THAILAND

Artificial Intelligence Readiness Assessment Report

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Thailand

Artificial Intelligence Readiness Assessment Report

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This publication represents the collective effort between UNESCO, and national institutions, government agencies, academic and research organizations, private sector stakeholders, and international experts committed to advancing Thailand's readiness for ethical and inclusive artificial intelligence. Thailand has adopted a whole-of-society approach to AI development, engaging stakeholders through structured consultations, collaborative workshops, advisory dialogues, and strategic partnerships.

Our deepest gratitude to the UNESCO Secretariat who provided technical guidance and coordination. We acknowledge especially Mr Phinith Chanthalangsy, Regional Advisor for Social and Human Sciences from the UNESCO Regional Office in Bangkok, and Mr Irakli Khodeli, Mr Lihui Xu, and Dr. James Wright, Ethics of AI Team, UNESCO Headquarters, for their dedicated support, guidance, and collaboration in this project.

We gratefully acknowledge the European Union for the generous financial support provided through the Directorate-General for International Partnership on the "Supporting Member States in Implementing UNESCO's Recommendation on the Ethics of AI through Innovative Tools" project.

Following the appointment of the National AI Committee (NAIC) in 2022, the NAIC-chaired by the Prime Minister and supported by the Ministry of Higher Education, Science, Research and Innovation (MHESI) and the Ministry of Digital Economy and Society (MDES) has led efforts to create an enabling ecosystem for AI development and application, aiming to enhance the economy and quality of life for all citizens. Special recognition is given to the National Science and Technology Development Agency (NSTDA) and the National Electronics and Computer Technology Center (NECTEC), acting on behalf of the MHESI secretariat team, for leading the implementation of the RAM in Thailand, including data gathering, technical input, and inter-agency coordination throughout the assessment process. The Digital Laws and Infrastructure Regulation team of the Thailand Development Research Institute (TDRI) is also acknowledged for its critical role in stakeholder engagement, policy analysis, and the formulation of context-specific recommendations.

Valuable contributions from numerous government entities have been instrumental in advancing Thailand's AI journey, both within the country and through international collaboration. In particular, the Electronic Transactions Development Agency (ETDA) and the Office of the National Digital Economy and Society Commission (ONDE) have played pivotal roles in these efforts. Appreciation is also extended to other government agencies, private sector representatives, academic institutions, civil society organizations, and external experts. Their input-provided through interviews, surveys, feedback sessions, and validation workshops-has been fundamental to the development of this country report. While it is not possible to name every contributor individually, each contribution has been vital in shaping Thailand's AI policy to be more effective and ethical in both its development and implementation. Through these coordinated efforts, Thailand has reaffirmed its commitment to shaping an AI ecosystem that is not only innovative and inclusive but also aligned with international ethical standards—contributing to both national progress and global dialogue on the responsible governance of AI.

We sincerely thank the International Telecommunications Union (ITU) for its support via the "Enhancing the Development of Standards and Frameworks for Critical Technologies in Southeast Asia" project.

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ACRONYMS AND ABBREVIATIONS

AI	Artificial Intelligence
API	Application Programming Interface
CAGR	Compound Average Growth Rate
CII	Critical Information Infrastructure
DEPA	Digital Economy Promotion Agency
DGA	Digital Government Development Agency
GDP	Gross Domestic Product
GDCC	Government Data Center and Cloud Service Program
GDX	Government Data Exchange
EPI	E-Participation Index
ETDA	Electronic Transactions Development Agency
EU	European Union
HDC	Health Data Center
ICTs	Information and Communication Technologies
ISO	International Organization for Standardization
KPI	Key Performance Indicator
MDES	Ministry of Digital Economy and Society
MHESI	Ministry of Higher Education, Science, Research and Innovation
NAIC	National AI Committee
NAIS	Thailand National Artificial Intelligence Strategy and Action Plan 2022–2027
NBTC	The National Broadcasting and Telecommunications Commission
NECTEC	National Electronics and Computer Technology Center
NSO	National Statistical Office
NQI	National Quality Infrastructure

NSTDA	National Science and Technology Development Agency
OCSC	Office of the Civil Service Commission
ODC	Open Data Charter
ODIN	Open Data Inventory
OECD	Organization for Economic Co-operation and Development.
OIA	Official Information Act, B.E. 2540 (1997)
OIB	Official Information Board
ONDE	Office of National Digital Economy and Society Commission
OSI	Online Service Index
PDPA	Personal Data Protection Act
PEA	Platform Economy Act
PISA	Program for International Student Assessment
RAM	Readiness Assessment Methodology
R&D	Research and Development
R&I	Research and Innovation
STEM	Science, Technology, Engineering and Mathematics
TDRI	Thailand Development Research Institute
UNESCO	United Nations Educational, Scientific and Cultural organization

FOREWARD

We have officially entered the Age of Artificial Intelligence. The world is now set to change at a pace not seen in decades, even centuries. AI-based tools and applications make our lives easier, smoother, and richer. They help us move efficiently, get informed, get credit, get a job, and get our taxes done.

But in its current form, AI reproduces and amplifies many of the social challenges we face. It is not acceptable that around a third of the world's population still lacks adequate internet access. Upstream, the AI industry is highly concentrated, with just two countries – the United States and China – and a dozen companies accounting for a major share of the sector. This can lead only to greater inequality of outcomes – including gender disparities – downstream. Non-diverse AI teams, unrepresentative datasets, and opaque and biased algorithms can cause harm, particularly to those who are already vulnerable, whether companies or individuals, children and young people, women, or entire democracies.

That is why UNESCO drafted the Recommendation on the Ethics of Artificial Intelligence, which was adopted in 2021 by 193 countries to make sure AI delivers fair, sustainable, and inclusive outcomes. The Recommendation is based on the protection and promotion of human rights, human dignity, and environmental sustainability, and these values are then translated into principles such as accountability, transparency, and privacy. The Recommendation also sets out concrete policy actions that governments can draw on to steer technological developments in a responsible direction, premised on the belief that light-touch regulation, which has until now remained the norm, is insufficient. We need capable governments that are well equipped, in terms of competencies, institutions and laws, to frame responsible AI development and protect the rule of law online, and public and private developers who are accountable for putting human rights and fundamental freedoms – not profits or geopolitical considerations – first.

The Readiness Assessment Methodology (RAM) is a diagnostic tool intended to assist Member States in upholding their commitment to the Recommendation by helping them understand how prepared they are to implement AI ethically and responsibly for all their citizens. By highlighting any institutional, regulatory, or data gaps and obstacles, it enables UNESCO to tailor support for governments to fill those gaps to ensure an ethical AI ecosystem aligned with the Recommendation.

While Thailand has established foundational AI strategies and initiatives, challenges remain in regulatory clarity, infrastructure gaps, capacity development, private-sector adoption, and equitable access. The report highlights gaps in policy coherence, institutional coordination, and ethical safeguards while offering actionable recommendations to enhance transparency, accountability, and sustainable AI deployment.

Overall, this report presents a fundamentally optimistic vision that we at UNESCO share: that ethical governance and responsible regulation of AI is entirely consistent with innovation and economic growth and is essential for ensuring a technological ecosystem that benefits the public good. With the RAM data and this report, Thailand has a clear roadmap for how to get there.

It was a pleasure working with the Government of Thailand to conduct this exercise. We are grateful for their engagement with the RAM, and I am sure that by following the path laid out in this report, Thailand will be able to reap the benefits of AI while making sure that AI technologies deliver fair, sustainable, and inclusive outcomes.

Lidia Brito

Assistant Director-General ad interim for Social and Human Sciences, UNESCO

EXECUTIVE SUMMARY

Thailand has embarked on a national journey toward ethical and inclusive AI governance, anchored by the adoption of the Thailand National Artificial Intelligence Strategy and Action Plan (2022–2027). This strategic framework aims to promote AI adoption while ensuring responsible development aligned with human rights, transparency, and inclusive innovation. As a member state committed to the UNESCO Recommendation on the Ethics of Artificial Intelligence, Thailand has undertaken this Readiness Assessment Methodology (RAM) to assess its AI ecosystem, identify challenges and opportunities, and generate concrete policy recommendations that uphold the principles of fairness, accountability, transparency, and sustainability.

This RAM Country Report represents the consolidation of findings from stakeholder consultations, surveys, and in-depth interviews conducted with over 30 institutions across the public sector, academia, private industry, and civil society. It assesses Thailand's AI governance ecosystem across five dimensions: Legal and Regulatory Dimension, Social and Cultural Dimension, Scientific and Educational Dimension, Economic Dimension, and Technical and Infrastructural Dimension.

The report further identifies critical gaps in policy coherence, institutional coordination, and capacity development, while offering actionable recommendations aimed at strengthening Thailand's preparedness for ethical and sustainable AI adoption.

Diagnosis of the National AI Landscape

Thailand's Cabinet approved the **National Artificial Intelligence Strategy and Action Plan (2022–2027)**, developed by the Ministry of Higher Education, Science, Research and Innovation (MHESI) and the Ministry of Digital Economy and Society (MDES). The plan outlines five pillars: legal and ethical readiness, infrastructure development, workforce capacity, R&D and innovation, and national-level AI adoption. Implementation is overseen by the **National AI Committee**, chaired by the Prime Minister, with participation from over 40 stakeholders.

Thailand has also launched several sectoral initiatives to promote ethical AI. These include national guidelines on AI ethics issued by the National Science and Technology Development Agency (NSTDA) and the Electronic Transactions Development Agency (ETDA), AI governance frameworks under development, and the designation of ETDA as a focal point for AI governance research. However, implementation remains fragmented, and institutional capacity for AI oversight is still nascent.

Current Situation of the Five RAM Dimensions in Thailand

1. Legal and Regulatory Dimension

Thailand's legal framework includes the Personal Data Protection Act (PDPA), the Cybersecurity Act, the Royal Decree on Digital Platform Services Business, and the Open Data for Open Government Law. While these instruments provide a foundation for digital governance, they are not yet equipped to address AI-specific risks. The PDPA ensures baseline data rights but does not grant individuals the right to object to automated decision-making—leaving those affected by AI systems with limited protections. Despite legal provisions for open government data, the country still lacks a unified, enforceable framework for secure and rights-respecting data sharing across public and private sectors.

The Royal Decree requires platforms to disclose key algorithmic parameters, but broader legal mechanisms for AI risk classification, algorithmic accountability, and redress remain absent. Procurement laws do not mandate ethical or human rights screening for AI systems used in government services. Thailand's copyright law has not yet clarified whether training AI models falls within existing exceptions, creating uncertainty for researchers and developers. Intellectual property protections for AI-generated outputs are also undefined. In sum, while digital legislation is advancing, Thailand lacks AI-specific legal safeguards necessary to ensure transparency, fairness, accountability, and meaningful public oversight.

2. Social and Cultural Dimension

Thailand's high connectivity and e-government infrastructure offer a strong base for inclusive AI, but deep inequalities persist. Vulnerable populations—rural communities, ethnic minorities, the elderly, persons with disabilities, and low-income groups—face systemic barriers in AI access, use, and benefit. Most government AI tools are developed in Central Thai, and interface design often excludes users with limited literacy or accessibility needs.

Although national commitments to gender equality and digital inclusion are in place, actual AI deployments rarely undergo public consultation or community review. Transparency in AI use within public services is limited, and there are no requirements to inform users when AI is applied in decision-making. Cultural preservation through AI, such as digital heritage and minority language content, remains fragmented and project-based.

Environmental sustainability is another overlooked area. As AI-driven infrastructure expands, there is limited regulation of energy consumption or promotion of green data centers.

For AI to support social cohesion, inclusion must be hardwired into system design, from dataset collection to service deployment, with meaningful community participation at every stage.

3. Scientific and Educational Dimension

Thailand has made strides in building AI-related academic programs and research institutions. The "Super AI Engineer" initiative and "AI for All" campaign reflect national investment in public sector AI capacity. Leading universities such as Chulalongkorn and CMKL offer interdisciplinary degrees in digital humanities, tech law, and AI governance. STEM graduates made up 29percent of tertiary output in 2022—surpassing countries like the UK and Australia

Despite this progress, critical challenges remain. R&D spending is still only 1.21 percent of GDP—well below global innovation benchmarks. Thailand also ranks low in global AI readiness indicators, such as data science capabilities and research output. Only 0.5 percent of civil servants are technical staff, and public-sector digital training often excludes ethics or non-IT roles.

