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Research and Information System
for Developing Countries

विकासशील देशों की अनुसंधान एवं सूचना प्रणाली



CMEC

Centre for Maritime Economy
and Connectivity

समुद्री अर्थव्यवस्था व संयोजन केंद्र

Brainstorming Session

Tokenisation of Maritime Assets: A Case for Fractional Ship Owning

OUTCOME REPORT

**Traditional
Single Owner**



**Corporate
Owner**



**Fractional
Owners**



**Distributed
Owners**



21 August 2026 | Mumbai, India

Brainstorming Session

Tokenisation of Maritime Assets: A Case for Fractional Ship Owning

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Published in September 2026.



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Preface

Professor Sachin Kumar Sharma

Director General, RIS

1. The maritime sector is undergoing a significant transformation, driven by technological advancements, environmental imperatives, and the changing requirements of global trade. As India seeks to strengthen its maritime capabilities and enhance its competitiveness, ensuring access to adequate and innovative sources of finance will remain critical to achieving the objectives of the country's maritime development agenda.
2. India's maritime ambitions, including the development of a globally competitive shipping and shipbuilding industry, require substantial capital investment. While conventional financing mechanisms will continue to remain important, there is a need to explore complementary financing models that can broaden access to capital, diversify investor participation, and support the mobilisation of resources for maritime assets. In this context, the tokenisation of maritime assets and fractional ship-owning presents an emerging opportunity that merits careful examination.
3. Research and Information System for Developing Countries (RIS), had undertaken a study titled "Tokenisation of Maritime Assets: Solutions for Fractional Ship Owning" and subsequently convened a brainstorming session to deliberate on its practical implementation. The session brought together stakeholders from the maritime, financial, regulatory, technological, legal and industry domains, providing a multidisciplinary platform to examine the implementation of maritime tokenisation in India. This report presents the details of discussions held through four thematic areas and issues highlighted in each of them.
4. I take this opportunity to thank the Director General, DGMA, Chairman, IFSCA, representatives from MEA, MoF (DEA), MeitY, SEBI, and the eminent industry leaders for joining the brainstorming session and providing constructive suggestions.
5. I am hopeful that this Outcome Report will serve as a useful reference for policymakers, regulators, maritime industry stakeholders, financial institutions, technology providers, researchers and other practitioners working towards the development of innovative and sustainable financing solutions for India's maritime sector.

Sachin Kumar Sharma

Executive Summary

India's growing role in global trade presents a significant opportunity to strengthen its maritime sector, particularly shipbuilding and ship owning. However, meeting the country's expanding requirements for EXIM and coastal shipping, fleet replacement and the transition towards green shipping will require substantial capital investment. Against this backdrop, RIS undertook a study on "Tokenisation of Maritime Assets: Solutions for Fractional Ship Owning" and subsequently convened a brainstorming session to examine the feasibility and practical implementation of maritime asset tokenisation in India.

The Brainstorming Session, held on 21 August 2026, brought together maritime industry experts, policymakers, regulators and officials from relevant ministries. The deliberations focused on four areas, namely:-

- a. Framework for real-world asset tokenisation,
- b. Inter-regulatory coordination,
- c. Integration of India's ship registry with digital ledger technology, and
- d. A phased pilot under the IFSCA Regulatory Sandbox.

The discussions indicated broad consensus that maritime asset tokenisation is feasible in India and could provide an additional channel for mobilising capital and enabling fractional participation in maritime assets. At the same time, participants emphasised that tokenisation should complement, rather than replace conventional maritime financing. A phased and institution-led approach was considered necessary, beginning with suitable low-risk vessel categories and a controlled investor base. The SPV-per-vessel model, with tokenisation initially limited to economic rights while legal ownership and operational control remain with the SPV/promoter, emerged as a preferred structure.

A central finding was the need for clear and coordinated regulation. Tokenised maritime assets intersect with maritime, securities, financial, taxation, foreign exchange, insurance, insolvency and cross-border frameworks. Participants, therefore, recommended a designated lead regulator and a Joint Working Group involving relevant regulatory authorities to examine legal clarity on the classification of maritime tokens, investor protection, beneficial ownership, liabilities and cross-border enforceability which was identified as essential.

The integration of tokenisation with India's ship registry was considered equally important. The statutory registry should remain the conclusive legal record, while a permissioned DLT system could operate as a supplementary digital layer recording tokenised economic interests and transactions. A phased integration beginning in "shadow

mode”, together with India-hosted and trusted infrastructure, was recommended to address issues of cybersecurity, technology sovereignty and regulatory oversight.

The deliberations further recommended a carefully scoped pilot within the IFSCA sandbox, initially involving one or two suitable vessels and institutional/accredited investors, with potential participation of certified maritime professionals. The pilot should test the complete lifecycle from issuance and settlement to income distribution, secondary transfers and eventual redemption and should operate for a sufficiently long period to capture the cyclical nature of shipping economics. Standardised disclosures, adequate operating and contingency reserves, and clear priority arrangements for creditors and token holders were also considered necessary safeguards.

A few unresolved issues require further policy attention, including secondary-market liquidity, valuation methodology, taxation, cross-border enforceability, securities classification, cybersecurity, beneficial ownership and the interaction between tokenised claims and maritime liens and mortgages. Importantly, tokenisation does not automatically create liquidity and therefore appropriate market making, investor based development and secondary market infrastructure may be required.

The report, therefore, recommends a SPV-per-vessel structure, tokenisation of economic rights in the initial phase, a coordinated regulatory mechanism, India-hosted permissioned DLT infrastructure, continued primacy of the statutory ship registry, phased investor eligibility and a carefully designed pilot programme. It also recommends establishing a Government of India Task Force/Expert Committee on Maritime Asset Tokenisation and Digital Ship Finance to carry the lessons from the sandbox towards a permanent regulatory framework.

Overall, the deliberations demonstrate a strong degree of convergence that tokenisation can become a credible supplementary channel for maritime finance in India, provided its development remains cautious, phased and anchored in existing legal and regulatory principles. With appropriate institutional coordination, a disciplined pilot and continued development of its digital and financial infrastructure, India has the potential to emerge as an early and credible reference point for maritime asset tokenisation globally.

Prima facie, the brainstorming session yielded positive results, and all stakeholders, without exception, favoured the tokenisation of maritime assets, notably ships, both new build and pre-owned, as a potential pathway for alternate finance for building India’s future fleet.

Introduction

India's expanding role in the global economy highlights a significant opportunity to strengthen its maritime sector, particularly in shipbuilding and ship owning. Since 2000, its share of global exports and imports has increased more than twofold and threefold, respectively, whereas the share of global registered tonnage has been falling. India requires additional ships for EXIM and coastal cargo transportation, fleet replacement, and the transition to green shipping that is commensurate with global standards. This entails a capital investment of nearly INR 40 lakh crores (at current prices). This substantial funding remains a key challenge for India, underscoring the importance of pursuing innovative financing mechanisms. Therefore, RIS undertook a study to explore alternative sources of funding through the discussion paper (DP) #318, 'Tokenisation of Maritime Assets: Solutions for Fractional Ship Owning' (DP).

