RIS Discussion Paper # 366

Building Bridges between ASEAN and India: Connectivity Achievements and Future Priorities

Prabir De, Adrija Ganguly and Vanshika Goyal

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Building Bridges between ASEAN and India: Connectivity Achievements and Future Priorities

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Abstract: Connectivity has emerged as a significant pillar of the ASEAN-India Comprehensive strategic Partnership, facilitating trade, investment, tourism and regional integration. The paper examines the advancement and challenges of ASEAN-India connectivity across air, maritime, digital, energy and multimodal transport networks. Air connectivity has expanded significantly through rising passenger, and cargo flows while maritime connectivity remains the backbone of bilateral trade, supported by rising container traffic and stronger shipping linkages. Digital connectivity has emerged as the fastest-evolving domain of cooperation and has advanced through submarine cable networks, cross-border payment systems, and cooperation in digital public infrastructure. Some of the ASEAN member states have taken steps to strengthen cooperation through signing MoUs, setting-up cross-border fibre-optic networks for support and expansion of digital connectivity with India. Another most emerging areas of Cooperation is energy connectivity, which is gaining momentum through cross-border electricity trade, renewable energy cooperation, and regional grid initiatives. Among the other pillars of connectivity, land connectivity through highways has gained significant attention. The study has also presented major infrastructure projects, including the India-Myanmar-Thailand Trilateral Highway, the Kaladan Multimodal Transit Transport Project, and the Mekong-India Economic Corridor. Despite notable achievements, gaps in infrastructure, regulatory coordination, and project implementation persist. Strengthening connectivity can enhance supply chain resilience, promote sustainable development, and deepen ASEAN-India economic integration in the Indo-Pacific.

1. Introduction

Anchored in the Act East and Neighbourhood First policies, India and ASEAN share a Comprehensive Strategic Partnership (CSP). Over time, trade in goods and services has expanded alongside increases in investment flows, tourism and people-to-people ties between India and

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ASEAN. As India's largest regional trading partner, ASEAN has become pivotal to India's integration with global and regional value chains.

The changing composition of India's exports to ASEAN between 2015 and 2025 has highlighted a shift towards high-value manufactured goods, alongside growing transport challenges. Unlike traditional bulk commodities, pharmaceuticals, engineering goods, electrical machinery, and perishable agricultural products require efficient transportation of containerised cargo, dependable multimodal logistics, and time-sensitive supply chains. ASEAN member states such as Singapore, Malaysia, Thailand, Vietnam and Indonesia are well integrated into global production networks and connected through major container ports and extensive maritime networks.

Connectivity has become the central pillar of the ASEAN–India Comprehensive Strategic Partnership (CSP). In the contemporary Indo-Pacific, connectivity is no longer limited to roads and ports; it includes digital networks, energy systems, logistics chains, aviation corridors, and regulatory frameworks that facilitate trade and investment. The strategic significance of connectivity has increased as both India and ASEAN seek resilient supply chains, diversified economic partnerships, and greater strategic autonomy amid intensifying geopolitical competition.

The importance of ASEAN–India connectivity lies not merely in increasing exchanges but in reshaping economic geography by linking South Asia and Southeast Asia into an integrated Indo-Pacific growth corridor.

This paper examines physical and digital connectivity between ASEAN and India and discusses the challenges being faced by the region. The remainder of the chapter is organised as follows. Section 2 examines air connectivity, while Section 3 analyses maritime connectivity between India and ASEAN. Digital connectivity is discussed in Section 4. Section 5 examines energy connectivity between ASEAN and India. Connectivity projects, including multimodal transport initiatives, are presented in Section 6. Finally, Section 7 concludes.

2. Air Connectivity

Air transport is a vital link between India and ASEAN. Air connectivity facilitates the rapid movement of tourists, business travellers, and perishable goods between countries[1]. In 2024-25, 74.1 million passengers travelled by air to and from India, up from 66.8 million in the preceding year, representing annual growth of 11 per cent[2]. In 2024-25, ASEAN accounted for one-fifth of total passenger traffic to and from India[3]. This growth has been supported by several bilateral agreements between India and ASEAN member states in recent years. Table 1 presents the share of ASEAN in India's total air passenger and freight traffic between 2015-16 and 2024-25.

Table 1: ASEAN's Share in India's Air Passengers and Freight Carried between 2015-16 and 2024-25

Year	Passenger	Freight
	(%)	
2015-16	16.20	14.10
2016-17	16.30	14.70
2017-18	17.50	13.90
2018-19	18.80	14.30
2019-20	19.70	14.20
2020-21	2.20	7.40
2021-22	2.80	9.30
2022-23	17.40	11.90
2023-24	19.00	14.00
2024-25	20.40	15.20

Source: Directorate General of Civil Aviation (DGCA), India

ASEAN's share in India's total air passenger traffic has grown from 16.2 per cent in 2015-16 to 20.4 per cent in 2024-25 (Table 1). The post-pandemic period saw a substantial rise in the number of Indians visiting the ASEAN member states. According to the *ASEAN Stat*, 4.3

million Indians visited ASEAN in 2023, compared to 2.4 million in 2022, representing annual growth of 79.6 per cent[4]. Except during the pandemic years, the flow of passengers and freight between India and ASEAN has grown, reflecting expanding trade in goods and services. Expanding air connectivity reflects liberalised bilateral air service agreements, expanded seat capacity entitlements, and regional frameworks such as the ASEAN-Transport Sectoral Plan 2026-2030[5]. The following discussion examines bilateral passenger and freight flows.

Table 2 presents the annual flow of air passengers and freight transported between India and ASEAN for 2015-16 and 2024-25. The total number of passengers increased from 8.1 million in 2015-16 to 15.9 million in 2024-25, and freight traffic increased from 198,103.6 tonnes to 269,274.7 tonnes over the same period. Passenger traffic between India and ASEAN has increased over the past 10 years but remains concentrated in four ASEAN member states, namely, Malaysia, Singapore, Thailand and Vietnam. Except for Myanmar, which saw a decline in passenger growth, the four major markets recorded passenger growth of more than 5 per cent over the period considered.

Air connectivity between India and Vietnam has witnessed substantial growth, with passenger numbers growing from 0.28 million in 2023-24 to 0.82 million in 2024-25. This can be attributed to the expansion of direct flight services from 2022 onwards by IndiGo, Viet Nam Airlines, VietJet Air, and Air India, connecting Delhi, Mumbai, Kolkata, Ahmedabad, and Kochi directly to Hanoi and Ho Chi Minh City, along with a simplified e-visa regime[6]. Similar trends can be observed for freight traffic. While Singapore has witnessed a slight decline in freight, Vietnam has recorded a sharp increase. Overall, passenger and cargo flows between India and Vietnam have witnessed double-digit growth.

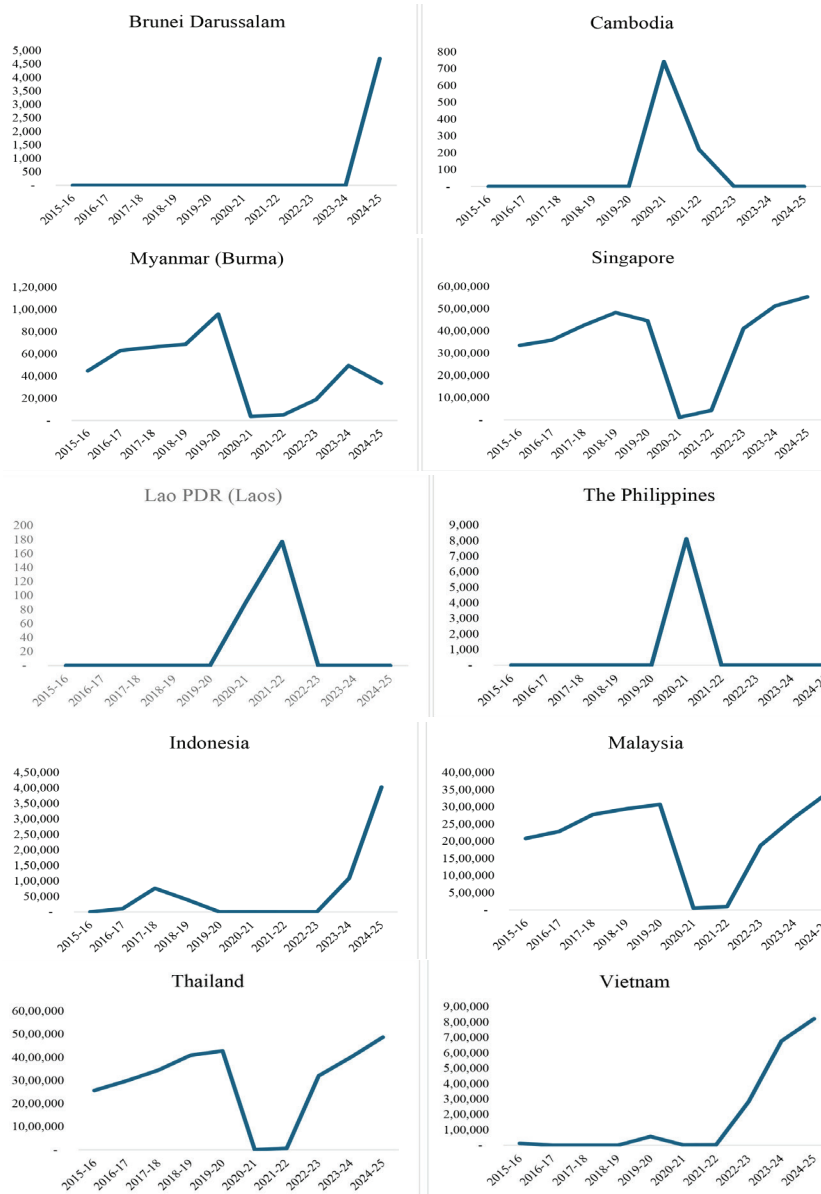
Trends in total passenger traffic between India and ASEAN over the past 10 years are shown in Figure 1. Except for Lao PDR and the Philippines, the remaining countries have recorded positive passenger traffic trends.