The lack of integration of AI ethics and interdisciplinary perspectives in curricula, limited support for open science and academic freedom, and weak alignment between research and industry constrain the country's ability to develop locally relevant and ethically grounded AI technologies.

4. Economic Dimension

Thailand's economy is steadily digitizing, with notable growth in the software, fintech, and high-tech manufacturing sectors. High-tech exports account for 16.7 percent of total exports, placing Thailand 8th globally. Government-backed initiatives aim to promote AI adoption in priority industries such as healthcare, logistics, agriculture, and tourism.

AI adoption in the private sector shows promising momentum. While 18 percent of firms currently employ AI solutions, an additional 74 percent are actively preparing for integration, reflecting strong forward-looking engagement. However, the expanding demand for AI capabilities reveals a critical skills gap, with an estimated shortage of 80,000 AI professionals. This talent deficit poses a considerable barrier to scaling AI-driven innovations and achieving economic transformation.

Thailand's intellectual property regime does not provide clear pathways for AI innovation, particularly in licensing and commercializing public research. Training programs often lack monitoring or alignment with labor market needs, while private investment in AI R&D and training remains very limited, where Thai businesses in the computer programming, consultancy, and related activities sector (SIC 62.0) spent only 47.5 million THB on training, research, planning, and development in 2022.

5. Technical and Infrastructural Dimension

Thailand enjoys high connectivity, with internet usage exceeding 89 percent, and mobile-cellular subscription rates reaching 169 per 100 people. The country ranks among global leaders in fixed broadband speed and internet accessibility, including low gender and rural-urban disparities. Digital platforms such as data.go.th and the Government Data Exchange (GDX) support cross-agency data sharing and provide a foundation for AI-readiness.

Nonetheless, critical infrastructure gaps persist. There are 0.59 certified data centers per million people, with most concentrated in Bangkok, limiting nationwide access to compute resources. However, in 2024 alone, BOI applications for inbound data centre and cloud service investments in Thailand reached 240,000 million baht. Nevertheless, data quality remains inconsistent across ministries, with outdated, unlabeled, or unstandardized datasets and insufficient metadata tagging. There are no established frameworks for AI system testing, auditing, benchmarking, or certification. Thailand lacks a National Quality Infrastructure (NQI) system tailored to AI, which impairs the ability to assess model safety, fairness, or explainability.

Without trusted data environments, standardized formats, and ethical testing protocols, Thailand's technical ecosystem remains ill-equipped for safe, scalable AI deployment.

Roadmap for Ethical and Inclusive AI Governance in Thailand

To ensure that AI development in Thailand is responsible, inclusive, and aligned with international standards, national efforts must shift from high-level strategies to actionable implementation. This roadmap outlines strategic priorities, providing a high-level policy orientation across the following sections:

1. Laws and Regulation

- Establish a national framework for Data Sharing and Trusted Data Pooling in strategic sectors.
- Enhance Human Rights and Algorithmic Accountability
- Develop a Risk Assessment Framework for high-risk AI systems in critical sectors.
- Implement Ethical Procurement Guidelines for government AI acquisitions.

2. Institutional Framework and Governance

- Establish a **Monitoring and Evaluation (M&E) Mechanism** for systematic assessment of AI strategies.
- Strengthen **National Quality Infrastructure (NQI)** for AI readiness and build dedicated testing facilities.
- Improve coordination through a **National AI Governance Center** and cross-sectoral working groups.

3. Capacity Building

- Integrate **AI Literacy and Ethics** into the national education curriculum from K-12 to higher education.
- Provide **Labor Incentives for Upskilling and Reskilling**, supported by public-private partnerships.
- Develop **AI training course** to boost the skills and knowledge of government employees regarding AI

4. Inclusion and Well-being

- Ensure **Universal Design and Accessibility** for vulnerable populations, rural communities, and minorities.
- Enhance **Digital Literacy for Marginalized Groups** through targeted education and capacity-building.
- **Preserve Cultural and Linguistic Diversity** with AI projects that digitize local languages and cultural heritage.
- Encourage **Ethical AI for Social Good**, targeting societal challenges like healthcare, education, and sustainability.
- Develop **Community-Centric AI Co-Creation Platforms** to be a hubs for transforming community members into active co-designers.

5. Investment Ecosystem

- **Establish a National AI Consultancy Support Program** to provide SMEs with design, technical training, and funding for AI solutions.
- **Encourage AI-related Infrastructure Investment** that prioritises hyperscale and modular data centers.
- **Strengthen Investments in Data Pooling** by enhancing sector-specific dataspaces for analytics and public-private collaboration.
- **Unlock Green Energy for Sustainable Data Center Expansion a**nd Support Direct Power Purchase Agreements (Direct PPA) and Third Party Access (TPA) to enable private energy suppliers to directly power data centers.

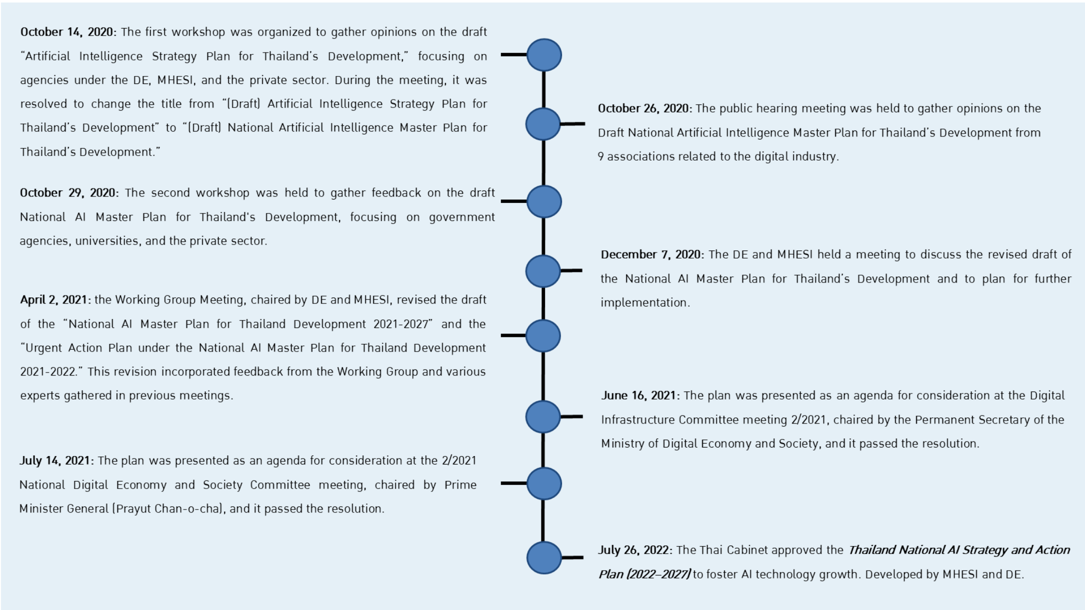
6. R&D and Innovation

- Define **Copyright Exceptions for Text and Data Mining (TDM)** and strengthen **Patent Guidelines for AI**.
- Create **Regulatory Sandbox** for testing AI applications in controlled environments.
- Promote **Scientific Research and Institutional Collaboration** for interdisciplinary AI development.

DIAGNOSIS OF THE NATIONAL AI LANDSCAPE

To prepare for the development and implementation of AI technology in Thailand and to align with government policy, Thailand has established a working group tasked with drafting the **"Thailand's National AI Strategy"** This working group was led by the MHESI and the MDES in collaboration with more than 15 agencies such as government agencies, private sector, and experts in AI. The plan was developed through several consultations to ensure inclusive engagement from various stakeholders. Finally, On July 26, 2022 the Thai Cabinet approved the Thailand National AI Strategy and Action Plan 2022-2027 (NAIS) to foster AI technology growth. Developed by MHESI and MDES.

Figure 1: The timeline for the development of Thailand's National AI Strategy

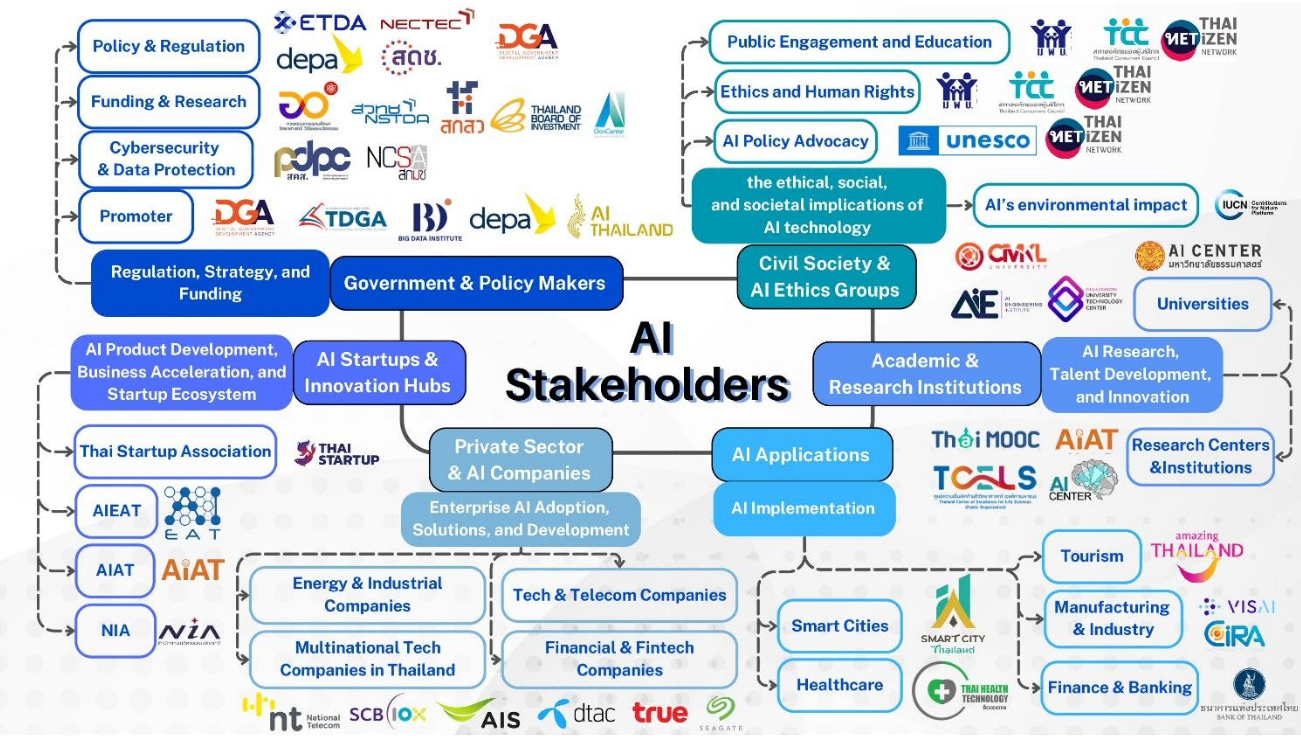


NAIS has set the scope of AI technology application focusing on 10 industries, implemented in two phases:

- **Phase 1 (2022 to 2023):** This phase focuses on the Government sector, Agriculture and Food, Medical and Health
- **Phase 2 (2024 to 2027):** This phase will focus on additional sector.

