INFORMATION PAPER 2:

ASEAN INITIATIVES ON ARTIFICIAL INTELLIGENCE (AI) BY THE ASEAN COMMITTEE ON SCIENCE, TEHCNOLOGY AND INNOVATION (COSTI)

A. INTRODUCTION

1. Artificial Intelligence (AI) is a branch of information technology that enables machines to perform tasks typically requiring human intelligence, such as learning, reasoning, and problem-solving. It is applied across various fields, including healthcare, finance, and manufacturing, to automate processes, analyze data, and enhance decision-making. As AI technologies continue to advance, their integration into various sectors within ASEAN countries has the potential to drive significant economic growth, enhance productivity, and promote regional collaboration. The rise of AI offers opportunities for ASEAN Member States (AMS) to address critical challenges, such as enhancing education, healthcare, environmental sustainability, and boosting technological capabilities.

2. ASEAN recognizes the significant transformative potential of Artificial Intelligence (AI) as a key driver of technological advancement and innovation[1]. Since AI cuts across multiple sectors, ASEAN ascertains the need for concerted action and collaboration to harness the benefits of AI while proactively addressing its multifaceted social, economic, and ethical implications. AI is projected to significantly impact the ASEAN economy, potentially resulting in a 10 to 18% Gross Domestic Products (GDP) uplift, valued at approximately USD1 trillion by the year 2030[2].

3. In gist, AI has the power to influence ASEAN's Science, Technology and Innovation (STI) landscape profoundly. By driving economic growth, fostering innovation, and addressing regional challenges, AI can help AMS navigate the complexities of the 21st century. With continued investment in education, capacity building, and cross-border collaboration, ASEAN is well-positioned to harness AI's transformative potential and create a more prosperous, sustainable, and connected region.

[1] https://asean.org/wp-content/uploads/2024/06/ADOPTED-AMMSTI-Statement-on-AI_7June2024.pdf
[2] https://asean.org/wp-content/uploads/2024/03/ASEAN-for-Business-Bulletin-March-2024.pdf

4. Given the cross-sectoral nature of the application of AI technology, the ASEAN Digital Senior Officials' Meeting (ADGSOM) is playing the leading role for ASEAN AI initiatives with coordination support provided by the ASEAN Digital Economy Division (DED), particularly on AI policy, governance, laws and regulations, and standards. However, this does not preclude other sectoral bodies from pursuing AI initiatives. Other ASEAN sectoral bodies are encouraged to explore opportunities to leverage AI in developing impactful initiatives, fostering collaboration and maximising the benefits of this transformative technology across the region. Other sectoral bodies are advised to inform and consult ADGSOM on AI-related initiatives, especially those that affect AI policies, governance, laws and regulations, standards, and direct contact with AI industry player within and beyond ASEAN.

B. COSTI's MANDATE TO PERSUE AI INITIATIVES

5. ASEAN regional cooperation on STI was initiated through an Ad-hoc Committee on Science and Technology in 1970 (later known as the ASEAN Committee on STI/COSTI). With ASEAN Declaration as the guiding principle, COSTI is mandated to initiate and intensify regional cooperation in scientific and regional activities and to accelerate the transfer of scientific developments and technologies.

6. In the area of AI, COSTI focuses on advancing scientific research in AI, developing and transferring AI technology, and disseminating AI technology and innovation through capacity development. To date, COSTI implements various AI initiatives across its 9 subcommittees looking into 9 scientific areas. Most AI initiatives under COSTI are carried out by the Subcommittee on Microelectronics and Information Technology (SCMIT).

7. SCMIT seeks to develop and enhance the capabilities of ASEAN Member States (AMS) in Microelectronics and Information Technology and its related areas, from basic research to applied technologies. The sub-committee aims to promote and coordinate the undertaking of research and development, technology transfer, capacity building, and prototyping projects in microelectronics, information and communication technology (ICT) and related areas according to the strategic thrusts of ASEAN Plan of Action on Science, Technology and Innovation (APASTI) 2016-2025. The priority areas of SCMIT for the period of 2016-2025:

a) Microelectronics
b) Internet of Things
c) Big Data Processing and Analytics
d) Cyber Security
e) Embedded Systems and Sensors
f) Robotics and Automation
g) Cloud and Edge Computing
h) Artificial Intelligence
i) Telecommunications
j) Blockchain

8. Going forward, synergy between ADGSOM and COSTI is essential. The role of SCMIT should be improved to align with ADGSOM and the Working Group on AI Governance (WG-AI). Whereas SCMIT plays a coordination role in the scientific research of AI and other emerging technologies, ADGSOM plays a coordination role related to policy, governance, laws and regulations, standards, and a direct contact with industry players within and beyond ASEAN, for AI as well as other emerging technologies. Concurrently, the role of digital ministries within SCMIT and COSTI should also be strengthened, when ICT-related initiatives are concerned. SCMIT should have direct contact with ASEC, with national COSTI Secretariat providing administrative support.