Table 2: Passengers and Freight Transported between India and ASEAN

Country	Total Passengers (numbers)			Total Freight (tonnes)		
	2015-16	2024-25	CAGR (%)	2015-16	2024-25	CAGR (%)
Brunei Darussalam	-	4,707	-	-	45.5	-
Cambodia	-	-	-	-	-	-
Indonesia	-	4,03,134	-	-	588.1	-
Lao PDR	-	-	-	-	-	-
Malaysia	20,84,363	34,09,621	5.6	30,553.5	48,574.8	5.3
Myanmar	44,553	33,474	-3.1	76.7	116.4	4.7
The Philippines	-	-	-	-	-	-
Singapore	33,57,684	55,40,018	5.7	1,03,880.4	97,000.2	-0.8
Thailand	25,71,769	48,75,049	7.4	63,363.7	1,01,186.8	5.3
Timor-Leste	-	-	-	-	-	-
Viet Nam	12,849	8,21,973	58.7	229.2	21,762.9	65.9
Total	80,71,218	1,50,87,976	7.2	1,98,103.6	2,69,274.7	3.5

Note: Data represent direct movement of goods and passengers
Source: DGCA

Figure 1: Trends in Passenger Travel between ASEAN Member States and India (2015-16 – 2024-25)



Source: DGCA

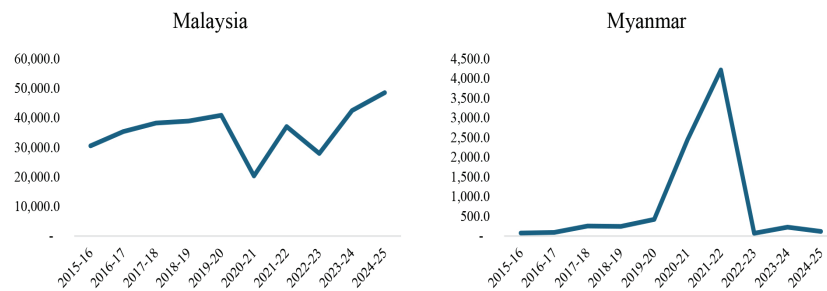
Trends show that India had temporary air links with Cambodia and the Philippines in 2020-21 and with Lao PDR in 2021-22 during the COVID-19 emergency. Later, Brunei Darussalam introduced direct flights to India in 2024-25.

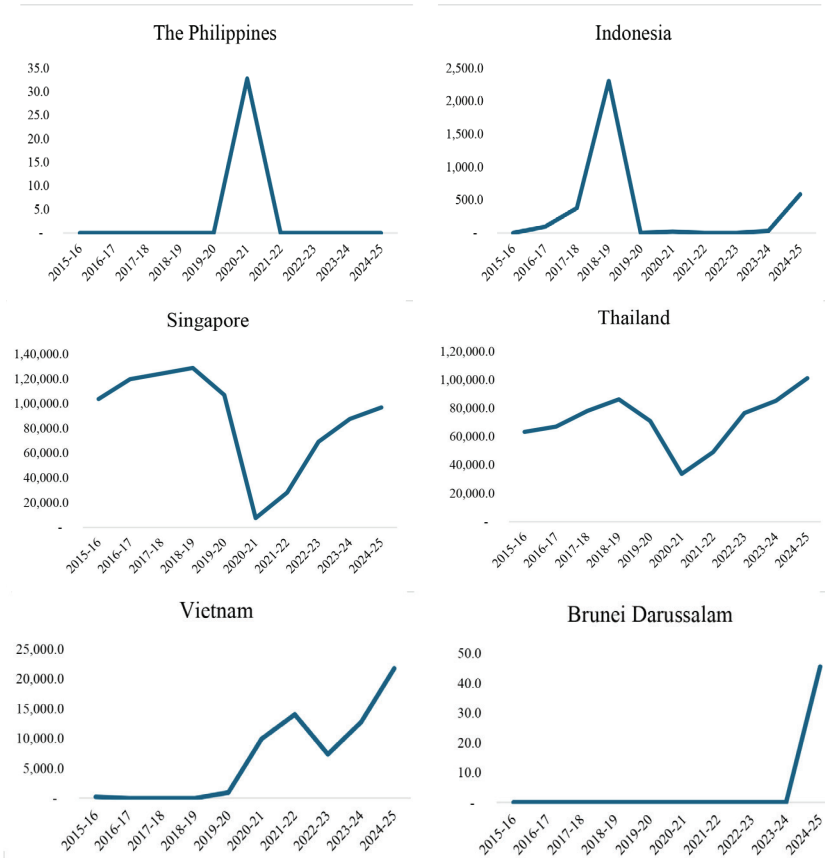
Although air connectivity between India and ASEAN member states such as Malaysia, Singapore, and Thailand was affected during the pandemic years, air passenger traffic recovered as pandemic restrictions eased. Indonesia and India have witnessed an increase in air traffic in recent years, with Air India increasing its flight frequency from 7 to 10 services a week between Delhi and Bali to address the growing tourism demand from India to Indonesia, with India becoming the 5th largest source market for tourists[7].

Trends in total freight traffic between India and ASEAN over the past 10 years are shown in Figure 2. There are two important observations. First, freight traffic between Malaysia, Singapore and Thailand has remained consistent except during the pandemic years. Second, freight traffic trends are largely aligned with passenger traffic trends.

Several airlines have been strengthening air connectivity between India and ASEAN. Domestic airlines carried 37.6 per cent of the total passenger traffic in 2024-25, among which IndiGo Airlines accounted for the largest share at 55.6 per cent, followed by Air India (24.8 per cent),

Figure 2: Trends in Freight Transported between ASEAN Member States and India (2015-16 – 2024-25)





Source: DGCA

Vistara (8.6 per cent), Air India Express (7.5 per cent), and SpiceJet (3.5 per cent). However, domestic airlines carried only 9.8 per cent of the total freight in terms of volume in 2024-25, among which Air India accounted for the largest share at 43.7 per cent, followed by IndiGo (36.2 per cent), Air India Express (7.9 per cent), SpiceJet (7 per cent), and Vistara (5.2 per cent). A total of 30 foreign airlines ferried passengers, and 36 foreign airlines transported freight between India and ASEAN in the last 10 years. Singapore Airlines accounts for the largest share of both passenger and freight traffic in 2025-26. Tables 3 and 4 show the

Table 3: Number of Airlines Carrying Passengers between India and ASEAN (2015-16 – 2024-25)

Country	2015-16	2020-21	2025-26
Brunei Darussalam			1
Cambodia		1	1
Indonesia		1	3
Lao PDR		1	
Malaysia	5	6	7
Myanmar	2	3	2
The Philippines		4	1
Singapore	8	7	7
Thailand	10	5	11
Timor-Leste			
Viet Nam	1	2	4
Total	26	30	37

Source: DGCA

Table 4: Number of Airlines Carrying Freight between India and ASEAN (2015-16 – 2024-25)

Country	2015-16	2020-21	2025-26
Brunei Darussalam			1
Cambodia		2	
Indonesia		2	3
Lao PDR			
Malaysia	5	7	7
Myanmar	1	4	3
The Philippines		2	
Singapore	8	9	6
Thailand	9	6	11
Timor-Leste			
Viet Nam	1	5	6
Total	24	37	37

Source: DGCA

number of airlines operating passenger and freight services, respectively, between India and ASEAN from 2015-16 to 2025-26. Tables 5 and 6 present the corresponding numbers of passenger and freight flights from 2015-16 to 2025-26.

Thailand and Singapore have the highest number of airlines carrying passengers between India and ASEAN, aligning with the highest passenger traffic on these routes. Similar trends can be seen in freight traffic. The number of airlines operating freight services between India and each of Myanmar and Viet Nam exceeds the number operating passenger services.

In 2023, out of the 4.3 million Indian visitors to ASEAN, 1.6 million visited Thailand, and 1.1 million visited Singapore, accounting for around two-thirds of the total tourists from India[8]. Thailand, Singapore and Malaysia have the largest number of flights operating between India

Table 5: Total Number of Flight Movements Carrying Passengers between India and ASEAN (2015-16 – 2024-25)

Country	2015-16	2020-21	2025-26
Brunei			1
Cambodia		1	1
Indonesia		2	4
Lao PDR		1	
Malaysia	22	27	40
Myanmar	4	7	6
The Philippines		24	1
Singapore	31	33	38
Thailand	22	10	62
Timor-Leste			
Viet Nam	2	7	10
Total	81	112	163

Source: DGCA

Table 6: Total Number of Flights Carrying Freight between India and ASEAN (2015-16 – 2024-25)

Country	2015-16	2020-21	2025-26
Brunei			1
Cambodia		3	1
Indonesia		3	4
Lao PDR			
Malaysia	18	21	30
Myanmar	3	11	4
Philippines		3	
Singapore	29	36	35
Thailand	19	18	54
Timor-Leste			
Viet Nam	2	17	12
Total	71	112	141

Source: DGCA

and ASEAN, together accounting for 85 per cent of flights, making them the busiest routes in the region.

India presently has 131 airports, of which 16 are major, and 115 are non-major airports[9]. Of its 29 international airports, 16 are connected to Southeast Asia. India's Northeast still lacks adequate air links with neighbouring South and Southeast Asia. Past efforts under the UDAN scheme sought to connect India's Northeast with Southeast Asia, but progress has remained limited.

Given the importance of GVCs and regional production networks, demand for air cargo services between India and ASEAN is growing. Faster movement of raw materials, components, parts, and spares helps firms maintain lower inventories and improve production efficiency. The percentage change in the Air Shipping Ratio (ASR) (i.e., the products that can be transported by air) between 2000 and 2004 for India's exports to ASEAN is higher for countries such as Vietnam, Brunei, Myanmar, Cambodia and the Philippines, relative to other major trading countries

such as Singapore, Malaysia, Indonesia and Thailand, and similar trends can be seen in India's imports from ASEAN. In 2023-24, Singapore (50 per cent) and Thailand (40 per cent) together accounted for 90 per cent of total cargo carried to ASEAN countries, followed by Malaysia (9 per cent). Most of India's global trade routed by air is carried by Singapore Air, Malaysian Air and Thai Air, along with DHL, UPS and FedEx. The potential for air cargo growth in India can be gauged from the fact that major global airports such as Hong Kong, Dubai and Incheon handle more cargo volume than all Indian airports put together. These trends underscore the need to liberalise air connectivity between ASEAN and India, particularly air cargo services, to remove bottlenecks and unlock the region's long-term growth potential.

