







# SUMMARY OF ERIA PROJECT ACTIVITIES 2025

#### **About This Booklet**

The Economic Research Institute for ASEAN and East Asia (ERIA) has newly defined Six Priority Areas for Fiscal Year (FY) 2025. These are anchored in ERIA's three strategic pillars: **Deepening Economic Integration, Narrowing Development Gaps,** and **Achieving Sustainable Development**.

To strengthen the impact of our work, we have promoted closer collaboration across teams, encouraged integrated approaches, and reduced thematic overlaps – enhancing both the professionalism and effectiveness of our initiatives.

By focusing on these Six Priority Areas, ERIA aims to help the region address complex challenges and advance towards a more resilient and prosperous future – grounded in our core strength of connecting research with policy action.

#### **Six Priority Areas for FY2025**



Energy, Environment, Agriculture, and Sustainability



Human Capital Development



Supply Chain Resilience and Trade Integration



Health and Demographic Transition



Digital Economy and Transformation



Innovation and Entrepreneurship

This booklet presents ERIA's research projects for FY2025, organised according to these Six Priority Areas.

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#### **Development of ASEAN Tourism Outlook Towards 2030**

Aladdin D. Rillo

#### Summary

As the tourism sector recovers from the devastating pandemic impact, it will be important to prioritise key activities to make sure v is able to position itself to benefit fully throughout the recovery journey. The regional approach enhances the new value of cooperation as a reflection of sharing common assets and strengths across member states.

It is evident that the travel and tourism industry is going to rebound. Data indicates that there is not only a pent-up consumer demand for the return of travel experiences but also a real need for reliable and credible sources to provide confidence in travel. Now, it is more significant than ever to have access to reliable information, especially to guide policymakers in making well-informed decisions.

Recognising this need, the ASEAN Tourism Outlook is intended to provide comprehensive information, including tourism trends and projections, to assist policymakers and relevant stakeholders in effectively shaping strategies and policies in the tourism and tourism-related sectors - particularly in the postpandemic context considering the shifts in consumer's behaviours as well as travel trends.

Regarding economic impact, the tourism sector has historically been a substantial contributor to ASEAN's economic growth and prosperity. In 2019, prior to the pandemic, ASEAN generated significant tourism arrivals of 138.55 million, with revenue of US\$146.9 billion, underscoring the sector's role in driving economic value across the region. As the region recovers and rebuilds post-pandemic – with a strong rebound in tourist arrivals of 98.95 million and tourism receipt of US\$102.9 billion in 2023 – the tourism sector demonstrated its resiliency and importance to the ASEAN community's economic well-being.

#### **Policy Implications**

This project will enable policymakers as well as the tourism business communities of the ASEAN Member States to strategise and adjust their tourism policies and business plans according to the information, data, and statistics, as well as the latest tourism trends and outlook, produced dedicatedly for ASEAN.

The specific objectives of the ASEAN Tourism Outlook comprise the following: promoting ASEAN as a single tourism destination; promoting sustainable tourism development; deepening ASEAN's regional connectivity; enhancing tourist experiences; promoting the ASEAN brand 'ASEAN: A Destination for Every Dream'; and fostering public-private partnerships.

#### **Partner Organisation**

Ministry of Tourism, Arts, and Culture (MOTAC) of Malaysia

#### **Geographic Scope**

**ASEAN** 

#### **Project Period**

December 2024-December 2025





#### Developing a Diffusion Model for Electric Vehicle Adoption in ASEAN

Alloysius Joko Purwanto

#### Summary

This study aims to develop a diffusion model for electric vehicles (EVs), specifically electric cars, in ASEAN Member States (AMS). The model will consider policy measures implemented by AMS governments regarding EV adoption as well as the socioeconomic and demographic characteristics of each AMS.

The study has two objectives:

- 1. To understand the mechanisms of EV diffusion across AMS by examining EV-related policy measures and the specific socioeconomic and demographic conditions of each AMS. This will involve literature review and statistical analysis using the vehicle data from five AMS - Indonesia, Malaysia, Thailand, Viet Nam, and Lao PDR – sourced from the ongoing FY2024 project 'ASEAN Alternative Vehicle Technology Portal'. Additional information related to technological, socioeconomic, and demographic aspects will be drawn from various existing ERIA studies, especially those within the framework of the 'Masterplan for the Next-Generation Vehicle Industry' study.
- 2. To develop a diffusion model tailored to the ASEAN context based on the findings of the analysis. A literature review of existing diffusion models will inform the model development, while model validation and calibration will be carried out through econometric analysis.

At the same time, a simple vehicle dynamics model for the five AMS will be developed using Python. The model will adopt an econometric approach to forecast vehicle (car) stock, new registrations (sales), and their distribution by propulsion type, i.e. internal combustion engines, hybrid EVs, plug-in hybrid EVs, and full battery EVs. The diffusion model will be incorporated into the Python-based vehicle dynamics model.

With the development of a Python-based vehicle dynamics model that incorporates the EV diffusion model, ERIA will gain in-house capacity to forecast vehicle growth – particularly for electric cars – in ASEAN countries up to 2050, including projections by propulsion technology type. Combined with the development of the publicly accessible 'ASEAN Alternative Vehicle Technology Portal', this will position ERIA to become a key reference for automotive market outlooks in ASEAN.

#### **Policy Implications**

The various policies implemented by ASEAN countries across sectors such as transportation, energy, industry, and the environment may have repercussions on the automotive sector. These impacts should be seen in many aspects, such as the sector's energy use, emissions, pollution, and competitiveness, which encompasses the sector's growth and employment. ERIA's diffusion model can serve as a useful tool for assessing how different policies influence the growth of EVs and other alternative technology vehicles in ASEAN. It can also help provide key insights into the sector's energy use and environmental and economic performance.

#### **Geographic Scope**

Indonesia, Malaysia, Thailand, Viet Nam. and Lao PDR

#### **Project Period**

April 2025-March 2026





### Preparing an Initial Framework for an Electric Vehicle Battery Passport in ASEAN: Malaysia 2025 ASEAN Chairmanship's Priority Economic Deliverables (PED)

Alloysius Joko Purwanto, Salvador M. Buban

#### **Summary**

The transportation sector in ASEAN, comprising its 10 member states, accounted for nearly 30% of total final energy demand in 2020. This figure could increase to almost 39% by 2050, according to projections from an ERIA study. Within this sector, road transport is a dominant contributor, fuelled predominantly by gasoline and diesel. As ASEAN Member States (AMS) work towards achieving carbon neutrality by 2050, decarbonising the transport sector is critical, with an estimated 28% reduction in energy consumption needed. Electrification of vehicles offers one of the most impactful pathways to achieve these reductions, allowing for improvements in both energy efficiency and emissions control.

The rise in electric vehicle (EV) adoption within ASEAN, fuelled by national targets and incentives, is spurring demand for EV batteries and the essential minerals required to produce them. However, while EVs have lower tailpipe emissions, their lifecycle emissions are highly influenced by the environmental impacts of mining, processing, and battery production. To address these challenges, the European Union has introduced 'battery passports', which will become mandatory for EV batteries by 2027 in order to ensure transparency in sustainable sourcing, production, and end-of life management. ASEAN could consider implementing similar battery passport initiatives, which could enhance regional accountability and promoting a sustainable battery ecosystem for EVs.

By focusing on the EV battery sustainability, this study seeks to provide ASEAN with a holistic approach to support EV implementation in ASEAN, therefore ensuring improvement of sustainability aspects of ASEAN transport and automotive sector.

This study aims to:

- 1. Analyse the current policies and strategies of AMS in terms of accelerating EV penetration,
- 2. Analyse the current EV industry manufacturing supply chains and ecosystems within the AMS and across ASEAN as a region, and their readiness for implementing the EV battery passport system,
- 3. Prepare an initial framework for implementing the EV battery passport system across the AMS, and
- 4. Provide policy recommendations to accelerate the EV battery passport system implementation in ASFAN

The proposed study will adopt a mixed-method approach, incorporating both qualitative and quantitative analysis and methods, including:

- 1. Lectures and capacity building sessions on the EV battery passport system for the working group (WG) members by an expert team (the said WG will consist of ten experts representing each of the ten AMS).
- 2. Literature and desktop research conducted by WG members on several topics: (a) EV and battery-related strategies and policy measures in each AMS, and (b) The structure of industries related to EVs and EV batteries within each AMS.
- 3. Interviews and questionnaire surveys conducted by WG members with policymakers and industry players in their respective countries.



#### **Policy Implications**

The insights from the analysis will consist of, but not limited to, the following:

- 1. Main aspects related to the ASEAN industrial sector to be considered in preparing for the EV battery passport implementation.
- 2. Principles and criteria to be retained in the framework for implementing the EV battery passport system across ASEAN countries.
- 3. Priority areas where ASEAN can provide support to its Member States to prepare for the implementation.
- 4. The main areas of collaboration between AMS and advanced economies.

#### **Partner Organisations**

#### **Project Period**

IKMAS UKM (The Institute of Malaysian and International Studies, Universiti Kebangsaan Malaysia) April 2025-December 2025

#### **Geographic Scope**

10 ASEAN Member States

#### **Related ERIA Publications**

Doi, N. (2024), Reuse of Electric Vehicle Batteries in ASEAN. ERIA Research Project Report 2023-31. Jakarta: ERIA. Available at: https://www.eria.org/publications/reuse-of-electric-vehicle-batteries-in-asean





### Catalysing Access to Financing for a Climate Resilient and Just Transition in ASEAN

Intan M. Ramli, Alloysius Joko Purwanto

#### **Summary**

Sustainability is a core priority for the ASEAN region. Unchecked climate change will have a significant impact on ASEAN, with an estimated 11% loss of gross domestic product (GDP) by 2100 if left unaddressed. Though ASEAN only contributes 7% of global CO2 emissions, up to US\$6.7 trillion is still needed to transition the region by 2050.

ASEAN currently faces challenges in accessing private capital for decarbonisation efforts, primarily due to constraints in fiscal position and funding eligibility, which often prioritises low-income countries. The size of existing regional funds that support green projects may not match the large scale of funding needed by the region.

Without further capital infusion, existing frameworks such as the ASEAN Infrastructure Fund (AIF) and its pilot initiative – the ASEAN Catalytic Green Finance Facility (ACGF), which was set up to accelerate green infrastructure investment in Southeast Asia – will struggle to continue co-financing climate transition projects and attracting private investment.

Small and medium-sized enterprises (SMEs) in ASEAN also face key barriers such as limited access to finance and technical skills and insufficient information on how to leverage market opportunities. These constraints hinder SMEs from entering green markets and greening their business processes, hence limiting their growth and causing them to lag in the transition journey.

To facilitate and support ASEAN's climate ambitions and transition efforts, this Priority Economic Deliverable (PED) will be realised through three pillars and six dedicated initiatives. The three pillars are Just Transition and Climate Resilient Tools for ASEAN; Securing Funding for Bankable Climate/Green Projects in ASEAN; and Supporting Transition of ASEAN MSMEs and SMEs.

ERIA is set to undertake studies related to ASEAN Transition Finance Guidance under the first pillar, i.e. VCM mapping and VCM guidelines aligned with international standards, such as those established by the International Organization of Securities Commissions (IOSCO).



#### **Policy Implications**

The project aims to:

- showcase ASEAN's commitment to climate goals, reinforcing regional leadership in sustainable development;
- support more ASEAN companies, including SMEs, in their journey towards a just and inclusive transition, and facilitate efforts towards meeting decarbonisation goals;
- improve access to broader sources of funding solutions, investments, and financial support;
- equip SMEs with the know-how and funding to transition their operations or participate in green markets; and
- reduce the costs for SMEs to participate in global markets amidst developments in global regulatory practices (e.g. the EU's Carbon Border Adjustment Mechanism (CBAM) and the US' Inflation Reduction Act (IRA)).

#### **Partner Organisation**

#### **Project Period**

Securities Commission Malaysia (SC Malaysia)

October 2025

#### **Geographic Scope**

**ASEAN** 

#### **Related ERIA Publications**

Zen, F., F. Kimura, and A. J. Purwanto (2024), *Fiscal Policy to Support the Green and Just Energy Transition*. ERIA Research Project Report 2024-28. Jakarta: ERIA. Available at: https://www.eria.org/research/fiscal-policy-to-support-the-green-and-just-energy-transition

ERIA (2025), 'Shaping ASEAN's Carbon Markets: ERIA Leads Regulatory Talks'. ERIA News, 8 April. Available at: https://www.eria.org/news-and-views/shaping-asean-s-carbon-markets--eria-leads-regulatory-talks





### ASEAN Consultants 'Country Data Collection, Policy Analysis, and Stakeholder Network Support'

Reo Kawamura, Michikazu Kojima, Ayako Mizuno

#### **Summary**

The Regional Knowledge Centre for Marine Plastic Debris (RKC-MPD) serves as an information platform on marine plastic pollution across ASEAN+3 countries. The RKC-MPD is aimed at (1) supporting research and data collection that contributes to science-based policy formulation, (2) gathering and disseminating scientific knowledge to support solution-oriented initiatives and build public awareness, (3) facilitating national and regional capacity-building activities, (4) developing strong collaborative networks and regional partnerships, and (5) promoting innovations from the private sector.

Given its geographic scope of work – covering ASEAN+3 region (13 countries) – it is important for the RKC-MPD to collect and analyse country-specific information and news, as well as to establish a relevant stakeholder network. As such, the roles and the responsibilities of the ASEAN+3 country consultancy organisations and individual consultants are to support the RKC-MPD unit and provide timely and relevant support from their respective countries.

The unit will continue working with consultants from eight ASEAN countries, namely Brunei Darussalam, Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, and Viet Nam. Beyond data collection, these consultants support the RKC-MPD team in organising events in their respective countries as well as engaging government and private sector actors.

#### **Policy Implications**

- Identifying the current state of rules and regulations related to plastics and waste management in each country
- Acknowledging good plastic reduction practices throughout ASEAN
- · Connecting with private sector actors who actively engage in combating plastic pollution
- Engaging with government stakeholders across the region

#### **Partner Organisation**

#### **Project Period**

**ASEAN Consultants** 

April 2025-April 2026

#### **Geographic Scope**

Brunei Darussalam, Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, and Viet Nam





#### Extended Producer Responsibility (EPR) Working Group

Reo Kawamura, Michikazu Kojima, Ayako Mizuno

#### **Summary**

Extended producer responsibility (EPR) has become an emerging topic of discussion regarding plastic pollution issues and policy in the ASEAN+3 region. Some ASEAN countries – such as Indonesia, Singapore, the Philippines, and Viet Nam – have been implementing EPR regulations, whereas others are heading towards the same direction. In response, the RKC-MPD and the Institute for Global Environmental Strategies (IGES) have initiated an EPR Working Group as a forum for experts to explore EPR as an effective policy tool to combat plastic pollution in the region.

This EPR Working Group aims to address the specific needs of ASEAN Member States (AMS) by leveraging regional trends, national initiatives, and global good practices, while taking into consideration each country's capacities and diverse policy landscapes. The newly established working group is expected to strengthen regional expertise in EPR policy development, implementation, and management by identifying gaps, addressing practical challenges, and sharing lessons from AMS and international models.

With a broader impact in mind, the context-specific knowledge produced by the EPR Working Group will be essential for AMS as they contribute to the ongoing discussions of the Intergovernmental Negotiating Committee on the development of an international legally binding instrument (ILBI) on plastic pollution.