The DP proposes that the existing template for Tokenisation of real-world assets can also include maritime assets, specifically ships. The tokenisation of maritime assets, such as ships, refers to the digitalisation of the representative or ownership rights of marine assets into tokens via distributed ledger technology (DLT) based on blockchain. Each token is unique and represents the allocated or fractional value of the asset, allowing investors to invest in a maritime asset without owning the entire asset. These

tokens can be issued, stored, operationally exchanged, or tracked on the programmable ledger. Thereby, tokenisation enables a lawful interest or share in the asset but in digital form, governed by transparent code and regulation.

The DP was shared with the Ministry of Ports, Shipping and Waterways (MoPSW). DG Maritime Administration, while appreciating the concept, desired that the paper be discussed with subject matter experts vide its letter 25/12/2026-NT-DGS dated 13.04.26. The paper was subsequently circulated to 28 stakeholders in the maritime sector to seek their comments and suggestions. The consultation process elicited an encouraging response, and suggestions were received from the industry experts on the following specific issues: -

- a. Feasibility and framework for adopting tokenisation in the shipping industry in India
- b. Regulatory mechanism and associated key challenges
- c. Digital integration of India's ship registry with digital ledger systems
- d. Consideration for a pilot project for maritime tokenisation, say, through IFSCA Sandbox

Pursuant to the guidance received from the DG MA, RIS organised a Brainstorming

Session on this subject on 21 August 2026 at Fairfield by Marriott, Mumbai. The Brainstorming Session discussed these four issues at length. The session was attended by officials from four ministries, including the Ministry of External Affairs (MEA), the Ministry of Finance (MoF), the Ministry of Ports, Shipping and Waterways (MoPSW) and the Ministry of Electronics and Information Technology (MeitY), apart from representation from IFSCA, DGMA, SEBI, etc.

The session brought together maritime industry experts, policymakers and regulators for an engaging discussion on the various dimensions of maritime tokenisation in India. Given the complexity of the maritime sector, industry experts shared valuable insights and raised critical questions on the practical challenges and requirements for implementing tokenisation. The discussion also enabled policymakers and regulators to gain a deeper understanding of the sector-specific challenges to consider when developing an appropriate regulatory framework while supporting innovation and enabling the responsible and regulated adoption of maritime tokenisation in India.

The outcome report outlines the objectives of the session, key points raised during the inaugural session, detailed deliberations across four thematic sessions, key issues and risks, key takeaways, recommendations, and the way forward. The summary of opinions received from maritime experts is placed in Annexure A. The concept note and agenda for the Brainstorming session are placed in Annexure B. The list of participants is placed in Annexure C. Some special moments of the session are placed at Appendix D.

Objectives

The objective of the brainstorming session was to undertake an in-depth deliberation on the four issues mentioned earlier. Based on insights received from industry experts, a set of key questions was formulated under each issue to guide the discussions and facilitate focused deliberations during the session:

Session	Theme	Core Questions Raised
I	Examine Real-World Asset Tokenisation Framework for Maritime Tokenisation in India	1. Legal, regulatory and institutional framework for tokenised maritime assets 2. Linking the digital token with the underlying vessel and establishing trusted digital identities 3. Technology architecture, token standards and interoperability with India's digital ecosystem 4. Settlement infrastructure and the role of CBDC, tokenised deposits and programmable payments 5. Suitable asset classes, financing structures and phased adoption strategy 6. Liquidity, investor protection and alignment with shipping's operational realities
II	Recommend Mechanisms for Coordination between Regulatory Authorities in India	1. Adoption of a legal framework for tokenised ownership 2. Coordination among multiple regulators and institutional responsibilities 3. Interaction with existing maritime liens, mortgages and insolvency frameworks 4. Cross-border regulatory, foreign exchange and taxation issues 5. Investor protection, disclosure norms, KYC/AML compliance and market governance 6. Digital infrastructure, token custody and cybersecurity standards

III	Digital Integration of India's Ship Registry and Technology Standards for Ship Tokenisation	1. Architecture and phased approach for registry and DLT integration 2. Legal status of digital ledger records and relationship with the statutory registry 3. Interoperability and unique digital identity of vessels 4. Real-time synchronisation of ownership, mortgages and encumbrances 5. Institutional readiness, governance, auditability and data sovereignty
IV	Phased National Implementation Roadmap for Ship Tokenisation in GIFT City under IFSCA Regulatory Sandbox	1. Scope, structure and selection of pilot assets, in alignment with IFSCA's consultation paper on the tokenisation of real-world assets 2. Investor eligibility across institutional, accredited and controlled retail participants (maritime professionals), and phased market access 3. End-to-end lifecycle testing and operational processes 4. Testing of regulatory, governance and investor-protection mechanisms 5. Technology, payment and registry & DLT integration 6. Success criteria, monitoring and transition to a permanent framework

Session Summaries

Inaugural Session

The session set the tone of the discussion. The key takeaways from the inaugural session are placed below.

1. Tokenisation can broaden access to maritime finance

Tokenisation and fractionalisation were identified as potential mechanisms for mobilising new pools of capital towards maritime assets. By enabling assets such as ships to be divided into smaller investment units, tokenisation could potentially widen investor participation beyond traditional institutional or high-net-worth investors. However, tokenisation should be viewed as a complement to existing financing mechanisms rather than a replacement for conventional maritime finance. Its relevance is particularly significant given the substantial capital requirements associated with expanding India's shipping and shipbuilding capabilities.

2. A robust regulatory and legal framework is essential

Appropriate regulatory guardrails must complement the technological innovation. Regulation should focus on the underlying financial product, including the rights it provides, the obligations it creates, the risks involved, and the parties responsible, rather than solely on the technology through which it is delivered. The principle of "same activity, same risk, same regulation" was emphasised to ensure that technology does not become a means of avoiding regulatory responsibilities. As tokenisation involves financial, maritime and ownership-related dimensions, legal clarity on the nature of tokenised interests, investor rights, liabilities and accountability will be critical. Cybersecurity risks associated with blockchain-based systems and smart contracts must also be incorporated into the regulatory architecture.

3. India should adopt a multidisciplinary and multi-stakeholder approach

Tokenisation of maritime assets encompasses multiple domains, including shipping, finance, technology, law and regulation. The complexity of the subject means that no single stakeholder or institution can independently address all the associated issues. Effective development of the ecosystem would therefore require collaboration among regulators, financial institutions, technology experts, legal professionals, industry participants and research institutions. A coordinated approach would help identify practical regulatory, technological and commercial requirements while ensuring that the eventual framework remains aligned with the realities of the maritime sector.

4. Sandbox-based experimentation can help develop a scalable framework

Given that tokenisation of real-world maritime assets is still evolving globally, a sandbox-based approach was identified as an important pathway for experimentation. A controlled environment can allow stakeholders and regulators to test different

tokenisation structures, identify operational and technological challenges, assess investor protection requirements and understand the implications of scaling such models. The sandbox can also support the development of appropriate regulations based on practical experience rather than theoretical assumptions. The objective should ultimately be to use experimentation to develop a framework that can move responsibly from limited pilots towards wider implementation.

5. India has an opportunity to shape the emerging global ecosystem

The discussions pointed to a strategic opportunity for India to move beyond simply adopting international models and instead contribute to shaping the emerging global framework for tokenised real-world assets. The global ecosystem remains at an evolving stage. India's strength lies in the convergence of its maritime sector, financial ecosystem, technological capabilities and developing regulatory architecture. This creates an opportunity to establish appropriate principles and parameters for maritime asset tokenisation while learning from international experience. Given the scale of India's maritime ambitions and financing requirements, developing an enabling framework could help position the country as an early leader in this emerging area.

