



## INSAP- ASEAN DISCUSSION PAPERS

#2024 – 1103

### **Navigating Shared Economic and Technological Challenges in ASEAN**

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“Politically cohesive, economically integrated and socially responsible” encapsulates the strategic vision that The Association of Southeast Asian Nations (ASEAN) state members collectively endorsed for ASEAN’s forthcoming decade in their “ASEAN 2025: Forging Ahead Together” framework. This framework was ratified by ASEAN leaders at their 27<sup>th</sup> Summit in Kuala Lumpur on 22 November 2015 which embodies a commitment to fostering greater regional solidarity and collaboration whilst navigating waters of the complex geopolitical landscape.

Over the decades, the bloc has experienced robust economic growth, with its nominal GDP reaching a level in 2023 that positions it as the fifth largest economy in the world and the third largest in Asia<sup>1</sup>. There has been commendable progress from a sociopolitical standpoint as well, with experts often lauding ASEAN for its vital role in fostering and sustaining both regional and global peace while the ASEAN Free Trade Area (AFTA) agreement in 1992 has been cited by many as “the” example of true regional economic cooperation.

On paper, ASEAN has undeniably achieved numerous significant milestones. However, in reality, many of those whom reside in ASEAN will argue that the bloc’s contributions to its member states have varied in magnitude and impact due to the diverse circumstances among our 10 ASEAN countries, implying disparity in growth and a lack of true integration. Nevertheless, many member states face a shared set of complex, interrelated challenges that call for a coordinated response - one that upholds a unified regional stance while safeguarding each nation’s socioeconomic interests in line with the “ASEAN way” of mutual respect and non-interference in domestic affairs.

The need for new growth and competition for digital supremacy are among those complexities which have been further intensified by an increasingly volatile shift in the global balance of power. Together, these factors compel ASEAN to reassess its strategic priorities and approaches that has undertaken as the bloc strives to sustain both regional stability and the economic growth of its state members, while enhancing its collective position in an increasingly polarized global landscape.

#### **Bridging Economic Opportunities: A Challenging Pathway Ahead**

While there are some ASEAN member states that have distinguished themselves as standout performers, the region’s economic success has predominantly depended on a “traditional” growth model defined by low-cost labour, resource endowments, and foreign direct investment (FDI) over the past century. In this context, I echo the sentiments of former Indonesian Minister of Finance Chatib Basri, who succinctly summarized ASEAN’s economic success in two words: industrialization and trade in an ASEAN debate hosted by the Lowy Institute in 2022.<sup>2</sup>

<sup>1</sup> <https://www.aseanstats.org/wp-content/uploads/2024/10/ASH-2024-v1-1.pdf>

<sup>2</sup> <https://interactives.lowyinstitute.org/features/southeast-asia-economy/>



However, the COVID-19 pandemic has fundamentally reshaped the global trade landscape, while recent geopolitical conflicts - both direct and indirect, have transformed the political economy, erased some old boundaries and drawn new ones - further complicating our interconnected economies. In light of these developments, can we afford to continue the reliance on this relatively traditional model of export industrialization for sustainable future growth? In other words, can we maintain this “conventional” approach and expect to rise above the developing status and become a more formidable economic bloc?

That said, there is no need to advocate for yet another framework or blueprint. Instead, we should concentrate on strengthening and exploring several key areas while continuing to advance our existing industrialization and trade strategies to protect our long-term growth prospects by ensuring ASEAN is less vulnerable to external shocks. Here, the digital economies industry stands out. ASEAN has already displayed very encouraging signs, with robust growth over the past decade.

This upward trajectory continues in 2024, as the region’s digital economy has achieved impressive double-digit growth across key indicators: gross merchandise value (GMV) at \$263 billion (+15% YoY), revenue at \$89 billion (+14% YoY), and profit at \$11 billion (+24% YoY).<sup>3</sup> With 125,000 new users joining the Internet daily, ASEAN now stands as the world’s fastest-growing Internet market, positioning its digital economy for even greater expansion amid an ever-expanding consumer base.

Critical policy measures and frameworks have underpinned this growth, including the *e-ASEAN Framework Agreement* and the *Master Plan on ASEAN Connectivity 2025*. However, among these initiatives - the ASEAN Digital Framework Agreement (DEFA) is particularly significant for its potential to directly transform the region’s digital landscape while also presenting a double-edged sword due to its associated challenges, making it a compelling subject for further examination.