#### **Policy Implications**

- Identifying the status quo of EPR in ASEAN+3 countries
- Identifying challenges on EPR research and implementation
- Developing an EPR framework mechanism
- Providing input on ILBI

#### **Partner Organisation**

Institute for Global Environmental Strategies (IGES)

#### **Geographic Scope**

ASEAN+3 Region

#### **Project Period**

June 2025-June 2026





#### Rethinking Plastics Follow-up: A GIZ Joint Survey

Reo Kawamura, Michikazu Kojima, Ayako Mizuno

#### **Summary**

In 2019–2022, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), co-funded by the European Union, implemented a project called Rethinking Plastics – Circular Economy Solutions to Marine Litter. The project was aimed at improving plastic waste management, promoting sustainable plastic consumption and production, and reducing marine plastic litter. Across selected ASEAN+3 countries, GIZ carried out 20 pilot projects involving new approaches and good practices.

Similarly, since 2022, the RKC-MPD has been conducting a behavioural change initiative in two phases. Starting with four partners, the project now involves six implementing partners from six ASEAN countries, namely Cambodia, Indonesia, Lao PDR, the Philippines, Thailand, and Viet Nam. These partners are conducting a behaviour change project in their respective countries – guided by six behavioural levers, a behaviour change framework developed by Rare's Center for Behavior & the Environment. This project aims to generate practical knowledge and tools for applying behaviour-centred approaches in real-world settings.

To harmonise the behavioural change initiatives by ERIA, GIZ, Rare's Center for Behavior & the Environment, IGES, and WWF's Plastic Smart City, a dedicated platform called Behavioural Lab will be developed. This online platform will be incorporated in ERIA RKC-MPD's website and will showcase good practices in behaviour change for plastic reduction across ASEAN. By providing essential information, this platform is designed to guide policymakers, businesses, and civil society in advancing behavioural change-driven solutions in ASEAN.

To support the creation of the Behavioural Lab, collecting insights from other relevant projects can be a valuable resource to enrich the platform's information. Therefore, a follow-up study on the pilot project cities of the Rethinking Plastics project by GIZ is expected to identify factors that contribute to the sustainability of the project intervention.

#### **Policy Implications**

- · Exploring behavioural change knowledge
- · Acknowledging behavioural change good practices in the region
- Identifying impactful variables in plastic reduction efforts

#### **Geographic Scope**

#### **Project Period**

**ASEAN Region** 

August 2025-April 2026





### Review of the Implementation of the ASEAN Regional Action Plan on Combating Marine Debris (ASEAN RAP) and Post-2025 Recommendations

Reo Kawamura, Michikazu Kojima, Ayako Mizuno

#### **Summary**

Endorsed in 2021, the ASEAN Regional Action Plan (RAP) on Combating Marine Debris serves as a strategic framework to combat marine plastic pollution across the region. By addressing various plastic issues along the value chain – in accordance with the ASEAN Framework of Action on Marine Debris – the RAP aims to support AMS in implementing national and regional initiatives to reduce plastic waste leakage into the environment.

The RAP is implemented under the guidance of the ASEAN Working Group on Coastal and Marine Environment (AWGCME), with coordination from the ASEAN Secretariat (ASEC). Its execution is supported by key international and regional partners, mainly the World Bank through the Southeast Asia Programme on Marine Plastics (SEA-MaP), and in cooperation with, amongst others, ERIA, IGES, and the 3RproMar project implemented by GIZ. These organisations provide technical expertise and capacity-building support to AMS. Spanning from 2021 to 2025, the RAP is structured according to the four components of the Framework of Action, namely (1) policy support and planning; (2) research, innovation, and capacity building; (3) public awareness, education, and outreach; and (4) private sector engagement. As the RAP nears completion, a review is necessary to evaluate its progress, identify key challenges, and formulate forward-looking recommendations.

#### **Policy Implications**

The review will assess the implementation status of the ASEAN RAP, analyse its key achievements and gaps, and propose a forward-looking strategy aligned with ASEAN's regional priorities and global commitments. It will serve as a critical input into ASEAN discussions on the future of the RAP to ensure that the region remains committed to marine debris mitigation and circular economy initiatives beyond 2025.

#### **Partner Organisations**

GIZ, Institute for Global Environmental Strategies (IGES)

#### **Geographic Scope**

**ASEAN Region** 

#### **Project Period**

April 2025-June 2026





#### **Summary**

This project aims to deliver a comprehensive 2025 Annual Report that captures the current status, challenges, and opportunities in transition finance across ASEAN. The initiative is structured around three core components: (1) the development of the annual report; (2) the delivery of seven Learning Sessions throughout 2025; and (3) strategic support to enhance the visibility and impact of ATF SG's work. The report will synthesise insights from ongoing study group discussions and independent research into four main sections: the state of transition finance in ASEAN, solutions and systems to drive the energy transition, country-specific contexts and unlocks, and the path forward for the region. It aims to provide a clear, actionable narrative that reflects both regional progress and national challenges.

In parallel, the project will convene seven thematic Learning Sessions across the year, designed to foster knowledge exchange amongst ATF SG members and strengthen collective understanding of critical transition finance topics. These sessions will explore issues such as sustainable aviation fuel (SAF), carbon markets, battery solutions, and country-level transitions. Each session will feature curated content, support for expert speakers, and synthesised takeaways to inform strategic discussions and enrich the annual report.

To further maximise the impact of ATF SG's work, the project will offer tailored strategic support, including the development of communications materials, event presentations, and digital content for the ATF SG website. The team will work closely with the Secretariat and financial institution (FI) leads to identify relevant external engagement opportunities and craft messaging that ensures the group's insights are effectively conveyed to key stakeholders across ASEAN and globally. Together, the three core components form an integrated approach to raising awareness, building alignment, and driving coordinated action on transition finance across ASEAN, while strengthening the region's voice in global discussions on sustainable finance and just transition pathways.

#### **Policy Implications**

- The Learning Sessions will support the upskilling of government officials, regulators, and
  financial institutions by equipping them with knowledge of emerging transition finance instruments
  and sectoral developments. This capacity-building element strengthens the foundation for better
  policy implementation and regulatory alignment across ASEAN.
- The report and Learning Sessions may encourage governments to develop co-financing schemes, risk-sharing mechanisms, and social safeguards that help crowd in private capital. These tools are especially critical to addressing the perceived risk-return imbalance in low-carbon investments across emerging economies.
- Cross-country discussions can foster greater convergence on key transition finance elements such
  as taxonomies, carbon pricing frameworks, and disclosure standards. These discussions not only
  help align national approaches but also improve ASEAN's collective readiness to participate in global
  sustainable finance initiatives.
- Through curated content, presentations, as well as targeted engagement with regulators, industry leaders, and international partners, ATF SG can establish feedback loops that ensure evolving challenges inform future policy. Strategically positioning these insights allows ASEAN to shape regional priorities and influence the global sustainable finance agenda, particularly in high-level climate and financial dialogues.



#### **Geographic Scope**

#### **Project Period**

Asia

April-July 2025

#### **Related ERIA Publications**

Asia Transition Finance Study Group (2023), *Asia Transition Finance Study Group (ATF SG) Annual Report*. Jakarta: ERIA. Available at: https://www.eria.org/publications/asia-transition-finance-study-group-atf-sg-annual-report

ERIA (2025), Technology List and Perspectives for Transition Finance in Asia: Technology Deep-dive Research Outcome. Jakarta: ERIA. Available at: https://www.eria.org/publications/technology-list-and-perspectives-for-transition-finance-in-asia





#### Preliminary Survey on the Applicability of Cutting-Edge Technologies for Enhancing Sustainable Agriculture and Food Systems in ASEAN

Ari Aji Cahyono, Masanori Kozono

#### **Summary**

ASEAN aims to transform its agriculture and food systems to make them more resilient and sustainable. Specifically, the goal is to maximise productivity and efficiency while minimising negative environmental impacts through the application of innovative technologies and practices. In this regard, several policy documents and guidance materials have been developed by ASEAN and adopted at the meetings of ASEAN Ministers on Agriculture and Forestry (AMAF) in recent years. Such documents include the Action Plan for Sustainable Agriculture in ASEAN (2024), ASEAN Guidelines on Sustainable Agriculture (2022), and ASEAN Guidelines on Promoting the Utilization of Digital Technologies for ASEAN Food and Agricultural Sector (2021).

To support these efforts, the 'ASEAN-Japan Midori Cooperation Plan' was adopted at the first meeting of ASEAN-Japan Ministers of Agriculture and Forestry in October 2023. The objective is to work together to establish a resilient and sustainable agriculture and food system in the ASEAN region – part of the share Asian monsoon zone – by applying smart agriculture and other innovative technologies. However, a thorough assessment of the applicability of these technologies is necessary, particularly to ensure they can achieve a large-scale impact.

ASEAN countries have already started applying digital agriculture technologies. For instance, some countries have used drones to monitor crop conditions and apply pesticides with reduced labour. Other devices, such as soil and weather sensors, have also been used to provide recommended farming methods based on real-time data. Such usage reduces the risk of harvest failure caused by unpredictable weather and soil degradation. Additionally, farmers are increasingly using marketplaces and e-commerce platforms to sell their products directly, bypassing conventional routes such as collectors. Each of these technologies offers distinct value, but this study will focus on two selected technologies.

Through coordination with Japan's Ministry of Agriculture, Forestry, and Fisheries, this study will identify potential cutting-edge technologies for application in ASEAN's agriculture and food systems, with a focus on digital solutions. This study focuses on developing the best practical methodology for the technology assessment, to be implemented in Fiscal Year 2026. The methodology will consider each country's specific context, such as infrastructure and farming practices. ERIA is also conducting a study on digital agriculture implementation in ASEAN, and the results of that study will be integrated into this project – particularly in selecting appropriate technologies. Variables such as the most used technologies, challenges in technology implementation, supporting policies, and farmers' adaptability will be taken into account. Furthermore, this project will involve a digital agriculture expert in designing a method on the technology assessment methodology.

Therefore, this study aims to:

- 1. Identify suitable technologies to promote sustainable agriculture and food systems in ASEAN; and
- 2. Develop an assessment methodology to evaluate the applicability of each technology.

#### **Policy Implications**

This study will provide the best-fit method for technology assessment in the coming year.



#### **Partner Organisation**

Ministry of Agriculture, Forestry, and Fisheries of Japan – MIDORI Strategy

#### **Project Period**

July 2025-March 2026

#### **Geographic Scope**

**ASEAN** 

#### **Related ERIA Publications**

Kozono, M., S.M. Diyanah, and A. Hazmi (2024), *Accelerating the Digitalisation of the Agriculture and Food System in the ASEAN Region*. ERIA Event Report. Jakarta: ERIA. Available at: https://www.eria.org/research/accelerating-the-digitalisation-of-the-agriculture-and-food-system-in-the-asean-region





### Study on Strengthening Food Security in Indonesia: Focus on Supply Chain Management

Masanori Kozono

#### **Summary**

Food security is one of the strategic priorities of Indonesian President Prabowo Subianto. Indonesia aims to achieve national food self-efficiency by 2027. To this end, the country plans to open one million hectares of harvestable land in Merauke, Papua. Given the remoteness of this production area, effective and resilient supply chain management will be crucial to ensure food products reach consumers at reasonable prices while maintaining quality. For example, developing effective food supply chains connecting the newly cultivated farmland in Papua to main consumption areas, such as provinces on Java Island, will be essential. In this regard, ERIA has formulated a study to support efforts to strengthen food security in Indonesia, with a focus on food supply chain management.

Based on this background, the objectives of this study are:

- To assess the status of food security programmes in Indonesia, particularly in the food supply chain management systems
- · To map the food supply chain from production areas to consumption areas across Indonesia
- To develop strategies to ensure effective, efficient, and resilient food supply chain systems that deliver
  affordable and good-quality products to the consumption areas

A study team comprising ERIA staff, Indonesia-based experts, and international food supply chain experts will be assembled. Experts from the Indonesian Ministry of Agriculture and other relevant ministries will also be invited to participate in the study as advisors, where appropriate. The study will begin with a literature review to inform the research framework and guide the development of questions for an indepth survey and stakeholder interviews. These surveys and interviews will gather data and insights to identify bottlenecks, gaps, and necessary interventions in the food supply chain. International experts will also analyse the best practices from other countries to provide global perspectives. The findings will be validated through a verification workshop, and the study will conclude with a report presenting policy recommendations.

#### **Policy Implications**

Strategies for effective, efficient, and resilient food supply chain management systems in Indonesia



### Table of Contents

#### **Partner Organisations**

Indonesia's Ministry of Agriculture, Experts in Indonesia

#### **Project Period**

May 2025-March 2026

#### **Geographic Scope**

Indonesia

#### **Related ERIA Publications**

Kusano, E. (ed.) (2019), *The Cold Chain for Agri-food Products in ASEAN*. Jakarta: ERIA. Available at: https://www.eria.org/research/the-cold-chain-for-agri-food-products-in-asean

Kusano, E. (ed.), Food Value Chain in ASEAN: Case Studies Focusing on Local Producers. Jakarta: ERIA. Available at: https://www.eria.org/research/food-value-chain-in-asean-case-studies-focusing-on-local-producers





#### Study on a Strategy for Food Loss Reduction to Strengthen the Food System in Cambodia

Masanori Kozono

#### **Summary**

In ASEAN, several policy documents acknowledge food loss – especially postharvest loss – as a key challenge to be addressed to ensure food security. For instance, the 'ASEAN Integrated Food Security (AIFS) Framework and Strategic Plan of Action on Food Security in the ASEAN Region (SPA-FS) 2021–2025' (ASEAN Secretariat, 2020), the 'ASEAN Leaders' Declaration on Strengthening Food Security and Nutrition in Response to Crises', and the 'Action Plan for Sustainable Culture in ASEAN' - which was adopted at the 46th meeting of ASEAN Ministers on Agriculture and Forestry (AMAF) in October 2024 – all highlight the role of innovative technologies in reducing food loss and waste, as well as postharvest loss. Despite ASEAN's longstanding concerted and collective efforts to reduce food loss and waste, such an issue remains a pressing challenge in the region today.

In Cambodia, food loss and waste – including postharvest losses – continue to pose a significant issue. However, the availability of data and information on food loss and waste in Cambodia is limited, making it difficult to formulate effective solutions. Existing studies are often outdated or cover only a narrow range of commodities. Reassessing the current situation using up-to-date data and exploring improved solutions to reduce food losses is urgently required.

In response, the Government of Cambodia – specifically the Ministry of Commerce and the Ministry of Agriculture, Forestry, and Fisheries – requested ERIA to conduct a study on food loss and waste to improve the food system.

Based on this background, the objectives of this study are:

- to identify the points of losses and quantity of loss at different stages of the food system or food value chain,
- to assess the technologies and practices currently applied at the points of losses, and
- to identify substitute technologies and practices to mitigate the losses.

The study will start with a literature review to formulate a research framework. Then, primary data on food loss will be collected through field surveys along the supply chains. For the estimation of food loss quantities, the study team will refer to the methodology applied by the Royal University of Agriculture in its past food loss assessments. After estimating food loss and identifying critical loss-generating points and potential solutions, a verification workshop may be held to validate the study's findings with local stakeholders, if needed. The study will conclude with the development of a report containing policy recommendations.

#### **Policy Implications**

The study is expected to identify:

- Critical points of food loss with quantity estimation;
- Solutions to reduce food loss, including infrastructure improvements (e.g. storage and transportation); proper techniques for crop drying and handling; better coordination amongst smallscale farmers, traders and wholesalers; measures to raise awareness of the best practices for minimising food loss; and
- Suggestions on a framework for mobilising resources to realise technology transfer and adoption.