Of the 10 ASEAN countries discussed here, nine member states — Brunei, Cambodia, Malaysia, Myanmar, Singapore, Thailand, Vietnam, the Philippines and Indonesia — have direct flights to and from India. The remaining Lao PDR lacks direct flights but has connections through other ASEAN airports. In 2023-24, passenger traffic between ASEAN and India increased by almost 52 per cent compared to 2020-21, mostly from Singapore, Thailand and Malaysia[10]. To date, a total of 12 airlines from ASEAN and India have been operating services between the two regions. While some of the capital-to-capital flights have been reintroduced post-pandemic, cities known as popular holiday and business destinations are also gaining connections. However, tourism destinations such as Angkor Wat (Siem Reap airport), Varanasi (Varanasi airport), Andaman (Port Blair airport), etc., are yet to be connected by airlines from ASEAN and India.

Overall, more passengers travel from India to ASEAN than in the opposite direction. Nevertheless, passenger traffic from ASEAN to India is rising, suggesting potential for further growth.

Air services between India and ASEAN primarily serve metropolitan cities such as Chennai, Delhi, Mumbai, Kolkata, Bangalore, and Hyderabad, and Tier I cities such as Ahmedabad, Gaya,

Thiruvananthapuram, Bhubaneswar, Cochin, etc. In the post-pandemic period, airlines from ASEAN countries such as Singapore, Thailand, and Malaysia have relaunched air services in Tier II Indian cities.

In view of the rising demand for travel between India and Southeast Asia in the post-pandemic period, new flights are being added by Indian and ASEAN airlines. While established airlines have been increasing frequencies between metro cities, several new airlines have announced new flights. For example, Indonesia's Batik Air started new direct services between North Sumatra (Kualanamu) and Chennai in August 2023. Vietnam's VietJet has already started flights from Hanoi and HCM City to Delhi, Mumbai and Ahmedabad. VietJet has also announced new routes between Hanoi and Ahmedabad. India's IndiGo has already introduced direct flights from India to several ASEAN countries. Recently, it has started four flights between India and Southeast Asia, including two new routes between Bhubaneswar and Singapore and Bhubaneswar and Bangkok, adding a second frequency on the Bangkok-Kolkata route in June 2023. IndiGo also introduced direct flights between Mumbai and Jakarta in 2024. IndiGo currently connects Delhi, Mumbai, Bengaluru and Kolkata to Bangkok and Tiruchirappalli, Bengaluru, Chennai, Kolkata to Singapore. With these new additions, the airline will directly connect 6 cities to Singapore and 5 cities to Bangkok, catering to the increased demand for international travel. These expanded services have improved air connectivity and accessibility between India and Southeast Asia. Still, much of the potential for air connectivity remains unrealised. Three major factors have prevented countries from realising this potential: first, ASEAN is yet to become a single aviation market; second, the Indian aviation market is mostly driven by private players and market conditions, whereas airlines from Southeast Asia are still operating as public sector units; and third, ASEAN and India have failed to conclude a regional air services agreement even though India has bilateral ASAs with all 10 ASEAN member states.

The air liberalisation indices (ALI) for ASEAN and India Bilateral Air Service Agreements show that all ASEAN countries except

Cambodia, Lao PDR and Thailand grant India first- to fifth-freedom rights on a reciprocal basis, whereas Cambodia grants first- to fourth-freedom rights while negotiations are still ongoing with Thailand and Lao PDR[11]. ALI scores also suggest that ASEAN-India Bilateral ASAs are restrictive for all the ASEAN countries. For instance, Thailand has the highest ALI score, at 16 out of 50, well below the fully open benchmark of 50. This may be due to limited air connectivity between India and ASEAN countries. Offering fifth freedom rights on a reciprocal basis could help both sides expand trade, tourism, and GVCs.

2.1 Addressing Air Connectivity Challenges

The year 2025 was designated ASEAN-India Tourism Year. Capacity is being expanded to accommodate more tourists between India and ASEAN. There is considerable interest among ASEAN passengers in the Northeast region and Tier II or Tier III cities with significant Buddhist heritage in India. This is particularly important as India has offered visas on arrival to all the ASEAN countries. A majority of the ASEAN countries, on the other hand, also provide visas on arrival to Indians.

While ASEAN is yet to become a single aviation market, India offers single aviation market benefits to all its trade partners, including ASEAN. Given this asymmetry, pursuing an 'open skies' approach to passenger services between ASEAN and India may encourage more country-specific barriers. Under the ASEAN-India Trade in Services Agreement, India and ASEAN have agreed to apply the GATS Annex on Air Transport Services, mutatis mutandis. India and ASEAN should make greater use of this agreement to improve bilateral trade in services.

As a way forward, a comprehensive ASEAN-India Air Transport Agreement (AIATA) is required to expand tourism and trade between the two. Negotiations on this agreement have continued for over a decade. India and ASEAN can strengthen cooperation in building new airports, aviation technology, safety and security, warehouse management, sharing of cargo resources, and logistics know-how. These areas offer opportunities for mutual benefit. Greater cooperation between cargo

and airline industry associations in ASEAN and India would strengthen institutional links. Indian airline associations or air cargo associations may consider signing cooperation agreements with their counterparts in ASEAN countries. A stronger aviation relationship between India and ASEAN may help strengthen supply chain resilience and the air connectivity pillar of the ASEAN-India POA (2026-2030). The aviation sector will continue to be critical to the ASEAN-India CSP.

3. Maritime Connectivity

Maritime connectivity has been at the forefront of India-ASEAN cooperation. With 80 per cent of trade by volume moving by sea, maritime connectivity has become a critical enabler of ASEAN-India regional trade and integration[12].

Trade between ASEAN and India is changing as product mixes and unit prices evolve across trading partners. A rising ratio indicates the need for enhanced connectivity between the trading partners. Table 7 presents trends in India's exports to and imports from ASEAN in volume (million tonnes) and value (US$ billion). Figure 3 shows trends in the trade value-to-volume ratio of India's trade with ASEAN. The ratio of trade value to trade volume indicates changes in average unit values, particularly from 2020 onwards.

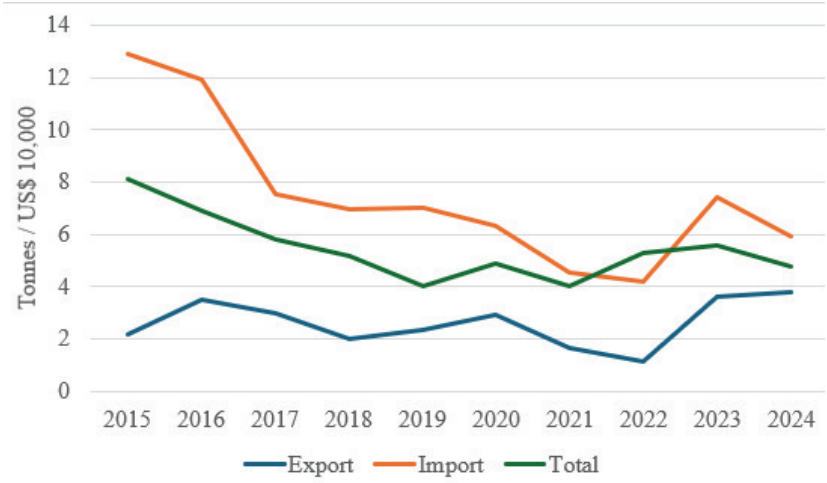
The trend also indicates that changes in trade value were driven by a contraction in physical quantities between 2000 and 2022. However, the trend was reversed from 2022 onward in the case of India's exports to ASEAN. On the other hand, India's imports from ASEAN, although higher in value-to-volume ratio than exports, show a decrease in 2024. India's imports from ASEAN also contracted in volume from 2023-24 to 2024-25 (Table 7). Nevertheless, post-pandemic trends suggest a shift towards higher-priced goods in India's exports to and imports from ASEAN. The ASEAN-India strategy for maritime connectivity and trade facilitation needs to adapt to this transformation. India has a trade deficit with ASEAN both in terms of trade value and trade volume.

Table 7: Export and Import of Goods between India and ASEAN (2015-16 – 2024-25)

Year	Exports		Imports		Total	
	(million tonnes)	(US$ billion)	(million tonnes)	(US$ billion)	(million tonnes)	(US$ billion)
2015-16	5.70	26.49	53.70	68.02	55.20	68.02
2016-17	9.40	26.65	45.80	64.99	44.80	64.99
2017-18	10.60	35.45	34.20	80.75	47.00	80.75
2018-19	7.30	36.08	39.70	93.31	48.10	93.31
2019-20	8.00	34.30	40.10	91.35	36.60	91.35
2020-21	8.70	29.58	27.90	73.61	36.10	73.61
2021-22	6.80	40.67	29.30	105.50	42.50	105.50
2022-23	5.10	44.14	37.40	133.25	70.80	133.25
2023-24	14.50	39.93	56.30	115.96	64.90	115.96
2024-25	16.30	43.13	48.50	125.01	59.40	125.01

Sources: Trade in US$ is taken from TradeStat, Department of Commerce; and Trade in tonnes is taken from the Basic Ports Statistics of India, Ministry of Ports, Shipping & Waterways (MoPSW)

Figure 3: Trends in Trade Value –Volume Ratio of India's Trade with ASEAN



Source: Authors' calculations based on the sources listed in Table 7.

In 2024-25, India handled a total of 657.7 million tonnes of overseas (international) cargo at its major ports, of which ASEAN accounted for 59.40 million tonnes or almost 10 per cent of India's total maritime cargo. Table 7 presents the total cargo exported to and imported from ASEAN member states between 2015-16 and 2024-25. Exports to ASEAN grew at a rate of 12.4 per cent during the period, with petroleum products emerging as the main export commodity. Imports, though higher than exports in terms of volume, saw a slight decline of 1.1 per cent between 2025-16 and 2024-25. Thermal coal and edible oil are the two major commodities India has been importing from ASEAN over the past 10 years.