DEFA’s objective is to enable an establishment of an open, secure, interoperable, competitive and inclusive regional digital economy in context of the broader AEC building agenda via promoting the harmonization of regulatory landscapes governing ASEAN state members’ digital economy where 9 key areas will be considered. These key areas encompass digital trade, cross-border e-commerce, payments and e-invoicing, digital ID and authentication, online safety and cybersecurity, cross border data flows and protection, competition policy, cooperation on emerging topics, talent mobility and cooperation. First round negotiations for DEFA have already commenced in late 2023, marking a pivotal step toward what could become the world’s first regional digital economic pact, if concluded. This is massive for ASEAN. Contingent on being successfully realized, DEFA is projected to double the region’s digital economy value from \$1 trillion to \$2 trillion in 2030, establishing a strong foundation for a resilient, inclusive, and sustainable digital ecosystem.

There is no denying the financial potential DEFA holds for ASEAN; however, harmonizing digital economy standards and regulations remains a formidable challenge. ASEAN consistently seeks to strike a delicate balance between adhering to the principles of the "ASEAN Way" - emphasizing mutual respect, consensus, and non-interference - and safeguarding the diverse socioeconomic and political imperatives of its member states. This challenge is particularly evident in the regulatory diversity across ASEAN.

For example, in the area of data protection frameworks, approaches vary widely. The Philippines stands out with an open model that permits data exports provided the data subject consents or the

<sup>3</sup> <https://www.bain.com/insights/e-economy-sea-2024/>



responsible firm ensures data security and prevents misuse. Meanwhile, Vietnam adopts a more stringent approach, implementing control models, legally binding contracts, and some degree of data localization.<sup>4</sup> This regulatory disparity underscores the complexity of achieving a unified digital governance framework within the region. These challenges are further compounded by underlying, systemic barriers that impede digitalization efforts across several ASEAN member states. For instance, countries in the Mekong region like Cambodia, Laos and Myanmar grapple with relatively low levels of digital literacy and fairly underdeveloped digital infrastructure, compared to their ASEAN counterparts.<sup>5</sup> This disparity poses a significant implication for DEFA's implementation and effectiveness. Without addressing these foundational gaps, the harmonization of digital economy standards under DEFA risks becoming a fragmented, benefiting more technologically advanced member states while leaving others behind.

Such disparities and systematic challenges also resonate with broader discussions about the evolving nature of governance and influence in the digital era. Recently, I had the opportunity to speak with Mr. Darren Lim from the Australian National University (ANU) along with other stakeholders and we resonated on the fact that the concept of "territory" has expanded beyond physical borders to encompass digital and strategic domains. Technological leadership in critical areas such as semiconductors and artificial intelligence (AI) can now equate to geopolitical influence and economic power. For ASEAN, this dynamic presents a dual challenge: striving for regulatory alignment to harness collective strength while addressing uneven technological capacities of member states. Failure to manage this balance could risk deepening existing gaps.

ASEAN member states should diversify by exploring industries that offer new growth opportunities, aiming to enhance their economies in ways that complement, rather than intensify, competition with those of other member states, while acknowledging that some level of competition is inevitable. This approach allows for the simultaneous achievement of protecting national economic interests while promoting regional integration, both horizontally and vertically. While core sectors such as export manufacturing must remain a priority, they should not be the sole focus; instead, we should ensure a balanced specialization across various industries. Here, the semiconductor space presents interesting opportunities.

While semiconductor industry is still dominated by the US, China and East Asia in the five stages (Research, Designing, Manufacturing, Assembling, Testing & Packaging and Distributing) - Heightened US-China tensions in technology, trade and security have positioned ASEAN as the alternative for import of inputs and relocation of foreign direct investment (FDI) in the semiconductor space as many third-party countries see ASEAN as a safer option given its relatively stable history as a bloc. The region saw excellent growth in this industry with export value reportedly increasing close to 42% in the space of 5 years, reaching USD\$268.8 billion in 2023<sup>6</sup> with the industry's value in size expected to grow at a CAGR Of 5.98% over the forecast period of 2024 to 2032.<sup>7</sup>

ASEAN's strength in the semiconductor industry really lies in its diversity across the value chain (Figure 1) and its position where it has a relatively strong influence on global value chains, especially

<sup>4</sup> [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4547683](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4547683)