#### **Partner Organisations**

Cambodia's Ministry of Commerce and Ministry of Agriculture, Forestry, and Fisheries, Royal University of Agriculture, Cambodia

#### **Geographic Scope**

Cambodia

#### **Project Period**

May 2025-March 2026





### Promoting Biochar Production and Adoption for Sustainable Crops Residue Management, Carbon Sequestration, and Soil Regeneration in ASEAN

Phetkeo Poumanyvong, Venkatachalam Anbumozhi, Masanori Kozono

#### **Summary**

Open burning of crop residues remains a persistent challenge in ASEAN, contributing to transboundary haze, greenhouse gas (GHG) emissions, and declining soil health. Commonly practiced for its low cost and simplicity, crop residue burning exacerbates climate change, endangers public health, and undermines long-term agricultural productivity.

Biochar – a stable, carbon-rich material produced through the pyrolysis of biomass such as rice straw, palm residues, maize stover, and sugarcane bagasse – offers a sustainable alternative. When applied to soil, it enhances structure, moisture retention, and nutrient availability. Biochar can also boost yields, sequester carbon, and turn waste into value. These properties make it a promising tool for advancing climate-smart agriculture, supporting circular economies, and improving farmer livelihoods. It provides dual benefits for climate change mitigation and adaptation – reducing emissions while helping soil withstand drought and extreme weather.

Despite these benefits, biochar adoption remains limited across ASEAN. Key barriers include low awareness, high production and application costs, limited access to technology and finance, and the lack of harmonised standards and enabling policies.

To address these gaps and unlock biochar's potential, the ASEAN Secretariat formally requested ERIA to lead a regional assessment of crop residue management and biochar practices, and to develop draft ASEAN Guidelines on Biochar Production and Application. This initiative builds on ERIA's earlier contributions to the ASEAN Guidelines on Crop Burning Reduction and the Action Plan on Sustainable Agriculture, both of which recognise biochar as a viable solution for decarbonising agriculture and reducing open burning.

This project comprises two interconnected components:

1. Assessment Study (Country Studies and Regional Synthesis)

This study aims to document farming conditions, existing crop residue management practices, biochar initiatives, production technologies, and key enabling and limiting factors across five selected ASEAN Member States.

2. Development of Draft ASEAN Guidelines on Biochar Production and Application

The guidelines will be informed by regional evidence, international best practices, and inclusive stakeholder consultations and workshops.

The resulting Guidelines will offer evidence-based recommendations on feedstock selection, pyrolysis technologies, application methods, safety and quality standards, enabling policies, and inclusive business models. Designed for ASEAN's diverse agricultural systems, the Guidelines will support national strategies for sustainable agriculture and low-emission development.



#### **Policy Implications**

- 1. Supporting the ASEAN Action Plan on Sustainable Agriculture by promoting regenerative, climate-resilient, and low-emission farming practices.
- 2. Advancing the ASEAN Guidelines on Crop Burning Reduction by providing a practical, scalable, and sustainable alternative to open burning.
- 3. Contributing to the ASEAN Strategy for Carbon Neutrality by increasing carbon sequestration and reducing emissions through climate-smart practices.
- 4. Aligning with the Haze-Free ASEAN Roadmap by reducing particulate emissions and improving air quality.
- 5. Promoting inclusive green growth by empowering smallholders and rural enterprises through viable business models and improved access to climate finance.

#### **Partner Organisations**

#### **Project Period**

**ASEAN Secretariat** 

July 2025-June 2026

#### **Geographic Scope**

Five ASEAN Member States





### Sustainable Pathways for Integrated Comprehensive Biofuel Emission Inventories and Supply Chains (SPICES)

Nuki Agya Utama, Alloysius Joko Purwanto

#### **Summary**

This research proposes a comprehensive strategy to accelerate the sustainable development of biofuels across ASEAN, with a primary focus on the transportation sector covering both road vehicles and aviation. The initiative aims to support the region's energy transition by reducing reliance on imported fossil fuels and enhancing the use of domestically available bio-resources. Key outputs will include the development of a regional biofuel database capturing demand, supply, cost scenarios, and environmental inventories; a policy roadmap to guide sustainable regulations, standards, and incentives; a framework for regional cooperation in trade and technology transfer; and a sustainability assessment addressing food security, water use, land availability, and emissions.

The research will employ multiple analytical tools such as scenario modeling, lifecycle assessment, and cost-benefit analysis, supported by consultations with policymakers, industry stakeholders, and researchers. By integrating technical, environmental, and policy dimensions, the study aims to produce practical, regionally relevant recommendations to advance ASEAN's collective biofuel strategy and market integration.

• Comprehensive Database

An ASEAN-wide dataset will be developed to include biofuel demand and supply projections, cost scenarios, environmental inventories, and a review of current standards and regulations.

· Policy Roadmap and Cooperation Framework

The study will produce policy recommendations to support sustainable biofuel development, covering standard-setting, regulations, and incentives to attract investment and drive adoption. Strategies will also be formulated to enhance cooperation in areas like cross-border biofuel trade, standard harmonisation, and technology transfer across ASEAN countries.

Sustainability Analysis

A lifecycle assessment will be conducted to examine food security, water use, land competition, and emissions. The objective is to ensure biofuel expansion does not compromise environmental or social outcomes.



#### **Policy Implications**

Set Practical Biofuel Targets

Countries should set achievable biofuel blending mandates based on local feedstock availability and cost structures. Implementation can start with modest targets (e.g. B5–B10 for biodiesel and E5–E10 for ethanol) and scale up gradually.

· Harmonise Standards for Regional Trade

ASEAN should prioritise basic harmonisation of fuel quality and sustainability standards to facilitate cross-border trade, starting with bilateral agreements amongst key producers (e.g. Indonesia, Malaysia, and Thailand).

Safeguard Food and Land Resources

National policies must include clear zoning and safeguards to prevent biofuel production from competing with food crops, particularly in countries with limited arable land such as Singapore and the Philippines.

#### **Partner Organisations**

National Institute of Advanced Industrial Science and Technology (AIST), King Mongkut's University of Technology Thonburi (KIMUTT), ASEAN Centre for Energy (AEC)

#### Geographic Scope

**ASEAN** 

#### **Project Period**

April 2025-March 2026







#### **Enhancing ASEAN-GCC Economic Relations: A Possible Strategic Approach**

Anna Robeniol, Salvador M. Buban, Dionisius A. Narjoko

#### **Summary**

The study 'Enhancing ASEAN-GCC Economic Relations: A Possible Strategic Approach' is a strategic contribution to one of the Priority Economic Deliverables (PEDs) identified by Malaysia as ASEAN Chair for 2025. The study aims to support the formulation of the Declaration on ASEAN–Gulf Cooperation Council (GCC) Economic Cooperation, to be adopted at the Second ASEAN–GCC Summit in May 2025.

Following the adoption of the ASEAN–GCC Framework of Cooperation 2024–2028 during the First ASEAN–GCC Summit in October 2023, both regions recognised the need to deepen trade and investment ties. The 56th ASEAN Economic Ministers (AEM) Meeting in September 2024 subsequently endorsed the conduct of an independent study to assess the feasibility of an ASEAN–GCC Free Trade Agreement (FTA) or alternative forms of sectoral cooperation.

The study begins with a contextual overview of the ASEAN–GCC relationship, analysing the trade and investment patterns and diplomatic engagements. It then evaluates the trade negotiating positions of GCC countries and ASEAN Member States (AMS), drawing comparisons between two scenarios: (a) establishment of a dedicated ASEAN–GCC FTA, and (b) the possibility of GCC joining the Regional Comprehensive Economic Partnership (RCEP).

#### **Policy Implications**

The analytical portion considers economic benefits, costs of negotiations, and sectoral sensitivities critical to both regions. It also examines the role of non-tariff measures (NTMs) and trade facilitation (TF) as persistent challenges and opportunities in enhancing bilateral trade flows. Key recommendations will guide policymakers on the practicality of entering into a comprehensive FTA, explore phased or sectoral approaches (e.g. digital trade, energy collaboration, logistics connectivity), and outline a strategic path towards deeper ASEAN-GCC integration.

The study supports ASEAN's strategic thrust in enhancing trade and investment, fostering resilience amidst global geopolitical challenges, and contributing to ASEAN's external economic engagement strategy.

#### **Geographic Scope**

ASEAN and GCC Member States (Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Bahrain, Oman)

#### **Project Period**

September 2024-May 2025





### Enhancing Economic Integration between ASEAN and India through a Strategic Upgrade of AITIGA

Anna Robeniol, Salvador M. Buban, Rashesh Shrestha, Anita Prakash

#### **Summary**

This study provides technical inputs to the ongoing review of the ASEAN–India Trade in Goods Agreement (AITIGA), originally signed in 2009 and enforced since 2010. AITIGA was a milestone in ASEAN–India economic relations, offering preferential market access for over 76% of traded goods. However, recent shifts in the global trade environment, including rising protectionism, pandemic-induced disruptions, and emerging supply chain risks, have prompted ASEAN and India to revisit the agreement.

The study evaluates the effectiveness of AITIGA, identifying gaps and proposing areas for enhancement. The objective is to modernise the agreement to be simpler, more business-friendly, and supportive of inclusive and sustainable trade.

#### **Policy Implications**

#### The study covers:

- 1. Assessment of tariff liberalisation and rules of origin;
- 2. Identification of trade facilitation issues related to NTMs (SPS, TBT), customs, and logistics;
- 3. Mapping of regulatory and connectivity bottlenecks (physical, institutional, financial);
- 4. Inclusion of new elements such as digital trade, MSME support, e-commerce, circular economy, and sustainable trade;
- 5. Examination of investment and services trade potential, including the movement of professionals and cooperation in IT, BPO, and fintech.

#### **Partner Organisations**

ASEAN-India TNC, ASEAN Secretariat

#### **Project Period**

October 2023-December 2024

#### **Geographic Scope**

ASEAN and India





# Strategic Analysis of Indonesia's OECD Membership: Institutional Architecture and Economic Benefits Assessment

Dionisius Narjoko

### **Summary**

The project addresses a request from the Coordinating Ministry Office for Economic Affairs (CMEA) of Indonesia concerning the country's accession process to the Organisation for Economic Co-operation and Development (OECD).

The project plans to conduct two studies:

#### 1. Institutional Model Assessment

This study will evaluate optimal institutional arrangements for Indonesia's OECD engagement, both during the accession process and after potential membership is approved.

The study will provide a detailed comparative analysis of OECD representation options, evaluating the tradeoffs between establishing a dedicated Permanent Mission and appointing a Deputy Permanent Delegate within the existing Indonesian Embassy in Paris. The evaluation will incorporate insights from other OECD members in the East Asia Summit (EAS), namely Japan, the Republic of Korea, Australia, and New Zealand.

### 2. Economic Impact Analysis

The second study will quantify the potential economic benefits of Indonesia's OECD membership through robust econometric modelling. It will provide the ministry with concrete data to demonstrate tangible benefits to stakeholders and the general public.

More specifically, the study will build on previous qualitative assessments by presenting quantitative forecasts of Indonesia's potential economic gains from the OECD membership, including projections related to investment inflows and economic growth. The methodology will be similar to ERIA's previous impact assessments for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the ASEAN–Gulf Cooperation Council (ASEAN–GCC FTA).

### **Policy Implications**

The institutional model assessment will provide the Indonesian government with recommendations on the optimal institutional setting and/or format for Indonesia's participation in the OECD.

The impact analysis is intended to inform stakeholders of the benefits of Indonesia's OECD membership. It is important to note that the study will, at the same time, serve to raise awareness amongst stakeholders and the general public about the advantages of joining the OECD. In other words, this study also contributes to mainstreaming the participation of Indonesia in the OECD.

These studies are expected to produce project reports and discussion papers.



### **Partner Organisations**

Coordinating Ministry for Economic Affairs of Indonesia

### **Geographic Scope**

ASEAN and India

### **Project Period**

May 2025-March 2026





# Value Chain Mapping and Fiscal Incentive Analysis for Strategic Industries Development in Indonesia: Downstreaming and Semiconductor Sector

Dionisius Narjoko

### **Summary**

The project responds to a proposed collaboration between the Ministry of Industry of Indonesia with ERIA, with plans to conduct two studies:

1. Value Chain Mapping for Strategic Downstreaming Industries

This study will explore Indonesia's industrial growth potential through the downstream processing of intermediate goods, identifying valuable opportunities and offering policy recommendations for implementation.

The study aims to deliver a comprehensive mapping of intermediary goods sectors suitable with strong potential for downstreaming. This will include detailed value chain analyses of key commodities such as coconut and carrageenan (a primary derivative from seaweed).

2. Fiscal Incentive Impact Analysis: Focus on the Semiconductor Sector

This study will evaluate how fiscal incentives and other industrial policy tools on impact growth and investment in the Indonesian economy, with a specific case study on Indonesia's semiconductor industry. It will assess the effectiveness of these initiatives and examine economic spillover effects.

The project will develop a comprehensive cost-benefit analysis (CBA) framework for evaluating fiscal incentives across strategic industries. This framework will include a detailed multiplier effect analysis focusing on semiconductor industry investments. The study will deliver an impact evaluation methodology that can be applied in future assessments of other different industrial sectors – addressing the Ministry of Industry's need for better data interpretation and policy decision-making.

### **Policy Implications**

The study on downstreaming will produce actionable policy recommendations for implementing effective downstreaming strategies, supported by thorough assessments of value-added potential for each identified sector. The final output will include an implementation framework for innovative downstreaming policies that can be adapted across different industrial contexts.

The fiscal incentive study will produce quantitative assessments of fiscal incentive effectiveness, accompanied by evidence-based policy recommendations for optimising incentive structures.

These studies are expected to produce research reports.

### Partner Organisations

### **Project Period**

Ministry of Industry of Indonesia

May 2025-March 2026

### **Geographic Scope**

Indonesia





### ASEAN Framework for Integrated Semiconductor Supply-Chain (AFISS)

Han Phoumin (ERIA), Prof. Dr Azrul Azlan Hamzah (IKMAS)

### **Summary**

The market size of the ASEAN semiconductor industry was valued at US\$26.91 billion in 2020, to US\$31.32 billion in 2023, and is projected to reach US\$52.9 billion by 2032, with a compound annual growth rate (CAGR) of 5.98% from 2024 to 2032.

ASEAN semiconductor exports amounted to US\$165.3 billion in 2022, up from US\$52.3 billion in 2017. ASEAN's strategic position is further compounded by the rising geopolitical tensions between the United States and China, which contributed to an increase in the FDI by 42% to US\$174 billion in 2021. Singapore, Malaysia, Thailand, the Philippines, Indonesia, and Viet Nam are the main active players in the semiconductor sector in ASEAN, while the remaining member states have minimal trade participation (Prabheesh and Vidya, 2024).

There is an increasing push to diversify the global semiconductor supply chain and recent strategic 'decoupling' and 'de-risking' trends have opened up opportunities for ASEAN, as manufacturing industries are shifting their focus and investment towards the region. Furthermore, the abundant natural resources in ASEAN, especially semiconductor metals, rare earth materials, and high purity silica, position ASEAN to be a strategic resource at the beginning of the semiconductor supply chain.

ASEAN has talent pools for the semiconductor industry throughout the region. For example, Viet Nam and the Philippines could supply medium-skilled technicians and engineers to more advanced semiconductor hubs like Malaysia and Singapore, or directly supply the talents to Outsourced Semiconductor Assembly and Test (OSAT) players in the region. Highly skilled technicians and engineers from AMS could directly feed into the foundries, integrated circuit (IC) design, and other semiconductor companies operating in the region. Hence, AFISS will prepare strategies for talent development in the semiconductor for all ASEAN Member States.

Moving towards 2045, ASEAN has the potential to deepen collaboration on the development of semiconductor-related industries and investment by integrating and connecting the supply chains across the region. This will contribute to the integration of science, technology, and innovation to prepare ASEAN to become an applied technology frontrunner in advance future and digital technologies.

