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Towards an EU-India Indo-Pacific Connectivity Partnership for Effective Engagement with ASEAN

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Contents

‘Global Gateway’ and the Logic of an EU-India Partnership to Engage ASEAN

The Indo-Pacific region generates 60 percent of global gross domestic product (GDP) and is economically linked to Europe through transregional production networks and supply chains. Located at the geographic heart of the Indo-Pacific’s maritime trade routes, the 10 member states of the Association of Southeast Asian Nations (ASEAN) form the hub of the Indo-Pacific’s commercial connectivity architecture. With a combined 2019 GDP of USD3.2 trillion, ASEAN was the world’s fifth largest economy that year and is on track to become the fourth largest by 2030.[1] In recent years, this centrally important region is increasingly coming under China's hegemony. Having emerged as ASEAN's dominant economic partner, Beijing is leveraging the structural asymmetry in the China-ASEAN relationship to become the principal agenda-setter at the core of the Indo-Pacific's connectivity architecture.[2] This development has become a cause for alarm not only in Southeast Asia, but in other countries as well, including India and in Europe.

For the European Union (EU), China is both a crucial trading partner, and an economic competitor and systemic rival. Aiming to align with third countries for mutual benefit to offset China's influence, the EU, on 15 September 2021, launched its Global Gateway initiative—[3] a grand strategy for connectivity designed to counter China's Belt and Road Initiative (BRI). Dedicating €300 billion for 'Global Gateway' investments between 2021 and 2027,[4] the EU is placing unprecedented financial and programming resources toward commercial connectivity development in various regions around the globe.

Seen in the Global Gateway context, an EU-India Strategic Partnership holds great potential to ensure the fulfilment of Europe and India's shared vision of a free and open Indo-Pacific. India's economy is slated to be the world's third largest by 2030 and its population is projected to become the world's largest by 2027. With two coastlines located in the centre of the Indian Ocean, India can become a critically important partner for the EU as the Union seeks to balance its relations with China while securing the expansion of its engagement with ASEAN member states.

ASEAN's centrality is common to the EU's and India's respective Indo-Pacific commercial connectivity agendas. In 2020, ASEAN was the EU's 5th largest trading partner with a total bilateral volume of €189 billion.[5] Similarly, ASEAN was India's 4th largest trade partner with approximately €54 billion in total bilateral trade in 2020.[6]

In July 2020, the 15th India-European Union Summit adopted a framework document, "India-EU Strategic Partnership: A Roadmap to 2025", to guide joint action and strengthen cooperation. Reflecting the EU and India's shared view of ASEAN centrality, the roadmap specifically called on India and the EU to "enhance exchanges in the context of Asia-Europe Meeting (ASEM) and the Association of Southeast Asian Nations (ASEAN) Regional Forum on common priorities between India and the EU."[7]

This policy report seeks to contribute to this task. It makes an assessment of how areas of convergence between the EU and India can bolster effective engagement with ASEAN and enhance the EU-India relationship itself. Cooperation in a third region offers possibilities for EU-India commercial engagement that have so far eluded the EU-India bilateral relationship. While the EU is India's 3rd largest trade partner,[8] India is only the EU's 10th.[9] Europe has a far denser commercial presence in ASEAN markets than India. Amidst these and other challenges, this analysis has identified key partnership opportunities that will be mutually beneficial for EU and India in working to expand the scope of engagement with ASEAN member states.

This assessment seeks to be in consonance with the Global Gateway's priorities and the sustainable development focus of its sister program, the European Green Deal—the EU's USD1-trillion initiative for ameliorating climate change at home and abroad. Therefore, it focuses on four policy areas to enhance EU-India collaboration in fostering connectivity with ASEAN: Supply chain resilience; Green energy transition; Digitalisation; and Maritime security cooperation and capacity building. For the three commercial areas, the study has found a common approach requiring four fundamental actions for effective EU-India engagement in ASEAN. After laying out a detailed analysis of these areas, the study will proceed with an evaluation of effective approaches for EU-India maritime security cooperation and engagement with ASEAN. The study concludes with specific policy recommendations.

Policy Areas for Stronger EU-India Collaboration in Fostering Connectivity with ASEAN

1. Supply Chain Resilience: Transportation and Logistics

Several European firms, such as DHL, have significant market presence in logistics and transportation among ASEAN members. However, Europe and India both face an uphill battle in preventing China's attempts to dominate ASEAN's ports and rail infrastructure and enforce compliance with

Chinese technical standards for Southeast Asian multi-modal commercial transit corridors. The China-Laos Railway, the first link in a 3,000-km Kunming-to-Singapore Pan-Asian Railway Network, is one of the first international railways in the world to exclusively use Chinese technical standards.[10]

To meet this challenge, Europe will need to think differently. In particular, the EU and therefore the EU-Indian partnership, need to be circumspect about trade facilitation that does not enhance entry to ASEAN markets. The ARISE Plus initiative (2017-2022),[11] successor to the 2013-2016 ASEAN Regional Integration Support from the European Union (ARISE) programme, an EU-led trade facilitation initiative,[12] serves as a cautionary tale. As part of its USD48-million ASEAN economic integration program, the EU's ARISE Plus created the ASEAN Customs Transit System (ACTS), a "computerised customs transit system available to operators who move goods across borders without paying the necessary duties and taxes otherwise required when goods either enter or leave an ASEAN member state."[13] The goal of this system is to increase efficiency and reduce cost for those looking to make a single electronic goods declaration rather than a series of individual ones at each border crossing between ASEAN member states.[14]

Although still overcoming early-stage difficulties,[15] the establishment of the ACTS system was a diplomatic and programming feat for the European Union. Despite ASEAN's need for such a system, a larger question remains as to whether the Union should be investing financial and programming resources in such initiatives; and if it should, to what extent. The Global Gateway's objectives require the Union to change decades of entrenched thinking and adopt a strategic logic appropriate for the Global Gateway's objectives. The ACTS program is typical of an older EU approach that focuses on achieving infrastructure improvement at considerable effort through standardisation and regulatory compliance, but whose importance remains completely unrecognised by the general populace the EU is seeking to help. It is therefore a public diplomacy non-starter, providing no benefit for European market entry.

Moreover, when conducted in the absence of concurrent efforts to promote European business operations in these local markets, such improvement initiatives simply pave the way for the Union's economic rivals to establish business operations that utilise the benefits from European standardisation programmes.