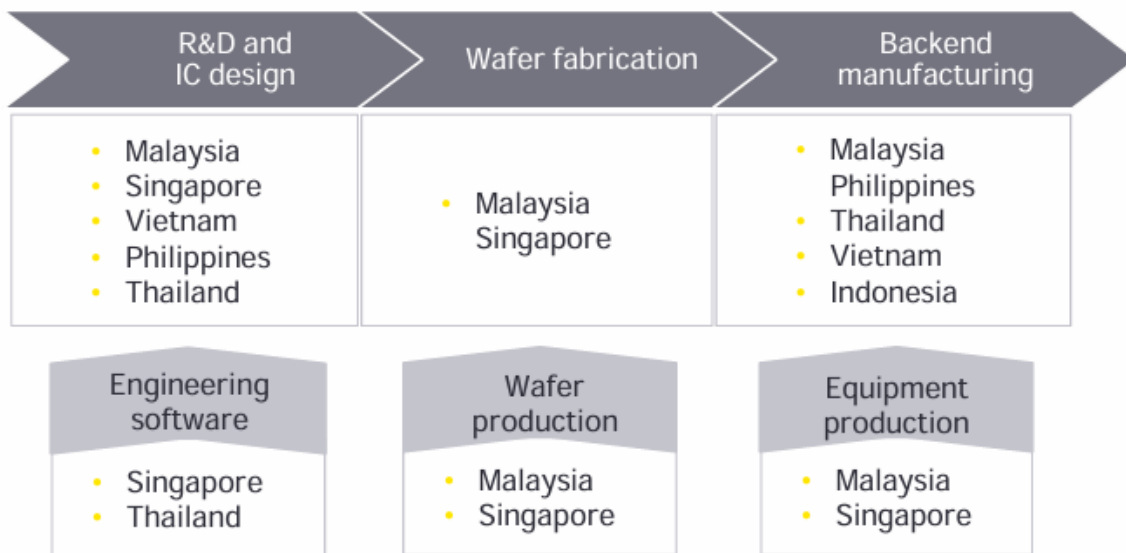
<sup>5</sup> <https://www.newamerica.org/digital-impact-governance-initiative/reports/digital-transformation-opportunities-and-challenges-in-the-lower-mekong-region/appendix-1-country-briefs/>

<sup>6</sup> <https://lkyspp.nus.edu.sg/cag/publications/center-publications/publication-article/detail/developing-asean-s-semiconductor-industry-insights-from-taiwan-and-south-korea>

<sup>7</sup> <https://www.globenewswire.com/news-release/2024/08/20/2932963/0/en/ASEAN-Semiconductor-Market-is-to-reach-USD-52-9-Billion-by-2032-Driven-By-Ev-Semiconductor-Demand-Research-by-SNS-Insider.html>

in wafer fabrication and ATP.<sup>8</sup> However, their grip on the semiconductor global chain is still relatively fragmented with the region lacking a comprehensive vertical integration from raw material processing to advanced chip design. Advanced semiconductor design and R&D in ASEAN also pale compared to global leaders and have a far way to go to reach US' levels where they lead in most R&D and design activities (e.g. electronic design automation, core intellectual property, chip design, and advanced manufacturing equipment).<sup>9</sup>

Figure 1: Spread of Semiconductor Specializations within ASEAN



Source: “When the chips are down”, a study by Ernst & Young (EY) LLP

Another critical concern for ASEAN in becoming a holistic semiconductor hub lies in the integration of less-developed member states, such as Brunei, Myanmar, Cambodia, and the Lao People’s Democratic Republic (Laos). These nations currently have minimal impact on ASEAN’s semiconductor growth, as evidenced by their low trade connections across all production stages. A 2021 study by the Economic Research Institute for ASEAN and East Asia (ERIA) illustrated this gap (Figure 2), emphasizing their limited involvement in regional value chains.

Failing to include these countries risks deepening regional disparities and undermining ASEAN’s collective economic resilience. These nations possess untapped potential, including young workforces and underutilized natural resources, that could complement the semiconductor value chain if developed strategically. Integrating them into the ecosystem could involve capacity-building initiatives, infrastructure investment, and tailored trade policies to enable their participation in less capital-intensive segments, such as assembly, testing, and packaging. ASEAN’s aspiration to be a holistic semiconductor hub must therefore prioritize not only enhancing advanced capabilities but also uplifting its less-developed members to foster balanced and inclusive growth across the region.