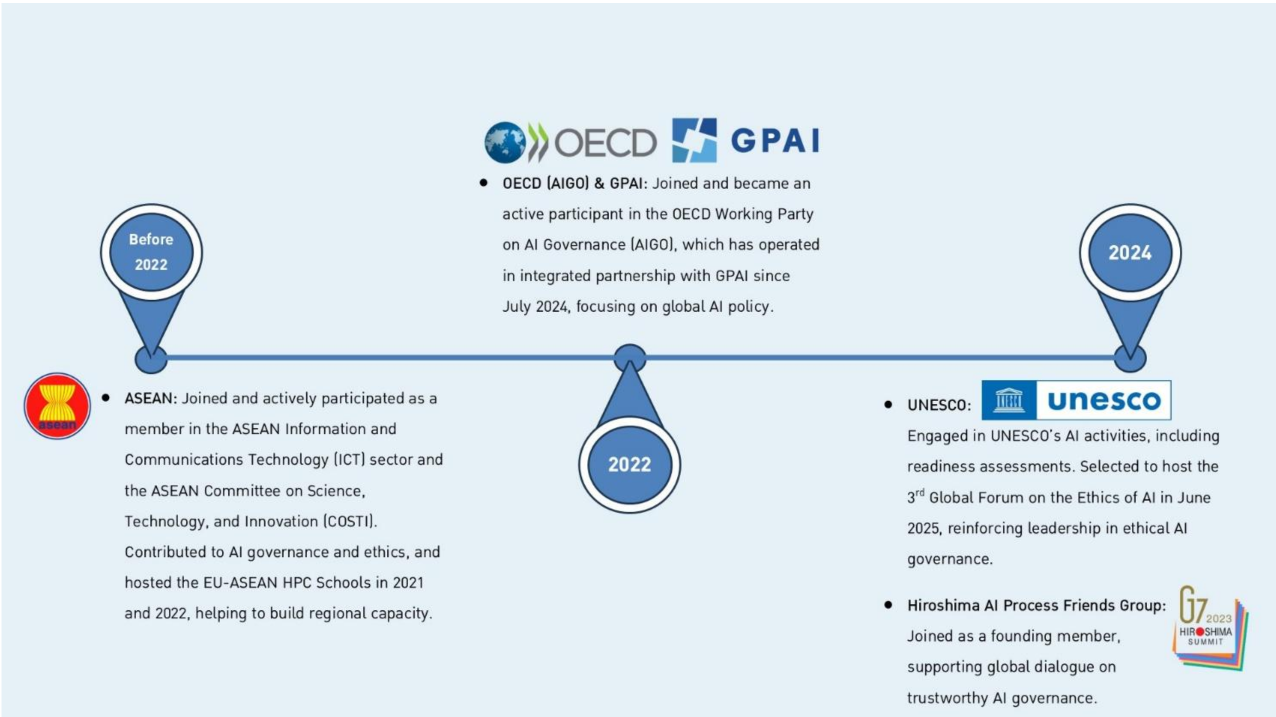
Under this plan, Thailand has formed the **"National AI Committee (NAIC)"** as a key working group to effectively implement the plan. This group brings together over 40 core AI agencies, including government bodies, private sector organizations, and AI-expert professionals. The Prime Minister serves as the chairman, while the Permanent Secretary of the MHESI and the Permanent Secretary of the MDES act as the committee's secretaries. The NAIC is responsible for leading the implementation of the plan, monitoring and evaluating its progress, and coordinating efforts among relevant agencies in the public, private, and academic sectors. Figure 2 below illustrates some of the key agencies involved in the implementation of NAIS and additional agencies can also be found in the NAIS annual report.[1]

Figure 2: Thailand's AI stakeholder



In addition to the efforts of domestic agencies, Thailand has established international cooperation with various organizations, both regionally and internationally as shown in Figure 3.

Figure 3: Thailand regional and international cooperation



[1] "AI Thailand | แผนปฏิบัติการด้านปัญญาประดิษฐ์แห่งชาติเพื่อการพัฒนาประเทศไทย (พ.ศ. 2565 – 2570) - AI Thailand," April 12, 2023, https://ai.in.th/about-ai-thailand/.

Thailand remains committed to advancing responsible and ethical AI through robust international engagement. Beyond its foundational roles within ASEAN, Thailand actively shapes global AI policy as a participant in the OECD Working Party on AI Governance (AIGO) and through partnership with the Global Partnership on AI (GPAI). The country has also deepened cooperation with UNESCO, implementing the AI Readiness Assessment and preparing to host the 3rd Global Forum on the Ethics of AI in 2025. As a founding member of the Hiroshima AI Process Friends Group, Thailand further contributes to international discussions on trustworthy AI. Collectively, these efforts underscore Thailand's dedication to knowledge exchange, capacity building, and the ethical development of AI for regional and global benefit.

However, Thailand faces some challenges in developing AI regulations and policies, including:

- Lack of a mechanism for plan assessment: The NAIS requires an evaluation process before progressing to subsequent implementation phases. While an annual report is currently published, it offers only a general overview of strategic achievements and lacks detailed analysis of the plan's limitations, implementation challenges, and areas needing improvement.
- Under-representation of the private sector in the composition of the National AI Committee, which does not reflect the role of the private sector in the overall AI ecosystem.

LEGAL AND REGULATORY

The legal and regulatory framework regarding AI is essential for ensuring the ethical use of AI systems. This framework should implement effective measures to protect and uphold citizens' rights. Additionally, it must include mechanisms to monitor, address, evaluate, and provide compensation for any unexpected negative consequences that may arise from the deployment of AI systems.

2.1 AI POLICY AND REGULATION

Clear AI policies and regulations are essential to uphold the principles of *Responsibility and Accountability*, *Human Oversight and Determination, and Transparency and Explainability.*[2] Legal frameworks help ensure that AI systems remain under human control, operate transparently, and have accountable actors when harm occurs. These principles are crucial to prevent misuse and to build trust in AI deployment.

The NAIS focuses on 3 objectives:[3] (1) developing human capacity and technology, (2) creating economic growth, and (3) creating social and environmental impact. To achieve these goals, the strategy outlines five main strategies, as follows:

- Strategy 1 Preparing Thailand's readiness in social, ethics, law, and regulation for AI application
- Strategy 2 Developing national infrastructure for sustainable AI development.
- Strategy 3 Increasing human capability and improving AI education.
- Strategy 4 Driving AI technology and innovation development.
- Strategy 5 Promoting the use of AI in public and private sectors.

As part of this plan, the NAIC has been created to effectively implement and oversee the execution of the National AI Strategy. Additionally, the NAIS Annual Report will be produced to present the achievements of the plan each year.

Thailand's National AI Strategy emphasizes on the ethical adoption of AI, highlighting the need for comprehensive study, planning, and preparation in areas such as society, ethics, and legal regulations in the first strategy. As a result, Thailand has developed AI Ethics Guidelines in several organizations.[4] Additionally, the plan prioritizes developing and using AI sustainably and equitably, considering fairness and equality, privacy and data protection, labor rights and employment, digital divide, and AI ethics.

Moreover, the plan was created through collaboration among agencies to address all aspects of AI development in Thailand, incorporating feedback from diverse sectors on the National AI Strategy.

2 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

3 National Science and Technology Development Agency and Office of the National Digital Economy and Society Commission, "Thailand National AI Strategy and Action Plan (2022–2027)," accessed January 2, 2025, https://pub.nstda.or.th/gov-dx/wp-content/uploads/2022/12/20220726-AI.pdf.

4 Thailand has currently established three AI Ethics Guidelines; (1) Thailand Artificial Intelligence Ethics Guideline by ONDE (2) AI Governance Guideline for Executives, (3) Guidelines for the Application of Generative AI with Good Governance for Organizations by ETDA, and (4) AI Ethics Guideline by NSTDA.

Currently, Thailand has not yet announced any laws that directly govern AI. However, to achieve the goals outlined in Strategy 1 of the National AI Strategy, the country has established AI Ethics Guidelines through various agencies. Each guideline focuses on different target group. The ONDE has created the Thailand Artificial Intelligence Ethics Guideline[5], which provides a framework for users to assess their maturity and suitability in complying with AI ethics. Meanwhile, the ETDA has developed the AI Governance Guideline for Executives[6] and the Generative AI Governance Guideline for Organizations[7]. These guidelines are designed for corporate executives to ensure proper governance of AI applications at the enterprise level. Additionally, the NSTDA has established the AI Ethics Guideline (for academic sector)[8] specifically for academic actors and researchers to ensure their compliance with AI ethics in their work.

Moreover, to promote and implement principles aligned with UNESCO's 2021 Recommendation, NECTEC, operating under the NSTDA and the MHESI, conducted the "Thailand Readiness Assessment Methodology Report" under the UNESCO RAM Project in 2025, with the financial support from the EU.

In parallel with the RAM assessment, Thailand has taken steps to embed ethical principles into national AI policy. One key initiative is *the Research project on Operationalizing the Framework of UNESCO Recommendation on the Ethics of AI*, led by ETDA. This project complements the RAM process by transforming UNESCO's high-level ethical principles into practical policy directions tailored to Thailand's context. It also contributes to the broader mandate of the AI Governance Center and strengthens ties with the UNESCO Global Observatory on the Ethics of AI. As a result, After the RAM process is complete, the findings will be used to create a consistent action plan for this project.

Box 1: Turning Global AI Ethics into National Action

The research project on operationalizing the framework of the UNESCO Recommendation on the Ethics of AI, led by ETDA, aims to support Thailand in advancing the ethical governance and application of AI technology, in alignment with international standards and the principles outlined in the UNESCO Recommendation on the Ethics of AI. It seeks to develop concrete implementation plans for Thailand to ensure good governance of AI applications, as stipulated in the 11 key policy areas defined by UNESCO. Additionally, the project endeavors to build a body of knowledge, disseminate information, and promote the concepts and principles of the UNESCO Recommendation on the Ethics of AI across various industrial sectors and domains, in alignment with these key policy areas.

The expected outcomes of this project include the development of a national-level implementation plan to promote good AI governance and ethical AI practices in Thailand; increased awareness of the societal impacts of AI and the promotion of AI literacy; and the creation of a dashboard or other tools to track and monitor the progress of AI ethics development for strategic prioritization.

2.2 DATA PROTECTION AND PRIVACY LAWS

Data protection and privacy are central to the principles of *Right to Privacy and Data Protection*, *Respect for Human Rights and Dignity*, and *Data Governance and Access to Information*.[9] Ensuring that individuals maintain control over their personal data is vital to preventing harm, building trust, enabling informed consent, and protecting autonomy in AI systems that rely heavily on data.

5 Office of National Digital Economy and Society Commission, Thailand Artificial Intelligence Ethics Guideline, accessed January 2, 2025, https://bact.cc/f/2022/11/202012-thailand-ai-ethics-guideline-mdes.pdf.

6 "แนวทางการประยุกต์ใช้ปัญญาประดิษฐ์อย่างมีธรรมาภิบาล (สำหรับผู้บริหารองค์กร https://www.etda.or.th/th/Useful-Resource).aspx.

7 Electronic Transactions Development Agency, Generative AI Governance Guideline for Organizations, n.d., https://library.ipst.ac.th/wp-content/uploads/2024/10/GenerativeAIGovernanceGuideline_Vol1_AIGC.pdf.

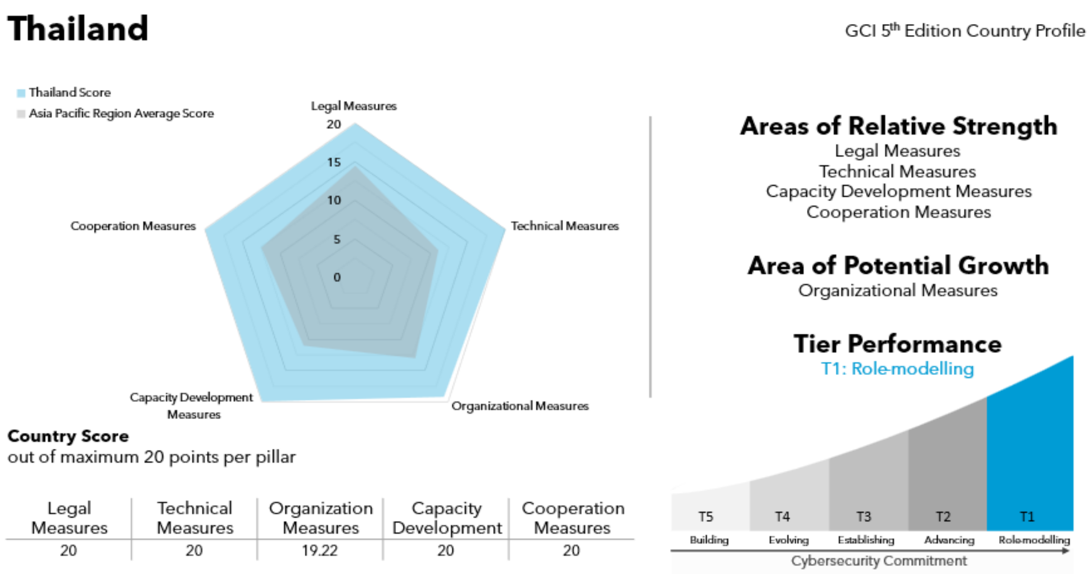
8 National Science and Technology Development Agency, AI Ethics Guideline, accessed February 1, 2025, https://waa.inter.nstda.or.th/stks/pub/ori/docs/20220831-aw-book-ai-ethics-guideline.pdf.