When European Commission President Ursula von der Leyen announced the launch of the Global Gateway initiative in her September 2021 State of the Union address, she rebuked the ill-conceived logic of such an approach. Alluding to these shortcomings also seen in the Union's approach to Africa, Von declared: "It does not make sense for Europe to build a perfect road between a Chinese-owned copper mine and a Chinese-owned harbour." She added, "We have to get smarter when it comes these kinds of investments."[16]

Europe already has examples of smarter approaches in Southeast Asia from its member states that need to be scaled up to the level of the European Union. For example, the APM Terminals subsidiary of Denmark's APM Maersk, a global leader in shipping, supply chain management, and port operation, operates container terminals at three major ports in Southeast Asia. The company operates the Port of Tanjung Pelepas, Malaysia's most advanced container terminal, as a 30-percent shareholder in a joint venture with Malaysia's MMC group.[17] APM also operates the main terminal at Thailand's Laem Chabang port, a centre for the country's export-oriented industries and the key point of entry for container traffic, as a 35-percent stakeholder with two Thai entities.[18] Additionally, the company operates Vietnam's Cai Mep International Terminal (CMIT) as 49-percent shareholder in a joint venture with Vietnamese entities.[19] Located 50 km southeast of Vietnam's commercial hub, Ho Chi Minh City, CMIT is the only terminal in Vietnam and one of the few in Southeast Asia capable of accommodating vessels larger than 18,000 twenty-foot equivalent units (TEU).

Danish success in Southeast Asia extends beyond APM Terminals' operations. The Port of Penang, Malaysia's third busiest port, operated by MMC Group, is another case in point. In 2021, Portchain, a Denmark-based artificial intelligence (AI) firm that specialises in quayside optimisation solutions, partnered with the Port of Penang to improve berth planning at the North Butterworth Container Terminal. Digitising the planning process, Portchain's system analyses key performance indicators to determine the most cost-effective plan and respond to new customer information. Using AI, Portchain assists in the automation of resource allocation for all vessels simultaneously to enable optimisation that can increase capacity or reduce operational costs.[20]

The success of APM Terminals, Portchain, and other Danish maritime services firms in Southeast Asia derives in part from the Danish government's "Blue Denmark" strategy in which public-private partnerships empower Danish firms to be more nimble in responding to market opportunities.[21] A particularly important role is played by the Danish Trade Council, which identifies an export opportunity and facilitates cross-sectoral cooperation among Danish firms to promote the sale of an integrated, turnkey solution for that export opportunity.[22] For example, Denmark's LINAK is a global leader in the production of electric linear actuators—devices that convert the rotational motion of motors into precision-controlled straight push/pull movements such as those required for port container cranes. With the help of the Danish Trade council, LINAK opened a 12,000 m^2 factory and distribution centre in Thailand in 2021.[23] This model should be scaled-up to the EU-level to facilitate cross-member state cooperation and to promote cooperation with Indian firms and Indian investment capital.

ASEAN will need to develop significantly bigger port capacity as it seeks to emerge as an alternative manufacturing hub to China. To ensure supply chain resilience through increased production among the ASEAN member states, Southeast Asia's ports will require an additional capacity of at least 40 million TEU at an estimated cost of USD13 billion.[24] New port construction, port expansion, digitisation, and automation will all form part of the efforts to achieve that capacity expansion, creating tremendous opportunities for European and Indian firms in Southeast Asia. For Europe and India, it is also a rare strategic opportunity to play a lead role in configuring the emerging connectivity architecture in Southeast Asia. To play that role, the EU and India should form a comprehensive joint investment partnership to reduce price gaps and outbid China in this critical infrastructure development.

A precedent for such an India-EU partnership already exists in the close cooperation between India and the UAE in the realm of supply chain resilience and could serve as a model for India-EU cooperation in Southeast Asia. The Dubai-based global leader in cargo logistics and port operations, DP World, formed a USD3-billion ports and logistics investment platform with NIIF called Hindustan Infralog Private Limited (HIPL).[25] DP World, with a 65-percent stake, is the lead shareholder in the HIPL infrastructure and logistics investment platform while NIIF holds the remaining 35 percent. HIPL acquired a USD400-million controlling stake in Continental Warehousing Corporation, a leading multi-modal logistics company with a presence across India.[26] DP World subsequently began constructing 93,000 sq m of covered storage and state-of-the-art cargo handling facilities five km from Mumbai's Jawaharlal Nehru Port (JNPT) to transform JNPT into a prime export hub for international value chain integration.[27] Applying the HIPL example to joint investments in ASEAN logistics, an EU-India partnership could create similar new facilities in Southeast Asia. Offering an alternate architecture for ASEAN connectivity, developing new logistics capacity in ASEAN can be conducted in tandem with similar capacity development at India's ports. The EU could engage with India along similar lines as HIPL concerning capacity expansion at India's Bay of Bengal ports, in line with New Delhi's Sagarmala domestic port capacity expansion programme.[28]

For New Delhi, cooperation with Europe in Myanmar and Thailand are strategically important as these two Southeast Asian nations have coastlines on the Bay of Bengal and present China with the opportunity to create direct overland connectivity from Chinese territory to the Indian Ocean. In January 2022, the Thai government formed a working panel to coordinate with transport authorities in Laos on plans to build an 873-km line linking Bangkok to the Laotian capital Vientiane.[29] The new Thailand-Laos rail link constitutes the critical rail interconnection with the China-Laos Railway by which China forms the Pan-Asian Railway network.

India is a member of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), composed of the five littoral states of the Bay of Bengal along with Nepal and Bhutan. As such, New Delhi is positioned to facilitate joint India-Europe commercial outreach affecting the western coast of mainland Southeast Asia. To more effectively compete with China through BIMSTEC, India should promote greater cooperation between BIMSTEC and the EU. However, given BIMSTEC's internal consensus-building dynamics, the EU-India partnership should act in a coordinated manner in Myanmar, and particularly in Thailand, both within and outside of the BIMSTEC framework.