### **Policy Implications**

The objectives of AFISS are as follows:

- To map ASEAN's position in the semiconductor trade network, facilitating a comparative analysis of the economic strengths of these economies and their ability to derive benefits from participating in global value chains (GVCs); and
- 2. To develop a framework on how to integrate the semiconductor supply chain across ASEAN based on the comparative advantages of each ASEAN Member State.



### **Partner Organisations**

IKMAS UKM (The Institute of Malaysian and International Studies, Universiti Kebangsaan Malaysia)

### **Project Period**

December 2024–September 2025

### **Geographic Scope**

ASEAN and East Asia

### **Related ERIA Publications**

Prabheesh, K.P. and C.T. Vidya (2024), 'Interconnected Horizons: ASEAN's Journey in the Global Semiconductor Trade Network Amidst the COVID-19 Pandemic'. ERIA Discussion Paper 2024-504. Jakarta: ERIA. Available at: https://www.eria.org/publications/interconnected-horizons-aseans-journey-in-the-global-semiconductortrade-network-amidst-the-covid-19-pandemic







## Building and Reshaping the Supply Chain of Semiconductor Industries in ASEAN and East Asia

Han Phoumin

### **Summary**

The semiconductor industry – vital to digital transformation, green innovation, and national security – has entered a new phase marked by geopolitical realignments and accelerated global demand. Against this backdrop, this ERIA-led project aims to investigate how ASEAN and East Asian economies can strategically reposition themselves in the evolving semiconductor supply chain amidst intensifying global competition and national security-driven trade policies.

The research will assess the impact of renewed geopolitical tensions under the second administration of President Donald Trump ('Trump 2.0'), which has catalysed a major shift in US industrial policy to promote domestic semiconductor manufacturing and reduce dependence on East Asia. At the same time, the European Union (EU), Japan, and China are recalibrating their semiconductor strategies, creating both challenges and opportunities for regional players. ASEAN's established strengths in assembly, testing, and packaging, coupled with its ambition to move up the value chain, place the region at a pivotal juncture.

This study will combine desk research, UN Comtrade data analysis, innovation indices, talent pool assessments, and targeted surveys across selected ASEAN countries. It seeks to identify current supply chain positions, key bottlenecks, and national aspirations within the semiconductor ecosystem. Insights from industry players, policymakers, and regional stakeholders will shape policy recommendations for enhancing supply chain resilience, strengthening human capital, and fostering innovation ecosystems.

Expected outputs include a book, policy briefs, and high-level dissemination through regional forums. These are designed to guide ASEAN policymakers and industry leaders in navigating the semiconductor realignment. By leveraging regional complementarities and aligning strategic interests, ASEAN and its partners can build a more secure, resilient, and competitive semiconductor supply chain that supports long-term technological and economic growth.

### **Policy Implications**

1. Strategic Positioning of ASEAN in the Global Semiconductor Value Chain

The study will offer guidance on how ASEAN countries can move beyond assembly, testing, and packaging roles towards higher-value segments such as integrated circuit (IC) design, R&D, and advanced manufacturing, thereby capturing more economic value and technological capabilities.

2. National Semiconductor Development Strategies

Policy recommendations will support the creation or refinement of national strategies focused on semiconductor industry growth - emphasising investment incentives, public-private partnerships, and infrastructure development, tailored to each ASEAN country's comparative strengths.

3. Supply Chain Resilience and Diversification

Given the increased risk of geopolitical disruption, the study will advocate for policy frameworks that encourage diversification of supply sources, regional redundancy, and strategic stockpiling to strengthen supply chain resilience.



### 4. Investment in Semiconductor Talent Ecosystems

The findings will emphasise the need for government policies that invest in human capital development through university-industry collaboration, vocational training programmes, and talent mobility mechanisms within ASEAN and East Asia.

### 5. Enhanced Regional Collaboration and Standards Harmonisation

The research will promote cross-border policy coordination – such as common intellectual property (IP) protection standards, interoperable digital infrastructure, and shared innovation hubs – to create a more integrated and efficient regional ecosystem.

### 6. Public Sector Support for Strategic Industries

Drawing on lessons from the US, EU, and Japan, the study may recommend state-backed financing tools, tax breaks, and targeted subsidies to incubate local semiconductor firms and attract foreign direct investment in critical segments of the supply chain.

### 7. Technology Transfer and Innovation Policy

Policymakers will be encouraged to develop regulatory environments that facilitate responsible technology transfer, co-development partnerships, and access to next-generation technologies, especially under global export control constraints.

### **Partner Organisations**

### **Project Period**

To be decided

September 2025-December 2026

### **Geographic Scope**

ASEAN and East Asia, leveraging the global value chain of the semiconductor industries

#### **Related ERIA Publications**

Book and policy briefs





# Stakeholder Consultations on ASEAN Framework for Integrated Semiconductor Supply Chain (AFISS) with ASEAN Member States

Han Phoumin, Intan M. Ramli

### **Summary**

As the global semiconductor industry undergoes rapid transformation amidst geopolitical tensions, digital acceleration, and technological shifts, ASEAN must adopt a proactive and unified strategy to strengthen its position within the evolving global value chain. The ASEAN Framework for Integrated Semiconductor Supply Chain (AFISS), developed by ERIA, seeks to position the region as a competitive and resilient semiconductor hub. This initiative aligns with ASEAN's priorities in supply chain resilience, digital transformation, human capital development, and innovation.

Following the successful presentation of AFISS' preliminary findings at the 31st ASEAN Economic Ministers (AEM) Retreat, ERIA was encouraged to undertake stakeholder consultations across ASEAN Member States (AMS). The consultations aim to validate and promote the framework amongst key stakeholders, including government bodies, semiconductor industry players, academia, and the ASEAN Secretariat, ensuring alignment with national interests and regional ambitions.

To this end, the project will conduct a series of focused group discussions (FGDs) and regional workshops across Cambodia, Indonesia, the Philippines, and Malaysia between June and November 2025. These engagements will gather in-depth feedback, foster regional dialogue, and secure commitments from AMS to support the framework's implementation. The process will also encourage cross-sectoral collaboration, address talent migration challenges, and identify investment opportunities to enhance ASEAN's semiconductor ecosystem.

Please note that the remaining budget may also be allocated to conduct additional consultations with AMS throughout 2026, with the aim of deepening mutual understanding and refining the AFISS.

### **Policy Implications**

The consultations will serve as the foundation for refining and finalising the AFISS, leading to a comprehensive report and policy recommendations by December 2025. This initiative aims to align national development strategies with a regional vision, strengthening ASEAN's position in the global semiconductor landscape and advancing its digital and sustainable development goals.

### **Partner Organisations**

**Project Period** 

ASEAN Secretariat and IKMAS/UKM

June 2025-December 2026

### **Geographic Scope**

**ASEAN** 

### **Related ERIA Publications**

Policy briefs





# Capacity Building for Piloting the ASEAN Good Regulatory Practice Handbook for the Electric Vehicles and Battery Industry Sectors in Cambodia

Jeremy Gross, Lina Maulidina

### **Summary**

The Mid-Term Review of the ASEAN Economic Community (AEC) Blueprint 2025 recommends integrating the ASEAN Good Regulatory Practice (GRP) Core Principles into the work of the AEC sectors and promoting additional GRP reforms through appropriate capacity building. This pilot project, focused on the electric vehicle (EV) and battery industry in Cambodia, presents an opportunity for the country to showcase how new technology could be smoothly embraced through advanced policies and regulations that adhere to the ASEAN GRP Core Principles.

This capacity-building pilot project will highlight the challenges and solutions for Cambodia for developing effective and robust regulations that will support the development of the country's EV sector. At the same time, the project seeks to promote the principles, practice, benefits, and challenges associated with GRP amongst policymakers. The first strategy can contribute to generating strong buy-in, support, and trust from investors and consumers, whilst the second strengthens regulatory governance in Cambodia. Highlighting the importance of regulatory coherence while reducing unnecessary costs for industry players will increase Cambodia's competitiveness.

In line with the objectives of the ASEAN Work Plan on GRP 2016-2025, this initiative will:

- a. Provide capacity building for a select group of Cambodian officials to become core experts on GRP in principle and practice;
- b. Support these experts in understanding how to pilot a GRP study using the EV and battery industry as a case example;
- c. Involve working with officials to develop policy research on the identified strategic sector;
- d. Observe the implementation of key GRP measures in the identified strategic sectors;
- e. Promote the use of the ASEAN Handbook on Good Regulatory Practice as a guide for Cambodia in embedding and institutionalising the six GRP Core Principles, supported by follow-up activities after piloting the Handbook to show the results to a wider audience.

The proposed deliverables of this pilot project are:

- 1. A workshop for Cambodian officials to guide them through the steps and stages required to pilot the ASEAN Handbook in their identified sector;
- 2. Mentorship for the officials as they implement their assessment of GRP in the identified sectors in the form of a Regulatory Impact Statement (RIS); and
- 3. Public outreach initiatives to socialise the outcomes of the piloting exercise, and, if necessary, provide capacity building on the elements of RIS/stakeholder consultation/engagement in their efforts to implement GRP in their industry.

### **Policy Implications**

Regulatory reform and improvement.



### **Partner Organisations**

Council of Jurists with multiple line ministries, Cambodia

### **Project Period**

December 2024-November 2025 (est.)

### **Geographic Scope**

Cambodia

### **Related ERIA Publications**

ERIA and ASEAN (2022), ASEAN Handbook on Good Regulatory Practice. Jakarta: The ASEAN Secretariat. Available at: https://asean.org/book/asean-handbook-on-good-regulatory-practice



### **Summary**

International trade integration is a key contributor to economic growth. However, it is a highly technical area, with methods and approaches changing rapidly as new data and research becomes available.

This course is designed to provide Cambodian government officials with a clear understanding of the essential tools used by trade policy analysts to assess the impacts of changes in trade policy. As Cambodia considers further opening its external sector, it is important for the government to be armed with analytical insights to help understand the economic dynamics such action would set in play. Without such analytics, policymakers would be unable to accurately assess potential economic effects of a policy change or track progress on the ground once the change is made.

The course will equip participants with the skills to examine how trade policies and reforms affect different groups in society in different ways. Additionally, applying a Gender Equality, Disability, and Social Inclusion (GEDSI) lens to trade policy analysis can help ensure that the benefits of trade are distributed more equitably, and that potential risks or unintended consequences for women, persons with disabilities, informal workers, or other groups are better understood. Consistent with standard economic analysis, the course will make a clear distinction between trade policy used to achieve trade objectives (first-best in a welfare sense) and domestic policies used to achieve non-trade objectives (also first-best in a welfare sense). The course will reference how GEDSI principles could be applied in practice, while taking note of the absence of gender-disaggregated trade and consumption data in most low- and middle-income countries, as well as the limited availability of gender-disaggregated employment data.

Practical application of basic tools will be encouraged through exercises, while more complex methodologies will be presented through a framework that helps identify the most suitable approaches for particular contexts.

A key element of our approach is to avoid presenting trade policy analysis as a purely academic exercise, instead showing how it can concretely inform policymaking in areas like regional integration, trade facilitation, or trade in services.

The course outline is as follows:

- Session One: Introduction to Trade Theory and Policy
- Session Two: Trade Indicators: Methods and Interpretation
- Session Three: Econometric Modelling of Trade Flows
- Session Four: Partial and General Equilibrium Modelling
- Session Five: Indictors on Services Trade Liberalisation
- Session Six: From Research to Policy
- Sessions Seven and Eight: Practical Work

This will be an online course for around 20 government officials.

### **Partner Organisations**

### **Project Period**

Ministry of Commerce, Cambodia

April-September 2025

### **Geographic Scope**

Cambodia



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### **Customs Study on Trade Digitalisation in ASEAN**

Rashesh Shrestha

### **Summary**

This study's overarching goals are to strengthen digital certification and verification for trade between ASEAN and New Zealand, and to explore the possibility of utilising the ASEAN Single Window and/or individual ASEAN Member States' (AMS) Single Window to further facilitate trade between the two regions. Specifically, the study aims to assess the current state and use of digital certification, identify existing barriers, and recommend measures for more effective trade between ASEAN and New Zealand.

This research is expected to benefit both ASEAN and New Zealand by identifying opportunities to leverage digital systems to enhance trade, strengthen supply chains, and streamline border processes through greater digitalisation and integration. This study will help build linkages amongst government agencies or regulators in New Zealand and ASEAN, drawing on the expertise of the New Zealand Ministry for Primary Industries (MPI) and New Zealand Customs in operating electronic certification systems for prescribed documents under various foreign trade agreements (FTAs) and market access agreements. These systems facilitate and support New Zealand traders in B2G/G2B and G2G environments, reduce non-tariff barriers, enhance compliance activities, and provide assurance throughout both exporting and importing supply chains. Thus, the study will provide a platform and lay the groundwork for greater cooperation and enhanced trade facilitation.

The study is also expected to benefit AMS as they work to enhance existing processes and strengthen digital infrastructure. Despite progress in the implementation of a regional Single Window system, many AMS still rely on complex and manual procedures for importing goods, especially when trading with non-ASEAN partners. These inefficiencies have contributed to uncertainties, inconsistencies, and delays. The upgraded ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) includes a dedicated e-commerce chapter addressing a range of digital trade issues, highlighting the need for modernised processes. Therefore, this research will support the implementation of more effective trade management under ASEAN's preferential trade agreements, particularly AANZFTA and the Regional Comprehensive Economic Partnership (RCEP). Ultimately, this study will draw on New Zealand's expertise to contribute to strengthening trade and regulatory activities across AMS.

### **Policy Implications**

The study will offer recommendations on how to digitalise trade procedures and processes in ASEAN countries to enable seamless trade with New Zealand and other dialogue partners.

### **Partner Organisations**

New Zealand Customs

### **Project Period**

August 2024-December 2025

### **Geographic Scope**

Cambodia





### Summary

The Trade Policy Advvisory Group (TradePAG) is a strategic initiative jointly implemented by ERIA and the Trade Policy Agency of Indonesia's Ministry of Trade, aimed at strengthening the country's trade policy formulation through evidence-based dialogue. ERIA is working with the said ministry to provide knowledge and advisory support. In 2025, TradePAG will focus on two key topics of national and international significance: (i) strengthening Indonesia's integration into global value chains (GVCs); and (ii) navigating the European Union Deforestation Regulation (EUDR).

As a closed-door expert forum, TradePAG will convene government officials from Ministry of Trade and other relevant agencies, key experts from academia/think tanks, and the private sector through two policy dialogues commencing in mid-2025. The project will assess Indonesia's value chain positioning, identify key bottlenecks – particularly for MSMEs – and develop strategies to meet the EUDR's sustainability and traceability requirements. It will also draw lessons from international case studies (e.g. India, Malaysia, and Brazil) and promote cross-sectoral collaboration to enhance trade resilience, sustainability, and alignment with global standards.

Key deliverables include two policy dialogue events, policy briefs, and strategic recommendations to inform and quide the Minister of Trade and relevant stakeholders on critical trade policy issues.

The first policy dialogue will focus on Indonesia's participation in domestic, regional, and global value chains. It will analyse the country's current position, identify key challenges and opportunities, and generate policy recommendations to enhance logistics and trade connectivity. This includes examining disruptions caused by the COVID-19 pandemic and global trade tensions, and exploring how Indonesia can leverage digitalisation, trade agreements (e.g. RCEP and CPTPP), and regulatory reforms to support its strategic integration. The sessions will also pay close attention to the role of MSMEs in value chains, comparing Indonesia's performance with regional peers and identifying sectors with high potential for inclusion.

The second policy dialogue addresses the challenges and opportunities arising from the EUDR, which requires Indonesia to comply with sustainability and traceability standards for commodities like palm oil, rubber, timber, and cocoa to maintain continued access to the European Union market. TradePAG will explore strategies to ensure continued market access while advancing Indonesia's green trade and sustainability agenda. Discussions will cover policy and regulatory measures, best practices from other countries, and digital traceability tools to align national standards with EUDR requirements and avoid trade disruptions, especially for smallholder farmers.