Session I: Examine RWA Tokenisation Framework for Maritime Tokenisation

Feedback received from maritime experts suggested that tokenisation of maritime assets is feasible for India and that its adoption will depend on a strong regulatory framework, clear asset linkage, and a phased implementation starting with low-risk vessel segments and a controlled investor base. It is seen as a complementary financing tool, but challenges remain regarding liquidity, investor protection, interoperability, and the balance between transparency and confidentiality. The key takeaways from this session are summarised below:-

The consensus on feasibility

Tokenisation is feasible for India's shipping sector, provided it is adopted through a phased, regulated, and institution-led framework rather than being open to all investors at once. Technology that wraps the financial claim, the underlying obligations, rights and investor protections it carries must follow the same regulatory discipline as a comparable conventional instrument. Fractional participation can be a genuine additional channel for shipowners who currently find it difficult to raise bank finance for asset acquisition, alongside the existing Shipbuilding Financial Assistance policy, the Maritime Development Fund and the Shipbuilding Development Scheme. Other notable points that emerged are noted as follows:-

1. The SPV-per-vessel structure

SPV-per-vessel was agreed by all as the foundational model. The shipping company incorporates an SPV that holds full ownership and operating rights over a single vessel. It is the SPV and not the parent company that issues tokens representing an economic

interest in that vessel. This ring fences investors from company-wide risk. It protects the shipowner from the temptation to mix earnings across a fleet, since each SPV's bank account is dedicated to that vessel's receivables and distributions.

2. Ownership, operational and economic rights

A recurring legal distinction, articulated most sharply, was between three separate baskets of rights. These are:-

- a. Ownership rights (who legally owns the underlying vessel, which should remain with the SPV/promoter)
- b. Operational rights (who charters, crew and commercially runs the vessel, again resting with the SPV/shipowner as operator).
- c. Economic rights (the token holder's claim on charter income, capital appreciation and distributions).

Participants highlighted the fact that UAE had created a Virtual Asset Regulatory Authority and that the Monetary Authority of Singapore had also created a framework for tokenisation of real world assets. It was brought out that the emerging practice is to tokenise only the economic rights, while ownership and operational control remain with the SPV. This is an identical position adopted for tokenisation of other real world assets such as Malls, Ports etc. To guard against a shipowner walking away once capital is raised, it was proposed that the promoter/UBO always retain a minimum equity stake ranging from 25 per cent to as high as 51 per cent, which is modelled on a comparable requirement already agreed with UAE regulators.

3. Valuation: Gross Tonnage versus Net Tonnage

No single valuation metric commanded full consensus. On one hand, Net Tonnage was proposed as the truer measure of a vessel's commercial earning capacity, since it excludes accommodation and engineering spaces. On the other, Gross Registered Tonnage (GRT) was proposed, multiplied by a scaling factor of 100 (rather than 1,000) because it firstly produces per-token face values in a practical US\$1-50 range across most vessel types, and secondly because GRT is a stable, certificate-recorded figure that does not fluctuate with cargo or season the way deadweight tonnage or Net tonnage does. The working resolution favoured by regulatory officials was to use GRT to anchor the capital/asset value of the token and Net Tonnage to anchor the earnings component. The sum of intrinsic asset value and accumulated operating income, net of costs, should be considered to derive a Net Asset Value (NAV) that would need to be computed and disclosed at reasonable intervals. Everyday reporting was suggested as the eventual ambition, benchmarked against mutual-fund NAV practice, though this remains untested at scale for a presently illiquid physical asset.

4. Compatible vessel classes and phased entry

The DPs eight-trait WEF framework (physical form factor, operational intensity, reusability, institutional demand, infrastructure maturity, an unstructured OTC market, limited divisibility, and a wide potential investor base) was affirmed as

broadly applicable to ships. It was recommended that pilots begin with low-risk, second-hand vessels or replacement tonnage with stable, contracted charter revenues like dredgers, tugs, barges and mid-sized bulkers/tankers. It should only be extended to newbuildings, LNG carriers or higher-value assets once the model is proven in the above-mentioned categories.

Session II: Recommend Mechanisms for Coordination between Regulatory Authorities

Expert feedback indicated that maritime asset tokenisation in India will require a phased and coordinated statutory adoption framework. The principal concern is regulatory ambiguity arising from the intersection of maritime, securities, financial, tax, foreign exchange, insolvency and cross-border legal frameworks. The key takeaways from this session are summarized below:-

The multi-regulator problem

A tokenised ship sits at the intersection of maritime law, securities law (SEBI and, prospectively, the Securities Market Code), monetary and payments regulation (RBI), the IFSCA as the unified regulator for GIFT City, taxation (CBDT/Income Tax Department) and insurance (IRDAI). There must be a single, designated lead regulator, and a Joint Working Group or Inter-Regulatory Technical Group (an existing mechanism, IRTG on FinTech, was cited as already bringing RBI, IFSCA and others together) are essential to avoid fragmentation, duplicate compliance, or regulatory arbitrage. This raised the following questions:-

1. Is a maritime token a security?

The Howey Test applied in the USA is likely to treat a maritime token as a security, since it involves an investment of money in a common enterprise (the SPV) with profits expected from the efforts of others (the SPV's operator/charterer), and the DP itself concludes on this basis that ship tokens meet the Howey test. The UAE, by contrast, classifies such tokens as "Asset-Referenced Virtual Assets" (income-generating instruments) rather than securities, under the Virtual Assets Regulatory Authority (VARA) framework, which is a lighter-touch, purpose-built regime. IFSCA representatives noted that, absent a bespoke asset class in Indian law, their current construct is to treat the SPV as a fund and the token as behaving like a security, which then triggers India's Securities Contracts (Regulation) Act requirement that price discovery happen on a recognised exchange rather than an informal Alternative Trading Platform (ATP). It is a friction that becomes acute once retail investors are contemplated, because Indian law does not yet support the pooled/omnibus custody accounts that OTC-to-exchange settlement would require. The upcoming Securities Market Code, currently before Parliament, is expected to be the vehicle that resolves this classification question and explicitly enables ATPs for asset classes that cannot trade on a conventional exchange.

2. Existing legal Enablers versus the Case for Tokenisation

IFSCA representatives made an important clarifying point. They held that fractionalising a ship's ownership or revenue through a Pass-Through Certificate structure is already legally permissible in India under existing financial-sector provisions, without invoking blockchain at all. However, tokenisation enables transparency, auditability, programmability (automated distribution via smart contracts) and near-real-time, atomic settlement, which is not a new legal permission as such. Participants agreed that the regulatory drafting should, therefore, be technology-neutral and asset-agnostic and the same disclosure, custody and investor-protection principles should apply whether DLT is used or not, with technology treated as an efficiency layer rather than the basis of the legal claim.