2. Green Energy Transition: Joint Venture Production and Innovative Technologies

Green energy transition presents significant opportunities for Europe-India cooperation, both in India's own domestic market as well as in Southeast Asia. In the 15th India-European Summit in July 2020, the leaders endorsed "India-EU Strategic Partnership: A Roadmap to 2025" as a blueprint for strengthening future avenues. The common goals focused on security, prosperity, and sustainable development and broad themes included the focus towards a connection incorporating cooperation for a greener, cleaner and sustainable future.[30] Further, the EU-India's Leader's Meeting held in May 2021 (16th India- European Summit) again brought careful attention to address the problem of climate change and the subsequent need for actions concerning the deployment of renewable energy, efficient use of energy and a need for a step towards smart (electricity) grid, storage technology with the modernisation of the electricity market under the 2016 project of Clean Energy and Climate Partnership.[31]

In 2018, India joined hands with the International Solar Alliance for which European Investment Bank has assisted with financial loans. India has also initiated its discussion on the creation of the EU-India Green Hydrogen Forum for the next EU-India Energy Panel in 2022.[32] Some of the European companies working on the lines of sustainability include Startkraft, Enel Green Power (Renewable Energy Corporations), and Eaton (Engineering, Power Management); meanwhile, the Indian companies operating in Europe include Suzlon Energy (wind turbine manufacturer), and Acme Solar (aiming to produce green hydrogen in India and Europe with Lhyfe Labs SAS of France[33]). Companies like Tata Power (India) are working in partnership with SN Power[34] (Norway) to set up hydropower projects in India and IUCN (Switzerland) for the conservation of biodiversity.[35]

As with logistics, the EU and India are facing a strategic imperative to prevent Chinese firms and Chinese technical standards to dominate Southeast Asia's energy transition, including both clean energy power generation and the adoption of carbon-free mobility. Under the ASEAN Plan of Action for Energy Cooperation, each ASEAN member state has pledged that 35 percent of its national installed capacity for generation will utilise renewable energy sources by 2025.[36] With power generation across Southeast Asia still dominated by coal, natural gas, and fuel oil, ASEAN member states will need to invest in a considerable number of new renewable energy projects.

Two European wind power firms, the German-Spanish company Siemens Gamesa and Denmark's Vestas, have installed wind farms in key ASEAN markets such as Vietnam, Indonesia, the Philippines, and Thailand. Both firms have production subsidiaries in India—Siemens Gamesa's manufacturing facilities located in Nellore, Andhra Pradesh and India's Bay of Bengal port of Chennai, Tamil Nadu.[37] Vestas maintains its factories in Ahmedabad on India's west coast, and in Chennai.[38] Owing to public-private partnerships and Denmark's nimble trade diplomacy, India enjoys a far more robust relationship with Denmark's wind sector as part of the India-Denmark Green Strategic Partnership. Agreed to by the prime ministers of the two countries in September 2020,[39] the Green Strategic Partnership also has the explicitly stated objective to ensure that green energy supply chains do not become overdependent on China.[40] As part of the partnership's 2020-2025 action plan, India and Denmark launched the 'Centre of Excellence on Offshore Wind' in September 2021, aimed at helping India's Ministry of New and Renewable Energy to meet its target of adding 30 GW offshore wind power capacity by 2030.[41] Denmark is contemplating investing in the construction of an offshore floating wind farm in the Gulf of Mannar, off the coast of Tamil Nadu and across from Sri Lanka.[42]

Through its Green Strategic Partnership with India, Denmark became the first cold-climate country to join India's Solar Alliance.[43] In June 2021, Denmark took a 39-percent investment stake in a 250 MW photo-voltaic (PV) solar power facility in Rajasthan. The investment in the €150-million plant was conducted through Denmark's state-owned IFU development investment fund, which is ultimately backed by the Danish government, large local pension funds, and other private investors.[44] The India-Denmark Green Strategic Partnership also extends to a variety of green technologies and involving other centres of excellence.[45] Besides this, both (India and ASEAN) developing economies are persistently putting efforts in achieving their SDG goals by 2030 and have given priority to creating capacity for renewable energy under ASEAN-India energy cooperation. The latter has included steps concerning the promotion of clean energy technologies and taking a collective step towards creating private and public sector investment opportunities.[46] India has also expressed its interest in utilising Myanmar's potential in hydropower projects and has been investing in the ASEAN region for their energy infrastructure, particularly in the CLMV countries concerning hydropower projects, power transmission lines and substations and oil and gas pipelines. The ASEAN Centre for Energy (ACE) and the India Smart Grid Forum (ISGF) have signed a Memorandum of Understanding on 19th April 2021 with one of the motives being "faster implementation of smart grids, electric mobility and renewable energy system projects."[47] Companies from ASEAN like ACEN (Philippines) hold projects in India as well for solar power. Besides, Cleantech Solar (Singapore) have also opened some scale of solar projects in India[48] at a factory of Appolo Tyres, Oragadam; Sangam's Textile factory, Rajasthan; Kerry Ingredients, Haryana.

The European Union should implement a version of Denmark's Green Strategic Partnership to create cross-member state consortiums in wind, solar, and other green energy technologies and similar centres of excellence, which could also serve as platforms for Europe-India engagement with ASEAN member states. While Europe has largely tended to focus on turnkey projects in Southeast Asia and the Indo-Pacific, there is a strategic need to ensure that China does not dominate the supply of components to green energy systems.

An EU-level Green Strategic Partnership with India should also focus on ensuring an alternative supply of solar panels. China is the largest supplier of PV solar panels across Southeast Asia. In Vietnam, often touted as ASEAN's 'solar success story' with the region's largest solar power capacity, over 95 percent of its solar PV panels were supplied by China.[50] Chinese firm Risen Energy has invested USD 10.1 billion to expand its solar production in Malaysia for distribution across the ASEAN region.[51] Similarly, in Thailand, various Chinese solar panel producers have opened or expanded their manufacturing operations.[52] Through a Union-level Green Strategic Partnership with India, European consortiums could invest in India's leading PV solar panel manufacturers Adani, Vikram, and Waaree to expand their respective operations both in India and Southeast Asia.

Electric Vehicles, Batteries, and Charging Infrastructure

Electric Vehicle (EV) manufacturing represents one of the greatest missed opportunities by Europe to cooperate with India in the field of green energy transition. The European Green Deal's July 2021 'Fit for 55' package aims to help the EU to achieve a 55-percent reduction in carbon emissions by 2030.[53] It calls on the European Commission to ensure that, by 2035, all new cars sold in the Union have zero tailpipe emissions.[54] India has also set its own goal for at least 65 percent of all new vehicle sales to be electric by 2030.[55] India, therefore, is a natural partner for the EU's ambition to promote carbon-free mobility globally, especially since India is expected to become the world's third-largest automotive market as early as 2026 with passenger car sales reaching at least USD32 billion.[56] India's large automakers like Maruti Suzuki,[57] Tata, and Mahindra[58] as well as smaller competitors, are all racing to develop cost-effective, domestic EV manufacturing. The sector thus represents a key investment partnership opportunity for Europe.

Indeed, the currently minimal European investment in India's EV manufacturing sector represents a strategic gap with regards to Southeast Asian commercial connectivity. This is because China is seeking to expand its share in ASEAN's EV markets to make Chinese technical standards for EVs, EV batteries, and EV charging points the dominant norms across Southeast Asia. With Indian auto manufacturers possessing market share in ASEAN markets, facilitating European investment partnerships in Indian EV manufacturing and marketing in Southeast Asia has become a strategic imperative.