9 Ibid

Cybersecurity

Thailand's cybersecurity posture shows a mixed landscape. In 2023, Comparitech's study gave Thailand demonstrated strengths[10] in areas like low percentage of mobiles infected with malware and minimal threats from mobile banking trojans and ransomware trojans but still faced challenges with local malware and phishing attacks0F[11]. However, in 2024, Thailand achieved a Global Cybersecurity Index (GCI)1F[12] score of 99.22, ranking 7th globally. This significant improvement reflects advancements across legal, technical, organizational, capacity development, and cooperation pillars, including key legislation, the establishment of the National Cyber Security Agency (NCSA), and a comprehensive National Cybersecurity Strategy.

Figure 4: 2024 Thailand's Global Cybersecurity Index.



Source: ITU 2024

The Personal Data Protection Act (PDPA)

The Personal Data Protection Act (PDPA), B.E. 2562 (2019), is Thailand's main data protection law, applying to both domestic and foreign entities processing personal data of Thai individuals. It establishes rights for data subjects, obligations for data controllers and processors, and enforcement mechanisms to strengthen data governance.

The efficacy of PDPA can be reflected in the PDPC's statistics. The number of complaints increased significantly from 204 cases between October 2022 and September 2023 to 616 cases in the following year, while data breach notifications rose from 175 to 355 cases during the same period[13]. This upward trend may signal increasing public awareness and responsiveness to personal data protection issues. However, the recent surveys reveal that although 87.80 percent of individuals are aware of the PDPA, only 3.72 percent have a strong understanding of its provisions.[14] The gap between awareness and understanding may hinder individuals from fully exercising their data protection rights. Despite some progress, overall engagement of data subjects remains low, indicating a need for targeted efforts to strengthen legal literacy and participation.

10 Thailand average cybersecurity score of 17.47, which adjusted to 16.41 with COVID-19-related malware data.

11 Writer Paul Bischoff 2024. "Cybersecurity rankings by country: Which countries have the worst (and best) cybersecurity?." on Studies Cybercrime, Studies, Comparitech. https://www.comparitech.com/blog/vpn-privacy/cybersecurity-by-country/. access on 31 December 2024.

12 ITU 2024, Global Cybersecurity Index 2024. https://www.itu.int/epublications/publication/global-cybersecurity-index-2024. access on 31 December 2024.

13 Personal Data Protection Committee (PDPC). 2024. "Statistics on Complaints and Reports of Violations of Personal Rights for the Fiscal Year 2023–2024." PDPC Thailand. https://www.pdpc.or.th/stats/public-service/.

14 PDPA Thailand. n.d. "Survey Results on Privacy, Personal Data Protection, and Data Subject Rights." https://www.tpdpa.or.th/wp-content/uploads/2024/02/present-survey-pdpa-270127-v2.pdf.

The PDPA grants individuals several rights over their data, including access, rectification, erasure, portability, restriction of processing, and withdrawal of consent at any time. However, the law does not contain explicit provisions regarding the right not to be subject to automated decision-making, raising concerns about individuals' ability to oppose AI-driven decisions.

Under the PDPA, where consent is relied upon as the valid legal ground for the collection, use, or disclosure of personal data, such consent must be freely given, informed, and specific. The Personal Data Protection Committee (PDPC) has promoted transparent privacy notices and valid consent mechanisms and there remains an opportunity to further develop legally binding secondary regulations or guidelines specifically addressing AI-related data processing.

The PDPA also establishes the principle of data minimization, requiring that data collection be limited to what is necessary for the specified purpose. Although the PDPA does not expressly mandate the conduct of a Privacy Impact Assessment (PIA), the PDPC recommends its use, particularly in cases involving high-risk activities such as large-scale data processing or AI-driven operations.[15] Conducting PIAs serves as a proactive approach to risk management and complements the broader obligation for data controllers to implement appropriate security measures under the PDPA framework.[16]

Under the PDPA, sensitive personal data — including health information, biometric and genetic data, racial or ethnic origin, political opinions, and criminal records — is subject to enhanced protection. Where no other legal basis applies, the data controller must obtain the data subject's explicit consent, which requires a clear and affirmative action by the data subject — not mere silence or passive acceptance — to ensure that they retain genuine control over their sensitive personal data.

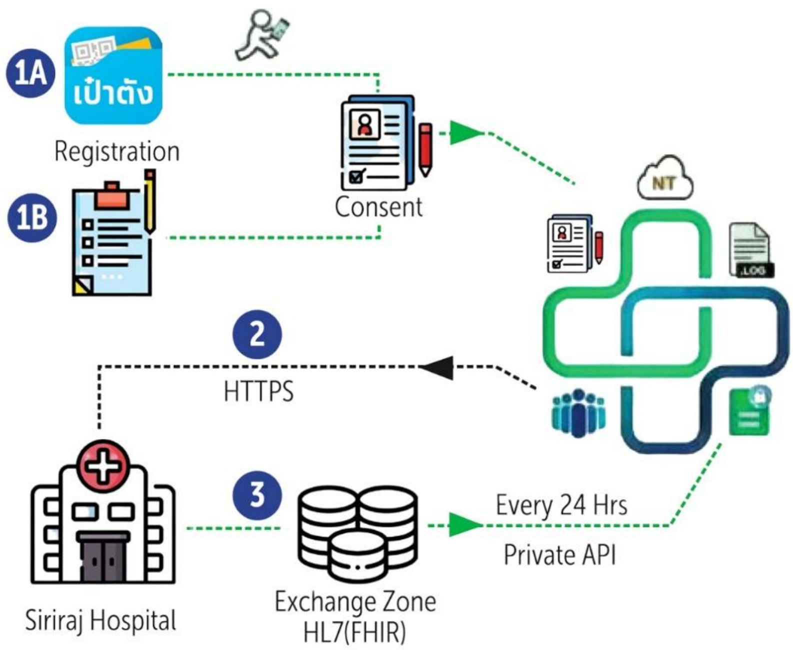
Box 2: Example of Explicit Consent in Practice – Health Link via Paotang App

Health Link is a government-initiated system designed to facilitate the exchange of patient medical records between hospitals. It is developed and managed by the BDI, which is responsible for compiling and overseeing the data within the platform. The consent process is carried out through the Paotang application, where users can select hospitals, review the privacy notice, tick a consent checkbox, and confirm their consent via a one-time password (OTP). The application features a user-friendly interface that supports clear and informed decision-making. This ensures that consent is specific, informed, and verifiable, in accordance with the guidelines set forth by the PDPC. In case of concerns or data breaches, individuals can lodge complaints through BDI's designated channels or contact BDI's Data Protection Officer (DPO) directly. Additionally, data subjects have the right to file complaints with the PDPC via their official website at https://complaint.pdpc.or.th/

15 PDPC. Guidelines for Providing Notification of Purpose and Details Regarding the Collection of Personal Data from Data Subjects under the Personal Data Protection Act, B.E. 2562 (2019). 20230303151816_85101.pdf.

16 Office of the Personal Data Protection Committee. 2024. Guidelines for the Protection of Personal Data for High-Risk Personal Data Processing Activities. https://www.pdpc.or.th/2405/.

Figure 5: Consent Mechanism for Health Link Access via Paotang Application



Source: Bangkok Post 2021

The enforcement of the PDPA includes administrative fines, civil liabilities, and criminal penalties, with company directors potentially held personally liable for non-compliance. Under PDPA, the PDPC serves as the primary regulatory body responsible for issuing guidelines, monitoring compliance, and enforcing data protection regulations. Organizations handling large-scale or sensitive personal data are required to appoint a Data Protection Officer (DPO) to oversee internal compliance and act as a liaison with the PDPC.

To strengthen the PDPA's applicability to AI, key gaps should be addressed. These include the absence of an explicit right to object to automated decision-making and the need for clearer, binding secondary regulations on AI-related data processing. Addressing these issues would enhance safeguards for individuals and ensure the law remains effective in the context of rapidly advancing AI technologies.

2.3 DATA SHARING AND ACCESSIBILITY

Data sharing and accessibility directly relate to the principles of *Data Governance and Access to Information*, *Transparency and Explainability*, and *Inclusiveness and Equity*. [17] Ethical AI depends on high-quality, accuracy and well-governed data that is accessible for innovation while safeguarding rights. Balanced frameworks are needed to promote openness, ensure accountability, and prevent the exclusion of underrepresented groups.

The Open Data Inventory (ODIN)3F[18] assesses the completeness and openness of official statistics across 195 countries. In the 2022 ODIN assessment, Thailand ranked 99th globally with an overall score of 48. This score is comprised of a data coverage score of 52 and a data openness score of 44. Economic data demonstrates relatively strong coverage (63), but openness remains limited (46). Social (41) and environmental (49) statistics reveal gaps in both availability and

17 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

18 Open Data Watch. 2024. "Thailand." In Country Report, Open Data Inventory (ODIN). https://odin.opendatawatch.com/ReportCreator/ExportCountryReport/THA/2022.

accessibility. Key challenges include restricted public access, limited machine-readable formats, and incomplete datasets, particularly in the health, education, and environmental sectors.

Thailand has not officially signed the International Open Data Charter (ODC) and there is no available information indicating whether Thailand is in the process of adopting or aligning with the ODC.

Thailand does not yet have a comprehensive national data-sharing framework. However, foundational legal provisions exist, including the Official Information Act, B.E. 2540 (1997), which grants citizens access to government information, and the Digitalization of Public Administration and Services Delivery Act, B.E. 2562 (2019), which promotes interoperability within the public sector. Despite these efforts, data sharing remains largely confined to government agencies, with limited public-private collaboration. Main Platforms like data.go.th Government Data Exchange (GDX), facilitate governmental data sharing, but a structured framework for cross-sector data integration is still under development.

Figure 6: GDX and data.go.th

The efficacy of existing data-sharing initiatives has not been systematically assessed, although operational indicators—such as over 44 million transactions on GDX in 2023 and more than 10,000 datasets published on data.go.th—demonstrate practical potential. These developments reflect strong institutional leadership by the Digital Government Development Agency (DGA) and user-oriented principles like the "Once Only" principle, which aims to ensure that citizens provide the same information to government authorities only once. However, a preliminary study by TDRI highlights persistent challenges, including inefficient data collection practices, limited public disclosure of government data, lack of cost-benefit evaluation in data management, insufficient collaboration with the private sector, absence of clear data governance frameworks and standards, inadequate data management skills among public officials, poor data quality, and the absence of systematic mechanisms for identifying and promoting high-value datasets.[19] Strengthening legal foundations, improving inter agency coordination, and broadening stakeholder engagement are critical to improving the framework's overall effectiveness and trustworthiness.

While public sector initiatives have advanced, structured public-private data sharing remains limited. Pilot policies such as the "Your Data" initiative by the Bank of Thailand (allowing individuals to securely share financial data) and the "Health Data Center" (HDC led by the Ministry of Public Health, integrating health records to enhance service delivery) demonstrate early progress.

Figure 7: Your data initiative and Health Data Center

19 Policy Watch. 2023. "ยุทธศาสตร์ข้อมูลประเทศไทย: เปิดข้อมูลภาครัฐให้ประชาชนเข้าถึงได้บนแพลตฟอร์มเดียว." Policy Watch. https://policywatch.thaipbs.or.th/article/government-31.

Other initiatives include the "Health Link" project (enabling hospitals to share patient records for continuity of care), although challenges remain as Health Link is not fully interoperable with other health information platforms. Developed by the Big Data Institute (BDI) in collaboration with the Ministry of Public Health and the National Health Security Office (NHSO), the system aims to promote national health data integration. Similarly, the "Travel Link" project (integrating immigration, public health, and tourism-related data to streamline traveler services) faces limitations, as some types of information are not available in real time, affecting its utility for immediate decision-making and service delivery. Travel Link was developed by BDI in partnership with the Immigration Bureau, the Department of Disease Control, and the Tourism Authority of Thailand.