3. Cross-border enforceability and sovereignty

Maritime experts discussed a scenario, say, an SPV registered in GIFT IFSC with the following parameters. The vessel is lagged in Panama, financed from a UK bank, gets arrested in a third jurisdiction, then whose law governs, and how are token holders protected? IFSCA's response drew on the analogous IOSCO Multilateral MoU used in cross-border securities enforcement but acknowledged this framework does not yet exist for maritime tokens. A related and forcefully argued concern was technology sovereignty. Since most public blockchain infrastructure (e.g., Ethereum) is node-concentrated in jurisdictions such as the United States and given the precedent of Russia's removal from SWIFT after the Ukraine conflict, it was flagged that Indian maritime tokens should run on India-hosted, permissioned infrastructure under a trusted domestic operator (analogies were drawn to NPCI's role in UPI). This is to prevent assets and records from being frozen or rendered inaccessible by a foreign infrastructure decision.

4. Investor protection and phased eligibility

IFSCA was explicit that retail investors will not be permitted in the near term. The initial focus is on accredited/sophisticated investors, evidenced by KYC/AML and net-worth thresholds (1.5 lakh-equivalent LRS limits for resident Indians were discussed as an initial benchmark). There were recurring and constructive proposals from several seafaring participants to carve out a defined category of "maritime professionals" as an intermediate, protected category ahead of full retail access alongside professional certification routes (e.g., Institute of Chartered Shipbrokers) to establish bona fides. Given that India has roughly 300,000 active and 200,000 retired seafarers, it can be an investor category with many of them having the means and the domain knowledge to be informed investors.

Session III: Digital Integration of India's Ship Registry and Technology Standards for Ship Tokenisation

Experts concurred that the statutory ship registry and digital ledger systems are foundational in ensuring that tokenisation is linked to a credible and authoritative record of vessel identity, ownership and registered encumbrances. The model should adopt a

phased approach where the statutory registry remains the conclusive legal record while a permissioned DLT system functions as a secure, interoperable digital layer. The key takeaways from this session are summarized below:-

The registry should remain the conclusive legal record

There was a unanimous agreement that the statutory ship registry, now maintained by DGMA under the Merchant Shipping Act 2025 and recently fully digitised (with same-day registration and mortgage acceptance), must remain the conclusive legal record of ownership, mortgages and encumbrances. A permissioned DLT layer should function as a supplementary, tamper-resistant record of economic interests and transactions, not as a substitute source of legal title. Other issues that emerged are noted as follows:-

1. A two-register model

Drawing from UAE flag administration, the session broadly endorsed a two-register model. Under the two-register model, the statutory registry continues to record the SPV as the legal owner, while a parallel blockchain ledger records, in real time, holding the tokenised economic rights. Token holders would receive an on-chain certificate and, for legal recognition, an endorsement from the flag state confirming the economic-right holding, without any change to who is recorded as the vessel's legal owner. Each tokenised vessel would carry a unique digital identity linked to its IMO number and national registration number.

2. Sequencing and technology architecture

Experts recommended initial registry-DLT integration be tested in "shadow mode" which runs in parallel with, but not replacing, existing paper/digital registry processes, before any operational reliance on the DLT layer is undertaken. On technology choice, there was a convergence on private/permissioned DLT run by a trusted infrastructure provider (comparable to a depository or NPCI) rather than public/permissionless chains, both for sovereignty reasons and because a regulator needs a "regulatory node" for real-time supervisory visibility rather than end-of-quarter reporting. This feature has already been requested in other sandbox pilots by IFSCA. There was no consensus yet on a single token standard, and ERC-3643/T-REX, built around the ONCHAINID identity layer, was discussed as a leading permissioned-token candidate for KYC-gated transfers. There was also ambiguity on the degree of interoperability required with international registries and other domestic tokenisation efforts (bond, deposit and real-estate tokenisation which are already under way at IFSCA).

3. Institutional readiness

India's maritime sector is witnessing a digital transformation through the Maritime Single Window, the electronic registry, and the comprehensive ship-building portal, which provides a readiness base. However, unresolved issues specific to tokenisation were flagged, including how beneficial ownership is reported when investors sit behind an SPV, how operational control, mortgage priority and foreign investment are captured on-chain, and how incidents such as flag-state ambiguity (illustrated by a vessel rendered "stateless" for 22 days during a 2026 incident) are prevented from disrupting token holders' claims.

Session IV: Phased National Implementation Roadmap for Ship Tokenisation in GIFT City under IFSCA Regulatory Sandbox

IFSCA's consultation paper on the tokenisation of real-world assets signals a forthcoming regulatory framework and a phased, evidence-based pilot. The IFSCA innovation, followed by the regulatory sandbox, is the most appropriate approach to test the technical, regulatory and commercial feasibility of maritime asset tokenisation under controlled conditions. A limited pilot involving one or two vessels, regulated participants and a controlled cohort of institutional, accredited and retail investors drawn from the maritime community could test the complete lifecycle of tokenisation before wider market access. The key takeaways from this session are summarised below:-

Sandbox architecture

IFSCA operates two sandbox tracks\ . The first is an Innovation Sandbox (synthetic/test data, open to applicants from anywhere in the world, no real money movement) and the second stage is a Regulatory Sandbox (real investors and real fund flows, subject to caps on ticket size and participant numbers). IFSCA informed that M/s Shipfinex has already been granted Limited Use Authorisation(LUA) in the Innovation Sandbox, which is the first ship-tokenisation entity to receive such approval globally. However, Shipfinex is also required to onboard at least two IFSCA-based financial institutions (IBUs) as partners. IFSCA's own Consultation Paper, "Regulatory Approach Towards Tokenisation of Real-World Assets" (2025), drew over 600 public comments and is informing a forthcoming, technology-agnostic and asset-agnostic regulation, whose final shape also depends on the Securities Market Code now before Parliament. Some of the core issues that emerged are as follows:-

1. Scope and selection of pilot assets

It was recommended that pilot test case vessels should be selected through objective, weighted criteria including vessel age, remaining earning life, tonnage class, charter cover, flag and ownership history rather than an ad hoc choice. There was a caution against over-engineering the first pilot with either brand-new tonnage or near-scrap vessels. A consistent theme was that the first pilot must succeed. There was a repeated warning against over-promising sample sizes or values not backed by demonstrated investor demand, citing the failure of roughly 70 per cent of comparable global sandbox experiments as a reason for conservative scoping. The Shipping Corporation of India volunteered, in the session itself, to be considered for the first pilot SPV, which participants regarded as a strong confidence signal to the market. Other shipowners present (including operators with LNG, tanker and dry-bulk tonnage under 5-year charters to entities such as BPCL/IOCL and Total) also expressed interest.

2. Duration and success criteria

IFSCA's standard sandbox period is 12 months (extendable by 6 months). Multiple participants, including industry veterans, argued this is too short given shipping's inherently cyclical economics and the desirability of testing a pilot across at least

one dry-docking/special-survey cycle. A 2 to 3 year window was suggested as more realistic for testing the full lifecycle (issuance, income distribution, secondary trading, and eventual redemption/burning of tokens on sale). IFSCA agreed the exercise should test process robustness through KYC-gated primary issuance, on-chain settlement using tokenised bank deposits, distribution mechanics, secondary transfer, and eventual asset disposal rather than commercial demand for the product, since demand can only be validated over a full cycle, not a single pilot.