In October 2021, Tata Motors announced[59] that it would create a new EV manufacturing subsidiary using a USD1-billion co-investment from the American fund TPG Rise Climate[60] and the Emirati holding company ADQ.[61] TPG Rise Climate and ADQ will receive an 11- to 15-percent stake in the new company equivalent to an equity valuation of USD9.1 billion. Tata plans for its new subsidiary to create 10 EV models by 2027 and work with Tata Power's growing network of over 1,000 public EV charging points[62] to promote rapid EV adoption in India.[63] Tata is also looking beyond the Indian domestic market to Southeast Asia and seeking to use its already established market presence in Indonesia, Malaysia, Myanmar, the Philippines, and Vietnam, to capture significant shares of the emerging EV markets in these countries.

The European Union similarly is not utilising the opportunity to invest in joint venture partnerships with India for EV battery production. In addition to the Indian market, India's top battery manufacturer Exide Industries and its close second Amara Raja Batteries already have significant market share in Southeast Asia. Each is looking to develop its Lithium-Ion battery production with an eye on both Indian and ASEAN EV battery markets. Exide formed an EV battery joint venture with non-EU member Switzerland's Leclanché, a global leader in energy storage solutions based on lithium-ion cell technology. In December 2021, the joint venture announced that it is establishing a multi-gigawatt lithium-ion cell manufacturing plant in India.[64]

Amara Raja Batteries, the second largest player in the Indian market, is also one of the leading market players in lead-acid car batteries in Southeast Asia. In Singapore, one of every three cars on the road uses their batteries.[65] The company is investing USD 1 billion into developing lithium-ion EV batteries to maintain its position in the Indian and overseas markets. To this end, Amara Raja invested €10 million in Slovakian-based EV battery research and development group Inobat.[66] However, European investment in joint venture production in India to service both the domestic and ASEAN markets remains unrealised.

Disruptive technologies and start-ups are also playing an important role in advancing EV production and adoption worldwide.[67] For example, India's efforts to produce lithium-ion batteries domestically are being hampered by the prohibitive cost of importing relatively rare lithium, whose cost tripled in the period just from 2017 to 2020. India, being the world's second-largest producer of primary aluminium and possessing ample bauxite reserves,[68] may be better served by using alternative aluminium-based battery technology. In March 2021, state-owned IndianOil launched a joint venture with Israeli start-up, Phinenergy, which has been developing metal-air technology for clean and high energy-density battery systems.[69] The joint venture, IOC Phinenergy Ltd, will develop and mass manufacture aluminium-air batteries, particularly with an eye on the emerging EV market. The joint venture has already signed letters of intent with Maruti Suzuki, India's largest automotive manufacturer and Ashok Leyland, India's leading bus manufacturer.

The EU's Innovation Partnership Gap with India

The lack of commercial investment in disruptive green energy technologies reflects a larger delivery deficit on the part of the EU and European firms to engage India's innovation ecosystem. India's International Centre for Entrepreneurship and Technology, inaugurated in January 2018 and commonly known as iCreate, was established with advice and support from the Israel Innovation Authority and other stakeholders in Israel's innovation ecosystem.[70] Israel and India further enhanced their engagement in September 2020 when iCreate and Israel's Start-Up Nation Central signed a memorandum of understanding (MoU) to create a bilateral programme to accelerate innovation and technology cooperation between start-ups and corporations from the two countries.[71]

The example of an Israeli-Indian partnership developing and manufacturing solar-powered irrigation systems is instructive for an EU-level Green Energy Partnership with India. Israel and India are embarking on the joint manufacturing of solar-powered pumping and irrigation systems that provide green energy solutions to help India boost its food production. The joint venture partnership between India's agri-tech start-up, Vyoda, and Israeli start-up, Agrosolar Irrigating Systems, was facilitated in 2018 by financing from the India-Israel Industrial R&D and Technological Innovation Fund (I4F), itself a joint project of the Indian government's Department of Science and Technology and Israel's Innovation Authority.[72] Agrosolar previously developed an off-grid solar pumping and irrigation system to allow farmers with small holdings to irrigate one-two-hectare farms during dry season conditions. Vyoda, a subsidiary company of Indian conglomerate NR Group, opened a research and development facility in Tel Aviv to utilise Israeli expertise in agricultural and start-up product development.[73] In 2020, the two companies manufactured 50 pilot units, several of which have been installed at farms in Karnataka.[74] Vyoda is slated to soon begin mass production of the systems in a new production plant in Mysuru for sale in India and Southeast Asian markets.

Joint venture partnerships and closing project price gaps should be two priorities for an EU-India green energy partnership. The renewable energy divisions of several Indian conglomerates are seeking to expand their overseas operations. Hero Future Energy (HFE), the renewable energy division of India's Hero Group is targeting about 25 percent of its growth to be in international markets.[75] Europe has potential partners in India's green energy sector and needs to be proactive about engaging them.

3. Digitalisation: Internet of Things, Fintech, and AI

ASEAN's digital infrastructure is playing a critical role in shaping the commercial connectivity architecture of Southeast Asia. At the core of this development are the cellular networks, mobile phone services, and digital financial services on which they operate. The latter is the most significant as next-generation consumer products and services developed through the Internet of Things (IoT) depend on mobile banking and digital financial services. Through China's outsized presence in ASEAN's digital payment platforms sector, Beijing is developing a growing capability to orient Southeast Asia's consumer markets toward a Chinese-directed commercial connectivity architecture.

By 2025, more than 80 percent of internet connections in the Indo-Pacific will be via smartphones. Malaysia will lead the region with 92 percent of its connections being via smartphones,[76] while the rates for Thailand, Indonesia, the Philippines, Vietnam, and Myanmar will all be at least 85 percent.[77] Commercial activity based on mobile banking and digital payment services has produced a digital economic boom in the Indo-Pacific. In 2020, the mobile-phone sector, including indirect and productivity benefits, accounted for over USD750 billion of economic value added across the region. By 2025, the increasingly rapid adoption of mobile banking and digital financing services will contribute an additional economic value added of USD110 billion for a total of USD860 billion.[78]

These figures will likely increase further with the wider diffusion of 5G broadband cellular networks that offer data speeds up to 100 times faster than 4G[79] and can support up to 1 million connected devices per sq km, compared to 100,000 for 4G.[80] The Indo-Pacific's adoption of 5G networks will herald the widespread development of the Internet of Things and IoT-based cross-industry applications for the delivery of products and services. Of the estimated USD219 billion of capital expenditure in the

Indo-Pacific's mobile communications sector between 2021 and 2025, nearly 75 percent or USD162 billion will be spent on 5G rollouts.[81] China's Huawei, Sweden's Ericsson, and Finland's Nokia are the main network providers. The region's main mobile service providers are primarily local. A notable exception is Norway's majority state-owned telecommunications firm Telenor, which was an early entrant into Southeast Asia's market. As a result, Telenor's Dtac subsidiary holds a 20-percent market share in Thailand,[82] while its Malaysian subsidiary DigiMobile holds a 24-percent market share.[83]

ASEAN's mobile banking and digital payments sector is experiencing explosive growth. In 2022, the transaction value of Singapore's mobile payments alone is expected reach USD15.9 billion.[84] With an expected CAGR growth of 20.93 percent, the total transaction value for 2025 mobile payments is expected to reach USD28.1 billion. In Thailand, the transaction value of mobile payments is USD10.6 billion and projected to reach USD36.7 billion by 2025.[85] Similar figures are being seen across several other ASEAN nations.