Figure 8: Health link and travel link project

Thailand has developed a comprehensive legal and digital infrastructure to advance open government data initiatives. The framework is fundamentally anchored in the Government Information Act B.E. 2540 (1997), which institutionalizes the principle of "open-by-default" to guarantee public access to information held by the state.

The Government Information Commission plays a pivotal role in overseeing the implementation of the Act by providing guidance to government entities and officials. Building upon this foundation, the Digital Government Act B.E. 2562 (2019) has introduced mechanisms to further strengthen digital governance, supporting initiatives such as the Open Government Data Portal (data.go.th) and the Government Data Exchange (GDX). These platforms aim to enhance data accessibility, foster inter-agency integration. In addition, complementary policies—including the Cloud First Policy[20] and the Digital Government Development Plan (2023–2027)[21]—seek to embed "open-by-default" principles across public sector data systems, thereby modernizing Thailand's approach to data governance.

Despite these advancements, the effectiveness of these policies remains uneven. Evaluations conducted by the Digital Government Development Agency (DGA) and the Open Data Institute (ODI)[22] indicate significant progress in service integration and public sector capacity building. However, persistent challenges in data governance, inter-agency coordination, and transparency continue to impede the full realization of open data goals. Notably, between 2015 and 2022, there has been a marked increase in appeals concerning denied access to information, suggesting a potential decline in governmental transparency.[23] While this may also reflect growing public awareness and a more active exercise of the right to information, it nonetheless points to inefficiencies in the current legal framework.[24] Many of these denials have been justified on the grounds of national security or personal privacy, indicating that legal safeguards may, at times, be interpreted or applied too broadly. This trend highlights the critical need for a more balanced implementation that simultaneously protects individual privacy while reinforcing the fundamental right to information.

20 นโยบายการใช้คลาวด์เป็นหลัก via https://kb.dga.or.th/cloud/

21 the Digital Government Development Plan (2023–2027) via https://pub.nstda.or.th/gov-dx/thailand-digital-government-plan-digital-2023-2027/

22 Open Data Institute. 2025. Empowering Thailand's Digital Government with Open Data. London: Open Data Institute. https://theodi.org/insights/reports/empowering-thailands-digital-government-with-open-data/.The ODI+2The ODI+2The ODI+2

23 Office of the Official Information Commission, Annual Report of the Office of the Official Information Commission (2015–2023)

24 Tridadikoon, Khemthong. 2023. How the Thai Official Information Act Reflects Post-Cold War Ideals. Medium. https://medium.com/@ktridadikoon/how-the-thai-official-information-act-reflects-post-cold-war-ideals-5f8f6bec4f5c

Moreover, Thailand's open government data policies explicitly acknowledge the importance of data accessibility for fostering research and innovation. National open data platforms currently host approximately 28,819 datasets across diverse thematic categories, constituting a substantial digital repository of public-sector information. These datasets provide critical resources for academic inquiry, policy development, and technological innovation. Empirical assessments conducted by organizations such as the Open Data Institute[25] and the OECD[26] have documented the positive impacts of these resources, including enhanced policy formulation, increased civic engagement, and the development of technological solutions, while ensuring adherence to privacy safeguards as mandated by the Personal Data Protection Act (PDPA). Furthermore, ongoing enhancements in data governance are poised to elevate dataset quality, standardization, and update frequency, thereby broadening the utility of open datasets for evidence-based scholarship and policymaking.

2.4 PROCUREMENT LAW AND POLICIES

Procurement of AI systems reflects the principles of *Proportionality and Do No Harm*, *Safety and Security*, and *Responsibility and Accountability*.[27] Ethical AI requires that public procurement processes include safeguards to assess risks, ensure safety, and promote responsible innovation. Without proper guidelines, AI adoption in public services may lack oversight, leading to unintended harm or misuse.

Thailand has implemented a secondary law concerning the procurement of AI systems, as well as products and services that include AI components. This law is titled the “Ministerial Regulation Prescribing Supplies and Procurement Procedures that the State Needs to Promote or Support (No. 4), B.E. 2566.” It defines “Digital Promotion Supplies,” which are eligible for expedited procurement processes compared to other categories. To qualify as Digital Promotion Supplies, providers must be registered with the Digital Economy Promotion Agency (DEPA) as a Digital Service Account. The certification process focuses only on technical standard, and it is voluntary measure.

Furthermore, there is a special approval process for purchasing AI systems. Government agencies intending to utilize the national budget for computer system projects exceeding 100 million baht must obtain approval from the Government Computer System Procurement Committee before allocating funds.[28] However, the committee only reviews the technical feasibility and financial efficiency of these projects without considering the significant impacts of AI on human rights and ethical considerations. Additionally, there are currently no clear guidelines or practices for AI procurement, leading to challenges for government agencies in understanding the benefits of AI and how to effectively implement it within their organizations.

Currently, UNESCO has published a guideline titled the ‘UNESCO’s Ethical Impact Assessment[29]’ to serve as a framework for evaluating and managing the ethical implications of AI systems throughout their entire lifecycle. This guideline may serve as an additional tool for assessing the procurement of AI, ensuring adherence to ethical principles and facilitating the mitigation of potential impacts associated with public sector AI procurement.

25 Open Data Institute. 2025. Empowering Thailand's Digital Government with Open Data. London: Open Data Institute. https://theodi.org/insights/reports/empowering-thailands-digital-government-with-open-data/.The ODI+2The ODI+2The ODI+2

26 OECD (Organization for Economic Co-operation and Development). 2019. OECD Principles on Artificial Intelligence. https://www.oecd.org/en/topics/sub-issues/ai-principles.html.

27 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

28 "Cabinet Resolution on 26 March 2024: Forming a committee to Oversee the Procurement of Government Computer Systems.," accessed January 2, 2025, https://www.oic.go.th/FILEWEB/CABINFOCENTER3/DRAWER062/GENERAL/DATA0001/00001621.PDF.

29 UNESCO, "Ethical Impact Assessment: A Tool of the Recommendation on the Ethics of Artificial Intelligence" (UNESCO, 2023), https://unesdoc.unesco.org/ark:/48223/pf0000386276.

2.5 FREEDOM OF INFORMATION ACTS AND ACCESS TO KNOWLEDGE ACTS

Freedom of information and access to knowledge support the principles of *Transparency and Explainability*, *Data Governance and Access to Information*, and *Inclusiveness and Equity*.[30] Ethical governance of AI requires that individuals can understand how decisions are made and access relevant information. Without transparency and open access, AI systems risk becoming opaque, undermining accountability and public trust.

Thailand's freedom of information legislation, known as the Official Information Act, B.E. 2540 (1997) (OIA) mentioned above, grants individuals the right to request access to official information held by public agencies. The act provides a list of official information available for public inspection.[31] However, it also creates exemptions for refusing disclosure. For example, the information that will result in a decline in the efficiency of law enforcement or failure to achieve its objectives, whether or not it is related to litigation, protection, suppression, verification, inspection, or knowledge of the source of the information, is prohibited from being disclosed.[32]

The OIA established the Official Information Board (OIB) to carry out its responsibilities. The OIB supervises the implementation of this act by state agencies, reviews disclosure requests, and submits an annual report on compliance to the Council of Ministers. This report is titled the "Annual Report on Compliance with the Information Act B.E. 2540." However, the report does not address the challenges or limitations related to the law's implementation.

Compared to international practices, such as the United States' Freedom of Information Act (FOIA), which requires both quantitative Annual FOIA Reports and qualitative Chief FOIA Officer (CFO) Reports to assess agency performance and promote transparency, Thailand's Annual Report on Compliance with the Official Information Act B.E. 2540 lacks mechanisms to effectively evaluate the overall effectiveness of the Act. While the U.S. approach combines statistical data with qualitative assessments of efforts and strategies for improvement, the current Thai reporting framework remains limited in providing a comprehensive view of the law's implementation and impact.

Currently, the OIA does not address the procedures for requesting information about the use of AI systems in the public sector. Furthermore, the OIA covers only government data, which means there's no requirement for public agencies to inform the individuals whose data is being used. However, if the data involves personal information, the Personal Data Protection Act will apply.

2.6 DUE PROCESS AND ACCOUNTABILITY

Due process and accountability are central to the principles of *Responsibility and Accountability*, *Rule of Law*, and *Human Oversight and Determination*.[33] Ethical governance of AI requires that individuals have access to remedies when harmed by AI systems, and that clear mechanisms exist to assign liability. Without enforceable protection, AI deployment risks violating rights without recourse.

Thailand's due process rights are protected under the Constitution of the Kingdom of Thailand, B.E. 2560 (2017), along with the Civil and Criminal Procedure Codes and the Consumer Protection Act, B.E. 2522 (1979). These laws ensure fairness, transparency, and access to legal remedies. The Liability for Damages Arising from Unsafe Products Act, B.E. 2551 (2008) also plays a role by imposing strict liability on producers of unsafe products—including AI systems if classified as such—thus supporting access to remedies without requiring proof of fault. While there is no dedicated AI legislation, emerging regulatory frameworks address some aspects of transparency and accountability in the digital

30 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

31 Official Information Act, B.E. 2540 (1997), Article Section 9

32 Official Information Act, B.E. 2540 (1997), Article 14.

33 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

environment. The Royal Decree on Digital Platform Service Businesses, B.E. 2565 (2022), imposes obligations on platform operators to register with authorities, disclose relevant algorithms and service terms, and establish complaint-handling and dispute resolution mechanisms, aiming to promote fair practices and safeguard users' rights. At the same time, the AI Ethics Guidelines issued by the MDES currently serve as a soft law framework to guide responsible AI use, while the country prepares for more robust legal instruments such as the upcoming The Platform Economy Act (PEA).[34]

The efficacy of these laws remains under assessment. The PDPA is being monitored by the PDPC. Similarly, the Royal Decree on Digital Platform Service Businesses is in its early implementation stage, with no formal evaluations published. Mechanisms for public complaints and regulatory oversight exist, but their practical impact is still under review. To date, there is no consolidated tracking of court cases related to AI misuse or deception—likely due to the limited scale of AI adoption and low public awareness of redress mechanisms. The AI Ethics Guidelines set principles of accountability, transparency, and fairness, but their efficacy remains uncertain due to their non-binding nature.

Currently, there is no specific legal requirement for the disclosure of AI interactions. However, existing laws indirectly address this issue. The PDPA mandates transparency in personal data processing, ensuring that individuals are informed about how their data is collected and used. Although the Consumer Protection Act B.E. 2522 (1979) does not explicitly regulate AI, it prohibits unfair and deceptive practices; thus, failure to disclose that a consumer is interacting with an AI system—particularly when it could mislead or influence their decision—may be treated as a violation of the consumer's right to accurate and transparent information. In addition, the Civil and Commercial Code allows individuals to void contracts entered into under mistaken assumptions regarding AI interactions, and the Penal Code criminalizes fraudulent impersonation by AI systems.

Thailand currently lacks specific laws governing monitoring and redress mechanisms for AI-related harms. However, existing legal frameworks provide certain avenues for addressing damage. For example, the Provisions on Torts in the Civil and Commercial Code, can be applied for injured parties to seek compensation in cases involving autonomous vehicles or high-risk AI products. The Liability for Damages Arising from Unsafe Products Act, allows consumers to hold manufacturers or sellers accountable if AI-integrated products cause harm. Similarly, and the Consumer Protection Act, B.E. 2522 (1979), provides recourse for misleading AI-driven services or advertisements. Additionally, Thailand is drafting the Act on Promotion and Support of Artificial Intelligence Innovation to establish risk assessment and compensation mechanisms for AI-related damages.

The efficacy of these legal frameworks in addressing AI harms has yet to be formally evaluated. Under the PDPA, if the use of AI results in the violation of a data subject's rights—such as unlawful collection, use, or disclosure of personal data—the affected individual may file a complaint with PDPC or pursue legal action to seek remedies. While current mechanisms do not distinguish AI-specific cases, introducing such classification would enhance regulatory oversight and inform future policy development.