3. Investor eligibility and disclosure in the pilot

The pilot is likely to draw first on institutional and accredited investors, and global names such as BlackRock, Nomura, BNY Mellon and Galaxy Digital were cited as already in active dialogue with the Shipfinex/ ADI-chain platform for a comparable UAE pilot before any retail extension. A standard prospectus/whitepaper disclosure package was described (asset history, valuation basis, charter cover, operational expenditure (OpEx) and dry-dock reserve levels, mortgage and lien status, and risk factors), modelled on existing bank/private-equity lending disclosures, and IFSCA's Audit, Risk and Compliance Committee structure, with independent, non-conflicted members, was proposed as the vetting gate before any asset is listed.

4. Reserve mechanisms and downside protection

The session converged on two protective buffers drawn from existing private-equity ship-finance practice. The first was a minimum six months' OpEx reserve locked in the SPV's designated bank account, and second a separate contingency/reserve asset of roughly 2–5 per cent of asset value to absorb shocks (unbudgeted repairs, off-hire, insurance excess). Beyond these reserves, participants agreed that in a genuine capital loss (e.g., total loss, prolonged idling, market downturn) token holders bear the residual risk *pari passu* with equity, subject to the waterfall priority of crew wages, liens and mortgage claims ahead of token holders on any liquidation or auction of the vessel.

Cross-Cutting Issues and Risks

Several issues recurred across all four sessions and merit consolidated treatment. These are summarised in the table below:

Risks/Issue	Nature of Concern Raised
Cross-Jurisdictional Enforceability	1. An SPV in GIFT IFSC, a vessel flagged in one country, financed by lenders in another and chartered/insured elsewhere creates layered jurisdictional exposure. 2. Token-holder rights need a clear conflict-of-laws answer.
Technology Sovereignty	1. Public/permissionless chains (e.g., Ethereum) are seen as node concentrated in jurisdictions that could geopolitically freeze or confiscate assets. 2. India-hosted, trusted infrastructure-provider permissioned chains are favoured.
Valuation Methodology	1. No consensus yet on whether Gross Tonnage, Net Tonnage or a hybrid (asset value via GT, earnings via NT) should anchor token denomination. 2. Real-time NAV computation for an illiquid physical asset is untested at scale.
Secondary-Market Liquidity	1. Precedents (GIFT City real-estate tokenisation, the Fuji LNG Carrier) show issuance is easier than exit, and therefore a thin investor base and one-ship-per-SPV structures could leave tokens illiquid.
Investor Protection & Disclosure	1. Regulators stressed disclosure of ownership history, mortgages, valuation basis, dry-docking and OpEx reserves before listing, and caution against opening retail participation too early.
Securities Characterisation	1. Whether a maritime token is a 'security' (as under the US/Howey approach) or an 'asset-referenced token' (as under the UAE model) determines which law and exchange infrastructure applies. 2. India's Securities Market Code, still before Parliament, will be decisive.
Governance Of SPV & Cash Flows	1. Mixing funds across a shipowner's fleet, dry-dock reserves, a six-month OpEx buffer, and priority of mortgage liens over token holders all need codified rules.
Sovereign/Flag-State Complications	1. Precedents such as the MV Alonda Rainbow (six years of litigation after a piracy rescue) and vessels rendered 'stateless' show how flag, port and coastal state jurisdiction can complicate token enforcement.

1. Liquidity: the central unresolved question

Given that only about 4–6 per cent of the estimated US\$ 2.17 trillion of global maritime assets value trades in any given year, because whole-ship sales are lumpy and binary, it was argued that fractionalisation could materially expand this by allowing partial, faster exits. However, experienced financial regulators cautioned against assuming tokenisation automatically creates liquidity. GIFT City's own real-estate tokenisation pilot generated a successful primary raise but has so far struggled to develop secondary-market depth, and the Fuji LNG Carrier precedent, while a genuine end-to-end success in issuance-to-exit terms, also saw limited secondary trading during its life.

The suggested mitigations were market maker/underwriter arrangements, eventual futures and options on token value for hedging, shipowner buyback clauses or government-backed market making (liquidity pools). Over the medium term, there should be efforts to build a large, diversified investor base (rather than one ship per SPV) to improve matching between buyers and sellers.

2. Taxation

India recognises tokens as Virtual Digital Assets under Section 2(111) of the Income Tax Act, 2025, taxable at 30 per cent on transfer with no expense deduction or loss set-off, which is a framework designed for speculative crypto-assets rather than asset-backed instruments. Separately, securities transactions executed within GIFT IFSC benefit from a capital-gains exemption for a defined period. Whether a maritime token qualifies for this depends on the securities classification, and this matter requires explicit clarification in the forthcoming regulation. A threshold or capped slab structure could be introduced to sustain long-term investor participation.

3. Technology and cybersecurity

Beyond the sovereignty concerns already noted, participants flagged the need for smart-contract security audits and quantum-resilient cryptography considerations and clarity on the legal status of a smart contract's execution, i.e., whether an automated on-chain transfer of economic rights is itself legally dispositive, or merely evidentiary pending registry endorsement.

4. Wider applicability beyond ships

Several participants suggested the framework being built need not be confined to ships. Other maritime assets such as jetties, berths, pleasure yachts/marinas, dredged channels, and even offshore assets such as oil rigs were mentioned as comparable, static or semi-static maritime infrastructure that could be tokenised using the same architecture. One participant suggested the paper's title and framing be broadened from "ship owning" to "capital raising through tokenisation of maritime assets" to reflect this wider potential.

Summary of Outcomes

1. **Tokenisation can provide an additional source of maritime finance:** Tokenisation of ships and other maritime assets can enable fractional investment and help mobilise additional pools of capital, particularly given India's substantial financing requirements for ship owning, shipbuilding and fleet expansion.
2. **Tokenisation should complement conventional financing:** The model should be viewed as an additional financing mechanism rather than a substitute for existing sources of maritime finance. Its value would lie in broadening investor participation and creating new avenues for capital mobilisation.
3. **Economic rights should be tokenised initially:** The preferred initial structure is to keep legal ownership and operational control with the SPV. Tokens only hold the economic rights such as charter income and capital appreciation. A promoter/UBO equity retention of 25–51% has been proposed.
4. **A phased approach is essential:** Initial pilots should focus on relatively low-risk vessels with stable, contracted revenues, with more complex and higher-value vessels considered only after the model has been demonstrated.
5. **Regulatory coordination is a key prerequisite:** Since tokenised maritime assets intersect with maritime, multiple regulations, financial, taxation, foreign exchange, insurance and insolvency, a single lead regulator and inter-regulatory working mechanism are required to provide clarity and avoid fragmented oversight.
6. **The statutory ship registry should remain the legal anchor:** DLT should function as a supplementary digital layer, while the statutory registry continues to provide the conclusive legal record of vessel ownership, mortgages and encumbrances.
7. **Secure and sovereign digital infrastructure is important:** The report recommends India-hosted, permissioned DLT infrastructure operated by a trusted domestic provider, supported by appropriate cybersecurity measures and regulatory supervisory access.
8. **Investor protection and disclosure need to be built into the framework:** Initial access should focus on institutional and accredited investors, with standardised disclosures covering ownership, mortgages, valuation, charter arrangements, reserves and risks. Wider retail participation should follow only after custody and market infrastructure are adequately developed.
9. **Liquidity, valuation and taxation remain areas requiring further work:** Tokenisation does not automatically ensure secondary-market liquidity. Appropriate market-making and investor-base development may be necessary, while valuation methodology and the tax treatment of maritime tokens require further clarification.
10. **The next step should be a structured sandbox pilot leading to a mature framework:** The report recommends testing the complete tokenisation lifecycle through a carefully designed pilot and establishing a Government of India Task Force/Expert Committee on Maritime Asset Tokenisation and Digital Ship Finance to translate the lessons from the pilot into a permanent regulatory framework.