At the same time, China's influence over ASEAN's digital financial services sector has become a cause for concern. Most Singaporeans use the PayLah digital payment platform from the Singapore's state-owned DBS bank, the largest bank in Southeast Asia. However, Huawei's digital payment platform Huawei Pay has made inroads into Singapore's digital payment sector through Huawei's P40 phone handset, which is the country's second most popular mobile phone.[86]

In Malaysia, 14.2 million[87] of the country's approximately 16 million e-wallet users,[88] are on the Touch n' Go platform owned by AliPay, a subsidiary of Chinese e-commerce giant Alibaba. In 2013, AliPay had already surpassed PayPal as the world's largest mobile payments platform.[89] In Indonesia, ASEAN's fastest growing telecommunications market, the mobile payment platform Dana owned by AliPay and using AliCloud is the second most popular e-wallet with 13.5 million users.[90] Likewise, the Philippines's GCash platform, the country's largest with 50-percent market share is a joint venture between the Philippines's largest mobile services provider and the Ant Group subsidiary of Alibaba.[91]

India is the world's second-largest telecommunications market with a subscriber base of 1.16 billion and similarly is an essential partner for Europe in promoting digital sovereignty and security across the Indo-Pacific as well as for levelling the business playing field with state-backed Chinese firms to ensure fair access to the IoT as ASEAN transitions to 5G networks. In 2021, at the 13th EU-India Joint Information and Communications Technology (ICT) working group, the two partners again pledged to deepen their cooperation.[92] To realise this objective, the EU has recently sought to work with India on 5G standardisation as a means to counter China's growing influence in the sector. European firms have also become increasingly active in the region with Ericsson successfully showcasing the first-ever 5G demonstration in India. As India prepares to auction 5G licenses in the third quarter of 2022, Ericsson appears well-poised to obtain a dominant role in the market, owing to Ericsson India's large presence in the country.[93] Ericsson has recently partnered with Indian telecommunications giant Bharti Airtel to conduct the first rural 5G demonstration in India.

The EU and India need to prioritise the development of the IoT whereby a coordinating platform can bring together appropriate private-sector stakeholders from Europe such as Ericsson's IoT accelerator and their Indian counterparts to facilitate business development. Although Norway is not an EU member, its Telenor should also participate in the coordination process, given the company's significant presence in Southeast Asian mobile markets as well as the successful collaboration between its IoT subsidiary Telenor Connexion and Ericsson's IoT accelerator in Africa.[94]

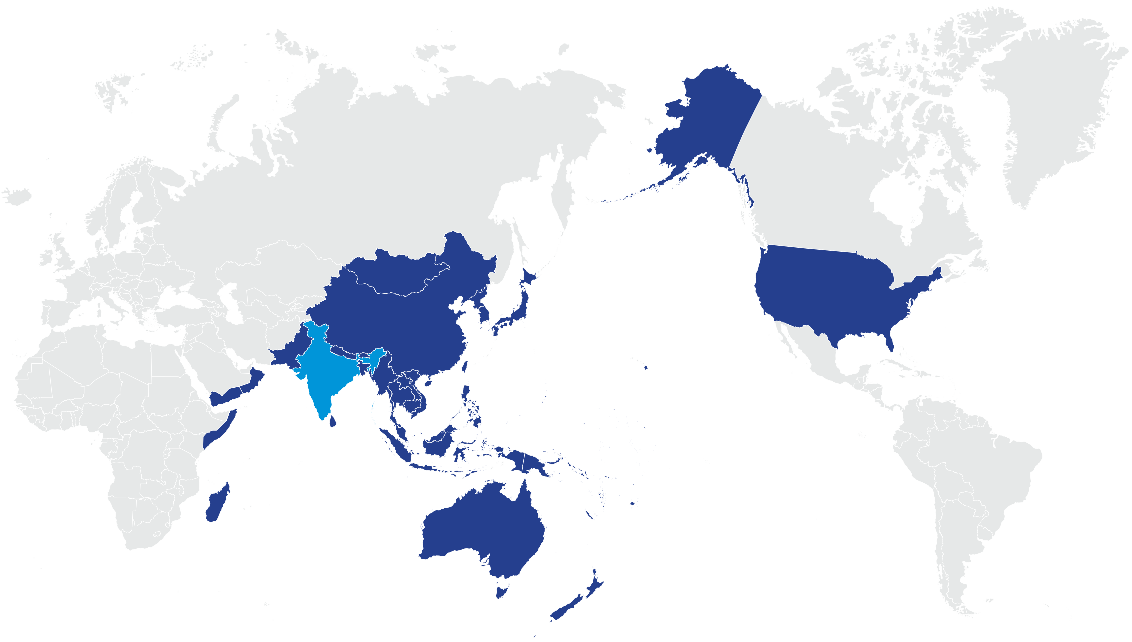
Artificial Intelligence

As the prior discussion on digitisation and the use of AI at the Port of Penang illustrated, the transportation infrastructure and digital infrastructure are becoming inextricably interlinked. Automation using AI will become a more crucial element of the digital economy and the IoT. Under provision 84 of the aforementioned EU-India Strategic Partnership Roadmap, the EU and India have committed to "work together to share knowledge and expertise regarding artificial intelligence, scientific support to policies and regulatory aspects including ethics, and promote a dialogue in research and innovation."[95] The EU's approach to India has been rather lacklustre in AI cooperation compared to India's partners in West Asia. In 2017, Indian conglomerate Wipro Ltd entered into a joint venture partnership with RAMOT, Tel Aviv University's incubator and private sector technology transfer platform, to develop new AI technologies.[96] One year later, the Indian Ministry of Commerce and Industry's InvestIndia signed an agreement with the UAE's Ministry for Artificial Intelligence to create an India-UAE Artificial Intelligence Working Committee tasked with meeting annually to invest in AI start-ups and research, in partnership with private sector entities.[97]