Table 8 presents India's imports from ASEAN member states, whereas Figure 4 maps the imports of principal commodities through major ports in 2024-25[13]. Table 8 indicates that Brunei, Indonesia, Malaysia, Singapore, Thailand, and Viet Nam are India's main import sources. Brunei exports crude oil to India, which has seen a declining

Table 8: India's Imports from ASEAN: 2015-16 to 2024-25

('000 tonnes)

Year	Brunei Darussalam	Indonesia	Malaysia	Myanmar	The Philippines	Singapore	Thailand	Viet Nam
2015-16	1211	37298	4680	0	0	10418	45	34
2016-17	1334	32986	6177	0	70	5016	114	70
2017-18	811	24302	5099	0	0	3604	165	182
2018-19	898	30091	6444	0	55	1868	249	125
2019-20	652	29436	6343	0	0	3558	93	38
2020-21	569	19720	4904	0	0	2486	183	15
2021-22	539	23419	3875	0	0	996	453	45
2022-23	156	31308	3527	0	0	1671	520	233
2023-24	471	35363	10488	45	0	6494	1903	1521
2024-25	796	29764	6330	640	237	7523	2193	1040

*India had no direct maritime imports from Cambodia, Lao PDR and Timor-Leste
Source: MoPSW (2026)

trend over the years from 1.2 million tonnes in 2025-16 to 0.80 million tonnes in 2024-25, with a negative CAGR of 4.6 per cent. Indonesia is India's largest import source in ASEAN, accounting for more than 3/5th of the total goods imported from the region over the 10 years. Malaysia and Singapore are the next two major import sources. Crude oil and edible oil are the main imports from Malaysia. Singapore, on the other hand, exports a large variety of commodities to India, including crude oil and petroleum products. Imports from Thailand mainly include edible oil, and Vietnam exports mainly iron and steel to India.

According to MoPSW (2025), V.O. Chidambaram Port received the largest share (19.9 per cent) of the cargo from ASEAN, with the largest shipment unloaded being 7.6 million tonnes of coal (other than coking and thermal) from Indonesia. Deendayal Port, Kamarajar Port and Visakhapatnam Port are the next major ports, together accounting for a 40.3 per cent share. India imported 25.6 million tonnes of coal (all types of coal) from ASEAN, with Indonesia exporting 97 per cent of it. Edible oil is the next largest commodity India imported from ASEAN, amounting to 5.5 million tonnes, with Indonesia's share standing at 50 per cent and Malaysia's at 35.9 per cent.

Table 9 presents India's exports to ASEAN member states, whereas Figure 5 maps the principal commodities exported through India's major ports to ASEAN member states in 2024-25[14]. Indonesia, Malaysia, Myanmar, Singapore, Thailand and Viet Nam are India's main export destinations in ASEAN. Malaysia and Singapore account for more than 3/4th of total shipments from India to ASEAN. Indonesia is India's third-largest export destination. Three-quarters of India's merchandise exports to ASEAN go through Visakhapatnam Port, Jawaharlal Nehru Port, and Deendayal Port. Petroleum products are India's main export commodity shipped to ASEAN. The discussion now turns to containerised trade. Table 10 presents India's containerised trade with ASEAN for the years 2023-24 and 2024-25[15].

Table 9: India's Total Exports to ASEAN: 2015-16 to 2024-25

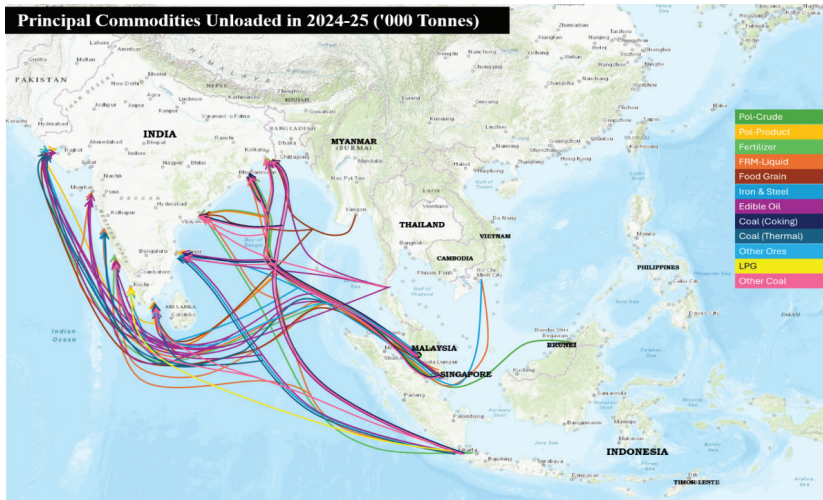
('000 tonnes)

Year	Indonesia	Malaysia	Myanmar	The Philippines	Singapore	Thailand	Viet Nam
2015-16	250	477	20	1	4848	53	68
2016-17	143	1364	31	1	6900	447	551
2017-18	218	2503	86	212	6680	281	624
2018-19	336	2188	17	88	3972	163	525
2019-20	195	2009	7	34	3974	870	933
2020-21	857	991	85	154	4770	638	1191
2021-22	549	1730	38	113	2498	359	1487
2022-23	958	971	0	0	2078	47	1067
2023-24	1379	4869	144	0	5549	794	1798
2024-25	2503	7238	12	0	5387	683	506

*India had no direct maritime imports from Cambodia, Lao PDR and Timor-Leste

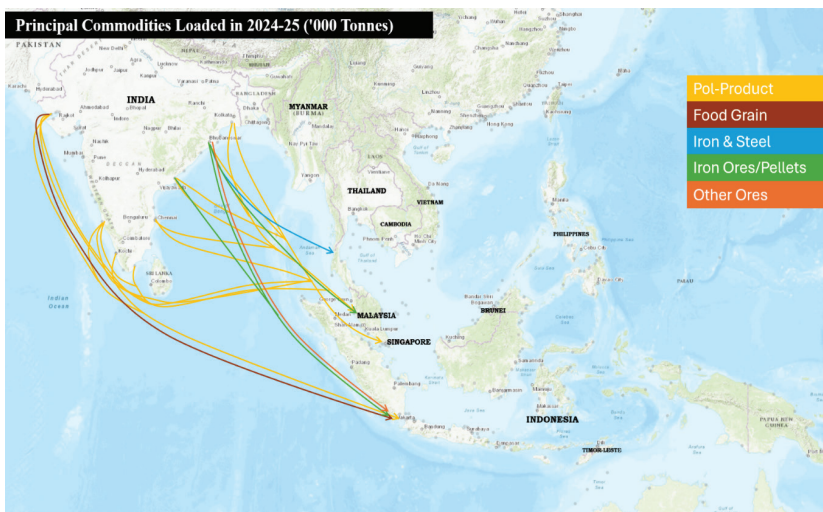
Source: MoPSW (2026)

Figure 4: India's Port-wise Imports of Principal Commodities from ASEAN in 2024-25



Source: Authors' illustration based on MoPSW (2026)

Figure 5: India's Port-wise Principal Commodity Exports to ASEAN in 2024-25



Source: MoPSW (2026)

Table 10: India's Containerised Trade with ASEAN*

Country	2024-25		2023-24	
	Export	Import	Export	Import
	(TEUs)			
Indonesia	46,389	1,10,056	35,278	7,12,611
Malaysia	2,74,889	1,91,611	1,79,500	3,14,778
Myanmar	667	7,833	8,000	2,500
The Philippines		13,167		
Singapore	1,55,944	3,29,667	1,48,222	2,88,778
Thailand	34,833	86,889	40,222	77,833
Vietnam	28,111	40,944	66,778	36,056

*Calculated data based on MoPSW (2026)
Source: Authors' calculations

Singapore accounts for the largest share of India's containerised cargo imports from ASEAN; however, most of this is transit cargo. In 2024-25, India imported 329,667 TEUs from Singapore. Indonesia and Malaysia are two major import sources. India's containerised exports are primarily directed to Malaysia, followed by Singapore and Indonesia. Malaysia received the largest number of containers from India in ASEAN in both 2023-24 and 2024-25.

3.1 Global Maritime Competitiveness

With around 80 per cent of trade by volume moving by sea, maritime connectivity is pivotal to economic development and integration. Globalisation could not occur without robust maritime transport systems, and containerisation shapes the effectiveness of this infrastructure (Broeze, 2017). Containerisation has not only increased global trade but also reduced variable shipping costs by 16 per cent and 22 per cent (Coşar and Demir, 2018). Therefore, container throughput provides insight into the capacity of port infrastructure and a country's or region's integration into global maritime trade. Table 11 provides the container throughput of India and ASEAN member states and the growth between 2015 and 2024. Higher container throughput strengthens a country's position in global maritime trade.

Singapore handles the highest number of containers in the region, followed by Malaysia and Vietnam. In ASEAN, Cambodia and Vietnam witnessed substantial improvements in containerised trade between 2015 and 2024, growing at a CAGR of 11.3 per cent and 9.7 per cent, respectively. India also recorded strong growth, with a CAGR of 7.6 per cent during 2015-2024. In 2024, Vietnam overtook India in container port cargo and ranked third in ASEAN (Table 11).

Table 12 presents the port-level container cargo handled in India and ASEAN. Cargo volumes indicate a port's role in facilitating global trade through loading, unloading, and transhipment. The Port of Singapore, Port Klang, and Tanjung Pelepas are the top three ports in the India-ASEAN region. These ports handle valuable cargo along one of the most

Table 11: Container Port Cargo of India and ASEAN Member States: 2015 – 2024

Country	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	CAGR (2015 - 2024)
	(Million TEUs)										(%)
Brunei Darussalam	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-0.5
Cambodia	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	1.0	11.3
India	12.3	13.7	15.5	17.0	17.5	17.6	19.6	19.7	22.2	23.9	7.6
Indonesia	10.1	10.6	11.3	12.6	12.7	11.8	12.9	13.3	13.7	14.7	4.3
Malaysia	24.0	24.6	23.7	25.0	26.2	26.7	28.3	27.3	28.2	30.7	2.8
Myanmar	0.8	1.0	1.0	1.1	1.1	1.1	0.7	0.8	0.8	0.8	-0.6
The Philippines	7.2	7.6	8.2	8.9	9.3	8.0	8.7	9.3	8.8	9.2	2.8
Singapore	30.9	30.9	33.7	36.6	37.2	36.9	37.6	37.3	39.0	41.1	3.2
Thailand	8.9	9.3	9.9	10.4	10.1	9.6	10.4	10.5	10.3	11.4	2.8
Vietnam	10.6	11.3	12.4	13.4	15.3	16.4	19.8	20.5	21.1	24.4	9.7

Source: UNCTAD

Table 12: Cargo Handled and Container Cargo of Selected Indian and ASEAN Ports for 2015 and 2024

Major Ports	Country	Total Cargo Handled (million tonnes)			Containerised Cargo (million TEUs)		
		2015	2024	CAGR (%)	2015	2024	CAGR (%)
Singapore	Singapore	575.85	622.91	0.9	30.92	41.12	3.2
Port Klang	Malaysia	219.79	248.57	1.4	11.89	14.64	2.3
Tanjung Pelepas	Malaysia	136.28	181.12	3.2	8.80	12.25	3.7
Laem Chabang	Thailand	72.61	98.66	3.5	6.71	9.39	3.8
Ho Chi Minh City	Veit Nam	89.85	143.74	5.4	5.88	9.16	5
Mundra (GAPL)*#	India	103.47	199.54	7.6	2.31	6.97	13
Tanjung Priok	Indonesia	19.72	62.55	13.7			
Hai Phong	Viet Nam	23.75	19.10	-2.4	1.02	1.27	2.5
Cai Mep	Viet Nam	39.11	128.90	14.2	1.81	7.08	16.4
Jawaharlal Nehru Port (Nhava Sheva)*	India	64.03	92.12	4.1	4.49	7.30	5.5
Manila	Philippines	21.57	28.29	3.10			
Tanjung Perak (Surabaya)	Indonesia	8.24	30.73	15.80			

*Financial Year Basis, #Gujarat Adani Ports Ltd.