Recommendations

1. Adopt an SPV-per-vessel structure with a minimum promoter/UBO equity retention (25 to 51 per cent, to be finalised in consultation with IFSCA and DGS) to ring-fence risk and preserve accountability for vessel operations.
2. Tokenise economic rights only in the first phase, leaving legal ownership and operational control with the SPV/promoter, and formalise this through a flag-state endorsement mechanism alongside the statutory registry entry, following the two-register model in the UAE.
3. Constitute a single lead regulator and a Joint Working Group spanning DGS/DGMA, IFSCA, SEBI, RBI, CBDT and IRDAI, building on the existing Inter-Regulatory Technical Group on FinTech, to resolve the token's securities classification ahead of, or in step with, the Securities Market Code.
4. Mandate India-hosted, permissioned DLT infrastructure operated by a trusted domestic provider, with a dedicated regulatory supervisory node, rather than reliance on public/permissionless chains, to address the sovereignty and enforceability concerns raised across all sessions.
5. Keep the statutory ship registry as the conclusive legal record; integrate DLT as a supplementary layer, tested first in shadow mode, with each tokenised vessel carrying a unique digital identity tied to its IMO and national registration numbers.
6. Restrict the initial investor base to institutional and accredited/sophisticated investors, with a defined intermediate category for certified maritime professionals, deferring full retail access until disclosure, custody (including omnibus/pooled account support) and secondary-market infrastructure are proven.
7. Select the first pilot vessel against objective, weighted criteria (age, remaining earning life, charter cover, ownership transparency) rather than novelty, and run the pilot for a realistic 24-month (not 12-month) cycle to capture at least one dry-docking/special-survey event and a fuller demand-testing window.
8. Mandate minimum reserve buffers of six months' OpEx and a 2 to 5 per cent contingency reserve which is locked at the SPV level, with a clearly codified waterfall (crew wages, liens, mortgages, then token holders) for any liquidation or arrest event.
9. Require standardised, prospectus-style disclosure (ownership and mortgage history, valuation methodology, charter cover, reserves, risk factors) vetted by an independent Audit, Risk and Compliance Committee before any asset is listed for tokenisation.
10. Clarify the tax treatment of maritime tokens explicitly and distinguish them from speculative Virtual Digital Assets and confirm whether/how the GIFT IFSC capital-gains exemption for securities applies.
11. Constitute the Government of India Task Force/Expert Committee on Maritime Asset Tokenisation and Digital Ship Finance as recommended in the DP, to carry the framework from sandbox learning to a permanent regulatory regime.

Way Forward

In the immediate term, it is recommended to request IFSCA to open a structured channel (an extension of the Innovation Sandbox learnings) through which SCI's expressed willingness to serve as the first pilot SPV can be operationalised. A follow-up technical note on vessel-selection weighting criteria and NAV methodology, building on the GRT/NT, could be generated by RIS, if the MoPSW so desires.

MoPSW may pursue the constitution of a dedicated Task Force/Expert Committee to provide an institutional framework to proceed further on maritime asset tokenisation as was proposed in the DP. The proposed body could bring together relevant stakeholders from the maritime, financial, regulatory, technological and legal domains to examine the issues emerging from the sandbox and develop recommendations for a suitable long-term framework. Its mandate could include reviewing the legal and regulatory requirements for tokenisation, addressing inter-regulatory coordination, examining the integration of tokenised assets with the statutory ship registry, assessing investor protection and cybersecurity requirements, and evaluating the outcomes of pilot projects. The Task Force/Expert Committee could subsequently guide the transition from sandbox-based experimentation to a scalable and mature regulatory framework for maritime asset tokenisation and digital ship finance in India. The Task Force would help to:

1. **Coordinate regulators:** Bring together DGMA, IFSCA, SEBI, RBI, CBDT and IRDAI to resolve regulatory overlaps.
2. **Develop the legal framework:** Clarify whether maritime tokens constitute securities or another form of financial asset and establish the associated rights and obligations.
3. **Guide the pilot:** Assess the findings from the IFSCA sandbox and identify what worked and what needs modification.
4. **Address maritime-specific issues:** Including ownership, mortgages, maritime liens, insolvency, beneficial ownership and the relationship between token holders and the shipowner.
5. **Examine technology and cybersecurity:** Establish appropriate standards for DLT infrastructure, digital identity, smart contracts and data security.
6. **Develop investor-protection mechanisms:** Covering disclosures, KYC/AML, custody, valuation and secondary-market arrangements.
7. **Recommend the long-term framework:** Translate the lessons from experimentation into a mature regulatory and institutional framework for maritime asset tokenisation and digital ship finance.

Conclusion

The arc from the DP through valuable inputs from maritime experts, the Concept Note's four guiding questions, and the 21 August 2026 Brainstorming Session shows a rare degree of convergence for so new and cross-disciplinary a subject as Tokenisation.

Regulators, shipowners, financiers, technologists and maritime lawyers agree that tokenisation of maritime assets is both feasible and needed for India, and agree, almost as strongly, that it must proceed cautiously, in phases, with the statutory registry and existing maritime and financial regulation as the anchor rather than a technology-first leap.

Technology alone is not adequate as the underlying responsibility of the asset class must remain sacrosanct. The same discipline that applies to any financial claim on an asset must also travel with the token.

With a disciplined pilot, clear inter-regulatory coordination, and the institutional mechanism of a National Task Force to carry the lessons of the sandbox into permanent regulation, India building on its existing digital public infrastructure and GIFT City's early traction in tokenising real estate, bonds and deposits is well placed to become an early, credible reference point for maritime asset tokenisation globally, and to open a genuinely new channel of capital for its shipbuilding and ship-owning ambitions under the Maritime Amrit Kaal Vision 2047.

Summary of Feedback from Industry Leaders

RIS conducted a study on the Tokenisation of real-world assets, such as ships, in India in its Discussion Paper #318, “Tokenisation of Maritime Assets: Solutions for Maritime Ship Owning.”

It was shared with DG Shipping. DG Shipping suggested that RIS invite inputs from industry experts on the same vide letter number 25/12/2026-NT – DGS dated 13 April 2026. RIS shared its DP with 28 industry stakeholders and received valuable inputs from 16 experts.

The suggestions were sought upon four specific issues, and the suggestions received are as follows:

1. Feasibility and framework for adopting tokenisation in the shipping industry in India

- a. Tokenisation is feasible and timely for India’s shipping industry, provided it is adopted through a phased, regulated and institution-led framework.
- b. An SPV-per-vessel structure, with bankruptcy remoteness and clear ring-fencing of asset-specific risks, should form the foundation.
- c. Initial pilots could focus on second-hand vessels, replacement tonnage and projects with stable, contracted cash flows.
- d. The framework should leverage India’s digital ecosystem through digital identity, DLT-based registries, interoperability and CBDC, enabled settlement mechanisms.
- e. Robust custody registry linkages, investor protection, selective disclosure, and credible secondary-market mechanisms are essential.
- f. Retail participation should initially remain restricted.
- g. Tokenisation should complement, rather than replace, conventional shipping finance, particularly by expanding access to equity and mezzanine capital.