4. Effective EU-India Engagement in Maritime Security

The Indo-Pacific region is currently the centre of gravity of great-power competition.[98] Stability in the region is being challenged not only by the growing systematic competition between the United States and China, but also the increasing tensions between the two Asian giants, China and India. Furthermore, the general security situation in the Indo-Pacific – which the EU defines as covering the region from the east coast of Africa to the Pacific Island states[99] – is shaped by maritime and land disputes as well as international and domestic crises.[100] From the EU's security perspective, the Indo-Pacific maritime security domain is of growing importance in geopolitical and geoeconomic terms.[101] The priority given by the EU to maritime security stems from the fact that 90 percent of trade between Europe and East Asia passes through the Indian Ocean sea lanes.[102] Around 30 percent of trade between Asia and Europe passes through the South China Sea.[103] The Indo-Pacific maritime axis is thus "Europe's highway into the 21st century."[104] India has emerged as a willing and capable nation in the region keen to broaden the horizons of its engagement. For both the EU and India, the relevance of Indo-Pacific is linked with the narrative of ensuring a free and open, rules-based order comprising freedom of navigation, open and secure sea lines of communication, enhanced security of shipping, and strengthened response systems to natural disasters and non-traditional security threats. In this regard, the two have demonstrated a history of cooperation over the issue of maritime security and the framing of laws governing the freedom of navigation. The following section examines EU-India maritime security cooperation in terms of potential synergies in the field of connectivity in their relations with ASEAN.

The limits of the EU's engagement in maritime security in the Indian Ocean are operational, geographical, and geopolitical.[105] In this respect, India occupies a central place in the EU's approach to the region. Both underline the importance of free and open maritime routes, underpinned by international maritime law, and reinforced by capacity building. While the EU's priorities are mainly limited to the Western Indian Ocean and east coast of Africa, India offers a broader range of maritime projects in the Indo-Pacific that could expand the focus of EU initiatives.



A key incentive for EU-India cooperation is that some of the most important global chokepoints are crucial for their energy supplies and trade flows: the Strait of Malacca connecting the Indian Ocean to the South China Sea, the Strait of Bab-el-Mandeb between the Indian Ocean and the Mediterranean Sea via the Red Sea and the Suez Canal, as well as the Strait of Hormuz in the Persian Gulf. The EU and India also share a long-term interest in maintaining the security of transport routes and promoting free and open navigation through the Indian Ocean. Given China's growing presence in the Indian Ocean Region (IOR), New Delhi is aware of the need to enhance its outreach in key maritime trade and connectivity regions in the Asia-Africa Corridor.[106] In addition, the EU initiated the concept of a coordinated maritime presence in 2019,[107] which is a mechanism for coordinating maritime operations between member states in key geographical areas. This is one way in which the EU can maintain various multilateral and bilateral formats of maritime security cooperation with India, but also use them as avenues for cooperation with third actors. The EU extended the implementation of the Coordinated Maritime Presences (CMP) concept in the case of the Gulf of Guinea for two years and launched CMP concept in the North-Western Indian Ocean,[108] "covering the maritime area from the Strait of Hormuz to the Southern Tropic and from the North of the Red Sea towards the centre of the Indian Ocean."[108] There is an existing coordination cell in Brussels that collects and exchanges information with coastal states, including India.

The EU Maritime Security Actions in ASEAN

ASEAN is one of the EU's most important strategic partners in the Indo-Pacific region. Their relationship was upgraded to a strategic partnership in 2020; in 2022, they will mark the 45th anniversary of their bilateral relations. In the maritime domain, EU-ASEAN cooperation focuses mainly on transnational maritime security threats and the impacts of pollution and climate change. Among the joint priorities, hard security issues occupy a central position, including maritime security, cyber security, and counterterrorism.[109] The EU is a founding member of the ASEAN Regional Forum (ARF) which aims to promote dialogue and consultation rounds through confidence-building measures (CBMs) and preventive diplomacy (PD) as well as mediation skills.[110] The EU co-chaired the 2018-2021 inter-sessional meetings on maritime security with Vietnam and Australia to enhance cooperation among maritime law enforcement agencies in implementing the UN Convention on the Law of the Sea (UNCLOS) and other legal instruments. The centrality of UNCLOS in addressing maritime challenges is of key importance to ASEAN. In this context, the EU and India could further deepen cooperation between maritime law enforcement authorities with and within ASEAN and promote the peaceful settlement of disputes in the South China Sea. The EU supports the ruling at The Hague upholding the Philippines's claim to the Spratly Islands and stands with India in opposing China's unilateral actions in the region.[111] A code of conduct based on a shared vision and concept for the Indo-Pacific could be seen as a long-term goal in this domain. A scenario in which a single state infringes free navigation in the South China Sea by restricting the passage of ships should be vehemently opposed by the EU and India in cooperation with ASEAN.

Another appropriate format is the ASEAN-EU High-Level Dialogue on Maritime Security Cooperation.[112] This is a useful platform for the regular exchange of views, best practices, and know-how on maritime safety.[113]

Moreover, EU-India cooperation under CRIMARIO I and II addresses the issue of critical sea lanes in the Indian Ocean and Southeast Asia in regular contact with countries such as India, Brunei, the Maldives, Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, Singapore, Sri Lanka, Thailand, and Vietnam.[114]

Maritime Domain Awareness (MDA),[115] based on information sharing and connectivity, is of immense importance as it enables the EU and India to identify maritime security threats and develop strategies to respond to them in real time. In this context, France stationed a liaison officer at India's Information Fusion Centre in Gurugram.[116] The Second India-EU Maritime Security Dialogue in 2022 emphasised intensifying cooperation in areas such as "maritime domain awareness, capacity building and joint naval activities" following the successful joint naval exercise in the Gulf of Aden in June 2021."[117] In terms of connectivity, the EU seeks to capitalise on its strengths as an "economic and development superpower" and overcome its weaknesses, such as "security-blind and short-sighted investment practices."[118] Brussels could facilitate the improvement of India's MDA for the entire Indo-Pacific region by encouraging the progress of required technical know-how while making itself an attractive partner for ASEAN.

The EU has also stepped up its activities under the Enhancing Security Cooperation in and with Asia (ESIWA) programme,[119] which covers maritime security, cyber security, counterterrorism, and crisis management. Here the EU cooperates with India, and also with Japan, South Korea, Indonesia, Singapore, and Vietnam. Indo-Pacific partners are invited to contribute to Common Security and Defence Policy (CSDP) missions and operations, while EU military experts are stationed in Indonesia and Vietnam. So far, several framework agreements on participation have been concluded with Australia, the Republic of Korea, New Zealand, and Vietnam.

