationalisation of *IN Rafale ac*

**21.7 Transforming Island Outposts into Forward-Strike Platforms.** India's rising strategic ambitions and a deteriorating threat environment demand a fundamental recalibration of its maritime posture. The Andaman-Nicobar and Lakshadweep archipelagos located adjacent to the world's busiest sea-lane chokepoints offer unrivaled potential as force-projection hubs. By accelerating infrastructure upgrades and integrating advanced military capabilities, these islands can evolve from static defensive posts into forward-leaning launch bases. Central to this transition is airpower, whose reach and offensive lethality will enable the islands to function as springboards for deep-strike, depth-focused operations across the Indian Ocean.

**21.8 Geostrategic Islands as the Nexus of Competition and Cooperation.** The Indian Ocean's littoral states have become prized footholds for major powers because they sit on critical maritime chokepoints and sea-lane corridors, prompting a scramble for base-lease deals, access accords and security pacts. These islands now serve as forward surveillance and logistics nodes that monitor both commercial and military traffic and are poised to evolve into essential hubs for emerging seabed-resource supply chains. While regional bodies such as the Indian Ocean Rim Association (chaired by India), the Indian Ocean Naval Symposium and the Colombo Security Conclave foster overlapping cooperation, the convergence of strategic, economic and technological interests ensures that great-power rivalry over the islands will intensify. Consequently, India's capacity to cultivate resilient partnerships with these island nations and weave them into an integrated aerospace-security framework will be decisive in shaping the future security architecture of the Indian Ocean Region.

## CONCLUSION

22. The second edition of HQ SAC – CAPSS Maritime seminar provided valuable insights into the challenges and complexities of the maritime domain and underscored the importance of interoperability and synergy required in the IOR. The maritime challenges confronting India extend far beyond a purely naval perspective; they demand an integrated and multi domain response. In this context, Air power is indispensable for securing favourable outcomes, as "*Air Forces compress the Factors of Time and Space*". By partnering closely with the Indian Navy, the IAF can significantly enhance maritime security, regional stability and India's strategic influence across the Indian Ocean Region.