### **Policy Implications**

This project is expected to yield the following outcomes:

- Strengthened evidence-based policymaking on trade and sustainability
- Policy recommendations on value chain participation, especially for MSMEs
- An actionable roadmap for Indonesia to comply with the EUDR while promoting green trade
- Enhanced alignment of trade, industrial, and SME policies
- Strategic inputs for trade negotiations and implementation of trade agreements



### **Partner Organisations**

### **Project Period**

Trade Policy Agency of Indonesia's Ministry of Trade

July 2025-December 2025

### **Geographic Scope**

Indonesia (primary focus), European Union (EUDR topic), ASEAN countries (for comparative GVC analysis), Global (for value chain benchmarking and international best practices)

#### **Related ERIA Publications**

Kimura, F., S. Thangavelu, C. Findlay, and L. Chen (eds.) (2024), Services Global Supply Chains in ASEAN and East Asia-Implications and Opportunities for Regional Integration. Jakarta: ERIA. Available at: https://www.eria.org/research/services-global-supply-chains-in-asean-and-east-asia-implications-and-opportunities-for-regional-integration

Prakash, A. (ed.) (2023), Regional Integration in Indo-Pacific: *Connectivity, Cooperation, and New Supply-Chain Linkages. ERIA Research Report FY 2022 No. 19.* Jakarta: ERIA. Available at: https://www.eria.org/research/regional-integration-in-indo-pacific-connectivity-cooperation-and-new-supply-chain-linkages

ERIA (2022), The Comprehensive Asia Development Plan (CADP) 3.0: Towards an Integrated, Innovative, Inclusive, and Sustainable Economy. Jakarta: ERIA. Available at: https://www.eria.org/publications/the-comprehensive-asia-development-plan-cadp-30-towards-an-integrated-innovative-inclusive-and-sustainable-economy

Michida, E. (2023), Effectiveness of Self-Regulating Sustainability Standards for the Palm Oil Industry. ERIA Discussion Paper 2023-476. Jakarta: ERIA. Available at: https://www.eria.org/research/effectiveness-of-self-regulating-sustainability-standards-for-the-palm-oil-industry





# Supply Chain Resilience in ASEAN Addressing Protectionism, Decarbonisation, and Digitalisation

Venkatachalam Anbumozhi

### **Summary**

Global supply chains (GSCs) have emerged and continued to be shaped with the primary goal of enhancing operational efficiency, driving the growth of the world economy. However, GSCs currently stand at a historical turning point. Unprecedented uncertainties are compelling GSCs to restructure to become more resilient. These uncertainties include disruptions due to infectious diseases and natural disasters; geopolitical risks like the US–China trade war; the rise of protectionist policies, industrial automation, and digitalisation policy interventions in major countries; and the increasing pressure to address sustainability issues. What will be the new normal for global supply chains? What should resilient GSCs look like? What strategies should governments and businesses adopt individually and collectively to overcome multiple crises while enhancing resilience, sustainability, economically stability, innovation, and agility?

This study provides evidence and policy recommendations to help ASEAN Member States (AMS) navigate GSC uncertainties. This research aims to make three key contributions:

- Timely insights into short-term issues arising from emerging supply chain disruption risks, particularly due to radical reciprocal tariff increases and other protective measures under the Trump 2.0 administration;
- 2. A unique in-depth analysis of the medium- to long-term challenges and opportunities regarding digitalisation and decarbonisation); and
- 3. A focus on firm-level responses to supply chain consolidation and fragmentation (i.e. multinational corporations' supply chain restructuring strategies and impacts on local firms in ASEAN). Our study will support AMS in designing active policy measures in line with the shifting business activities in areas such as responsive procurement, sustainable production, and collective selling.

The research is built upon the hypothesis that building longer-term resilience will require a collective system-wide response by ASEAN, alongside the adoption of new economic policies and strategic approaches to digitalisation and decarbonisation. Addressing these uncertainties in a collective way will reduce complexity within the GCS system, lower costs, and improve market efficiency. This will help supply chain operators in AMS reach the next optimal level of performance.

### **Policy Implications**

The policy recommendation areas will include hard and soft connectivity, trade and investment, industrial development, and human resource development, as well as policy coordination amongst AMS. These expected outcomes will help promote national policies of each country.

This research will also highlight the importance of strengthening intra- and inter-regional connectivity and help reinvigorate related ASEAN initiatives such as the Framework on ASEAN Supply Chain Efficiency and Resilience, the ASEAN Investment Promotion Action Plan 2025–2030, and other economic integration frameworks including the ASEAN Economic Community (AEC), Regional Comprehensive Economic Partnership (RCEP), and ASEAN Plus Free Trade Area (FTA) Agreements, including those with partner countries in emerging markets.



### **Partner Organisations**

### **Project Period**

IDE-JETRO

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### **Geographic Scope**

ASEAN, China, India, Japan, Taiwan, and the US

### **Related ERIA Publications**

Anbumozhi, V., F. Kimura, and S. Thangavelu (eds.) (2020), *Supply Chain Resilience: Reducing Vulnerability to Economic Shocks, Financial Crises, and Natural Disasters*. Jakarta: ERIA. Available at: https://www.eria.org/research/supply-chain-resilience-reducing-vulnerability-to-economic-shocks-financial-crises-and-natural-disasters





# Sustainability Due Diligence Regulations: Understanding the Impact and Building Expertise

Yoshitaka Watanahe

### **Summary**

The lack of mechanisms to hold multinational companies accountable for labour, human rights, and environmental issues involving their foreign subsidiaries and business partners has long been recognised as a governance gap. Legal barriers such as the principle of separate corporate personality, limited liability, and issues of international jurisdiction have made it difficult to assign legal responsibility to lead companies for harms occurring abroad. Labour and environmental clauses in trade agreements have also been questioned for their effectiveness.

In 2011, the UN Guiding Principles on Business and Human Rights (UNGPs) clarified that businesses have a responsibility to respect human rights and introduced human rights due diligence as a continuous risk management process across the value chain. This concept has since been incorporated into the revised OECD Guidelines for Multinational Enterprises and other international instruments, explicitly extending to various business-related areas, including climate change and other environmental issues. Sector-specific guidance and disclosure standards have also been developed.

However, critics have pointed to the limited effectiveness of such voluntary efforts, while business actors also emphasise the need for a level playing field through clear and consistent rules. In response, human rights and environmental due diligence (HREDD) regulations are increasingly being introduced, particularly in Europe. Amongst these, recent regulations not only impose reporting obligations but also require companies to conduct risk-based due diligence. In terms of scope, while some laws are thematic or sector-specific, more recent regulations like the EU Corporate Sustainability Due Diligence Directive (CSDDD) apply horizontally across industries, requiring companies to address their human rights and environmental impacts within relevant business relationships. To ensure the effectiveness of the regulations, some include measures such as bans on the circulation of non-compliant products and penalties on non-compliant companies.

While these regulatory developments are welcomed by some, concerns have been raised regarding the potential rigidity in the implementation and the risk of encouraging a formalistic, tick-box approach that undermines genuine accountability. Additional 'unintended consequences' have been pointed out, such as the shifting of compliance burdens to SMEs and smallholders in the supply chain, and the potential exclusion of those lacking the resources for compliance from the market. Furthermore, critics have highlighted the insufficient involvement of the Global South in policymaking processes, which may undermine the role of these states.

In ASEAN, awareness of these regulatory developments remains low, except in sectors significantly affected by export restrictions. The impact on individual ASEAN businesses varies depending on several factors, but those with insufficient knowledge or awareness of legal requirements may face disadvantages. At the same time, these global challenges may also present new business opportunities for companies advancing the transition towards more sustainable practices.

Given this context, this study aims to clarify the complex global development of sustainability due diligence regulations, while providing insights into how ASEAN governments and companies can respond proactively and effectively to these global sustainability challenges.



### **Policy Implications**

This project is expected to inform policy debates and practices in ASEAN countries as they respond to the evolving global landscape of sustainability due diligence regulations. It aims to provide policymakers with insights into legal and institutional approaches that can enhance regulatory preparedness and promote responsible business conduct in global supply chains. Furthermore, the project will offer practical options for ASEAN governments and enterprises to respond effectively to emerging legal requirements, minimise unintended impacts, and ensure inclusive and sustainable economic participation in the face of growing international expectations.

### **Project Period**







### Japan-ASEAN AI Innovation Co-creation Roadmap

Aladdin D. Rillo, Giulia Ajmone Marsan, Hiroshi Ishikawa, Kentaro Machii

### **Summary**

Advancements in artificial intelligence (AI) have made an impact not only on the information and technology sector, but also across entire industries and society as a whole. All has the potential to significantly boost productivity, presenting a leapfrogging opportunity for fast-growing regions such as ASEAN. However, delayed responses to AI development could widen disparities between countries, particularly those with limited access to AI technology and infrastructure.

Moreover, innovation progress in the United States and China could heavily influence other regions, potentially leaving them behind under a business-as-usual scenario. The growing fragmentation of the US-China innovation ecosystems may also impose constraints on countries such as Japan and those in ASEAN. Additionally, Al advancements are likely to have far-reaching economic and societal impacts, posing challenges in ASEAN and Japan such as:

- 1. The disappearance of certain jobs, alongside the emergence of new roles;
- 2. Enhanced productivity in some industries through AI adoption, with others losing competitiveness if unable to adapt;
- 3. Rising energy demand driven by the establishment of data centres across the region; and
- 4. The critical importance of access to computing power in determining national competitiveness.

Given the critical importance of keeping pace with the latest technological innovations, intra-regional cooperation within ASEAN and inter-regional cooperation between ASEAN and its partners – such as Japan – are essential. The Japan–ASEAN AI Innovation Co-Creation Roadmap is a strategic collaboration plan designed to foster AI deployment and adoption in the region, and to fully realise reputational, societal, and economic benefits. The roadmap is expected to include:

- 1. Insights into the Al adoption journeys of ASEAN Member States (AMS) and Japan.
- 2. Key drivers of Al adoption, namely infrastructure, data and privacy, innovation and startups, and talent.
- 3. Steps to develop tangible initiatives to drive mutual collaboration and co-investment between ASEAN and Japan.



### Policy Implications

For ASEAN to be a leading hub for AI – capable of driving global trends, societal transformation, and economic uplift through increased gross domestic product – the roadmap will focus on developing a comprehensive and robust AI ecosystem built around six initiative clusters:

- 1. talent and capabilities,
- 2. adoption and R&D,
- 3. venture and innovation,
- 4. knowledge sharing,
- 5. governance, and
- 6. physical and digital infrastructure.

### **Geographic Scope**

Japan & ASEAN

### **Project Period**

January 2025-May 2025



## Enhancing Green Digital Finance in Cambodia Han Phoumin

### **Summary**

Spearheaded by ERIA in partnership with the National Bank of Cambodia (NBC), this project aims to support the strategic development of green digital finance (GDF) in Cambodia. Under a Memorandum of Understanding signed in May 2024, ERIA and NBC committed to a three-year collaboration (2024–2027) to develop policy-relevant research and actionable recommendations that align Cambodia's financial innovation with sustainability and digital transformation objectives.

For Fiscal Year 2025, the project will conduct a comprehensive study on global and regional GDF practices, with a special focus on ASEAN economies, to inform context-specific strategies for Cambodia. The research will examine both the supply and demand sides of Cambodia's current GDF landscape through stakeholder mapping, key informant interviews (KIIs), and case studies. Targeted stakeholders include banks, microfinance institutions (MFIs), financial technology (fintech) companies, regulators, green businesses, and development partners.

The study will explore existing barriers, capacity gaps, and opportunities in GDF adoption while identifying innovative financial instruments that can be localised to enhance Cambodia's green finance ecosystem. Outputs will include policy recommendations designed to foster inclusive, technology-driven green finance aligned with global sustainability goals.

Outputs will include a research publication and a set of policy recommendations delivered to the NBC. Stakeholder engagement will be facilitated through two national workshops, supported by a survey and expert consultations.

This initiative positions Cambodia to harness digital innovation in its transition towards a low-carbon economy while contributing to the broader ASEAN agenda for digital economy transformation and sustainable development.

Kindly note that this project may also be reoriented to support Malaysia's ASEAN Chairmanship, with a focus on developing the Roadmap for ASEAN's Semiconductor Industry. In this context, the study will serve as a foundational pillar to inform and guide the roadmap's formulation.

### **Policy Implications**

1. Development of a National Green Digital Finance Framework

The study is expected to support the formulation of a strategic framework to guide the integration of environmental, social, and governance (ESG) principles into Cambodia's financial system through digital means. This framework will align financial regulations with sustainability targets and digital economy policies.

2. Promotion of Inclusive Green Finance Access.

Policy recommendations will likely focus on expanding access to green financial products, particularly for micro, small, and medium-sized enterprises (MSMEs) and underserved populations – by leveraging digital platforms and fintech.

3. Regulatory Innovation and Sandboxing

The research will advocate for regulatory innovations, such as digital sandbox environments and green fintech licensing schemes, to enable safe experimentation and scaling of innovative green finance models.

4. Integration of ESG Standards into Banking and Fintech

The study may propose guidelines for banks, MFIs, and fintech companies to incorporate ESG risk assessment tools and climate-related disclosures, enabling a more transparent and responsible financial ecosystem.

5. Capacity Building and Institutional Coordination

A coordinated approach involving the NBC, financial institutions, green businesses, and development partners will be recommended to enhance institutional capacities and cross-sectoral collaboration on green finance policy execution.

6. Digital Infrastructure for Sustainability Reporting

The findings may lead to policies promoting digital tools (e.g. blockchain and data platforms) for efficient sustainability performance tracking, green taxonomy compliance, and impact measurement.

7. Incentive Schemes for Green Finance Mobilisation

Recommendations could include tax incentives, preferential interest rates, or risk-sharing mechanisms to stimulate private sector participation in green investments via digital finance platforms.

### Partner Organisations

### **Project Period**

National Bank of Cambodia

April 2025-March 2026

### **Geographic Scope**

Cambodia in particular, but leveraging the global and ASEAN's experience





# Accelerating the Growth of a More Sustainable, Connected, and Inclusive ASEAN Capital Market

Intan Murnira Ramli

### **Summary**

The ASEAN Capital Markets Forum (ACMF) is a high-level grouping of capital market regulators from all 10 ASEAN jurisdictions. The primary responsibility of ACMF is to develop a deep, liquid, and integrated ASEAN capital market. Thus, an action plan is needed to achieve its goals. The development of ASEAN Capital Market Forum Action Plan 2026–2030 will build on the successes of the ACMF Action Plan 2021–2025 and will be shaped through extensive feedback and collaboration from member states, stakeholders, and subject matter resources to ensure that the Action Plan is comprehensive and could increase ACMF relevance to emerging challenges of the era, such as cybersecurity, climate change, and inclusivity across ASEAN.

### **Policy Implications**

- These tools will support more companies, both public listed, as well as MSMEs in their journey towards a just and inclusive transition, thereby promoting ASEAN as a stronger economic bloc.
   These initiatives will also facilitate financing avenues for transitioning corporates in ASEAN towards meeting decarbonisation goals.
- 2. The ASEAN Infrastructure Fund (AIF) requires sufficient capital resources to continue co-financing climate transition projects, maintain strong participation to demonstrate commitment to climate goals, attract private capital, and sustain green project development in ASEAN, ensuring the region's ability to meet its climate commitments.
- 3. This project also aims to:
  - a. Improve access to broader sources of funding solutions, investments, and financial support.
  - b. Equip SMEs with the know-how and funding to transition or participate in green markets.
  - c. Reduce the costs for SMEs to participate in global markets amidst developments in global regulatory practices (e.g. the EU's CBAM and the US' IRA).