The EU's security initiatives are predominantly based in the Western Indian Ocean and are best known through EUNAVFOR's Operation Atalanta[120] and EUCAP Somalia.[121] Atalanta is a key example of the EU's inclusive approach to maritime security, which is a guiding principle for the EU's efforts in the ARF region.[122] The EU has already conducted joint naval activities with

India in this regard. In addition, India and the EU can cooperate in capacity building and maritime training programs for ASEAN countries such as Vietnam, Indonesia, and the Philippines.

The EU can also become part of the Indian Ocean Rim Association (IORA)[123] and together with India explore the pillar of marine ecology within the maritime security domain. France, a member of IORA, could build on synergies with India along with ASEAN countries, e.g., Indonesia, to carve out actionable policy initiatives for dealing with issues such as the dumping of plastic debris in the Indian Ocean, as well as the protection and preservation of marine resources. France chaired the Indian Ocean Naval Symposium (IONS)[124] in 2021.

A final important synergy relates to port security and maritime safety in eastern and southern Africa and the Indian Ocean, with the prospect of expansion to ASEAN. Having initiated the Global Gateway,[125] the EU can focus on the potential investments in port development in India, especially key ports that are being upgraded under India's Sagar initiative[126] and thus have direct links to ports in ASEAN.

Figure 1: Main EU Maritime Security Actions[127]

Main EU Maritime Security Actions in Asia

EU-Vietnam-Australia co-chairmanship of ASEAN Regional Forum Inter-sessional Meeting on Maritime Security
2017-2021 Enhancing Cooperation between Maritime Law Enforcement Agencies Implementing UNCLOS and other Legal Instruments
27 ASEAN Regional Forum Participants

EU-ASEAN High Level Dialogue on Maritime Security Cooperation
2013 ongoing Maritime security
Brunei, Cambodia, Indonesia, Malaysia, Singapore, Thailand, Laos, Myanmar, Philippines, Vietnam

CRIMARIO I and II - Critical Maritime Routes - Indian Ocean and Southeast Asia
2015-2024 Maritime security and maritime domain awareness
Brunei, Cambodia, India, Indonesia, Malaysia, Maldives, Myanmar, Philippines, Singapore, Sri Lanka, Thailand, Vietnam

ESIWA Enhancing Security Cooperation in and with Asia
2020-2024 Maritime Security, Cyber security, Terrorism, Crisis management
India, Indonesia, Japan, Singapore, South Korea, Vietnam

EU NAVFOR - Operation ATALANTA
2008 ongoing Maritime security and countering piracy
Western Indian Ocean

MASE - Promoting maritime governance through regional centres
2019- 2022 Maritime governance and capacity building
Comoros, Djibouti, Kenya, Madagascar, Mauritius, Seychelles

Port Security and Safety of Navigation in Eastern and Southern Africa and the Indian Ocean
2020-2024 Port security and Maritime safety
Angola, Comoros, Kenya, Madagascar, Mauritius, Mozambique, Namibia, Seychelles and Tanzania

Looking ahead
Main areas of work

- Traditional maritime security issues, such as freedom of navigation, dispute management and the fight against piracy
- Emerging challenges such as climate change
- Linkages between ocean warming, sea level rise, the environment and maritime security
- Deepening connections with information-sharing centers and ReCAAP (Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia)
- Improving local and regional Maritime Domain Awareness solutions

Report on the implementation of the EUMSS Action Plan

Stability in the Indo-Pacific region is closely linked to European security. Active engagement and growing investment in maritime security in the Indo-Pacific is necessary to ensure the security of supply chains and enable free flows of trade, energy, and services within these regional networks. This requires the intensification of national efforts by the member states to geostrategically recalibrate their common interests, objectives, and policies in the Indo-Pacific region. The EU and its member states should not be side-lined in the Indo-Pacific security debate but should actively engage in the process of diversifying their partnerships in the region by taking advantage of India's intensified relationship with ASEAN. The strategic triad of effective law of the sea enforcement combined with enhanced maritime capacity building and joint maritime governance, should be promoted through closer EU-India coordination towards ASEAN.

In conclusion, the EU and India will benefit from a strategic reassessment of their common interests, objectives, and priorities with a view to deepening their mutual relations with ASEAN in the field of maritime security. They could develop a coherent narrative for concrete joint action based on a long-term vision of engagement through "a third way," taking "their own side" in the ongoing processes and developments rather than being caught in a systematic competition between the US and China in the Indo-Pacific. Without a solid, stable, and effective EU-India partnership that aims to engage with ASEAN on maritime security, it will be increasingly difficult to shape global affairs in the future.

Recommendations

A. Four Fundamental Recommendations for Effective EU-India Commercial Engagement in ASEAN

The study finds that the EU can leverage deeper cooperation with India to expand the scope of the Union's engagement with ASEAN member states and level the playing field against government backed Chinese enterprises. In terms of commercial cooperation, an EU-India connectivity partnership in ASEAN should involve four fundamental actions.

1. Coordinate across boundaries of EU member states and economic sectors to partner with India.

Individual European firms compete piecemeal against Beijing's ability to bundle Chinese firms from different sectors to form a single investment package that can complete all aspects of any project tendered. Europe can better offer competitive consortiums if EU-level programming instruments through the Global Gateway can create coordinating platforms to facilitate cooperation between European firms across economic sectors and member state boundaries. Such coordination is a prerequisite for India-Europe commercial cooperation to operate on a sufficiently strategic scale and compete effectively against China.

2. Europe and India should cooperate to mitigate risk aversion in Southeast Asia.

With notable exceptions, many European firms have shown a reluctance to enter markets in Asia and other regions that have more difficult business climates and higher levels of uncertainty. In Southeast Asia, this has been generally true for market opportunities beyond Singapore, leading many firms to sacrifice potential first-mover advantage, only to seek to enter such markets after they become more mature but already saturated with competitors. European late market entry has also provided China opportunity to establish Chinese technical standards as dominant regional norms. For EU cross-member state consortiums, Union-level government-to-government (G2G) engagement could help alleviate some of these problems. Beyond EU-level G2G engagement, joint investment partnerships with India in ASEAN could help mitigate risks for European and Indian firms when entering more uncertain market environments. For Indian firms, partnership with European ones, in cases where the European firm may possess better brand recognition for quality, could facilitate easier and wider entry into ASEAN markets.

3. Indian Joint Venture Investment Partnerships with Europe should be used to close price gaps between Chinese and EU bids for projects.