Source: Authors' compilation from data provided by respective port authorities

Table 13: India's Liner Shipping Bilateral Connectivity Index with ASEAN Member States (Q12015 – Q12025)

Country	Q1 2015	Q1 2016	Q1 2017	Q1 2018	Q1 2019	Q1 2020	Q1 2021	Q1 2022	Q1 2023	Q1 2024	Q1 2025
Brunei Darussalam	0.199	0.202	0.205	0.193	0.207	0.211	0.201	0.207	0.214	0.219	0.205
Cambodia	0.219	0.233	0.232	0.220	0.224	0.225	0.229	0.224	0.229	0.240	0.246
Indonesia	0.341	0.333	0.334	0.388	0.382	0.400	0.321	0.316	0.496	0.426	0.441
Malaysia	0.579	0.595	0.593	0.589	0.574	0.574	0.585	0.589	0.600	0.623	0.702
Myanmar	0.292	0.309	0.307	0.243	0.217	0.235	0.233	0.220	0.235	0.244	0.303
The Philippines	0.281	0.369	0.373	0.385	0.385	0.357	0.273	0.279	0.383	0.397	0.405
Singapore	0.576	0.599	0.598	0.597	0.588	0.584	0.598	0.603	0.612	0.635	0.725
Thailand	0.477	0.502	0.494	0.478	0.497	0.491	0.499	0.501	0.505	0.543	0.561
Timor-Leste	0.192	0.168	0.168	0.167	0.167	0.165	0.170	0.167	0.170	0.178	0.180
Vietnam	0.414	0.451	0.518	0.517	0.502	0.488	0.499	0.510	0.526	0.559	0.658

Source: UNCTAD

important sea lines of communication (SLOC), the Strait of Malacca. The strait is an important gateway for East Asian countries to connect with India and West Asia.

ASEAN countries clearly have an edge over India in terms of volume of cargo handled. Singapore ranks second in Lloyd's list of One Hundred Ports of 2025, maintaining its position as a prominent transhipment hub in global trade[16], and it has remained the largest port in the India-ASEAN region over the past 10 years. Indonesian ports have witnessed double-digit growth in cargo handling between 2015 and 2024, along with Viet Nam's Cai Mep.

India's Mundra port reported growth of 13 per cent in container throughput measured in TEUs. According to NITI Aayog (2025), Mundra has surpassed major ports in India in capacity utilisation. It also reported that both JNPA and Mundra have been building port capacities in line with their operational needs.

The Liner Shipping Bilateral Connectivity Index (LSBCI) measures a country pair's integration into global liner shipping networks[17]. A higher score indicates greater integration between countries. The index scores are used to understand the role of maritime connectivity in reducing transportation costs (Guerrero et al., 2021). Table 13 presents the LSBCI score between India and the respective ASEAN member states for the period Q1 2015 to Q1 2025.

India's bilateral links with Malaysia and Singapore recorded the highest LSBCI scores in Q1 2021, while its links with the Philippines and Vietnam improved substantially between 2015 and 2025.

Average turnaround time at ports is the most important parameter for understanding the efficiency of port terminal operations. More time spent at a port leads to higher cargo-handling costs, thus reducing competitiveness. Table 14 presents the average turnaround time of India and ASEAN member states.

Table 14: Turnaround Time at Ports in India and ASEAN for 2023 and 2024

Country	Turnaround time at ports (hrs.)	
	2023	2025
Brunei Darussalam		16.8
Cambodia	21.6	24.0
India	26.4	28.8
Indonesia	43.2	36.0
Malaysia	28.8	26.4
Myanmar	48.0	67.2
Philippines	31.2	28.8
Singapore	28.8	33.6
Thailand	24.0	31.2
Timor-Leste		
Vietnam	21.6	21.6

Source: World Bank

Among large, busy ports, Vietnam has the shortest turnaround time among India-ASEAN ports in 2025. The Philippines and Indonesia have recorded substantial reductions in turnaround time from 31.2 and 43.2 hours in 2023 to 28.8 and 36 hours in 2025, respectively. Thailand has recorded an increase in turnaround time from 24 hours to 31.2 hours. In the case of Myanmar, turnaround time has increased from 48 hours to 67.2 hours.

Maritime connectivity between India and ASEAN has improved, as reflected in bilateral liner shipping connectivity and container throughput. However, increasingly busy ports in several ASEAN member states require further improvements in infrastructure and connectivity.

ASEAN-India connectivity cooperation has expanded beyond air and maritime links in the post-COVID-19 period. Digital trade facilitation, undersea cables, and digital payment infrastructure have emerged as newer areas of regional integration. Data protection and seamless digital payments are among the areas requiring substantial progress in digital integration.

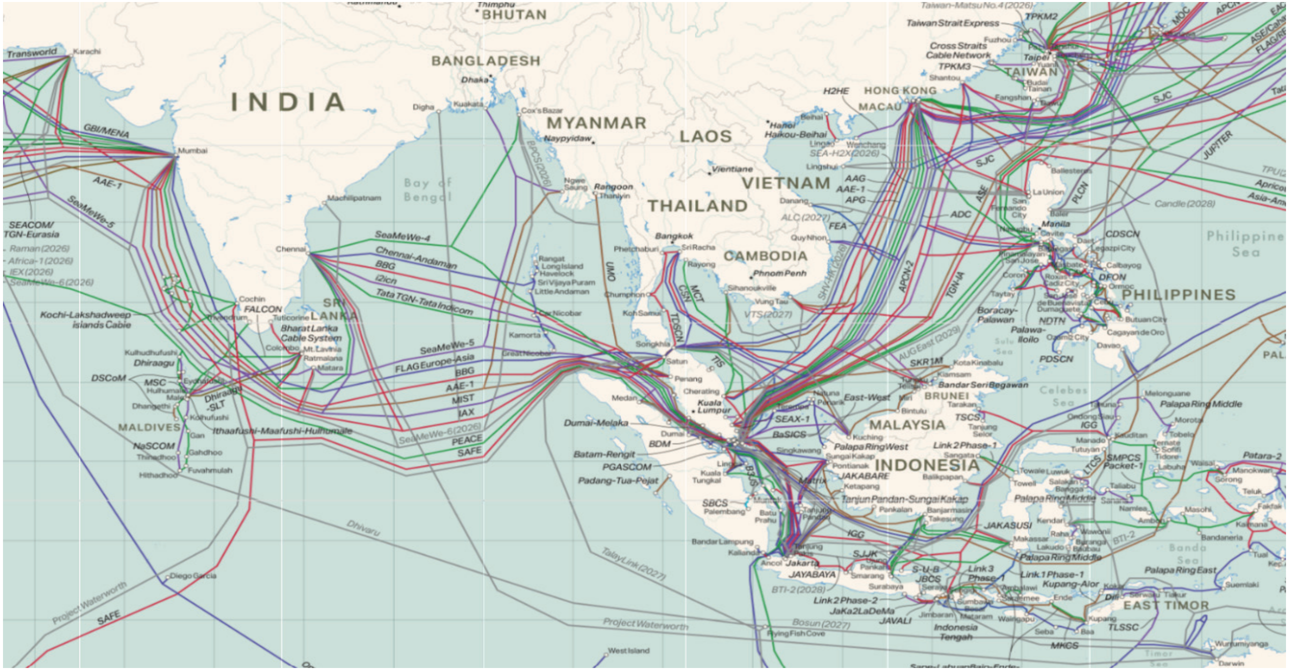
4. Digital Connectivity

The global submarine cable network is projected to expand significantly as rising internet use, data flows, and media activity increase demand for transmission capacity. Submarine cables are fibre-optic cables installed under the sea to transmit international telecommunication data. Submarine cable systems are installed to improve connectivity and resilience between locations. Major submarine cable routes span the Trans-Atlantic, Trans-Pacific, Americas, Intra-Asia, and EMEA-Asia regions[18].

The Asia-Pacific region dominates the global submarine cable market. As Figure 6 illustrates, India has emerged as an important node in undersea cable networks, supported by its economic size and growth. India's location at the intersection of Africa, Asia, and Europe has supported the expansion of its undersea cable network.

Table 15 presents major submarine cables between India and ASEAN. India's submarine cable connectivity with ASEAN member states has emerged as a major pillar of digital connectivity, complementing land, air and maritime transport links[19]. A large share of international internet traffic and cross-border data flows are transmitted through submarine fibre-optic cables. These submarine fibre-optic cables have become indispensable for digital trade, digital financial transactions, advances in artificial intelligence and strategic communications. India is connected with ASEAN member states primarily through cable landing stations at Chennai, Mumbai, Kochi, Trivandrum and Tuticorin, linking Singapore, Malaysia, Myanmar, Thailand and other Southeast Asian countries.