2. Regulatory mechanism and associated key challenges

- a. The adoption of maritime asset tokenisation in India requires a clear, coordinated and phased regulatory framework addressing legal, financial, technological and cross-border challenges.
- b. A multi-agency mechanism involving DG Shipping, SEBI, RBI, IFSCA, CBDT and IRDAI is essential, with a designated lead regulator and Joint Working Group to minimise regulatory fragmentation.

- c. Key priorities include clearly defining the legal status and ownership rights of tokens, their treatment under maritime liens, mortgages, insolvency and vessel arrest, and establishing registry-DLT interoperability.
- d. Robust KYC/AML and Know Your Asset (KYA) frameworks, cybersecurity, digital custody, smart-contract governance, independent asset valuation and disclosure standards are also necessary.
- e. Cross-border foreign exchange, taxation, investor protection and dispute resolution require specific clarity.
- f. A phased investor-access model, initially focused on institutional and sophisticated investors, should be adopted, while the statutory ship registry remains the ultimate source of legal ownership.

3. Digital integration of India's ship registry with digital ledger systems

- a. Digital integration of India's ship registry with distributed ledger technology (DLT) is a key enabler for maritime asset tokenisation but should be pursued through a phased and pilot-based approach.
- b. The statutory ship registry under the Merchant Shipping Act, 2025 should remain the conclusive legal record of ownership and mortgages, while DLT serves as a supplementary, tamper-resistant layer for recording economic interests and transactions.
- c. A permissioned ledger, supported by secure APIs, cryptographic verification and common interoperability standards, could enable real-time traceability of ownership, mortgages, liens, insurance and charter information.
- d. Each tokenised vessel should have a unique digital identity linked to its IMO and national registration numbers.
- e. Initial pilots could test registry DLT integration in shadow mode before operational deployment.
- f. Clear procedures for SPV registration, token transfers, cybersecurity, digital evidence and data sovereignty, supported through public-private partnerships, will be essential for scalable implementation.

4. Consideration for a pilot project for maritime tokenisation, say, through IFSCA Sandbox

- a. A phased pilot project within the IFSCA regulatory sandbox is widely recommended to test the technical, legal, regulatory and operational feasibility of maritime asset tokenisation before wider adoption.

- b. The pilot could begin with one or two Indian-owned/flagged vessels, preferably second-hand vessels with stable, contracted charter revenues, held through a clearly governed SPV structure.
- c. Participation should initially be limited to institutional and accredited investors, with restricted secondary-market access and robust KYC/AML oversight.
- d. The pilot should test the complete lifecycle, including token issuance, trading, charter-income distribution, refinancing, exit mechanisms, alongside registry-DLT integration and settlement systems.
- e. A 12-month, evidence-based pilot should establish measurable success criteria covering issuance, liquidity, NAV reporting, investor servicing and compliance.
- f. Lessons from the pilot can inform a permanent regulatory framework, while enabling India to leverage GIFT City to attract international investments.

Concept Note and Agenda



Concept Note

India's expanding role in the global economy highlights a significant opportunity to strengthen its maritime sector, particularly in shipbuilding and ship owning. Since 2000, its share of global exports and imports has increased more than twofold and threefold, respectively, whereas the share of global registered tonnage has been falling. India will require additional ships for EXIM and coastal cargo transportation, fleet replacement, and the transition to green shipping that is commensurate with global standards, entailing a capital investment of nearly INR 15-16 lakh crores (at current prices). This substantial funding remains a key challenge for India, necessitating sustainable and low-cost financing, underscoring the importance of pursuing innovative financing mechanisms. Therefore, RIS undertook a study to explore alternative sources of funding through the discussion paper #318, 'Tokenisation of Maritime Assets: Solutions for Fractional Ship Owning'.

The technological evolution of the financial sector has led to the emergence of innovative financial instruments, most notably the tokenisation of real-world assets such as ships. The tokenisation of maritime assets refers to the digitalisation of the representative or ownership rights of marine assets, such as ships, into tokens via distributed ledger technology (DLT) based on blockchain. However, the tokenisation of ships is in a very

nascent stage. The development and adoption framework for ship tokenisation warrants extensive and carefully structured deliberation, given the complexity of the subject and the wide range of legal, financial, regulatory, technological, and operational considerations involved.

The discussion paper #318, 'Tokenisation of Maritime Assets: Solutions for Fractional Ship Owning', was shared with the Directorate General of Shipping, Mumbai. The Directorate, while appreciating the efforts, highlighted the need for active involvement of relevant industry stakeholders and sought their valuable inputs on the subject. As per the guidance received, the team at RIS circulated the discussion paper among 28 maritime industry experts, inviting their feedback.

Suggestions were sought from the industry experts on the following specific issues: -

1. Feasibility and framework for adopting tokenisation in the shipping industry in India
2. Regulatory mechanism and associated key challenges
3. Digital integration of India's ship registry with digital ledger systems
4. Consideration for a pilot project for maritime tokenisation, say, through IFSCA Sandbox

RIS received useful suggestions from experts, particularly regarding implementation challenges and potential pathways for improvement. An unambiguous regulatory and operational framework constitutes one of the most critical challenges for the successful implementation of the proposal. The proposal for digital integration of the ship registry has been welcomed favourably but requires a balanced and cautious implementation strategy. The pilot project for maritime tokenisation at GIFT City under the IFSCA Sandbox has been well received, with broad support from stakeholders. Subsequently, IFSCA has issued its consultation paper on the tokenisation of real-world assets, and framework regulations in this regard are anticipated.

To further understand and deliberate the concept, the RIS intends to conduct a Brainstorming Session on 21st August 2026 at the Fairfield by Marriott, Andheri (West), Mumbai. The proposed session 'Tokenisation of Maritime Assets: A Case for Fractional Ship Owning' is expected to facilitate an informed and structured dialogue on the feasibility, opportunities, and implementation considerations of maritime assets tokenisation and fractional ship ownership in India.

The deliberations of the proposed brainstorming session will inform an outcome report, which will serve as a basis for future policy deliberations and institutional action in this area.