### **Partner Organisations**

### **Project Period**

Securities Commission Malaysia

October 2024-November 2025

### **Geographic Scope**

**ASFAN** 

### **Related ERIA Publications**

Zen, F., F. Kimura, and A. J. Purwanto (2024), Fiscal Policy to Support the Green and Just Energy Transition. ERIA Research Project Report 2024-28. Available at: https://www.eria.org/research/fiscal-policy-to-support-the-green-and-just-energy-transition



# 31

### Establishing a Semiconductor Ecosystem in Cambodia

Jeremy Gross, Lina Maulidina

### **Summary**

ASEAN's semiconductor industry plays a critical role in the region's economic development due to its integral position in the global supply chain for electronics, automotive, telecommunications, and many other sectors. As the backbone of modern technology, semiconductors power nearly every electronic device, from smartphones to advanced medical equipment. ASEAN, with its growing industrial base and increasing demand for technological products, stands to benefit significantly from the global semiconductor trade, positioning itself as an attractive destination for investment in manufacturing and innovation. ASEAN nations offer competitive advantages, including lower labour costs, strategic geographic locations, and increasing connectivity to key markets such as China, Japan, and the United States. As the global semiconductor market becomes more decentralised, ASEAN has the potential to serve as a manufacturing hub, with countries like Viet Nam, Thailand, and Malaysia already seeing significant investments in semiconductor fabrication and assembly.

For Cambodia and Lao PDR, the semiconductor industry presents a unique opportunity for economic diversification and industrial growth as both countries seek to modernise and move up the value chain. The sector offers a pathway for technological advancement, skill development, and the creation of high-value jobs. By attracting semiconductor firms, Cambodia and Lao PDR can tap into global supply chains, boost their export sector, and foster innovation in electronics manufacturing. To capitalise on these developments, a skilled workforce must be nurtured, infrastructure enhanced and public-private partnerships promoted to create a conducive environment for semiconductor investment.

To achieve this, the two countries must envision what a semiconductor ecosystem would entail, including the requirements and opportunities associated with different levels of semiconductor production.

### **Policy Implications**

Developing a supportive policy framework and ecosystem

### **Partner Organisations**

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Trade Policy Advisory Board, Cambodia

May-July 2025

**Project Period** 

Ministry of Industry and Commerce, Lao PDR

### **Geographic Scope**

Cambodia, Lao PDR

### **Related ERIA Publications**

ERIA's studies on semiconductors



# 32

## **Accelerating Digitalisation for MSMEs**

Lili Yan Ing

### **Summary**

The digital revolution is reshaping economic landscapes worldwide, with a particularly profound impact on micro, small, and medium-sized enterprises (MSMEs) in the tourism and creative industries. For Eastern Indonesia – a region rich in cultural heritage and natural beauty, yet historically constrained by geographical and infrastructural limitations – digitalisation presents an unprecedented opportunity to leapfrog traditional development barriers. By integrating into the global digital economy, MSMEs in this region can enhance operational efficiency, access international markets, and create new value-added products and services. This transformation is not merely an economic shift but a structural evolution that could redefine Eastern Indonesia's role within the ASEAN digital economy.

This study seeks to provide a comprehensive framework for assessing the digitalisation of MSMEs in Eastern Indonesia, with a particular focus on the tourism and creative industries. The assessment will identify both the enabling factors that drive digitalisation and the constraints faced by MSMEs in adopting digital technology.

To achieve these objectives, the study will employ a multi-dimensional approach, combining quantitative data analysis with qualitative case studies of MSMEs at different stages of digital transformation, along with pilot projects supporting MSMEs. Key research questions include:

- 1. What are the primary drivers of digital adoption amongst MSMEs in Eastern Indonesia?
- 2. What structural and institutional barriers hinder digitalisation?
- 3. How can targeted interventions such as improved digital infrastructure, capacity-building programmes, and regulatory support enhance the participation of these enterprises in the digital economy?

These questions will be addressed through econometric modelling, comparative policy analysis, and stakeholder interviews, ensuring a robust and policy-relevant framework.

### **Policy Implications**

A rigorous empirical analysis of the digital transition is both timely and necessary. As global economy undergoes an accelerated shift towards digitalisation, understanding how these changes shape the development trajectories of remote and underserved regions is crucial. By systematically examining the enabling factors and constraints, this study will offer insights into how digital tools can drive inclusive and sustainable economic growth. This research will also generate policy recommendations that can guide national and regional governments in fostering a supportive digital ecosystem.

The findings of this study will have far-reaching implications beyond Eastern Indonesia. As Southeast Asia pursues deeper digital integration, Eastern Indonesia has the potential to serve as a model for how digitalisation can catalyse growth in geographically dispersed and resource-constrained regions. By identifying the critical success factors for digital transformation, this research will provide valuable lessons for other ASEAN economies seeking to leverage digitalisation for regional development. In doing so, it underscores a broader economic imperative: that digital inclusion is not merely a technological challenge but a fundamental pillar of equitable and sustainable growth in the 21st century.



### **Partner Organisations**

Ministry of Trade of Indonesia, Coordinating Ministry for Economic Affairs of Indonesia, Ministry of Tourism and Creative Industry of Indonesia, Ministry of Cooperatives of Indonesia, Indonesia Service Dialogue (ISD) Council

### **Geographic Scope**

Two main areas in Eastern Indonesia

### **Project Period**

April 2025-April 2026









# Effective Trade Management: HS/AHTN, and Tariff Implementation and Transposition of Cambodia's TRS from AHTN/HS 2017 into AHTN/HS 2022

Jeremy Gross, Lina Maulidina Sabrina

### **Summary**

To facilitate international trade and customs processing, goods are classified using established nomenclatures. Product nomenclatures categorise goods based on criteria such as usage, function, or measurement. Tariff nomenclatures are specialised product classifications that incorporate associated tariff rates, enabling the determination of the applicable customs duties for any given product. Each ASEAN Member State utilises a tariff nomenclature based on the ASEAN Harmonised Tariff Nomenclature (AHTN), which is derived from the Harmonised Commodity Description and Coding System (HS) maintained by the World Customs Organization (WCO).

The WCO updates the Harmonised System (HS) approximately every 5 years. Following each update, ASEAN is required to revise its more detailed AHTN to ensure continued alignment with the revised HS codes. The AHTN version, established in 2017, has recently been transposed into a new version conforming to the WCO's 2022 HS update. The Technical Sub-Working Group on Classification (TSWGC) for the AHTN 2022 Text has finalised this transposition process from AHTN 2017 to AHTN 2022. Concurrently, the AHTN Correlation Table 2017–2022 (and vice versa) – the primary tool for this transposition – has also been completed. Preparations are now underway for the subsequent AHTN 2027 revision cycle.

This capacity-building programme is designed to support government officials, primarily from the Cambodian Ministry of Economy and Finance (MEF) and the Ministry of Commerce (MOC). This event constitutes the second workshop in a planned series, following the initial session conducted in 2024.

The workshop aims to equip Cambodian officials with the technical knowledge required to transpose Cambodia's Tariff Commitments from AHTN 2017 to AHTN 2022 under relevant ASEAN-related Free Trade Agreements (FTAs), particularly – though not exclusively – the Regional Comprehensive Economic Partnership (RCEP). The structure of this workshop will focus on the following key areas:

- 1. Methods and options for handling the merger of legacy tariff lines with differing tariff concessions or categories
- 2. Understanding the Harmonised System (HS) and the AHTN structure
- 3. Tariff line breakdown methodologies

### **Policy Implications**

- Trade facilitation and liberalisation
- Tariff reduction schedules

### **Partner Organisations**

Ministry of Economy and Finance (MEF) of the Kingdom of Cambodia

### Geographic Scope

Cambodia

### **Project Period**

December 2024-June 2025



# Table

## **ERIA Executive Training Programme**

### Nobuhiro Aizawa

### **Summary**

The ERIA School of Government (SoG) is dedicated to bridging countries across the region and connecting generations through the sharing of governance and leadership experiences. To pursue this mission, SoG is establishing a network of high-level mentors who will serve as lecturers and advisors for its executive seminars, public forums, and fellowship programmes.

The ERIA Executive Training programme serves as the school's core intellectual engine and a networking hub for Southeast Asian public policy experts. It aims to enhance resilience, stimulate growth, and drive transformative governance practices in the region by facilitating the exchange of best practices and bridging the gap between research and practical application.

### Objectives:

- To develop a premier intellectual club of Southeast Asian and East Asian mentors in public policy
- To promote a cross-discipline public policy approach, combining economic, political, social, and science and technology perspectives
- To provide a networking hub for Southeast Asian public policy experts
- To promote resilience, growth, and transformation in regional governance

### Programme Structure:

- Period: Specialised seminars lasting one day, two days, or 1–2 weeks
- Certificates: Participants will receive digital and physical certificates upon completing certified programmes. Certificate holders will become part of the ERIA network and be invited to future events.

#### Examples of Training Themes:

- Resilience, Growth, and Sustainability
- Emerging Tech and New Social Policy
- Geopolitics/Geoeconomics of Science and Tech
- Domestic and Regional Food Security
- Healthcare Governance Transformation
- SME-Focused Industrial Policy
- · Comprehensive Ageing Society Management
- · Regional Talent Development Planning

### **Policy Implications**

- Successful delivery of executive training programmes that enhance participants' professional development and skillsets
- Establishment of a premier intellectual club of Southeast Asian and East Asian mentors and a regional hub for public policy experts

### **Geographic Scope**

### **Project Period**

Southeast Asia and East Asia



### **Summary**

The ERIA School of Government (SoG) invites fellows to join its community, connecting them with partners committed to addressing regional public policy challenges in ASEAN and East Asia. Based in Jakarta and working in collaboration with researchers and partners, the SoG closely engages with the ASEAN Secretariat to cultivate expertise in ASEAN and regional affairs.

This fellowship aims to establish and strengthen a community of experts dedicated to advancing regional public interests, which are crucial for community-building in Southeast Asia and East Asia. The SoG will determine the form of the fellowship, call for applicants, and organise a rigorous selection process while negotiating with relevant agencies and partners.

Fellows will have the opportunity to attend public lectures, executive roundtables, and other events organised by the SoG. The time spent at the ERIA Headquarters is expected to provide fellows with exposure to the ASEAN environment and opportunities to expand their professional networks.

#### Objectives:

- To engage talented individuals committed to addressing regional interests
- To build a community of experts dedicated to regional governance
- To work with ASEAN and ERIA partners to promote regional expertise

Target Participants: Mid-career government officials and postgraduate degree holders in public policy

Fellowship Duration: Up to 12 months

### **Expected Activities:**

- Research: Fellows will conduct research on key public policy issues and regional governance.
- Business Trips for Research Purposes: Fellows will have the opportunity to travel within the ASEAN region to conduct research and gather insights on governance practices.
- Collaboration with ERIA Partners: Fellows will collaborate with ERIA's partners, including government agencies, academic institutions, and policy think tanks.
- Involvement in ASEAN Meetings/Symposiums: Fellows will participate in ASEAN meetings, symposiums, and forums to gain experiences from regional policymakers.

### **Policy Implications**

A community of ERIA Fellows trained and connected to address regional policy challenges.

### **Geographic Scope**

## Global Applicants (Asia, Europe, Africa, and the US)

### **Project Period**

March 2025-September 2026



### **Summary**

Southeast Asia's governance landscape has undergone profound transformations over the past decades, shaped by complex political transitions, economic integration, and evolving regional dynamics. The ERIA School of Government (SoG) is committed to fostering high-level discussions on governance, leadership, and diplomacy in Southeast Asia. Through its executive training, leadership dialogues, and institutional memory initiatives, the SoG aims to provide a platform for thought leadership and policy development.

The SoG showcases the region's leadership and expertise, bringing together thought leaders across ASEAN and beyond. The Leadership Lecture serves as a communication hub, strengthening ERIA's narrative formation in the global discussion on public policy. The SoG seeks to engage the regional policy community at the highest level, and through the public forums, the SoG aims to share valuable and historical insights, contributing to discussions on the global stage. The ERIA Leadership Forum/Dialogue also amplifies the voices of top leaders, fostering critical conversations amongst stakeholders.

### Objectives:

- To host ERIA Leadership Lectures and regular high-level public forums
- · To engage with the wider policy community in the region, from governments, businesses, to civil society
- To stay informed on best practices and experiences on common interests and challenges

#### Period:

• Leadership Lectures and/or dialogues will be organised periodically to facilitate these discussions.

#### Past Activities:

- The inaugural ERIA School of Government Leadership Lecture featuring Indonesia's sixth president, Susilo Bambang Yudhoyono (SBY), on 18 September 2024
- The second ERIA School of government Leadership Lecture with Samdech Akka Moha Sena Padei Techo Hun Sen, President of the Senate of Cambodia, on 6 May 2025.

### **Policy Implications**

- Regular high-level leadership forums that foster dialogues and collaborative public policy solutions
- Preservation of Southeast Asia's institutional memory by sharing leaders' best practices and experience

### **Geographic Scope**

### **Project Period**

Southeast Asia and East Asia



# 37

### **ERIA Southeast Asia Institutional Memory Project**

Nobuhiro Aizawa

### **Summary**

The ERIA School of Government (SoG) will act as ASEAN and East Asia's institutional memory tank/ knowledge bank for public policy. It aims to enhance global recognition of East and Southeast Asian public policy knowledge, practices, and experiences by addressing the gap in institutional memory within Southeast Asian public policy. This institutional memory will serve as a platform to shape the public policy narrative, grounded in the regional context, and to share wisdom across generations.

Through its unique positioning as part of ERIA, the SoG offers a platform to elevate the region's voice in global public policy discourse. It is committed to enhancing the global recognition of Southeast Asian and East Asia policy approaches, leadership practices, and innovations in governance by showcasing region-specific experiences that are often overlooked in mainstream global policy dialogues.

The SoG believes that effective and future-ready governance must be informed by the past. As such, the SoG is dedicated to curating and sharing stories of leadership, resilience, and policy innovation that have defined the region's development. By doing so, it seeks to foster intergenerational learning, inspire future leaders, and inform policy decisions with contextual depth and historical insight.

### Objectives:

- To host regular high-level public forums to share governance experiences
- To offer insights into public policy leadership through the executive programme
- To carry out oral history projects featuring the region's public policy leaders, documenting and preserving firsthand accounts from prominent public figures and policymakers in ASEAN and East Asia
- To publish oral history records and research results for global audiences, through reports, interviews, digital archives, and academic publications accessible to both regional and global audiences
- To conduct and organise research on regional public policies

### **Policy Implications**

To design feasible and effective policies for the region, a fundamental knowledge base is needed – an institutional memory. This memory will be built by sufficiently documenting publications, knowledge resources, and past regional governance initiatives.

### **Geographic Scope**

### **Project Period**

Southeast Asia and East Asia





# Capacity Building Material Development/Research/Outreach for the Regional Knowledge Centre for Marine Plastic Debris

Reo Kawamura, Michikazu Kojima, Indradhi Faisal Ibrahim

### **Summary**

Plastic pollution remains a pressing concern in the ASEAN+3 region. Over the years, various stakeholders have been working on plastic-related issues to understand the impacts and explore possible solutions. The RKC-MPD has actively engaged with government stakeholders, the private sector, and the academia to be involved in solving plastic pollution. This year, the unit formed a team to focus on capacity-building programmes in tackling plastic pollution across the region.