Figure 6: Undersea Submarine Cables between India and ASEAN



Source: TeleGeography

Table 15: Major Submarine Cables Connecting India and ASEAN

Cable System	Connected ASEAN Countries	Landing Station in India	Significance
i2i cable network	Singapore	Chennai	Carries India–Singapore internet traffic
Bay of Bengal Gateway (BBG)	Singapore and Malaysia, among other countries	Chennai and Mumbai	Connects South Asia with Southeast Asia and the Middle East
MIST (Myanmar/ Malaysia-India-Singapore Transit)	Myanmar, Malaysia, Singapore	Chennai, Mumbai	Enhances regional digital connectivity through integrated subsea telecommunications
India Asia Xpress (IAX)	Singapore, Thailand, Malaysia	Mumbai, Chennai	High-capacity high-speed internet
SEA-ME-WE 4 & 6	Singapore, Malaysia, Thailand	Mumbai	Telecommunications connecting Southeast Asia, the Middle East and Western Europe
AAE-1 (Asia-Africa-Europe-1)	Malaysia, Myanmar, Singapore	Mumbai	First high-capacity intercontinental submarine cable to connect major Southeast Asian nations

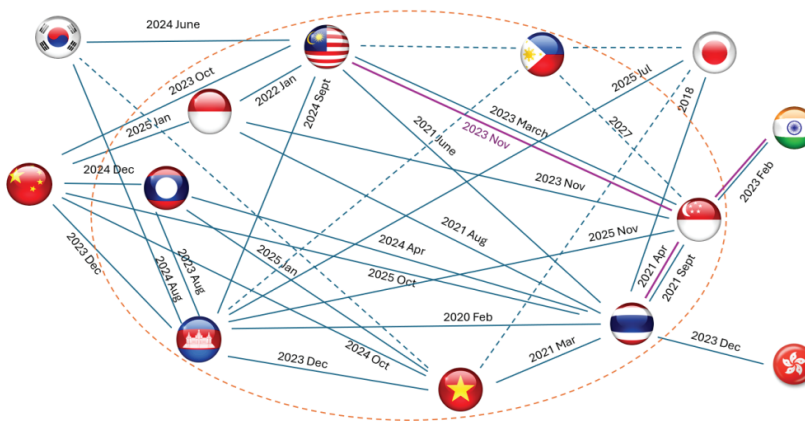
Source: Submarine networks, NEC Corporation

4.1. Digital Payment Infrastructure

Digital payment infrastructure (DPI) has been one of the fastest-evolving areas of economic cooperation between India and ASEAN. It supports financial inclusion, trade, tourism, regional economic cooperation, and remittances. Real-time payment platforms and QR-code-based transactions are changing how individuals and businesses make cross-border payments.

ASEAN has undertaken a series of initiatives to enhance cross-border payments (Figure 7). ASEAN, as a regional bloc, has introduced strategic initiatives such as ASEAN Regional Connectivity (RPC) and the ASEAN Local Currency Transaction Framework (LCTF). The RPC facilitates the smooth functioning of national payment systems by efficiently linking them with a user-friendly cross-border payment network. The LCTF, meanwhile, promotes the use of local currencies in cross-border transactions. This complements the RPC's goals of reducing costs and increasing transaction speed. ASEAN is also implementing

Figure 12.7: ASEAN Cross-Border Payment Linkage Network



Note: blue lines represent cross-border QR payment connectivity, and purple lines represent fund transfer connectivity. Users from the Philippines can make QR payments in Cambodia through Alipay+-enabled wallets.

Source: IMF (2026)

'Project Nexus'. Led by the Bank for International Settlements (BIS), this multilateral initiative aims to interlink fast payment systems (FPS) across India, Singapore, Malaysia, Thailand, and the Philippines by 2026 to standardise and scale retail cross-border transactions.

India and ASEAN are actively expanding cross-border financial integration through India's UPI and multilateral payment frameworks (see Boxes 1, 2 and 3). India and ASEAN issued the ASEAN-India Joint Statement on Advancing Digital Transformation in 2024[20]. This joint statement highlights cross-border payment linkages, fintech partnerships, DPI governance, and funding via the ASEAN-India Fund for Digital Future. Several bilateral initiatives complement these efforts.

- **Singapore (UPI-PayNow)**: The real-time cross-border linkage between India's UPI and Singapore's PayNow allows instant, low-cost person-to-person (P2P) and person-to-merchant (P2M) fund transfers.
- **Malaysia (DuitNow)**: Partial interoperability and bilateral integration efforts are underway to connect UPI with Malaysia's DuitNow ecosystem.

Box 1: Unified Payment Interface

- Real-time digital payment system developed by the **National Payments Corporation of India (NPCI),** launched in April 2016. Enabling instant fund transfers by users.
- Transactions are completed using mobile numbers, QR codes, or Virtual Payment Addresses (VPAs).
- **UPI is** becoming a flagship Digital Public Infrastructure (DPI), providing the technological ground for cross-border payment connectivity in ASEAN states.
- **UPI is** enabling cross-border e-commerce, trade settlements, tourism, and remittances.

Sources: IMF (2026); NPCI (2024)

Box 2: ASEAN Regional Payment Connectivity

- Launched by ASEAN central banks in November 2022 for promotion of seamless cross-border digital payments across Southeast Asian countries.
- Main focus on connecting fast payment systems and the QR code payment network.
- Facilitation of cross-border retail payments, promotion of local currency settlements.
- Strengthening of regional financial integration along with support of ASEAN's **Digital Economy Framework Agreement (DEFA)**
- The benefit for India is to provide an institutional framework for India's UPI, which can be used to integrate with the ASEAN payment ecosystem.
- Consolidating digital connectivity while supporting India's Act East.

Sources: IMF (2026); ASEAN Secretariat (2024)

Box 3: India-Singapore UPI-Pay Now Linkage

- **UPI-Pay Now Linkage** was launched in February 2023 as the first real-time payment connection between India and Singapore (an ASEAN member state)
- **PayNow**-UPI linkage happens to be the World's first real-time payment system linkage using scalable cloud-based infrastructure to accommodate remittance traffic.
- Linking India's UPI with Singapore's **PayNow** system, enabling customers of both countries to send and receive money promptly using mobile numbers or virtual payment addresses.
- Serving as a base model for future payment connectivity between India and other ASEAN countries.

Sources: Monetary Authority of Singapore (2023); Reserve Bank of India (2023)

- **Indonesia (QRIS)**: Cooperation between India's UPI and Indonesia's Quick Response Code Indonesian Standard (QRIS) enables seamless cross-border QR code payments for travellers and merchants.
- **Thailand (PromptPay)**: Discussions and exploratory frameworks target future QR and fast-payment system interoperability with Thailand's PromptPay.
- **Philippines (InstaPay/PESONet)**: Exploratory cooperation is ongoing with central bank authorities regarding cross-border retail payment connectivity.

India and Vietnam have taken an important step towards strengthening cooperation in digital payments and financial innovation through a Memorandum of Understanding (MoU) signed by the Reserve Bank of India and the State Bank of Vietnam (SBV). The two countries aim to deepen collaboration in areas such as financial innovation, regulatory coordination, information sharing, and digital payment systems[21]. The payment connectivity initiative is expected to facilitate trade and tourism between India and Vietnam, while creating greater export opportunities for businesses in both countries. The framework is expected to streamline cross-border financial activity through cooperation in quick payment systems, message systems and card switches.

Myanmar has set up cross-border fibre-optic networks with India. The first link, established in February 2009, connected Moreh in Manipur to Mandalay in Myanmar. The 640-km-long link passes through Tamu, Kampatwa, Kyi Gone, Shwebo, Monywa and Sagaing. The fibre-optic link supports high-speed broadband voice and data transmission[22]. India is also supporting physical and digital connectivity projects in CLMV countries through a US$ 1 billion Special Fund and developing manufacturing hubs through the Project Development Fund (PDF) with a corpus of US$ 77 million. These can be used to strengthen digital connectivity between India and the Mekong sub-region. Further, India has also set up the India-Myanmar Centre for Enhancement of IT Skills (IMCEITS) and the Centre of Information and Communication Technology Training (CICTT) in Yangon, providing infrastructure to support digital connectivity between India and Mekong countries.

5. Energy Grid Connectivity

Economic activity depends on an uninterrupted energy supply. Electricity demand is expected to rise in new-age sectors such as data centres, electric vehicles, green hydrogen and digital infrastructure. The International Energy Agency (IEA) expects 85 per cent of the incremental global electricity demand to come from developing countries by 2027 (IEA, 2025). Sustainable Development Goal (SDG) 7 calls for ensuring access to affordable, reliable, sustainable, and modern energy for all[23]. Securing a resilient energy supply through source diversification, price stability, and sustainability is therefore paramount for developing countries such as India, Malaysia, Indonesia, the Philippines, Thailand, and Vietnam.

Energy connectivity through the integration of power infrastructure is emerging as a sustainable approach to energy security. Countries are benefiting from Cross-Border Electricity Trade (CBET) through power grid networks, which facilitate access to diverse energy sources and improve power quality. Power connectivity develops in stages: an early stage involving bilateral power purchase agreements (PPAs); shallow integration, involving regional coordination and harmonisation of standards; and deep integration, in which regional partners have open grid access and electricity trade is market-based (Table 16)[24].

The 8th ASEAN Energy Outlook (ASEAN, 2024) highlights that the region's target of achieving 100 per cent electrification by 2040 is impeded by remote and difficult terrain, and its Total Final Energy Consumption (TFEC) is expected to increase to 2.6 times 2022 levels by 2050, with electricity constituting one-fifth of TFEC. The report further emphasises the role of grid extensions in facilitating electrification in Southeast Asia and fostering regional cooperation through the ASEAN Power Grid (APG) under the ASEAN Plan of Action for Energy Cooperation (APAEC).

APG is the most prominent regional energy infrastructure project, enabling multilateral power trade through the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP), with

Table 16: Different Levels of Power System Integration

	EARLY STAGE	SHALLOW INTEGRATION	DEEP INTEGRATION
Interconnection Infrastructure	Typically starts between two countries, with a low level of electricity flow. Transmission lines may be used to trade electricity only from specific power plants, without the plants being connected to their domestic network.	Interconnected grids link several neighboring countries with some countries lacking, access to the regional grid and trade. In some cases, regional infrastructure is fragmented and consists of isolated blocks. Interconnection capacity is often underutilized.	Extended infrastructure connects all or most countries in the region and enables them to participate in trade. The utilization level of interconnection gradually increases as the regional market develops and power demand increases.
Planning and Investment Coordination	Planning happens at a national level, possibly with specific regional agreements to develop priority infrastructure.	Some coordination of national investments with an optimized regional investment plan is in place. National plans increasingly take account of regional opportunities to import and export power.	Regional master plans are optimized from a regional perspective. Investment in regional infrastructure may be coordinated. Harmonized scenarios and planning methods may be used for national-level planning.
Technical and Operational Coordination	Simple rules are agreed upon for the operation of the interconnected grids.	Efforts are taken to harmonize regulatory practices and technical and market rules. Common data acquisition and supervision protocols may be used.	A large body of harmonized regulations, as well as common technical and market rules, including grid codes, exist and are enforced.
Commercial Arrangements and Market Design	Long-term bilateral PPAs predominate.	Long-term PPAs may be supplemented with short-term markets. Simple transmission pricing methods that do not reflect costs are often employed.	Fully competitive and cost-reflective regional markets exist with various products being traded, in addition to PPAs. Transmission pricing approach evolves to a more granular one sensitive to the location on the grid.
Institutional Architecture	Primarily based on bilateral agreements with no strong supra-national entity being involved.	Regional regulatory bodies and/or steering committees may be in place but face enforcement challenges.	Regional regulatory bodies and/or steering committees can effectively enforce rules.
Example	Bilateral links (e.g., Laos-Thailand and Laos-China); India and its neighboring countries.	SAPP; EAPP; WAPP; PAEM.	EU's Internal Energy Market; Western Energy Imbalance Market in the US; SIEPAC.