2.7 ONLINE SAFETY AND INTEGRITY OF SPEECH

Online safety and the integrity of speech relate closely to the principles of *Safety and Security*, *Freedom of Expression*, and *Fairness and Non-Discrimination*.[35] As AI is increasingly used to moderate content and shape information flows,

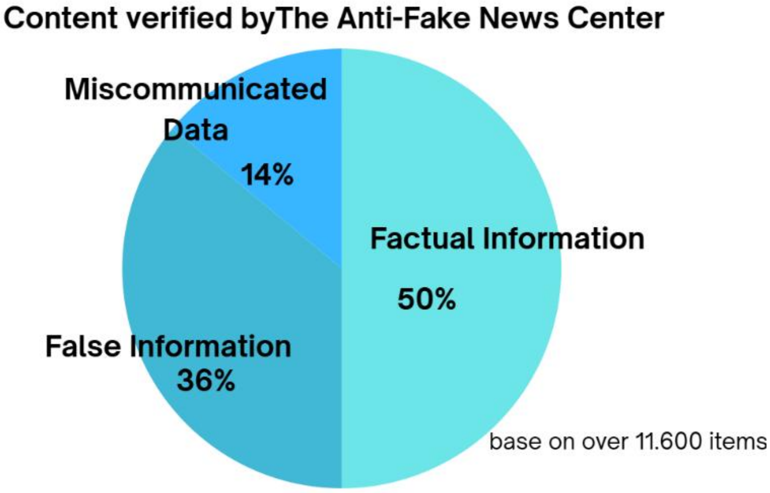
34 The draft Platform Economy Act (PEA), which focuses on regulating digital platforms, is separate from draft AI laws. Its progress remains stalled as of the Cabinet meeting on April 8, 2025, and it remains unclear whether the draft will be further pursued. (Updated May 14, 2025)

35 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

ethical governance must balance harm prevention with the protection of fundamental rights. Robust frameworks are needed to counter misinformation, hate speech, and algorithmic bias without undermining open discourse.

Thailand faces growing challenges from digital misinformation and online crime. Between 2019 and 2023, the Anti-Fake News Center tracked over 1.08 billion suspicious messages. Although only 49,725 of these were verified as false or misleading, their exposure reached more than 348.8 million people. Content analysis revealed that about half of the verified messages were factual, while 36 percent were confirmed to be false.[36]

Figure 9: Breakdown of Content Verified by the Anti-Fake News Center (2019–2023)



At the same time, online crime has intensified. In just two months—October to November 2024—authorities took multiple enforcement actions[37], as shown in following Figures 10 and 11.

Figure 10: Government Enforcement Actions Against Online Crime (Oct–Nov 2024)

In addition, the growing financial and social impact of online crime has placed increasing pressure on law enforcement and digital policy frameworks to respond with greater speed and coordination.

36Ministry of Digital Economy and Society. 2023. Annual Report on the Operations of the Anti-Fake News Center, Fiscal Year 2023. Bangkok: Ministry of Digital Economy and Society. Accessed May 16, 2025. https://www.mdes.go.th/ebook/detail/7373-รูปเล่มรายงานผลการดำเนินงานศูนย์ต่อต้านข่าวปลอม-Anti-Fake-News-Center--ประจำปีงบประมาณ-2566.

37 National News Bureau of Thailand. 2024. "Government Accelerates Efforts to Combat Online Scams." National News Bureau of Thailand. Accessed April 27, 2025. https://thainews.prd.go.th/nbtworld/news/view/782566/?bid=1.

Figure 11: Online Crime Reports and Economic Impact in Thailand (Oct 2023 – Mar 2025)

Under the Computer Crime Act B.E. 2550 (2007), two primary takedown pathways exist: a state-led process requiring a court order, and a user-initiated notice to intermediaries. The latter is governed by the Ministerial Notification on Procedures for Notice, Suspension, and Removal of Computer Data, B.E. 2565 (2022), which sets out intermediary obligations upon receiving such complaints. The Copyright Act B.E. 2537 (1994) also provides a dedicated notice-and-takedown procedure to address online copyright infringement. Additionally, The Royal Decree on Digital Platform Service Businesses mentioned above aims to enhance transparency of AI algorithms but lacks clarity on intermediary liability regarding AI-driven content management.

Thailand has also launched initiatives such as the DE-fence application to proactively prevent fraudulent calls and messages, alongside broader regulatory developments. In addition, the Anti-Online Scam Operation Center has strengthened data integration efforts, flagging nearly 350,000 suspicious accounts over the past year to further support proactive enforcement against online scams.[38]

Box 3: AI-Driven Online Scams and Regional Cooperation

Online scams in Southeast Asia are increasingly powered by AI—voice cloning, deepfakes, and automated phishing make deception faster and harder to detect.[1] In Thailand, AI is both a threat and a tool: it is used by scammers, but also by enforcement agencies to detect nearly 700 scam cases daily. Recognizing the cross-border nature of these crimes, Thailand signed MoUs with Cambodia and Laos in 2024 and joined ASEAN+3 efforts to build shared digital fraud safeguards

The UNHCHR's 2023 report, "Online Scam Operations and Trafficking into Forced Criminality in Southeast Asia," reveals that hundreds of thousands are being coerced by organized crime networks into online scams; ranging from romance-investment fraud and crypto schemes to illegal gambling. Victims suffer severe human rights abuses, including torture, forced labor, sexual violence, and arbitrary detention. Despite existing legal frameworks in some Southeast Asian countries, many fall short of international standards or fail to address the complexity of these operations. Alarmingly, victims are often misidentified as criminals or immigration offenders, facing prosecution or penalties instead of receiving protection and support.

Figure 12: Thailand's AI-Powered Anti-Scam Operation Center and Regional Coordination Efforts

Source: opengovasia.com 2025

38 Ibid.

The efficacy of Thailand's notice-and-takedown framework under the Computer Crimes Act has been gradually strengthened, introducing formal mechanisms for addressing unlawful online content, such as intermediary responsibilities and defined response procedures. However, evaluations by stakeholders and independent studies reveal ongoing challenges, including inconsistent enforcement, limited transparency, and ambiguities in the definition and liability of intermediaries—particularly as digital technologies and business models evolve rapidly.[39] These issues have become more pronounced with the growing prevalence of false information, especially in the context of generative AI. In parallel, the Copyright Act establishes a separate notice-and-takedown system specifically for online copyright infringement, including limited safe harbor protections for intermediaries who act expeditiously upon receiving valid takedown notices. While these frameworks provide a foundation, evolving digital risks highlight the need for a more cohesive and adaptable regime. In response to these emerging risks, Thailand is drafting the The Platform Economy Act (PEA) to establish a clearer, more practical notice-and-takedown mechanism aligned with international standards, aiming to improve enforcement while ensuring platform accountability and user protection.

Thailand's notice-and-takedown framework under the Computer Crimes Act has been applied to a wide range of online content, including misinformation, national security threats, pornography, online gambling, and hate speech. Enforcement mechanisms are used both in routine monitoring and during public crises, such as the removal of COVID-19 fake news or AI-driven operations against illegal gambling. However, the broad application of takedown powers, especially in the absence of narrowly defined standards, raises concerns about the potential over-removal of content and the chilling effect it could have on freedom of expression. Anticipated reforms under the PEA are expected to fill this gap by adopting a risk-based approach that imposes differentiated responsibilities on platforms based on their societal impact and operational scale to preserve online safety and integrity.

The Royal Decree on Digital Platform Services specifically focuses on transparency, requiring platforms to disclose algorithmic parameters and contact channels. Meanwhile, the AI Ethics Guidelines issued by MDES promote responsible AI use but remain non-binding.

The efficacy of current regulations remains uncertain due to limited evaluations of AI's impact on content moderation. The non-binding nature of Thailand's AI Ethics Guidelines has led to limited adoption, particularly among small and medium-sized platforms, due to the absence of mandatory requirements or regulatory incentives.

2.8 PUBLIC SECTOR CAPACITY

Building public sector capacity aligns with the principles of *Awareness and Literacy*, *Multi-stakeholder and Adaptive Governance*, and *Human Oversight and Determination*.[40] Ethical governance of AI cannot be realized without knowledgeable and empowered institutions capable of governing AI responsibly. Strengthening digital skills, AI literacy, and institutional readiness is essential to ensure that AI systems serve the public interest and remain under effective human control.

Thailand's government is actively working to enhance digital skills through the Digital Government Development Agency (DGA), which spearheads the Thailand Digital Government Development Plan for 2023-2027. This initiative, guided by the Digitalization of Public Administration and Services Delivery Act, aims to drive digital transformation in the public sector. The plan emphasizes improving digital skills among government officials and fostering a digital culture, with a focus on increasing resilience and agility in both central and local government agencies.

39 TDRI (Thailand Development Research Institute). 2023. "การศึกษาผลกระทบและนำเสนอมาตรการในการกำกับดูแล Digital Platform ในประเทศไทย." TDRI. https://tdri.or.th/2023/02/digital-platform-research/.

40 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

The DGA has established the "Thailand Digital Government Academy (TDGA)" to provide academic services focused on digital skills for government agencies. TDGA develops courses aimed at IT staff and digital practitioners within these agencies. Additionally, the Office of the Civil Service Commission (OCSC) serves as the primary agency responsible for human resource management in the government. Therefore, TDGA collaborates with OCSC to create a digital skills curriculum designed for public employees.

SOCIAL AND CULTURAL

The UNESCO Recommendation pays a special attention to the potential impact of AI "human dignity, human rights and fundamental freedoms, gender equality, democracy, social, economic, political and cultural processes, scientific and engineering practices, animal welfare, and the environment and ecosystems." Because AI technologies do not merely represent a technological revolution, they raise "fundamental ethical concerns, for instance regarding the biases they can embed and exacerbate, potentially resulting in discrimination, inequality, digital divides, exclusion and a threat to cultural, social and biological diversity and social or economic divides".[42]

3.1 DIVERSITY, INCLUSION AND EQUALITY

Promoting diversity, inclusion, and equality reflects the principles of *Fairness and Non-Discrimination*, *Inclusiveness and Equity*, and *Respect for Human Rights and Dignity*.[41] Ethical AI must be designed and governed in ways that prevent bias, ensure equal opportunity, and include the perspectives of marginalized groups. Without deliberate inclusion, AI risks reinforcing existing inequalities in access, outcomes, and participation.

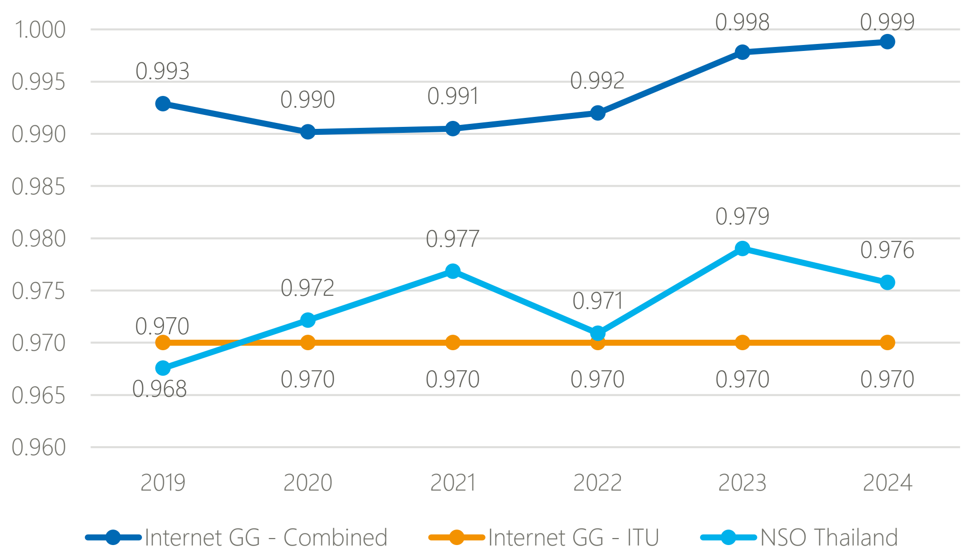
The Digital Access Gaps

Regarding the Digital Access Gaps (Gender and Rural-Urban Divides), Thailand has made significant progress in closing the gender gap in internet use. According to data from the International Telecommunication Union (ITU), the ratio of internet usage between genders[42], has remained stable at 0.97. Supplementary data from sources like the Facebook Gender Gap Index and the National Statistical Office (NSO) indicate an even narrower gap, with an average usage ratio of 0.994 and 0.976 respectively over the 2019–2024 period. In the third quarter of 2024, male internet usage was recorded at 90.8 percent, while female usage stood at 88.6 percent. These figures highlight a nearly gender-neutral digital environment, though minor discrepancies persist.