<sup>8</sup> <https://lkyspp.nus.edu.sg/cag/publications/center-publications/publication-article/detail/developing-asean-s-semiconductor-industry-insights-from-taiwan-and-south-korea>

<sup>9</sup> <https://www.eria.org/uploads/Interconnected-Horizons-ASEAN%E2%80%99s-Journey-in-the-Global-Semiconductor-Trade-Network.pdf>



Figure 2: Total Degree in Semiconductor Production Process of ASEAN – A Snapshot

High Value Added			Manufacturing			Assembly, Testing, and Packaging		
Country	2010	2021	Country	2010	2021	Country	2010	2021
Singapore	154	166	Singapore	40	51	Singapore	59	70
Malaysia	117	132	Thailand	21	33	Thailand	53	49
Thailand	116	130	Malaysia	21	30	Viet Nam	32	47
Philippines	91	114	Viet Nam	12	25	Indonesia	41	41
Viet Nam	58	98	Indonesia	13	16	Malaysia	63	59
Indonesia	69	78	Philippines	9	16	Philippines	18	23
Cambodia	9	31	Myanmar	2	4	Cambodia	5	8
Myanmar	11	22	Cambodia	2	4	Myanmar	5	7
Brunei	11	12	Brunei	3	3	Brunei	6	6
Lao PDR	4	11	Lao PDR	1	2	Lao PDR	4	4

Note: Highlighted in Blue shading indicates an increase in values compared with the previous period.

Source: *Interconnected Horizons: ASEAN’s Journey in the Global Semiconductor Trade Network Amidst the COVID-19 Pandemic - ERIA Discussion Paper Series*<sup>10</sup>

Moving forward, for ASEAN to ascend the regional value chains, it is imperative to prioritize investments in building comprehensive capabilities across the semiconductor ecosystem, encompassing everything from chip design to advanced research and development. Best practices from their East Asian Neighbours like South Korea, Japan and Taiwan can be studied. Achieving this requires a coordinated and strategic approach, where ASEAN nations align their efforts and resources to specialize in distinct segments of the supply chain. Such collaboration would not only enhance regional expertise but also create an integrated and resilient semiconductor industry capable of withstanding global disruptions.

Potential roles for the “Mekong countries” and Brunei must also be explored to enable ASEAN to become a truly holistic and inclusive semiconductor hub. For Brunei, they could play an indirect that complements the region’s upstream ambitions. Its vast natural gas reserves could provide a reliable energy source for advanced semiconductor fabrication processes at neighbouring Malaysia and Singapore, helping reduce production costs and ensuring supply chain stability. As for the “Mekong countries” - the Mekong region could form a "Mekong Semiconductor Corridor," integrating these nations with the more advanced semiconductor players in ASEAN, such as Vietnam and Thailand, to establish a cohesive and mutually supportive supply chain. Myanmar’s strategic location near Thailand and China positions it as a valuable logistics hub for semiconductor assembly and testing, complementing Thailand’s established electronics manufacturing sector. Similarly, Cambodia, with its young, cost-competitive workforce, could specialize in assembly and packaging operations, leveraging industrial zones like Sihanoukville for export connections via Vietnam’s advanced ports. Laos, with its extensive hydropower resources, can contribute renewable energy to support power-

<sup>10</sup> <https://www.eria.org/uploads/Interconnected-Horizons-ASEAN%E2%80%99s-Journey-in-the-Global-Semiconductor-Trade-Network.pdf>



intensive fabs in Thailand or Vietnam, bolstering the sustainability of ASEAN's semiconductor industry. The Mekong region could thus form a "Mekong Semiconductor Corridor" that integrates these nations with the more developed semiconductor players in ASEAN within the Mekong area (Vietnam and Thailand), creating a cohesive supply chain. Nevertheless – my vision here requires comprehensive feasibility studies to address critical challenges, including political instability, social unrest and lingering security risks in certain areas mentioned earlier.

## **Moving Forward**

While ASEAN has undeniably made significant progress in economic growth and regional cooperation, its achievements have not been uniformly experienced across the diverse conditions of its member states. The bloc faces several shared challenges, including the need to foster new growth in the face of digital and technological competition - which demands a unified yet flexible approach, one that respects the unique priorities of each nation while fostering collective action.

To secure a prosperous and resilient future, ASEAN must transcend its identity as merely an "association." Instead, it must embrace the vision of becoming a genuine economic bloc, one that fosters deeper integration and collective action, which will require creating deeper synergies. ASEAN must also continue to leverage and further strengthen the inclusive multilateral mechanisms within the region.

As Malaysia assumes the ASEAN Chairmanship, it is presented with a pivotal opportunity to guide the bloc through these complex challenges, laying a strategic foundation that will serve as a framework for future chairmanships. The path ahead must be one of cooperation, agility, and adaptability to ensure ASEAN's continued relevance and success in an increasingly dynamic global landscape.

## ***ABOUT AUTHOR***

**Edwin Oh Chun Kit** is a Researcher at INSAP with a background in political economics, finance and marketing consultancy. His interests encompass Malaysia's socioeconomic development, youth development and advocates for policies that brings about shared prosperity and stability within ASEAN and the wider region.