Source: World Bank (2024)

interconnection capacity reaching 10.2 GW. Another PIP is under consideration among Brunei Darussalam, Indonesia, Malaysia, and the Philippines. The APG is the flagship project of ASEAN for energy security and connectivity, building power infrastructure and harmonising markets and regional cooperation (ASEAN, 2025).

India initially released Guidelines on Cross-Border Electricity Trade in 2016 to facilitate cross-border electricity trade between India and its neighbouring countries through bilateral agreements, underpinned by transparent, consistent, and predictable regulations, uninterrupted grid operations, and sound infrastructure (Ministry of Power, 2025). These guidelines were revised in 2018 as "Guidelines for Import/Export (Cross-Border) of Electricity-2018," followed by the "CERC (Cross-Border Trade of Electricity) Regulations 2019" in 2019. In 2023, Indian power exchanges supplied electricity through the Real Market Time (RMT) under the modified "Procedure for Approval and Facilitating Import/ Export (Cross-Border) of Electricity by the Designated Authority (CERC, 2024)." India currently engages in CBET with four neighbouring countries, as shown in Table 17. Trade is measured in million units, with negative values indicating exports and positive values indicating imports (CERC, 2025). India is a net exporter to Nepal, Bangladesh and Myanmar and a net importer from Bhutan.

India also proposed One Sun One World One Grid (OSOEOG) in 2018, under the International Solar Alliance to facilitate cross-border trade in clean, affordable solar energy[25]. At the regional level, India signed an agreement for cross-border electricity cooperation with SAARC (South Asian Association for Regional Cooperation) in 2014[26]. In 2018, an MoU was signed by the BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) countries for "BIMSTEC Grid Interconnection." [27]

Within ASEAN, India already trades electricity bilaterally with Myanmar. However, at the regional level, India-ASEAN engagement on energy grid connectivity was initially recognised in the Plan of Action

Table 17: Trends in Cross-Border Trade of Electricity between India and the Neighbouring Countries: 2013-14 to 2023-24

Year	Bhutan (+)	Nepal (-)	Bangladesh (-)	Myanmar (-)
	(Million Units)			
2013-14	5555.18	840.37	1448.19	0.00
2014-15	5109.48	997.17	3271.89	0.00
2015-16	5555.07	1469.59	3654.4	0.00
2016-17	5863.58	2021.21	4419.61	3.23
2017-18	5611.14	2388.96	4808.83	5.07
2018-19	4657.07	2798.84	5690.31	6.67
2019-20	6310.73	2373.06	6987.94	8.61
2020-21	9318.17	1865.05	7551.99	9.24
2021-22	7670.34	1921.09	7301.74	8.80
2022-23	6379.95	158.05	8622.14	9.8
2023-24	3862.78	154.08	8413.52	8.47

Source: Central Electricity Regulatory Commission

(PoA) for 2010-15, which called for support for energy cooperation through programmes such as the APG (ASEAN, 2012). The PoA for 2026-30 calls for continued cooperation through APG, sharing of best practices, standardisation of technical and regulatory frameworks, sharing of technology for facilitating multilateral power trade, and integration of renewable energy into the grid[28].

India also seeks to engage with other ASEAN members. For instance, during Singapore International Energy Week (SIEW) 2025, India explored green energy exports to Singapore with an expected capacity of 2,000 MW (ET, 2025). India and Thailand are connected through BIMSTEC for grid interconnection.

CBET can help energy-deficient countries access reliable supplies from countries with surplus energy, addressing regional imbalances; for instance, South Asia can benefit from Nepal and Bhutan's hydropower and India's solar and wind energy (Jha et al., 2025). CBET reduces the cost of energy by facilitating the import of off-peak-hour electricity from one country to another during its peak hours (Antweiler, 2016). Thus, CBET in South Asia and Southeast Asia can promote decarbonisation through the adoption of renewable energy at a lower cost[29]. Stronger regional cooperation in CBET brings economies of scale in capital investment and strengthens energy security across the region (Singh et al., 2018).

However, CBET faces technical and operational challenges, including data sharing, standardisation, and grid codes. Limited trust and political will, difficulties in harmonising regulations, and high project development costs pose significant obstacles to grid connectivity (UNESCAP, 2018).

India's peak power demand reached 277 GW (gigawatts) in FY26 and is anticipated to grow at 6-6.5 per cent annually over the medium term (IBEF, 2026), and ASEAN's rising power demand makes securing uninterrupted energy supply a necessity. Regional cooperation through CBET provides an efficient solution. However, it faces various challenges.

India and ASEAN should address these challenges and work towards building integrated energy grid infrastructure.

5.1. Renewable Energy

Renewable energy has been a key focus area of ASEAN-India energy cooperation since the adoption of the 'New Delhi Declaration on ASEAN-India Cooperation in Renewable Energy' in 2012. In January 2018, as the India-ASEAN partnership entered its 25th year, a Delhi Declaration was issued to mark the occasion. The ASEAN and Indian leadership recommended: "Continue to enhance cooperation for ensuring long-term food and energy security in our region through strengthening cooperation in agriculture and energy sectors; work together to promote the development of renewable energy technology through international platforms including the International Solar Alliance (ISA) where applicable."[30] In 2021, the India Smart Grid Forum (ISGF) and the ASEAN Centre for Energy (ACE) signed an MoU establishing a framework for cooperation in smart grids, electric mobility and renewable energy development.

In 2022, India and ASEAN celebrated 30 years of partnership, and their relations were upgraded from a strategic partnership to a comprehensive strategic partnership, with energy cooperation accorded high priority. India has been supporting various initiatives in climate action, energy efficiency, clean technologies, and renewable energy under the ASEAN-India Green Fund. India has been building hydropower projects, power transmission lines and substations, and oil and gas pipelines, among others, to develop energy infrastructure in ASEAN; however, these efforts are limited to the CLMV countries (De and Kumarasamy, 2020; and De and Venkatachalam, 2023). India already has bilateral power exchange interconnections with Nepal, Bhutan, and Bangladesh. Meanwhile, ASEAN is developing two region-wide grids, including the ASEAN Power Grid and the Trans-ASEAN Gas Pipeline.

The ISA targets US$ 1 trillion in solar investment by 2030, which would support the global energy transition. To further boost energy

connectivity, India has launched a "green grid" initiative named "One Sun, One World, One Grid" at COP 26, which aims to connect inter-regional energy grids to transfer solar energy across borders, leveraging the differences in time zones, seasons, resources, and prices between countries and regions[31]. At the G20 Summit, held in Delhi in 2023, the G20 countries underscored the importance of renewable energy in building a sustainable, clean-energy society.

ASEAN-India energy cooperation offers considerable potential for advancing renewable energy. India not only shares maritime boundaries with ASEAN but also has a land border through Myanmar. Both have access to substantial wind, solar, ocean and other renewable energy resources. India's limited power grid connection with Myanmar could be expanded in scale and capacity.

As cross-border demand for green energy grows, improving solar energy connectivity is crucial for building greater economic integration between India and ASEAN. Developing the solar supply chain between ASEAN and India will provide new business opportunities for manufacturers to enter the upstream and downstream manufacturing markets, as well as enhance knowledge sharing and diffusion of technology. The solar supply chain will provide easy access to credit and increase the pool of investors in the region. A strong, secure solar supply chain in India would create jobs, reduce foreign exchange outflows, attract investment, and support sustainable long-term growth (FICCI, 2016). Building strong regional supply chains and/or production networks for solar energy will play an important role in strengthening regional energy security in the coming years.

Developing collaborative mechanisms between India and ASEAN will create unique opportunities to secure the regional solar supply chain. Northeast India could serve as a bridge between the two regions through power grid and gas pipeline connections via Myanmar. The India-Bangladesh electricity grid can further be linked to Myanmar, allowing

energy access from not only Bangladesh and Myanmar but also ASEAN member states like Indonesia and Malaysia.

Since the amendment of the ISA framework agreement, only four ASEAN member states, namely Cambodia, Myanmar, Singapore, and Vietnam, have signed and ratified the framework agreement so far. However, if other ASEAN member states also join the ISA framework, it will help to build a global grid capable of transmitting renewable energy across member states at any given time and help reduce carbon emissions and energy costs.

ASEAN and India can collaborate through joint research studies in areas such as grid stability and green management. Public-private partnerships between India and ASEAN can also be explored to further strengthen energy connectivity and accelerate energy transition efforts.

ASEAN and India may consider harmonising legal and regulatory frameworks dealing with cross-border trade, along with an Energy Charter Treaty for greater security for cross-border energy transfer-related investments and transactions.

India may develop a framework for a regional energy exchange along with operational procedures and regulatory and commercial requirements for cross-border trade with ASEAN.

There is a need to identify technically and economically feasible cross-border interconnections to improve the investment environment for both electricity generation and transmission between India and ASEAN.

There is therefore considerable scope to deepen cooperation, advance low-carbon growth and address shared challenges.

To deepen engagement, secretary-level policy dialogues on energy cooperation can be organised with participation from energy think tanks in ASEAN and India. An ASEAN-India Network of Energy Think-Tanks may be set up to facilitate knowledge transfer with the ultimate objective of strengthening energy connectivity between the two.

6. India's Multimodal Connectivity Projects with Southeast Asia

India's main connectivity projects with Southeast Asia include the India-Myanmar-Thailand Trilateral Highway (TH), its extension to Cambodia, Lao PDR and Vietnam, and the Kaladan Multimodal Transit Transport Project. These initiatives are at different stages of implementation.

6.1. Trilateral Highway

The TH linking India, Myanmar and Thailand, together with its proposed extension to Cambodia, Lao PDR and Vietnam (CLV), would facilitate trade in goods and services and the movement of people between India and Southeast Asia. Connecting India's Northeastern Region (NER) with Southeast Asia would increase trade and investment, strengthen regional value chains, create jobs and deepen people-to-people ties. The NER could thus play a central role in strengthening ASEAN–India connectivity.