By assessing the capacity-building needs of ASEAN+3 countries, this programme strives to fill critical gaps in capacity development and complement ongoing efforts by focusing on underexplored topics. The first stage of this project will involve in-depth research to acknowledge the existing efforts across the region, which will further be analysed to identify the gaps. In the long run, training materials and programmes will be developed to address the urgent needs in the region and empower the countries with the key capacities to tackle plastic pollution.

### **Policy Implications**

- Identifying capacity-building needs in ASEAN region
- · Developing capacity-building materials and programmes in the region
- Providing capacity development training across the region

### **Geographic Scope**

**Project Period** 

ASEAN Region





# 39

## Elevating Health through the Multisectoral Medical Excellence in Asia Initiative

Manami Uechi, Sarah K. Abe

### **Summary**

The Medical Excellence in Asia (MExx) initiative aims to enhance healthcare quality and accessibility across AMS through multisectoral collaborations and partnerships. ERIA oversees various MExx projects, focusing on leveraging healthcare as a driver of innovation and growth.

Since its inception, MExx has engaged industry, government, and academia stakeholders to address pressing healthcare challenges in our partner countries. The initiative promotes the development of and advancement of cutting-edge medical technologies while fostering business opportunities within the healthcare sector. By disseminating project outcomes, MExx contributes to constructive policy recommendations that support the transformation of healthcare ecosystems in the region.

Building on the successful ME Viet Nam activities, MExx initiatives have expanded to three countries over the past year. Launched in 2024, ME Thailand aims to address well-being and healthcare innovation. The inaugural ME Japan–ME India Seminar, held in April 2025 under the theme 'Navigating India's Healthcare Landscape', sought to accelerate opportunities and break market barriers in India's healthcare sector.

In Indonesia, research on the healthcare startup ecosystem was conducted last year. An upcoming research project will potentially be conducted in collaboration with Indonesia's Ministry of Health and prominent universities in the country.

These activities underscore MExx's commitment to improving health outcomes and fostering mutual growth and development in the greater Asia region. Through its missions, MExx aspires to create a world where everyone in Asia has access to quality healthcare services and can thrive with an optimal quality of life. Under ERIA's stewardship, the initiative ensures that the healthcare sector in Asia benefits from shared growth, prosperity, and development.

### **Policy Implications**

A paper is planned to highlight the MExx model's potential and effectiveness in fostering multisectoral health projects, while also demonstrating the model's capacity to leverage diverse funding sources. In parallel, ERIA is initiating collaborative projects in India, Indonesia, Thailand, and Viet Nam to address local healthcare challenges and explore opportunities.

### **Partner Organisations**

#### **Project Period**

Medical Excellence Japan (MEJ)

July 2025-June 2026 (Tentative)

### **Geographic Scope**

India, Indonesia, Japan, Thailand, Viet Nam

#### **Related ERIA Publications**



ERIA Healthcare Unit and Nomura Research Institute India Pvt. Ltd. (2024), *Transforming India into a Regional Healthcare Knowledge Hub: Opportunities for Data Sharing Driven by Multisectoral Partnerships*. Jakarta: ERIA. Available at: https://www.eria.org/research/transforming-india-into-a-regional-healthcare-knowledge-hub--opportunities-for-data-sharing-driven-by-multisectoral-partnerships



#### KENKO Initiative - Investing in Workplace Well-Being in ASEAN

Manami Uechi, Sarah K. Abe

#### **Summary**

In 2022, the Organisation for Economic Co-operation and Development (OECD) published a report titled 'Promoting Health and Well-Being at Work'. Japan is collaborating with the OECD Secretariat to promote healthy ageing and workplace well-being through evidence-informed guidelines and indicators under the KENKO Investment initiative. Japan's Ministry of Economy, Trade, and Industry (METI) is working with the National Institute of Advanced Industrial Science and Technology (AIST Japan) to implement ISO 25554, 'Ageing Societies – Guidelines for Promoting Well-Being in Communities'. This project aims to identify the necessary indicators for employers to successfully adopt wellness standards, including preventive health practices, healthy ageing, social connection, inclusivity, health management, safe and secure living, meaningful life, and diversity.

The Health Management Framework Survey broadly evaluates commitment and involvement by top management. Nonetheless, the concept of the Health Management and Promotion as the core foundation of human capital holds critical values and benefits across all levels of society – including individuals, corporations, communities, nations, and global society. For the implementation of health management and promotion systems and measures, each managing entity is expected to formulate a plan to identify employee health issues and set targets. This includes establishing a foundation to improve health literacy, revising workplace rules to promote work-life balance, and further implementing measures to prevent lifestyle-related risk factors. These efforts should be monitored, evaluated, and improved periodically.

ERIA's objectives and role within this umbrella initiative is to work with METI and AIST to develop an adapted survey for implementation in ASEAN Member States (AMS). This will support countries in further implementing workplace health initiatives and promoting the concept of health management as a unique preventive health measure that has been proven effective and impactful in Japan. As a pilot project, this initiative is planned to be launched in Thailand given the country's strong commitment to developing its wellness industry and implementing healthy ageing initiatives.

#### **Policy Implications**

This initiative is aimed at supporting ERIA member countries, particularly AMS, in implementing workplace health initiatives to improve the well-being of employees following the KENKO Investment initiative. This is part of preventive healthcare services that not only focus on early detection and treatment of diseases but also promote protection and maintenance of health through daily practices regardless of age. Dissemination in the form of publications and events is currently under consideration.

#### **Partner Organisations**

Ministry of Economy, Trade, and Industry (METI), National Institute of Advanced Industrial Science and Technology (AIST Japan)

#### Geographic Scope

Japan, Thailand, Indonesia (under consideration)

#### **Project Period**

April 2025-March 2027 (Tentative)





## ASEAN Diagnostics Initiatives – ASEAN Essential Diagnostics Lists Initiative (AEDLI) and ASEAN Diagnostic Security and Self-Reliance (ADxSSR)

Yasuyuki Mitsuhashi, Antonio Fredelindo Dela Resma Villanueva, Narihiro Hirai, Achmad Solikhin

#### **Summary**

Improving access to diagnostics is key to strengthening patient care, supporting Universal Health Coverage, and enhancing emergency preparedness – ultimately leading to better health outcomes. The World Health Organization (WHO)'s Essential Diagnostics List (EDL) outlines priority diagnostics tests for disease detection, helping countries focus their efforts and ensure accessible healthcare.

To support this goal, ERIA collaborates with WHO and ASEAN ministries to advance National Essential Diagnostics Lists (NEDLs). Initiatives include conducting gap assessments and fostering advocacy through regional conferences. In 2024, ERIA hosted two regional consultative meetings – in Bangkok (June) and Manila (December) – to share progress of NEDL development amongst ASEAN Member States (AMS).

ERIA has also conducted a baseline survey to support a regional situational analysis for the ADxSSR initiative, led by Indonesia. This effort aims to produce one regional report and 11 country-specific reports on the state of diagnostic services and manufacturing in AMS. The goal is to identify the challenges AMS face in accessing safe, effective, and quality-assured diagnostics, as well as to formulate recommendations and a framework for regional collaboration. It is also worth noting that individual NEDLs serve as a baseline for comparing access to diagnostics amongst AMS and guiding the development of an ADxSSR regional framework.

#### **Policy Implications**

The development of a regional guidance for the creation of NEDLs – followed by a guidance for pilot implementation and monitoring – may be utilised by ASEAN and the Ministries of Health in AMS. These resources will serve as references to support respective NEDLs and related initiatives, including the formation of the ADxSSR implementation framework as well as the ACPHEED-detection initiative under the purview of the Health Division of the ASEAN Socio-Cultural Community. Moreover, the ASEAN Economic Community Standards and Conformance is expected to play a role in the next phase by aggregating standards for a regional diagnostic list, in alignment with the ASEAN Medical Device Directive (AMDD), whose harmonisation has thus far been guided by Japan's Pharmaceuticals and Medical Devices Agency.



#### **Partner Organisations**

World Health Organization, Japan Institute for Health Security, Foundation for Innovative New Diagnostics (FIND), and the ASEAN Secretariat with Ministries of Health in ASEAN Member States

#### **Project Period**

2022-2027

#### **Geographic Scope**

**ASEAN Member States** 

#### **Related ERIA Publications**

For the ADxSSR Project, a regional report and 22 country reports have been drafted, focusing on the 'Situational Analysis of Manufacturing Capacity' and 'Situational Analysis of Clinical Diagnostic Service Delivery'. The reports are currently under review by Indonesia's Ministry of Health and will soon be submitted to the ASEAN Secretariat for review and endorsement by AMS.

For AEDLI, the regional guidance on NEDL development is being co-authored by ERIA, the NEDL Regional Advisory Committee (comprising the Philippines as the lead, Indonesia, and Thailand), WHO (Geneva, SEARO, WPRO), and the Foundation for Innovative New Diagnostics (FIND). This will be followed by guidance documents on implementation and, subsequently, monitoring.



# 42

#### ASEAN Japan Medical Scholarship Programme (AJMSP)

Yasuyuki Mitsuhashi, Narihiro Hirai, Achmad Solikhin

#### **Summary**

ERIA has launched a new programme offering full scholarships to a maximum of 20 ASEAN undergraduate students who wish to study in Japanese medical schools. This initiative aims to enhance medical standards in ASEAN countries and reduce medical disparities amongst them, while supporting Japanese universities' internationalisation in response to the country's declining domestic population.

Serving as the platform for this initiative, ERIA will sign Memoranda of Understanding (MoUs) with various ASEAN universities, which will nominate eligible undergraduate students for the programme. The process includes conducting interviews with the students, opening calls for Japanese medical universities willing to accept these students, helping them prepare for entrance exams, and assisting them with their onboarding in Japan. The programme will also provide funding for scholarships to both the universities and the students. As part of their education, students are required to return to their home countries during their studies to visit local hospitals or clinics, with ERIA providing support for these visits.

After 6 years of study at a Japanese medical school, the students will obtain a Japanese medical license, followed by two additional years of initial medical training in Japan. Upon completing the eight-year programme, the students will return to their home countries to practice medicine and eventually take on leadership roles in healthcare systems or policy development.

#### **Policy Implications**

The fully funded programme is expected to improve medical and clinical practice standards by enabling selected students from AMS to complete the entire medical school curriculum at designated Japanese medical universities. Over the long term, this initiative will contribute to reducing disparities and inequities in health education across the ASEAN region. Additionally, the programme helps enhance educational opportunities, promote professional development, and foster a diverse and inclusive healthcare system. Ultimately, the programme aims to strengthen the health workforce across AMS.

#### **Partner Organisations**

Japan's Ministry of Health, Labour, and Welfare and the ASEAN Secretariat

#### **Project Period**

March 2025-March 2035

#### Geographic Scope

**ASEAN Member States** 



# 43

#### **Epidemiological Research on Adenovirus and Enterovirus**

Yasuyuki Mitsuhashi, Antonio Fredelindo Dela Resma Villanueva, Narihiro Hirai, Achmad Solikhin

#### **Summary**

The broader Asian region is collaborating to improve research and medical care by promoting international clinical trials that follow ICH-GCP standards; developing medicines, vaccines, and diagnostic devices in ASEAN countries; as well as recruiting experts to conduct research and share Asian healthcare perspectives globally. The overarching goal is to establish Asia, including ASEAN region, as a global centre for pharmaceutical and medical device clinical development.

This project focuses on infectious diseases, specifically adenovirus and enterovirus infections. After discussions with infectious disease specialists and initial literature reviews, the team observed that adenovirus and enterovirus infections are common but remain insufficiently studied.

For adenovirus, potential treatment options could be explored, as there is currently no widely accepted or standard treatment. While most adenovirus infections are mild, severe cases can also occur. Regarding enteroviruses, which comprise a large group of viruses, there remains an imbalance in knowledge and data. Further investigation into the enterovirus group could help fill these gaps and provide more accurate information. Additionally, this may lead to the development of new diagnostic or treatment methods, particularly for cases that could potentially result in serious conditions.

#### **Policy Implications**

The project aligns with the Basic Policy set by the Asia Health and Wellbeing Initiative (AHWIN), which aims to create a socially and economically vibrant, healthy, and long-lived society in the region. The project also helps identify potential and unmet medical needs for adenovirus and enterovirus infections in ASEAN countries through epidemiological and field studies. The team conducts strategic consultations with companies to reassess potential markets and develop opportunities for Japan-originated clinical trials, and compiles a list of medical institutions capable of conducting international clinical trials in accordance with ICH-GCP standards.

Through this project, ASEAN countries will gain updated insights into the current situation and issues surrounding adenovirus and enterovirus infections. Increased attention to these infections will further alleviate the shifting burden of disease – from infectious diseases to non-communicable diseases and mental health – that AMS are experiencing.

#### **Partner Organisations**

#### **Project Period**

Japan Institute for Health Security

2025-2027

#### **Geographic Scope**

Indonesia, Malaysia, the Philippines, Thailand, Viet Nam





#### HAPI (Healthy Ageing Prize for Innovation)

Yasuyuki Mitsuhashi, Narihiro Hirai, Liem Nguyen

#### **Summary**

Launched in 2020 by ERIA and the Japan Center for International Exchange (JCIE), the Healthy Aging Prize for Asian Innovation (HAPI) aims to recognise and amplify innovative policies, programmes, services, and products that address the challenges of ageing societies. The prize seeks to help extend healthy and meaningful lives and improve care provision for older adults.

Prizes are awarded in three categories:

- Technology & Innovation: New technologies and techniques that encourage healthy and productive
  ageing, improve the way that older persons receive care, or provide greater efficiency, safety, and/or
  convenience for older persons and caregivers.
- Community-Based Initiatives: Community-based approaches including inter-generational approaches that help older adults remain healthy, active, engaged, and/or safe.
- Supporting Self-Reliance: New ways to help older adults maintain, improve, or restore their ability to perform daily activities and age in place.

Award ceremonies were held in 2020, 2021, 2022, and 2024, followed by site visits to Japan for award winners to present their initiatives and engage in knowledge exchange. The next award ceremony is scheduled for 2026.

#### **Policy Implications**

HAPI plays a crucial role in supporting the ASEAN Plus Three community by actively sharing successful strategies and best practices for addressing the complex issues associated with ageing populations. Through this collaborative effort, countries in the region can learn from one another's experiences, helping them tackle current challenges while also preparing for the inevitable ones that lie ahead.

These shared best practices not only enhance understanding amongst member nations but also provide a robust foundation for government policymaking. By adopting these proven strategies, policymakers can work towards building a sustainable and self-reliant community that meets the diverse needs of its ageing citizens.

Moreover, HAPI encourages meaningful collaboration between government entities and the private sector. By integrating innovative methods and insights from private organisations into public policy development, the community can address ageing-related issues more effectively, ensuring a comprehensive and inclusive approach to this pressing societal concern.

#### **Partner Organisations**

#### **Project Period**

Japan Center for International Exchange (JCIE)

April 2020-March 2027

#### **Geographic Scope**

ASEAN Member States, China, Japan, Republic of Korea





#### RCAFE (Resource Centre on Active Ageing, Functioning, and Equity of ERIA)

Yasuyuki Mitsuhashi, Narihiro Hirai, Liem Nguyen

#### **Summary**

Leveraging the strengths and resources of ERIA, the Resource Centre on Active Ageing, Functioning, and Equity (RCAFE) has been established to address the emerging needs and challenges related to rapid ageing, disabilities, and inequities in ASEAN and globally.

#### Vision

To be the leading active resource centre that enhances the quality of life for older adults, persons with disabilities, and those facing inequities in ASEAN and globally, through innovative, effective evidence-based solutions and collaborative efforts.

