

From Maritime Connectivity to Connectivity Competence: Operationalising India-ASEAN Maritime Cooperation

Key Takeaways

- Disruptions due to cross border conflicts, geopolitical tensions, climate-related events, and cyber vulnerabilities have altered supply chain dynamics, placing greater emphasis on reliability and resilience rather than marginal cost efficiency.
- The next phase of India-ASEAN maritime cooperation must prioritise operational performance, system interoperability, and corridor integration across the wider logistics ecosystem.
- Coordinated improvements in maritime performance measurement, functional interoperability of logistics systems, and integration between maritime gateways and inland economic corridors will help in building reliable institutional and operational capacity, conditions which are necessary for predictable cross border trade.

Ruth Banomyong

Professor Ruth Banomyong (PhD), Center of Excellence in Connectivity, Thammasat Business School, Thammasat University, Thailand

1. Introduction: Connectivity in a Volatile Indo-Pacific

Over the past decade, ASEAN and India have invested significantly in strengthening maritime connectivity across the Indo-Pacific. Port expansion, shipping services, and infrastructure development have improved physical links across the region (Sachdeva, 2023). However, infrastructure expansion alone does not guarantee efficient or reliable logistics flows. In many cases, operational coordination, institutional alignment, and system interoperability have lagged behind physical development.

At the same time, the operating environment for maritime supply chains has become increasingly volatile. Disruptions due to cross border conflicts, geopolitical tensions, climate-related events,

and cyber vulnerabilities have altered supply chain dynamics, placing greater emphasis on reliability and resilience rather than marginal cost efficiency (De, 2023). Nonetheless, maritime transport currently represents over 80% of global merchandise trade by volume (World Bank, 2024). ASEAN has become one of the world's most connected maritime regions, though disparities persist across member states. According to UNCTAD-ESCAP (2022) there are three structural dimensions shaping maritime connectivity:

- Ports and shipping performance
- Land access to ports
- Trade and border-crossing efficiency

These dimensions underscore that maritime connectivity is not limited to sea lanes but embedded within broader corridor systems.

The ASEAN Outlook on the Indo-Pacific or AOIP (ASEAN, 2024), provides a framework for inclusive regional cooperation built around four priority areas: maritime cooperation, connectivity, sustainable development, and economic cooperation. Maritime cooperation under the AOIP emphasises practical collaboration aimed at enhancing regional stability, transparency, and economic integration. The AOIP explicitly recognises maritime cooperation as a domain for practical collaboration. India has endorsed ASEAN centrality and the AOIP's inclusive approach (Qiao-Franco et al., 2024). However, port expansion alone does not ensure integration or resilience. It is important for the next phase to focus on performance and institutional alignment.

This policy brief argues that the next phase of India-ASEAN maritime cooperation need to move beyond infrastructure expansion toward connectivity competence with the institutional and operational capacity reliable to ensure predictable cross-border logistics flows. Operationalising this shift requires coordinated improvements in maritime performance measurement, functional interoperability of logistics systems, and integration between maritime gateways and inland economic corridors.

2. From Connectivity Expansion to Connectivity Competence

Regional experience has shown that expanding infrastructure does not automatically translate into deeper economic integration (UNCTAD-ESCAP, 2022). Although many ports across Asia have increased capacity and throughput, institutional coordination and operational efficiency have often failed to keep pace with physical development. Evidence from the Container Port Performance Index (CPPI) illustrates this gap. The CPPI evaluates ports according to vessel time in port and operational performance, revealing significant variation in efficiency even among ports with similar traffic volumes (World Bank, 2024). These findings highlight an important distinction: expanding capacity alone does not ensure effective connectivity. In practice, logistics performance depends equally on operational coordination, institutional alignment, and system efficiency.

Connectivity competence is defined as the institutional and operational capacity to ensure reliable, predictable, and efficient cross-border logistics flows across maritime and hinterland systems (Banomyong, 2026). Connectivity competence can therefore be understood as a governance capability built on three operational pillars: (1) performance transparency, (2) system interoperability, and (3) maritime-hinterland corridor integration. Together these pillars enable reliable cross-border logistics flows and strengthen the credibility of regional connectivity initiatives.

In an increasingly uncertain Indo-Pacific environment, connectivity competence is not merely a logistical objective but a strategic capability that underpins regional economic stability and supply chain resilience.

The ASEAN-India Plan of Action (2021-2025) provides a policy platform to embed optimisation mechanisms within maritime cooperation. The forthcoming 2026-2030 cycle offers a strategic opportunity to institutionalise this shift.

Operationalising connectivity competence requires coordinated improvements across three interrelated dimensions: maritime operational performance, functional interoperability of logistics systems, and integration between maritime gateways and inland economic corridors. These dimensions form the basis of the operational pathways proposed below.

3. Operational Pathway 1: Institutionalising Maritime Performance

The first component of connectivity competence is operational performance transparency. Performance measurement must become central to India–ASEAN maritime cooperation. The CPPI (World Bank, 2024) demonstrates how objective such as time-based metrics arrival time, berth time, crane productivity can provide comparable assessments of port efficiency. Such methodologies can be adapted within an updated annex to the Plan of action to implement the ASEAN-India partnership (Association of Southeast Asian Nations & Government of India, 2021). Such joint maritime corridor performance initiative could include:

- Monitoring vessel turnaround and port dwell time;
- Tracking schedule reliability across priority maritime routes;
- Applying time–cost–distance analysis to maritime–hinterland corridors;
- Aligning performance indicators with ASEAN Single Window objectives.