41 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

42 Values of 1 or close to 1 show that the gender gap has closed or parity.

Figure 13: Internet Gender Gap 2019 – 2024

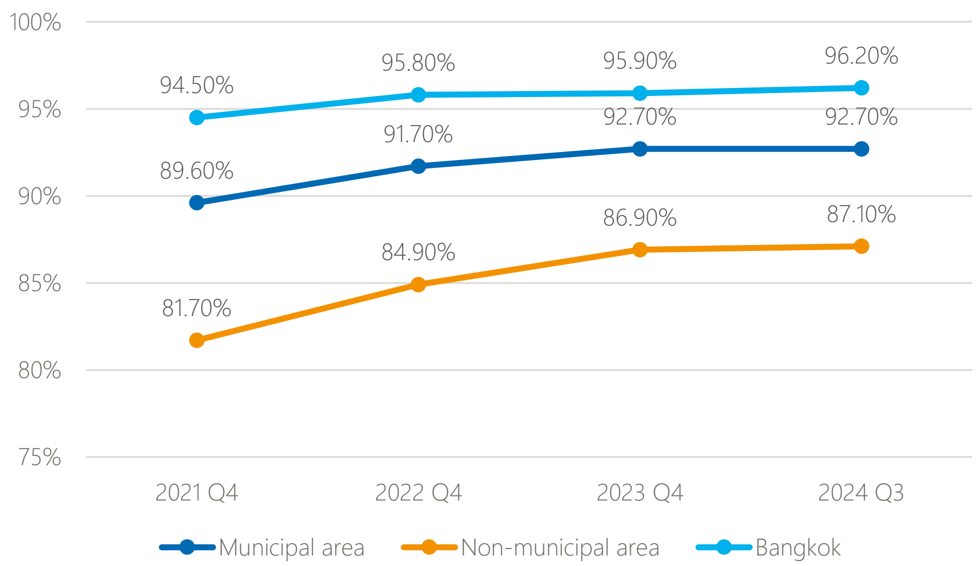


Remarks: The NSO survey on information and communication technology use will be updated annually until 2020 and quarterly since 2021.

Source: Digital Gender Gaps 2024.; National Statistical Office 2024a.

Despite improvements in gender parity, regional disparities in internet access remain evident. In 2024, overall internet usage in Thailand reached 89.5 percent. Municipal areas showed a higher internet adoption rate at 92.5 percent, while non-municipal areas lagged behind at 86.9 percent—a gap of 5.7 percent. Bangkok reported the highest rate of internet use at 96.1 percent. In Q3 of 2024, the ratio of internet use between non-municipal and municipal areas was 0.940, and between non-municipal areas and Bangkok, it was 0.906. These differences underscore the continued challenges in ensuring equitable digital access across geographic regions.7F[43]

Figure 14: Internet use in Thailand based on areas 2021-2024



Source: National Statistical Office 2024a

To address these divides, Thailand has enacted a comprehensive legal and policy framework to tackle gender-based and socioeconomic/rural–urban disparities in digital access. To reduce the digital socioeconomic or rural/urban gap,

43 National Statistical Office 2024a, สำรวจการมีการใช้เทคโนโลยีสารสนเทศและการสื่อสารในครัวเรือน.

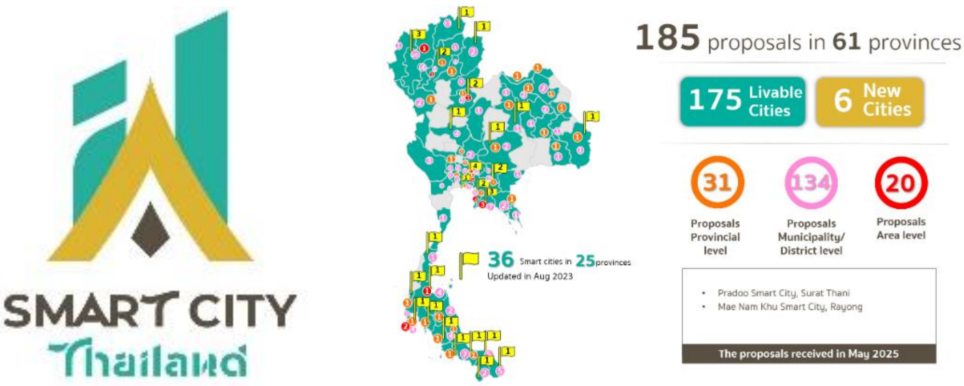
Thailand has implemented several laws and policies including flagship projects to reduce the digital socioeconomic and rural-urban gap, focusing on expanding digital infrastructure, increasing digital literacy, and ensuring access to digital services for underserved communities. Section 60 of the Constitution mandates equal access to telecommunication infrastructure. Supporting legislation includes the Telecommunications Business Act B.E. 2544 (2001) and the Frequency Allocation Act B.E. 2553 (2010), which empower the National Broadcasting and Telecommunication Commission (NBTC) to fund rural connectivity through the Universal Service Obligation (USO) Fund. The USO Fund is financed primarily by fees collected from licensed telecommunications operators, based on a percentage of their revenues, as mandated by the NBTC regulations. These frameworks are further reinforced by the 20-Year Digital Economy and Society Development Plan (2017–2036), especially in its second phase (2023–2027), which sets out strategic goals for last-mile connectivity and inclusive digital access.

These legal and policy frameworks have given rise to major national projects designed to fulfill the State's digital inclusion mandate. Key Projects include the Village Broadband Internet Project (Net Pracharat), overseen by the Office of the National Digital Economy and Society Commission (ONDE), which has provided high-speed internet access to rural areas since 2017, benefiting over 13.6 million registered users. Additionally, the High-Speed Internet Service Plan for Remote Areas (USO), managed by the NBTC, has extended connectivity to 19,652 remote villages.[44] Meanwhile, the Smart City Thailand initiative, led by the Digital Economy Promotion Agency (DEPA), promotes urban and rural digital transformation, with 36 cities officially designated as Smart Cities and 185 proposals under review as of early 2025.[45]

Figure 15: The Village Broadband Internet Project (Net Pracharat) and USO NET project

Source: npcr.netpracharat.com and Mthai.com

Figure 16: Smart City Project



Source: DEPA 2025

Moreover, assessing the efficacy of these initiatives, the Net Pracharat project has significantly contributed to bridging the digital divide and received international recognition, including the WSIS Prizes 2019 award. However, despite

44 NESDC (Office of the National Economic and Social Development Council). 2017. "แผนพัฒนาดิจิทัลเพื่อเศรษฐกิจและสังคม พ.ศ. 2560–2580." NESDC. https://www.nesdc.go.th/download/document/Yearend/2017/PPT_Thakhon.pdf.

45 DEPA (Digital Economy Promotion Agency). "Depa Thailand - Smart City Plan." Digital Economy Promotion Agency. https://www.depa.or.th/en/smart-city-plan/smart-city-office.

progress, 688 villages still rely on low-speed satellite connections.[46] Notably, declining usage of free Wi-Fi services suggests an increasing shift towards private internet access, signalling improved digital inclusivity. The Smart City Thailand initiative has further propelled digital infrastructure development, incorporating capacity-building programs and community engagement efforts, such as the Smart City Ambassador Program, which empowers rural youth in digital transformation projects.

To promote gender equality in the digital, technology, and science sectors, including addressing the digital gap, Thailand has enacted various laws and policies, such as The Gender Equality Act, B.E. 2558 (2015) serves as a key legislative framework, aiming to eliminate gender-based discrimination and ensure equal opportunities. Complementing this, the Action Plan for Promoting Gender Equality (2023-2027) focuses on reducing disparities in education, technology, and science, supporting digital literacy and professional development for women. The Women's Development Action Plan (2023-2027) incorporates initiatives to enhance women's digital skills, recognizing their critical role in the modern workforce. Additionally, programs such as Girls in ICT Day Thailand, in collaboration with the ITU, inspire young women to enter the ICT sector, while the Women ICT Frontier Initiative (WIFI), led by DEPA has evolved into WIFI DX with UNESCAP to enhance digital, AI, and data literacy among underserved women. Through collaboration with Lao PDR, the initiative supports Thailand's broader efforts to ensure inclusive digital access across regions.[47]

However, the efficacy of gender-equality and women's digital-skills programs remains unclear at the national level. Thailand's 2024 national review under the Beijing Declaration and Platform for Action demonstrates that while various policies have aimed to promote women's digital inclusion—particularly through education, skills development, and legal protections—their effectiveness in reducing the digital gender gap remains uneven. Despite near gender parity in internet and mobile access, as well as higher female participation in higher education, these gains have not been matched by equal outcomes in digital careers or leadership roles. That will show in examining women's participation in the AI ecosystem.

Overall, these policies have played a pivotal role in narrowing the digital divide and fostering socioeconomic inclusion. However, continued investment, assessment, and targeted interventions are necessary to ensure equitable and sustainable digital access across Thailand.

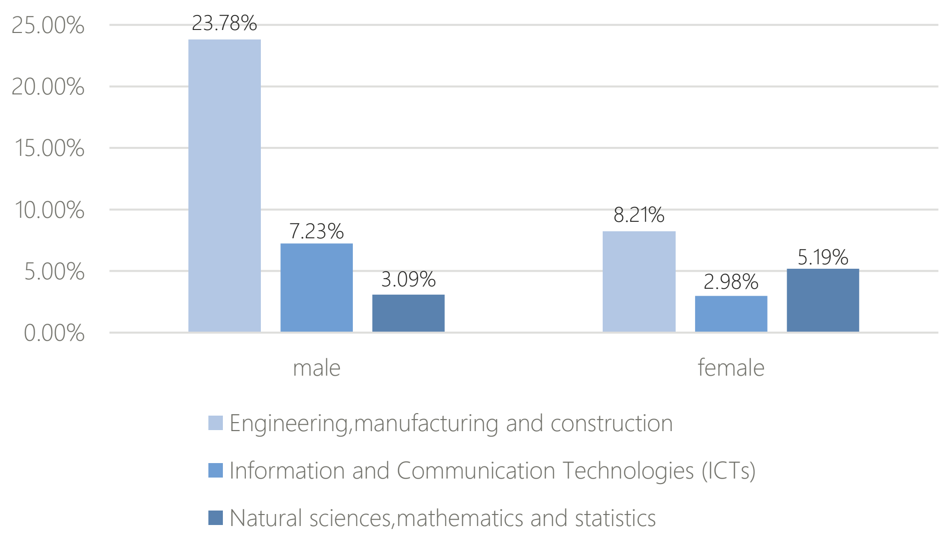
Gender Patterns in STEM Education

In examining the disparities present in STEM and digital education, Thailand continues to face significant gender disparities in STEM (Science, Technology, Engineering, and Mathematics) education at the tertiary level. In 2023, the percentage of tertiary education graduates in STEM programs in Thailand was 31.74 percent overall. There was a significant gender disparity, with 47.29 percent of all male graduates completing STEM programs compared to 19.82 percent of all female graduates. In 2024, STEM graduates accounted for 23.11 percent of all graduates, with 16.38 percent being female and 34.10 percent male. As illustrated in Figure 17, male graduates in Engineering, Manufacturing, and Construction accounted for 23.78 percent, while female graduates represented only 8.21 percent. In Information and Communication Technologies (ICTs), male graduates made up 7.23 percent, whereas female graduates accounted for 2.98 percent. In Natural Sciences Mathematics and Statistics, male graduates represented 3.09 percent, while female graduates had a slightly higher representation at 5.19 percent.

46 Bangkokbiznews. 2023. "ดีอีเอส เผยหมู่บ้านห่างไกล 688 แห่ง ยังใช้อินเทอร์เน็ตผ่านดาวเทียม." Bangkokbiznews.. https://www.bangkokbiznews.com/tech/gadget/1066974.