#### Missions

- 1. Develop a Comprehensive Resource Hub: Establish a practical and accessible resource hub that supports research, policies, and practices on active ageing, functioning, and equity.
- 2. Generate In-Depth Knowledge: Facilitate the creation and dissemination of detailed and high-quality data and analysis on ageing, disabilities, and equity to inform effective policymaking and practice.
- 3. Promote Evidence-Based Practices: Encourage and support the translation of research findings into practical applications, ensuring that policies and practices are grounded in robust evidence.
- 4. Enhance Communication and Collaboration: Foster effective communication and collaboration amongst policymakers, researchers, service providers or practitioners, and the beneficiaries (older persons, persons with disabilities, and persons experiencing inequities) to bridge gaps and align research with practical policy and practice needs.
- 5. Ensure Timely Interventions: Develop mechanisms to expedite the research process and ensure timely implementation of interventions to address emerging challenges in active ageing, functioning, and health equity.

#### Main activities of RCAFE include:

- 1. Collecting and sharing knowledge through a data or resource centre;
- 2. Facilitating in-depth studies (particularly longitudinal surveys on ageing and health); and
- 3. Promoting research translation (such as organising ASEAN high-level meetings and policy consultation).

#### **Policy Implications**

In addition to producing research reports with policy implications and policy reviews, RCAFE facilitates and supports policy dialogues to enhance interaction amongst policymakers, researchers, and beneficiaries for more practical evidence-based policymaking. RCAFE also supports policy consultation activities to assist policymakers in developing specific relevant policies, programmes, and actions within their areas of responsibility. Furthermore, RCAFE assists policymaking through the dissemination of research findings and their policy implications, the development of policy briefs, and the organisation and support of ASEAN high-level meetings.



#### **Partner Organisations**

MHLW, Nihon University, IDRC, DRDF, WHO, University of Melbourne, UNFPA-APRO, IPSS, ACAI, UI, Nozominosono, OECD, PHAD, IOS, JCIE, LSPR MoSA Indonesia

#### **Project Period**

April 2025-March 2030

#### **Geographic Scope**

Southeast and East Asia

#### **Related ERIA Publications**

Cruz, G. T., C. J. P. Cruz, and Y. Saito (2019), *Ageing and Health in the Philippines*. Jakarta: ERIA. Available at: https://www.eria.org/publications/ageing-and-health-in-the-philippines

Vu, N. C., M. T. Tran, L. T. Dang, C. Chei, and Y. Saito (2020), *Ageing and Health in Viet Nam*. Jakarta: ERIA. Available at: https://www.eria.org/publications/ageing-and-health-in-viet-nam

Cruz, G.T., C. J. P. Cruz, and Y. Saito (2019), *Ageing and Health in the Philippines: Wave 2*. Jakarta: ERIA. Available at: https://www.eria.org/publications/ageing-and-health-in-the-philippines--wave-2

Sano, R., T. Kato, A. Nagatani, R. Sukandar, and Hersinta (2024), *Current Status and Issues of Healthcare Policies for Persons with Developmental Disorders in Southeast Asia*. ERIA Research Project Report 2024-11. Jakarta: ERIA. Available at: https://www.eria.org/publications/current-status-and-issues-of-healthcare-policies-for-persons-with-developmental-disorders-in-southeast-asia

Sano, R., L. L. Corporal-Penman, T. Kato, and A. Nagatani (2024), Development of a Coaching-based Guidebook to Enhance the Quality of Life of Parents of Persons with Developmental Disorders in Southeast Asia. ERIA Research Project Report 2024-10. Jakarta: ERIA. Available at: https://www.eria.org/publications/development-of-a-coaching-based-guidebook-to-enhance-the-quality-of-life-of-parents-of-persons-with-developmental-disorders-in-southeast-asia

#### Forthcoming:

OECD and ERIA (2025), Promoting Active Ageing in Southeast Asia. Paris: OECD Publishing.

ERIA and IOS (2025), Factors Affecting the Realisation of Desired Number of Children in Provinces and Cities with Low Fertilities. Jakarta: ERIA and IOS.

ERIA (2025), Ageing and Health in Viet Nam: Wave 2. Jakarta: ERIA.







#### Startup 20 and B20 under the G20 South Africa Presidency

Giulia Ajmone Marsan

#### **Summary**

As South Africa assumes the G20 presidency in 2025, its engagement groups will play a crucial role in shaping the global economic agenda. Amongst these, Business 20 (B20) and Startup 20 (Startup 20) stand out as key platforms focused on fostering innovation and advancing business interests, respectively.

The B20 serves as the established and official G20 dialogue forum representing the global business community. Since its formal recognition in 2010 under the Canadian presidency, the B20 has been the primary voice of the private sector within the G20 framework. The B20's mission is to catalyse cooperation and innovation, particularly by bridging the business communities of the Global South and North. The B20 champions the role of business as an accelerator of growth and advances inclusive economies by developing actionable policy recommendations across diverse themes, including employment, trade, investment, infrastructure, and innovation.

In parallel, the Startup20 engagement group carves out a dedicated space for the rapidly evolving startup and technology ecosystem, including MSMEs. The Startup20's core function is to establish an open and dynamic dialogue amongst key stakeholders – entrepreneurs, investors, policymakers, incubators, and accelerators. It specifically focuses on nurturing innovation, promoting entrepreneurship, and facilitating collaboration within this vibrant sector. While the B20 addresses innovation broadly, Startup20 zooms in on the unique needs, challenges, and potential of startups and emerging technology ventures.

Under South Africa's G20 leadership, the synergy between the B20 and Startup20 will be crucial. The B20 brings the weight and perspective of established global businesses, while the Startup20 channels the dynamism and specific requirements of the innovation frontier. Together, they offer a comprehensive platform to drive sustainable economic development and ensure that both large corporations and nascent startups contribute meaningfully to the G20's objectives.

#### **Policy Implications**

- Developing an integrated global startup ecosystem
- Establishing a better financing framework for sustainable development

#### **Partner Organisations**

#### **Project Period**

Startup20 and B20

December 2024-2025

#### **Geographic Scope**

G20 countries/Global scope

#### **Related ERIA Publications**



Ajmone Marsan, G., R. Singh, M. Mahusin, and H. Prilliadi (2024), *ERIA One ASEAN Startup White Paper 2024: Towards an ASEAN Innovation Ecosystem: Start-up Creation for Inclusive and Sustainable Economic Development*. Jakarta: ERIA. Available at: https://www.eria.org/uploads/media/E-DISC-White-Paper/ERIA-One-ASEAN-Start-up-White-Paper-2024.pdf



#### **Summary**

The E-DISC Entreprenova Masterclass programme is a six-month initiative designed to equip startup founders and emerging business leaders across ASEAN with essential tools and knowledge to measure, integrate, and scale impact across borders. Under the overarching theme 'Think Global', Entreprenova reflects ERIA's commitment to cultivating globally oriented entrepreneurship throughout ASEAN and East Asia. Running from November 2024 to April 2025, the programme features expert-led sessions, interactive panel discussions, and speed-dating opportunities to facilitate networking and the dynamic exchange of knowledge amongst participants.

As the global economy becomes increasingly interconnected and attuned to sustainability, it is imperative that startups align their growth objectives with positive social and environmental outcomes. Entreprenova addresses this need through a structured series of monthly masterclasses, each focusing on critical aspects such as impact measurement, strategic integration, investor engagement, and the development of responsible, resilient enterprises.

Each masterclass is open to the public, allowing startups and professionals to participate in sessions that are most aligned with their individual goals and developmental priorities. By fostering a collaborative learning environment, the programme seeks to enhance the region's innovation ecosystem and support the emergence of globally competitive, impact-driven startups.

#### **Policy Implications**

The programme promotes impact-aligned entrepreneurship through ESG incentives, inclusive education frameworks, and a policy shift from growth-only metrics to sustainability-focused outcomes, fostering a more balanced and socially responsible startup ecosystem.

#### **Geographic Scope**

ASEAN

#### **Project Period**

November 2024-April 2025



## **E-DISC Startup Research Activities** Kentaro Machii

#### Summary

This project consists of two studies:

#### 1. Cambodia Startup Report

Cambodia's startup ecosystem is undergoing steady and promising development, propelled by a youthful demographic, increasing digital adoption, and proactive government policies such as the Digital Economy and Society Policy 2025. As of 2024, the country is home to 129 active technology startups, with significant concentrations in software-as-a-service (SaaS), e-commerce, and health technology – sectors that align closely with pressing societal priorities, including healthcare access, rural development, and education.

Despite this upward trajectory, the ecosystem continues to face considerable structural challenges. Earlystage financing remains insufficient, primarily due to an underdeveloped local angel investor network and a prevailing preference amongst domestic investors for traditional asset classes such as real estate. Additionally, regulatory complexities, the absence of investor-friendly processes, and weak legal and financial compliance infrastructure further inhibit the inflow of foreign capital.

Nevertheless, encouraging examples of successful cross-border collaborations underscore the ecosystem's latent potential. Startups such as PillTech and Tech for Kids Academy have secured international partnerships, gaining not only financial backing but also technical expertise and global visibility. Investments from reputable entities such as the Sanofi Global Health Unit, 500 Global, and OpenWay signal growing international confidence in Cambodian innovation.

Ecosystem enablers, including OBOR Capital, Satori Giants, and Choice Accelerator, are actively contributing to capacity building by providing investor education, mentorship, and seed capital. Furthermore, recent mergers and acquisitions – such as Grab's acquisition of local delivery platform Nham24 – demonstrate increasing exit opportunities and heightened investor interest.

To unlock its full potential, Cambodia must prioritise improvements in governance and regulatory frameworks, broaden early-stage funding mechanisms, and streamline capital deployment procedures. With sustained support from both domestic and international stakeholders, Cambodia is well-positioned to emerge as a significant contributor to Southeast Asia's startup landscape.

#### 2. Cross-Border Business Collaboration

This collaboration between Nikkei BizRuptors and ERIA's E-DISC Startup Team seeks to explore and support cross-border collaboration strategies amongst startups in ASEAN. In an increasingly interconnected regional economy, cross-border collaboration has emerged as a critical growth driver for startups aiming to expand their impact and scalability. This research-based initiative aims to develop a structured understanding of the enabling factors, barriers, and successful models of such collaboration.

The core objective of the initiative is to systematically organise knowledge that can guide startups through the complex processes of cross-border operations. The research will focus on analysing various models of collaboration adopted by ASEAN-based startups, highlighting factors that contribute to their success or failure, and identifying structural barriers such as regulatory limitations, funding constraints, and market access challenges. Based on these insights, the initiative will propose a practical and adaptable framework for fostering seamless cross-border cooperation.



The study will cover key aspects of collaboration, including market entry and expansion strategies, funding and investment mechanisms, research and development partnerships, and the formation of cross-border teams. Emphasis will also be placed on the importance of open innovation as a tool for regional integration and sustainable growth.

In addition to theoretical analysis, the project will incorporate real-world case studies from both earlystage and more mature startups within ASEAN. These examples will serve to demonstrate how different collaboration models are applied in practice and the tangible outcomes they produce. By showcasing successful and instructive cases, the initiative aims to encourage startups to adopt a global mindset from the outset.

Through this initiative, Nikkei BizRuptors and E-DISC aim to contribute meaningfully to startup ecosystem development in ASEAN by equipping entrepreneurs, investors, and policymakers with actionable insights and a roadmap for effective cross-border collaboration.

#### **Policy Implications**

The project highlights the need for regulatory reform and early-stage funding in emerging ecosystems. It offers insights to guide ASEAN-wide policy harmonisation and supports the design of regional startup support schemes, including PPPs, co-investment platforms, and innovation corridors.

#### **Partner Organisations**

#### Nikkei BizRuptors

#### **Geographic Scope**

**ASFAN** 

#### **Project Period**

- 1. September 2024-October 2024
- 2. April-October 2025



#### **Summary**

ERIA, through its Digital Innovation and Sustainable Economy Centre (E-DISC), will host the One ASEAN Startup Award 2025 under the theme 'Bridge to Brilliance'. This initiative seeks to identify and promote outstanding startups in Southeast Asia that demonstrate both strong growth potential and a commitment to addressing region-wide socioeconomic and environmental challenges.

Building on the success of the 2024 programme, the 2025 edition introduces a broadened focus that includes the cleantech sector, aligning with ERIA's Zero Emission Mission and the goals of the Asia Zero Emission Community (AZEC). The award aims to support startups that are actively developing sustainable, low-carbon technologies and solutions that contribute to the region's decarbonisation efforts.

The programme comprises three regional Pre-Events, each featuring ten shortlisted startups from designated ASEAN countries. These startups will present their innovations to panels of experts and stakeholders across the startup ecosystem. Two winners will be selected from each event, receiving a US\$10,000 research grant and an invitation to collaborate with ERIA on relevant research initiatives.

Award categories include:

- 1. Artificial Intelligence (AI): Startups leveraging AI to develop transformative, scalable solutions across industries.
- 2. Zero Emission: Startups focused on sustainability, renewable energy, emissions reduction, and climate technologies.

To be eligible, startups must be at the Pre-Seed to Series B stage and have, or plan to establish, operational presence in the host countries. Participants are also expected to submit a proposal for research collaboration with ERIA.

The One ASEAN Startup Award serves as a platform to foster cross-border innovation, enhance policy-research linkages, and strengthen the regional startup ecosystem by advancing sustainable, inclusive economic development across ASEAN.

#### **Policy Implications**

The award promotes impact-driven ASEAN startups in AI and sustainability, attracting global attention and investment. It positions startups as key drivers of societal transformation and connects them with ERIA's research and policy platforms, supporting evidence-based policymaking and strengthening the region's innovation ecosystem.

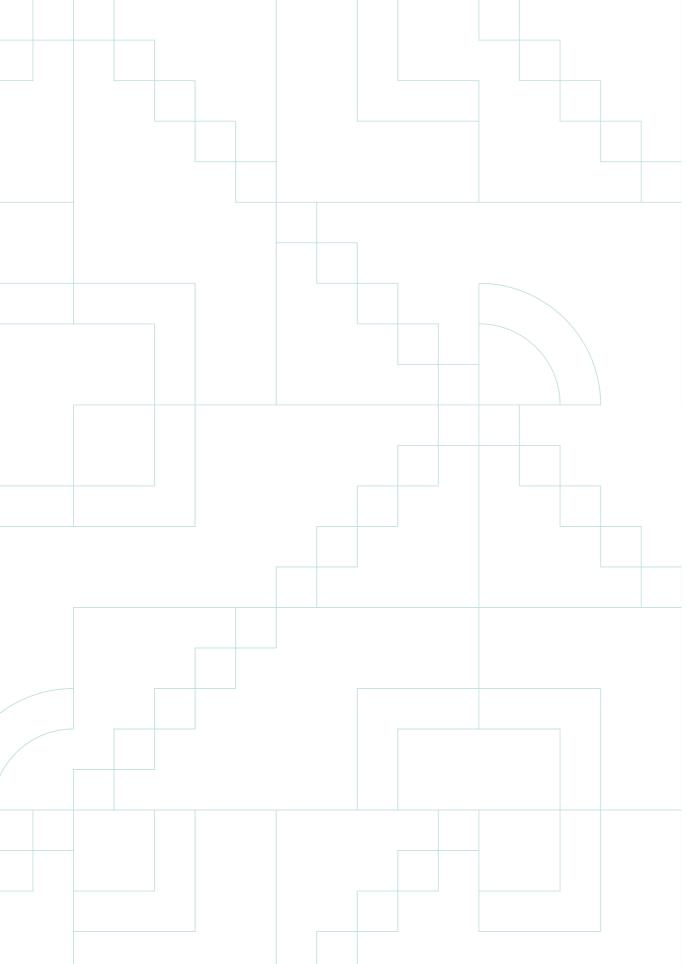
#### **Geographic Scope**

**ASEAN** 

#### **Project Period**

April 2025-November 2025





# SUMMARY OF ERIA PROJECT ACTIVITIES 2025

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