The TH project involves the construction of a 1,360-km highway connecting Moreh in Manipur to Mae Sot in Thailand through Myanmar. The TH is presently under construction. The Tamu–Kalewa-Kalemyo road, or the India-Myanmar Friendship Road, as part of the TH, was inaugurated in 2001.

ERIA completed a study on the extension of the Trilateral Highway to Cambodia, Lao PDR and Vietnam (ERIA, 2020). According to ERIA, except for one small section between Xieng Kok and Luang Namtha via Muang Sing in the Lao PDR, all sections of the suggested northern route are already designated as parts of the Asian Development Bank (ADB), United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), and Master Plan on ASEAN Connectivity (MPAC) 2025 transport corridor projects (ERIA, 2020). All sections of the southern route of the eastward extension overlap with the East-West Economic Corridor, North-South Economic Corridor, and the Southern Economic Corridor of ADB. The development of the TH's eastward extension, therefore, requires close cooperation with international projects executed by ASEAN, ADB, AIIB, UNESCAP, and the World Bank.

At the same time, the Trilateral Motor Vehicle Agreement (T-MVA) is being negotiated. This agreement will allow vehicles and passengers to move seamlessly for regional and international trade transportation purposes along the Trilateral Highway. The MVA would establish operating procedures (OP) for vehicles, customs procedures, and other measures to facilitate cargo and passenger movement along the corridors. The MVA will also provide transit and transportation rights and obligations through annexes and protocols. This Agreement will have a critical role in realising seamless movement of passengers, private vehicles and cargo vehicles along the Trilateral Highway. Without the MVA, the TH will be non-operational. However, progress in negotiating the MVA between India, Myanmar, and Thailand for the TH has been slow.

Another important cross-border connectivity project is the Mekong-India Economic Corridor (MIEC), which involves integrating four Mekong countries, namely, Myanmar, Thailand, Cambodia, and Vietnam, with India. It aims to connect Danang (Vietnam) with Dawei (Myanmar) via Bangkok (Thailand), Phnom Penh (Cambodia), and Chennai in India. A major part of the necessary investment is for the development of a port and a special economic zone (SEZ) at Dawei. This corridor, when completed, is expected to augment trade between Southeast Asia and India by reducing travel distances and removing supply-side bottlenecks.

6.2. Kaladan Multimodal Transit Transport Project

One of the objectives of the Kaladan Multimodal Transit Transport Project is to provide access to the Bay of Bengal to India's landlocked Northeastern Region, particularly the state of Mizoram. The components of this project include: (i) construction of an integrated port and Inland Water Transport (IWT) terminal at Sittwe including dredging; (ii) development of a navigational channel along the Kaladan River from Sittwe to Paletwa (158 km); (iii) construction of an IWT-highway transhipment terminal at Paletwa; (iv) construction of six IWT barges (each with a capacity of 300 tonnes) to transport cargo between Sittwe and Paletwa; and (v) building a double-lane highway (109 km) from Paletwa to the India-Myanmar border (Zorinpuri) in Mizoram.

A framework agreement and two protocols (Protocol on Transit Transport and Protocol on Maintenance) were signed by India and Myanmar on 2 April 2008. Construction of the integrated port-cum-IWT jetty at Sittwe was completed and inaugurated in 2023-24. Construction of the IWT terminal at Paletwa was also completed. The Border to NH 54 (Lawngtlai) Road on the Indian side in Mizoram is in progress under the Ministry of Road Transport and Highways, Government of India. A 109 km road from Zorinpuri on the India-Myanmar border to Paletwa in Myanmar is under construction.

6.3. Mekong-India Economic Corridor (MIEC)

Another important cross-border connectivity project is the Mekong-India Economic Corridor (MIEC), which involves integrating four Mekong countries, i.e., Myanmar, Thailand, Cambodia and Viet Nam, with India. It will connect Danang (Vietnam) with Dawei (Myanmar) via Bangkok (Thailand), Phnom Penh (Cambodia), and Chennai in India. A major part of the necessary investment is for the development of a port and special economic zone (SEZ) at Dawei. While the construction of the SEZ has been ongoing for quite some time, construction of the Dawei deep-water port has not yet started. This corridor, when completed, is expected to augment trade between Southeast Asia and India by reducing travel distances and removing supply-side bottlenecks. The corridor focuses on expanding the manufacturing base as well as trade with the rest of the world, and particularly between ASEAN and India. It may enable ASEAN economies and India to integrate further and collectively emerge as a globally competitive economic bloc[32].

Establishing rail connectivity with Myanmar would be crucial in terms of both increasing bilateral trade and improving people-to-people contacts. Rail links will significantly reduce journey times, especially for long-distance freight and passenger services. The study for a rail link from Jiribam in Manipur to Mandalay in Myanmar was conducted by Rail India Technical and Economic Service (RITES) Limited in 2005. According to the study, the total length of the rail line from Jiribam to Mandalay is 885.4 km, out of which the length of the Jiribam –Imphal – Moreh route is 219 km, and the length of the Tamu–Kalay route is 127.4

km. This rail project is part of the southern corridor of the Trans-Asian Railway network. On completion of the Jiribam–Imphal–Moreh route, potential onward connections could include (i) the India-Myanmar-Thailand-Malaysia-Singapore rail link, and (ii) the India-Myanmar-Thailand-Hanoi rail link.

Missing rail and road links in Myanmar obstruct overland connectivity between India and Southeast Asia. Therefore, road conditions and the railway system in Myanmar need improvement and upgrading. Extension of the Trilateral Highway (TH) to Mekong countries, direct air links, completion of ongoing connectivity projects, and maritime links with Cambodia and Vietnam are some of the projects that will take cooperation between India and the Mekong countries to a new level. A better coordination mechanism between Mekong countries and India would be helpful in building cross-border connectivity.

7. Conclusions

ASEAN–India connectivity has evolved from an infrastructure agenda into a comprehensive strategy for economic integration and Indo-Pacific cooperation. Land projects such as the IMT Highway and Kaladan Corridor seek to physically connect India with Southeast Asia. Maritime connectivity underpins trade and security. Air links facilitate mobility and services integration. Digital cooperation, particularly through the 2024 ASEAN–India Digital Transformation initiative, represents the new frontier of partnership. Energy cooperation supports both security and sustainability, while trade facilitation ensures that connectivity generates measurable economic benefits.

India-ASEAN connectivity needs to evolve from facilitating bilateral trade to enabling deeper integration of regional production networks and greater economic resilience. Connectivity policies, combined with physical infrastructure development, digital integration, and institutional cooperation, can advance regulatory harmonisation.

Priority should be given to completing the India-Myanmar-Thailand Trilateral Highway, expanding maritime cooperation in the Bay of Bengal, and improving air connectivity to increase regional accessibility.

India needs to leverage its strategic geographical position in the Indo-Pacific by strengthening ties with ASEAN through an integrated port-led approach, coastal shipping, multimodal logistics, and digital platforms. Areas for cooperation between India and ASEAN include customs modernisation, digitalisation of logistics, green and smart ports, sustainable aviation, and more efficient transport systems.

ASEAN and India face common SDG targets and challenges in renewable energy. Therefore, regional cooperation can generate wider benefits through knowledge exchange, training and capacity building to address shared challenges. The development of sustainable energy solutions is imperative for enhancing cross-border energy trade. Among renewable energy sources, solar energy is a promising option, given the region's position within the highest band of average annual solar energy globally. Therefore, forging ties in the energy sector assumes critical importance in ASEAN-India relations.

Ultimately, connectivity should be viewed as a comprehensive development strategy encompassing trade, investment, tourism, services and people-to-people exchanges between India and ASEAN. A coordinated approach, involving central and state governments and cooperation with ASEAN partners, can make India-ASEAN connectivity a driver of sustainable economic growth, regional integration and supply chain resilience.

Enhancing connectivity cooperation with Southeast Asia is expected to generate substantial benefits for the Northeastern Region of India (NER). Enhanced connectivity between India's NER and Southeast Asia is also important for Bhutan and Nepal, as it could strengthen their trade linkages with ASEAN.

The central challenge facing ASEAN and India today is not the absence of connectivity initiatives but their effective implementation. If current projects are completed and accompanied by regulatory reforms, ASEAN–India connectivity can become a cornerstone of a resilient, prosperous, and multipolar Indo-Pacific order.

Endnotes

1 AIC-RIS (2016)

2 Authors' calculation based on DGCA

3 ibid.

4 ASEANstats

5 Nugraha (2020)

6 Ministry of External Affairs (MEA)

7 Consulate General of India (2026)

8 ASEANstats

9 Ministry of Civil Aviation (a)

10 Ministry of Civil Aviation (b)

11 World Trade Organization.

12 World Bank

13 Figure 4 does not map the 'other commodity' category.

14 Figure 5 does not map the 'other commodity' category.

15 Authors have obtained the value of containerized cargo in TEU by dividing the total 'other commodity' (given in terms of tonnes) unloaded and loaded by India to ASEAN by a conversion factor of 18 tonnes.

16 Lloyd's List (2025)

17 It is based on 5 components: number of transshipments required between two countries, number of direct connections common to both countries, number of common connections by country pair with one transshipment, level of competition on services that connect the countries and size of the largest ship on the weakest route

18 GlobeNewswire (2023)

19 ICPC (2023)

20 Ministry of External Affairs (2024)

21 Economic Times (2026)

22 Global Times

23 United Nations

24 World Bank (2024)

25 International Solar Alliance (2026)

26 SAARC (2014)

27 BIMSTEC

28 ASEAN (2026)

29 Parikh & Saini (2025)

30 ASEAN (2018)

31 PIB (2021)

32 Theparat (2017)

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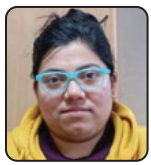
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BEF aims to serve as a dedicated platform for fostering dialogue on promoting the concept in the Indian Ocean and other regions. The forum focuses on conducting studies on the potential, prospects and challenges of blue economy; providing regular inputs 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.

Forum for Indian Science Diplomacy

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 SSC approaches for international development.

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Research and Information System for Developing Countries (RIS) is a New Delhi-based autonomous policy research institute that specialises in issues related to international economic development, trade, investment and technology. RIS 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. RIS is engaged across inter-governmental processes of several regional economic cooperation initiatives. Through its intensive network of think tanks, RIS seeks to strengthen policy coherence on international economic issues and the development partnership canvas.

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