UNCTAD-ESCAP (2022) emphasised that improvements in maritime connectivity must translate into benefits for shippers/consignees and inland markets. Without systematic measurement, such translation remains uncertain. Performance transparency will strengthen investor confidence and enhances regional credibility. In a competitive Indo-Pacific environment, reliability has become a strategic capital.

4. Operational Pathway 2: Advancing Functional Interoperability

The second dimension of connectivity competence concerns functional interoperability between logistics systems and digital platforms. As maritime logistics becomes increasingly digitalised, the efficiency of supply chains depends not only on infrastructure but also on the ability of information systems and procedures to operate seamlessly across borders. Fragmented digital platforms, incompatible data standards, and uncoordinated procedures can create bottlenecks that undermine otherwise well-developed transport networks. As De (2021) noted, connectivity-driven integration requires stronger trade facilitation and greater procedural harmonisation. Empirical evidence also shows that improvements in infrastructure combined with effective trade facilitation significantly increase countries' participation in global value chains (De, 2023). It is important for India and ASEAN to establish a functional interoperability pilot, focusing on:

- Compatibility mapping between customs digital platforms;
- Alignment of vessel tracking and maritime data standards;
- Interoperability reviews of port community systems;
- Technical coordination under existing ASEAN-India mechanisms.

Interoperability is a low-sensitivity, high-impact reform. It does not require sovereignty pooling but enhances resilience and reduces transaction costs. Under the AOIP, such cooperation is aligned with its principles of openness and transparency. This reinforces ASEAN centrality by focusing on operational coordination rather than geopolitical alignment.

5. Operational Pathway 3: Maritime–Hinterland Integration

The third dimension of connectivity competence is concerned with the integration of maritime

gateways with inland transport networks and economic corridors. Ports do not generate sustainable economic value in isolation as their effectiveness depends on how efficiently they connect with hinterland markets, production centres, and logistics systems. Evidence from ASEAN corridors shows that inland transport costs, border procedures, and multimodal coordination often determine the overall competitiveness of maritime trade routes (UNCTAD-ESCAP, 2022). Experience from Southeast Asian logistics corridors, including routes linking Thailand with the Mekong subregion, illustrates how inefficiencies in inland transport can significantly influence maritime trade outcomes. Strengthening maritime connectivity therefore requires coordinated improvements beyond port infrastructure, extending to the broader corridor systems that link ports with regional economies. The India-ASEAN cooperation should therefore prioritise:

- Linking ports to inland economic corridors and special economic zones
- Strengthening multimodal rail-road-port connectivity
- Aligning maritime and land-based trade facilitation measures
- Integrating logistics systems with industrial clusters

The Thai Centrality framework, proposed by Banomyong (2026), emphasised that connectivity performance depends on how effectively infrastructure, institutions, logistics services, and economic actors operate together as an integrated system. Ports alone cannot generate economic value if inland transport, border procedures, and logistics coordination remain fragmented. Maritime connectivity must therefore evolve beyond port development toward fully integrated economic corridors linking gateways with hinterland production and distribution networks. Such integration improves resilience by enabling diversified routing options and reducing supply chain vulnerability to localised disruptions.

6. Strategic Implications

Taken together, these three operational pathways would generate wider strategic gains for India-ASEAN maritime cooperation. First, stronger performance measurement and greater transparency would enhance the credibility of regional connectivity initiatives by demonstrating that cooperation delivers measurable operational improvements rather than declaratory commitments alone (World Bank, 2024). Second, greater interoperability across logistics systems and procedures would strengthen supply chain resilience by reducing friction, improving predictability, and enabling more effective responses to disruption (De, 2023). Third, closer integration between maritime gateways and inland economic corridors would deepen economic interdependence and reinforce ASEAN centrality by anchoring cooperation in practical, inclusive, and mutually beneficial forms of connectivity. In this sense, connectivity competence is not simply a logistical objective; it is a stabilising capability that supports regional integration while avoiding bloc-based rivalry in the Indo-Pacific. In this sense, connectivity competence becomes a practical instrument for strengthening ASEAN centrality through performance-based cooperation in an increasingly contested Indo-Pacific.

7. Way Forward: Operationalising Connectivity Competence

The forthcoming ASEAN-India Plan of Action (2026-2030) provides a timely opportunity to translate the concept of connectivity competence into practical cooperation initiatives. Rather than focusing solely on expanding infrastructure, the next phase of maritime cooperation needs to prioritise operational performance, system interoperability, and corridor integration across the wider logistics ecosystem. Several pragmatic initiatives can support this transition:

- A pilot maritime performance dashboard to monitor vessel turnaround, port efficiency, and corridor reliability across key India-ASEAN maritime routes;
- A technical interoperability task force to review digital compatibility among customs systems, port community platforms, and maritime data standards;

- Joint maritime-hinterland corridor assessments to identify operational bottlenecks linking ports with inland economic corridors and production centres.

These initiatives are incremental but strategically important. They build on existing connectivity investments while strengthening the institutional and operational foundations required for reliable logistics flows. Infrastructure expansion has already improved physical connectivity across the region. The next phase must focus on ensuring that these networks function efficiently, predictably, and resiliently.

India and ASEAN can enhance supply chain resilience, deepen economic integration, in an increasingly uncertain Indo-Pacific environment with connectivity competence. These initiatives can be pursued through existing cooperation mechanisms, including the ASEAN-India Maritime Transport Working Group and other relevant programmes.

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Zone IV B, 4th Floor, India Habitat Centre, Lodhi Road, New Delhi 110 003, India
Tel.: +91-11-24682177-80; Fax: +91-11-24682173-74, E-mail: aic@ris.org.in; dgooffice@ris.org.in
Website: www.ris.org.in; <http://aic.ris.org.in>

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