There is a common yet misguided perception in Southeast Asia that Chinese firms can deliver projects cheaper than their European counterparts. It is indeed true that bids from European firms that comply with EU standards will add short-term costs to any project due to regulations concerning transparent procurement, environmental impact, sustainability, among several other requirements. While the total headline cost of a Chinese bid for a given project may be lower, European-built projects generally turn out to produce greater cost-savings over time due to the higher quality and better servicing provided by European companies. Capital expenditure will be lower for European-built projects due to the longer usable lifetime of the infrastructure, while operational expenditure will be similarly lower over time due to ballooning cost of maintenance for Chinese projects as China holds a monopoly over spare parts and servicing for the projects it builds.

To make a convincing case for the superior quality and long-term cost savings of European projects, cross-member state European consortiums need to close the price gap between their bids and those of their Chinese competitors through funding. While not having to identically match China's lower bids, there is an optimal point or 'sweet spot' where the price gap has been sufficiently narrowed to incline ASEAN customers to choose European bids that will prove cost-effective over the long term. Investment grants from the European Investment Bank could have this effect only coincidentally because such grants cannot be intentionally directed for this purpose. There is no EU-level Export-Import bank or an EU-level credit export facility that could play a useful role toward this end. Importantly, Indian funding through joint investment partnerships could be used to close the gap. Indian public capital could play an important role through the National Investment and Infrastructure Fund of India (NIIF), India's sovereign wealth fund. Private Indian capital could play a significant role in closing the price gap by engaging in joint venture investments. European cross-border consortiums would require EU-level coordinating platforms to engage with both private and public capital from India. As was seen in the discussion above, public-private partnerships will play a key role in developing such EU-India cooperation.

4. Europe should engage India in joint venture partnerships, especially start-ups, to create cost-effective manufacturing in India that services demand in both Indian and ASEAN markets.

Through its supply of more affordable land and labour, including skilled labour, India offers a production cost advantage over Europe for manufacturing. Possessing a sufficiently large domestic market and offering a price advantage in the transportation cost of products to nearby Southeast Asia, European-Indian joint venture partnerships in creating manufacturing sites in India represents an important, yet largely unrealised opportunity for Europe to develop its relationship with India and expand its commercial connectivity in the Indo-Pacific. India's non-EU partners, including countries as varied as Switzerland, the United Arab Emirates, and Israel, have successfully engaged in such joint venture partnerships. Partnerships for manufacturing in India are particularly suitable for start-up ventures to reduce early costs and help ensure an initial market. Public-private partnerships play a vital role in establishing such joint ventures and the EU must develop appropriate Union-level coordinating platforms to engage with their Indian government counterparts.

B. Other Potential Avenues of Cooperation

1. India and the EU should expand sector-based cooperation such as in rare-earth minerals, green hydrogen alliance, reduction in the use of coal, and sustainable financing.

There is a great potential in India's rare-earth mineral sector which if utilised with appropriate technology could make India one of the leading suppliers of rare-earth resources. At present, the rare-earth minerals are controlled by the Indian Rare Earths Limited (IREL) and the involvement of European companies could help facilitate technological expertise and increase market access. The right manoeuvres in exploring the untapped potential of India's rare-earth mineral deposits can amplify the EU-India Clean Energy and Climate Partnership. The development and infusion of green hydrogen in the supply chain will constitute an integral part of the upcoming EU-India FTA. New Delhi could become a beneficiary of the new global energy trade in hydrogen and a net exporter in the future and the EU's Indo-Pacific strategy also incorporates working on climate change and emerging technologies with like-minded allies. India relies heavily on coal for its electricity generation; it aims to phase down, rather than phase out its dependency on coal. Together, the EU and India can develop a framework that would allow India to increase its electricity generation from RES.

2. The EU and India should prioritise preventing the dominance of Chinese technical standards in Southeast Asia.

EU-level mechanisms should be created to facilitate cooperation between member states and to promote cooperation with Indian firms and Indian investment capital to prevent Chinese technical standards from becoming dominant among ASEAN nations. The EU needs to take this into account when evaluating the benefits of EU-India joint venture investments.

3. The EU and European firms should engage with India's

innovation ecosystem.

The lack of commercial investments in disruptive green energy technologies reflects a larger delivery deficit on the part of the European Union investing in India's innovation ecosystem. The EU needs to embrace public-private partnerships to develop EU-level instruments that can engage appropriate Indian government agencies.

4. The EU should play a more active role as a security provider by strengthening its regulatory contribution as a norm-setter and supporter of multilateralism in the Indo-Pacific region.

Both European institutions and member states should actively promote and sustain the regional rules-based order, for example through capacity-building in key areas such as the international law of the sea and dispute settlement.[128] Consequently, the EU and India could work towards establishing maritime governance mechanisms that can strengthen and promote adherence to a rules-based order in Southeast Asia.

5. The EU and India should strengthen ASEAN's role in a Multilateral Security Architecture.

The EU should work together with India to strengthen ASEAN's role as a cornerstone of the multilateral architecture in the Indo-Pacific and advance the shared political vision of a free, open, and inclusive Indo-Pacific. European member states should work with India and ASEAN countries through various minilateral platforms to promote a functioning security cooperation based on the opportunities for connectivity synergies arising from the overlapping EU, Indian, and ASEAN approaches to the Indo-Pacific.

6. The EU and India should work towards the consolidation

of existing institutional mechanisms while simultaneously collaborating for enhancing function-based partnerships.

The EU together with India can contribute toward the strengthening of institutional architectures (for example, ASEAN and IORA) in the region to advance their vision of a free, open, and inclusive Indo-Pacific. Countries within the EU can also partner with India via minilateral platforms to boost the effectiveness of functional cooperation in the region. EU can be part of India's Indo-Pacific Oceans Initiative and the two can explore the pillars on marine ecology, maritime security. In the EU, France is a member of the IORA, and therefore, India and France along with ASEAN countries like Indonesia can form a Working Group within the IORA to carve out actionable policy initiatives for dealing with issues like dumping of plastic debris in the Indian Ocean, protection and safeguarding of marine resources.

7. The EU should encourage greater participation of Indo-Pacific partners in Common Security and Defence Policy (CSDP) missions and operations and support the efforts of Indo-Pacific partners to develop their own peacekeeping capabilities.

The EU should put together targeted funding to facilitate India's participation in tailored naval exercises with the possibility of inviting ASEAN countries. A joint project between India and the EU for cooperation in the defence industry and the naval and commercial shipyards could be launched.[129] The EU and India could consider involving third partners from ASEAN to engage in trilateral or multilateral naval exercises to demonstrate commonality of purpose and interoperability between like-minded partners.

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