C. LIST OF AI INITIATIVES UDER COSTI (As of September 2024)

Initiative	Objectives	Implementing partner	Status
1. AMMSTI Statement on AI	AMMSTI to recognize the significant transformative potential of Artificial Intelligence (AI) as a key driver of technological advancement and innovation and ascertain the need for concerted action and collaboration to harness the benefits of AI while proactively addressing its multifaceted social, economic, and ethical implications.	-	Adopted in June 2024

2. Discussion Paper on the Responsible Development and Use of Generative AI in ASEAN	• Identify the most urgent policy, legal and regulatory gaps in Generative AI development and implementation within the ASEAN context, providing governance and policy recommendations on how to address them. • Encourage multistakeholder participation in Generative AI policymaking in ASEAN. • Produce The Responsible Development and Use of Generative AI • in ASEAN (A Discussion Paper), guided by the ASEAN Guide on AI Governance and Ethics under the purview of the ADGSOM and study on the Digital Economy Framework Agreement (DEFA).	USAID	Ongoing
3. ASEAN Workshop on Implementation of Artificial Intelligence on Carbon Neutrality and Blue Economy	• To collect, study and share best practices to increase participants' knowledge about the various forms and possible partnerships in the use of AI technology in the fields of carbon neutrality and blue economy in the ASEAN region;and • To increase awareness and responsiveness of the ASEAN community in the use of AI technology in the fields of carbon neutrality and blue economy.	ROK, ASEAN-Republic of Korea Cooperation Fund (AKCF)	Ongoing
4. Korea-ASEAN AI Development/Startup Competition	• Establishing a dynamic ecosystem that fosters innovative ideas and cross- border collaboration among AI startups in AMS; and Successful hosting of the AI Development/Startup Competition, featuring innovative AI projects and idea presentations.	ROK, ASEAN-Republic of Korea Cooperation Fund (AKCF)	New Proposal
5. Korea-ASEAN Artificial Intelligence (AI) Convergence and Spread	• To expand the development of AI services (AI+X) in specific industries, with a focus on advancing digital healthcare and achieving carbon neutrality.	ROK, ASEAN-Republic of Korea Cooperation Fund (AKCF)	New Proposal

Project			
6. AI for Sustainable Development in ASEAN (AISDA): strengthening evidence toward promoting responsible, safe and inclusive AI to support sustainable development in Southeast Asia	• To support 3-5 research activities to gather evidence and case studies across Southeast Asia on the opportunities and challenges of realising AI for sustainable development in a responsible, safe and inclusive manner across the region; and • To discuss ideas, emerging opportunities and challenges related to promoting responsible, safe and inclusive AI to support sustainable development in Southeast Asia.	United Kingdom (UK), UK Foreign, Commonwealth and Development Office (FCDO), Research & Evidence Directorate (RED)	Ongoing
7. Detection and Prediction of Diabetic Kidney Disease in ASEAN: Developing Artificial Intelligence Algorithms with Ocular Imaging	• Develop an algorithm for early detection of diabetic kidney disease • Develop an algorithm for prediction of progression of diabetic kidney disease • Validate the above algorithms in a multi-ethnic, multi-national cohort of diabetic patients	China, ASEAN-China Cooperation Fund (ACCF)	New Proposal
8. Development of Electromagnetic Shielding Materials and Devices for 5G/6G Digital Infrastructure	• To enhance the stability of 5G/6G digital infrastructure, improve ecological environment, and lower human health risks by reducing the electromagnetic interference and radiation pollution generated by 5G/6G digital infrastructure, through the development of high performance MXene-based electromagnetic shielding materials and devices.	China, ASEAN-China Cooperation Fund (ACCF)	New Proposal
9. Deep Ensemble Under Non-Ideal Conditions and Its	• Creating a unified framework for deep ensemble learning applicable to various loss functions, efficient methods for constrained computational resources, robust solutions for limited data	China, ASEAN-China Cooperation Fund (ACCF)	New Proposal

Typical Applications in Computer Vision	resources, and secure approaches considering intellectual property limitations.		
10. ASEAN-Pakistan Technological Research Collaborations Program Through NCRA	• To bring together distinguished representatives from ASEAN (1-2 from each member state) in Pakistan to network with top Pakistani researchers in cutting edge domains of Robotics, AI, Cyber Security, Big Data and Space Technology. • The workshop will be titled as "Workshop on Cutting Edge Technologies".	Pakistan	New proposal
11. "Enabling environment for a human-centered adoption of AI in ASEAN" Workshop	• To facilitate a discussion of how ASEAN can orientate its policies and coordination mechanisms toward an environment that maximizes the benefits of AI adoption while minimizing risks and mitigating potential harms.	The Asia Foundation (TAF), Stanford Institute for Human-Centered AI	Completed (Workshop held on 3rd June 2024)
12. Learning technologies with KidBright Platform	• To empower ASEAN people with Coding, Internet of Things (IoTs), Data Science (DS) and Artificial Intelligence (AI) using KidBright Platform.	None	Ongoing
13. Integrating Artificial Intelligence into ASEAN Journal on Science and Technology for Development (AJSTD) for Advanced Scholarly Analysis	• Integrate AJSTD into Elsevier's journal system • Improve the accuracy and efficiency of peer review by leveraging AI-driven insights. • Enhance the discoverability and citation of AJSTD articles through advanced analytics. • Provide data-driven support for editorial decisions, including topic relevance, research trends, and impact assessment. • Ensure the journal remains competitive and relevant in the rapidly evolving academic publishing landscape.	None	New Proposal

End

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