AGENDA

Time	Agenda
09:30-09:45 hrs.	Arrivals and Introductions Over Tea
09:45-10:30 hrs.	Inaugural Session
	Opening Remarks • Professor Sachin Kumar Sharma, DG, RIS Context Setting and Rules of Procedure • Cmde. Sujeet Samaddar (Retd), Visiting Fellow, RIS Special Address • Shri K. Rajaraman, Chairman, IFSCA • Shri Shyam Jagannathan, Directorate General of Maritime Administration Closing Remarks • Shri T K Ramachandran, Former Secretary, MoPSW
10:30-12:15 hrs.	Session I: Examine Real-World Asset Tokenisation Framework for Maritime Tokenisation in India Feedback from experts suggests that tokenisation of maritime assets is feasible for India and that its adoption will depend on a strong regulatory framework, clear asset linkage, and a phased implementation starting with low-risk vessel segments and a controlled investor base. It is seen as a complementary financing tool, but challenges remain around liquidity, investor protection, interoperability, and balancing transparency with confidentiality. Moderator • Cmde. Sujeet Samaddar (Retd), Visiting Fellow, RIS This Session will examine: - 1. Legal, regulatory and institutional framework for tokenised maritime assets 2. Linking the digital token with the underlying vessel and establishing trusted digital identities 3. Technology architecture, token standards and interoperability with India's digital ecosystem 4. Settlement infrastructure and the role of CBDC, tokenised deposits and programmable payments 5. Suitable asset classes, financing structures and phased adoption strategy 6. Liquidity, investor protection and alignment with shipping's operational realities
12:15-12:30 hrs.	Tea Break

12:30-14:00 hrs.	Session II: Recommend Mechanisms for Coordination between Regulatory Authorities in India Expert feedback indicates that maritime asset tokenisation in India will require a phased and coordinated statutory adoption framework. The principal concern is regulatory ambiguity arising from the intersection of maritime, securities, financial, tax, foreign exchange, insolvency and cross-border legal frameworks. Moderator • Shri T K Ramachandran, Former Secretary, MoPSW This Session will examine: - 1. Adoption of a legal framework for tokenised ownership 2. Coordination among multiple regulators and institutional responsibilities 3. Interaction with existing maritime liens, mortgages and insolvency frameworks 4. Cross-border regulatory, foreign exchange and taxation issues 5. Investor protection, disclosure norms, KYC/AML compliance and market governance 6. Digital infrastructure, token custody and cybersecurity standards
14:00-15:00 hrs.	Lunch
15:00-16:30 hrs.	Session III: Digital Integration of India's Ship Registry and Technology Standards for Ship Tokenisation Experts concur that the statutory ship registry and digital ledger systems are foundational in ensuring that tokenisation is linked to a credible and authoritative record of vessel identity, ownership and registered encumbrances. The model should adopt a phased approach where the statutory registry remains the conclusive legal record while a permissioned DLT system functions as a secure, interoperable digital layer. Moderator • Capt. Binesh Kumar Tyagi, CMD, Shipping Corporation of India This Session will examine: - 1. Architecture and phased approach for registry and DLT integration 2. Legal status of digital ledger records and relationship with the statutory registry 3. Interoperability and unique digital identity of vessels 4. Real-time synchronisation of ownership, mortgages and encumbrances 5. Institutional readiness, governance, auditability and data sovereignty
16:30-16:45 hrs.	Tea Break

16:45-18:15 hrs.	Session IV: Phased National Implementation Roadmap for Ship Tokenisation in GIFT City under IFSCA Regulatory Sandbox IFSCA's consultation paper on the tokenisation of real-world assets signals a forthcoming regulatory framework, and a phased, evidence-based pilot within the IFSCA regulatory sandbox is the most appropriate approach to test the technical, regulatory and commercial feasibility of maritime asset tokenisation under controlled conditions. A limited pilot involving one or two vessels, regulated participants and a controlled cohort of institutional, accredited and retail investors drawn from the maritime community could test the complete lifecycle of tokenisation before wider market access. Moderator • Shri Praveen Kamat, CGM, IFSCA This Session will examine: - 1. Scope, structure and selection of pilot assets, in alignment with IFSCA's consultation paper on the tokenisation of real-world assets 2. Investor eligibility across institutional, accredited and controlled retail participants (maritime professionals), and phased market access 3. End-to-end lifecycle testing and operational processes 4. Testing of regulatory, governance and investor-protection mechanisms 5. Technology, payment and registry & DLT integration 6. Success criteria, monitoring and transition to a permanent framework
18:30-18:45 hrs.	Concluding Session, Rapporteur's Report and Summary of Findings By: Commodore Sujeet Samaddar, NM (Retd)
19:00 hrs. onwards	Networking Dinner

List of Attendees

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1	Mr Veeresh Kanduri (Virtually)	Consultant	PP&R, MEA	consultantppr5@mea.gov.in
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Special Movements









RIS

Research and Information System
for Developing Countries

विकासशील देशों की अनुसंधान एवं सूचना प्रणाली

RIS specialises in issues related to international economic development, trade, investment and technology. It is envisioned as a forum for fostering effective policy dialogue and capacity-building among developing countries on global and regional economic issues. The focus of the work programme of RIS is to promote South-South Cooperation and collaborate with developing countries in multilateral negotiations in various forums. Through its following centres/forums, RIS promotes policy dialogue and coherence on regional and international economic issues.



The word “DAKSHIN” (दक्षिण) is of Sanskrit origin, meaning “South.” The Hon’ble Prime Minister of India, Shri Narendra Modi, inaugurated DAKSHIN – Global South Centre of Excellence in November 2023. The initiative was inspired by the deliberations of Global South leaders during the Voice of the Global South Summits. DAKSHIN stands for Development and Knowledge Sharing Initiative. Hosted at the RIS, DAKSHIN has established linkages with leading think tanks and universities across the Global South and is building a dynamic network of scholars working on Global South issues.



AIC at RIS has been working to strengthen India’s strategic partnership with ASEAN in its realisation of the ASEAN Community. AIC at RIS undertakes research, policy advocacy and regular networking activities with relevant organisations and think-tanks in India and ASEAN countries, with the aim of providing policy inputs, up-to-date information, data resources and sustained interaction, for strengthening ASEAN-India partnership.



CMEC has been established at RIS under the aegis of the Ministry of Ports, Shipping and Waterways (MoPS&W), Government of India. CMEC is a collaboration between RIS and Indian Ports Association (IPA). It has been mandated to act as an advisory/technological arm of MoPSW to provide the analytical support on policies and their implementation.



FITM is a joint initiative by the Ministry of Ayush and RIS. It has been established with the objective of undertaking policy research on economy, intellectual property rights (IPRs) trade, sustainability and international cooperation in traditional medicines. FITM provides analytical support to the Ministry of Ayush on policy and strategy responses on emerging national and global developments.



BEF aims to serve as a dedicated platform for fostering dialogue on promoting the concept in the Indian Ocean and other regions. The forum focuses on conducting studies on the potential, prospects and challenges of blue economy; providing regular inputs to practitioners in the government and the private sectors; and promoting advocacy for its smooth adoption in national economic policies.



FIDC, has been engaged in exploring nuances of India’s development cooperation programme, keeping in view the wider perspective of South-South Cooperation in the backdrop of international development cooperation scenario. It is a tripartite initiative of the Development Partnership Administration (DPA) of the Ministry of External Affairs, Government of India, academia and civil society organisations.



FISD aims to harness the full potential and synergy between science and technology, diplomacy, foreign policy and development cooperation in order to meet India’s development and security needs. It is also engaged in strengthening India’s engagement with the international system and on key global issues involving science and technology.



As part of its work programme, RIS has been deeply involved in strengthening economic integration in the South Asia region. In this context, the role of the South Asia Centre for Policy Studies (SACEPS) is very important. SACEPS is a network organisation engaged in addressing regional issues of common concerns in South Asia.



Knowledge generated endogenously among the Southern partners can help in consolidation of stronger common issues at different global policy fora. The purpose of NeST is to provide a global platform for Southern Think-Tanks for collaboratively generating, systematising, consolidating and sharing knowledge on South South Cooperation approaches for international development.

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