47 Digital Economy Promotion Agency. 2024. "Depa Expands International Cooperation under the WIFI DX Project to Upskill Women in Lao PDR." July 10, 2024. https://www.depa.or.th/en/article-view/20240710_02

Figure 17: Percentage of education graduates in STEM programs in Thailand 2024

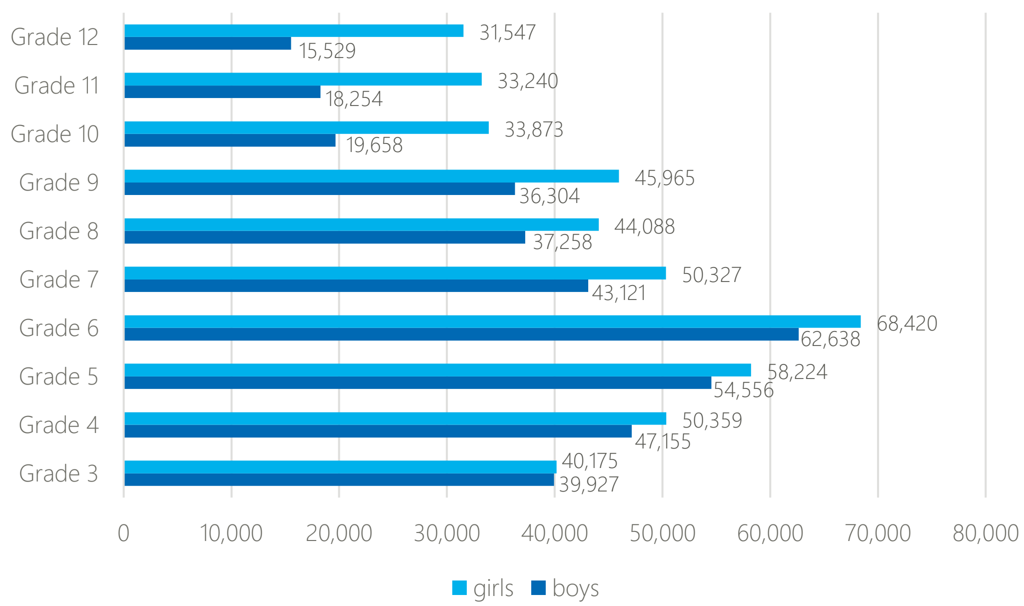


Remarks: The education group by UNESCO's ISCED. And STEM fields are classified as ISCED-F 05 (natural sciences, mathematics and statistics), 06 (information and communication technologies) or 07 (engineering, manufacturing and construction).

Source: Office of the Permanent Secretary, MHESI Thailand 2024.

In terms of student aspirations and abilities in science, data from the 2022 PISA assessment were not available for students' specific expectations regarding future STEM careers. However, responses to a related question showed that 60.55 percent of students in Thailand had a clear idea about their future careers. Further insights were provided by a 2024 survey conducted by the Office of the Basic Education Commission, which revealed that girls demonstrated stronger potential in science than boys across all grade levels from Grade 3 to Grade 12. A total of 456,218 girls were identified with science aptitude, compared to 374,400 boys. This suggests a strong female interest and capability in science during school years, which does not yet translate into equal participation in STEM fields at higher education levels.

Figure 18: The science potential of students in Grades 3 through 12 in 2024's survey

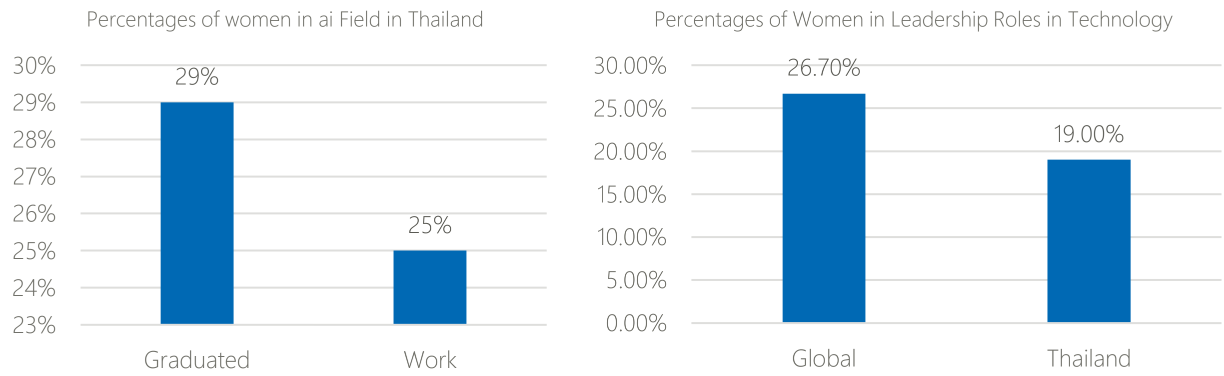


Source: Office of the Basic Education Commission (OBEC) 2024

Diversity in AI Workforce

The rising prominence of AI in contemporary economies necessitates a diverse and inclusive workforce. Examining participation in the AI ecosystem in Thailand, a 2024 national review under the Beijing Declaration highlights that, despite notable achievements in educational attainment (ranked 9th globally), women remain underrepresented in both the technology sector and leadership roles (as shown in Figure 19). Although Gender Responsive Budgeting (GRB) [48] and labor laws safeguard women's workplace rights, Thailand ranks only 102nd on the Political Empowerment subindex of the World Economic Forum's Global Gender Gap Report 2024[49], underscoring a significant disconnect between educational access and actual participation in the digital economy. [50]

Figure 19: Underrepresentation of Women in Thailand's Digital and Tech Sectors



Source: Digital Economy Promotion Agency 2024 and WAI Thailand 2025

A clear disparity emerges between the proportions of women and men, and overall female representation in ICT lags behind STEM graduation rates. The Asia Foundation's 2024 Thai Developers: Skills, Divides, and Challenges report[51] underscores this gender gap[52], women account for only 26.6 percent of ICT professionals and 16.7 percent of software developers, and their representation does not improve among newer cohorts of developers. As shown in Figure 20. Likewise, Concerns from the EmpowerHER Asia Leadership Forum 2025 highlight persistent industry-wide gender gaps rooted in organizational cultural barriers, unequal promotion opportunities, and a lack of growth-oriented networks. And case studies in the Gender, AI, and Skill Development in Southeast Asia report[53] reveal that, from vocational training through university, the technical workforce remains significantly male-dominated.

48 GRB is aligned with Section 27 of the 2017 Constitution of Thailand, which guarantees equality and obliges the state to take measures to eliminate discrimination against women.

49 The Political Empowerment subindex gauges gender gaps in decision-making structures, which integrates the percentage of women in national parliaments, the percentage of women in ministerial positions, and the cumulative years with a female head of state over the past 50 years, yields a score of 0.147—placing the country 102nd out of 146 nations and indicating that Thailand has achieved only 14.7 percent of full gender parity in political leadership.

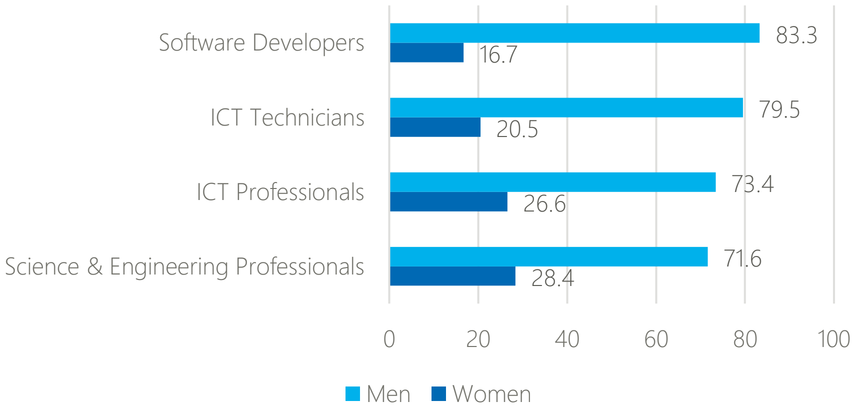
50 "Global Gender Gap Report 2024." World Economic Forum., https://bit.ly/42FtIjl.

51 2024 Thai developers: skills, divides, and challenges via https://asiafoundation.org/wp-content/uploads/2024/08/Thai-Developers-Skills-Divides-and-Challenges_Thailand-1.pdf

52 which surveyed 1,865 members of the Thai Programmers Association between December 2022 and March 2023 to analyze skills, working conditions, and the distribution of Thailand's digital workforce

53 Gender, AI, and Skill Development in Southeast Asia: Case Studies from Thailand, Vietnam, and Cambodia via. https://justjobsnetwork.org/files/gender-ai-and-skill-development-in-southeast-asia-case-studies-from-thailand-vietnam-and-cambodia-jan-2024.pdf

Figure 20: Gender Comparison with Related Occupations (percent)



Source: The Asia Foundation (2024)

However, the data from Coursera reveals a noteworthy current trend, Thai women are increasingly pursuing AI-related skills. In 2024, female enrollment in generative AI courses surged by 370 percent, nearly double the 191 percent increase seen among male learners, yet women still comprise only 30 percent of total GenAI course registrations. This disparity mirrors global patterns of unequal access to AI opportunities. Moreover, survey results indicate that women often lack confidence, preferring foundational over advanced courses, and that time constraints, especially those imposed by caregiving responsibilities, and ambiguous career trajectories further impede their advancement in AI skill development.

Furthermore, Thailand's AI and Big Data sectors are beset by both a pronounced gender imbalance and a pervasive shortage of qualified professionals across all career stages. At the end of 2024, the BDI reported a total workforce of approximately 32,000 individuals engaged in data-driven and AI roles. Of these, nearly 16,000 occupy general IT positions, while 14,500 specialize in Big Data and only some 700 devote themselves to AI-specific functions. Crucially, the pipeline of project managers and senior specialists—those who translate technical outputs into strategic value, is strikingly thin, with just 800 professionals in leadership roles across Big Data, AI, and IT[54] This shortfall in mid- and senior-level talent compounds the challenge of underrepresentation of women: women constitute barely a quarter of ICT professionals and an even smaller fraction of those in software development and AI engineering. The intersection of insufficient experienced talent and limited gender diversity thus poses a substantial impediment to Thailand's efforts to cultivate an inclusive, high-impact AI ecosystem.

Moreover, rural provinces suffer from lower internet penetration rates and limited access to high-speed connectivity, at above, hindering both foundational and advanced AI training opportunities. Thailand's AI workforce is heavily concentrated in urban and peri-urban centers, particularly Bangkok, Pathum Thani, and the Eastern Economic Corridor, while rural and remote regions face significant barriers to participation.[55] This geographic imbalance mirrors Thailand's broader digital divide, characterized by uneven internet infrastructure, limited digital literacy, and a scarcity of localized AI training programs outside major cities. Addressing these disparities is critical for fostering a truly inclusive AI ecosystem that leverages the full spectrum of Thailand's human capital.

To address these disparities, **Thailand has implemented several policies aimed at enhancing diversity in the AI workforce**, emphasizing gender inclusivity and regional accessibility. The NAIS – Strategy 3 focuses on cultivating a diverse AI talent pool, while the Higher Education, Science, Research and Innovation Policy and Strategy (2020-2027)

54 BDI's Annual Report 2024 via https://bdi.or.th/annual-report/

55 AI World 2024 via https://aiworld.eu/geo/TH?utm_source

advances STEM education and AI integration in learning institutions. Flagship initiatives such as the Super AI Engineering Project and AI for All provide targeted education, mentorship, and resources for underrepresented groups. Additionally, programs like One Tambon: One Digital and DEPA-Fund for Community address digital upskilling in rural areas, ensuring AI accessibility across Thailand's diverse population. However, several initiatives demonstrate ongoing efforts to promote inclusion:

- STEM Workforce Development Programs by NSTDA:
  Provide equitable support for individuals from low-income backgrounds, rural areas, and diverse gender groups, particularly in fields aligned with Thailand's 10 S-curve industries.
- Women's Development Action Plan (2023–2027):
  Promotes gender equity in AI and STEM education through targeted outreach and capacity-building initiatives.
- AI Engineering Institute (AIEI) at CMKL University:
  Embeds diversity and inclusion as core learning outcomes within its competency-based curriculum, co-developed with partner institutions.

The efficacy of these initiatives remains an ongoing area of assessment, but early indicators suggest significant progress, particularly through the Super AI Engineering Project, launched under the "MHESI For AI" [56] mission in collaboration with NECTEC, NSTDA, and the Artificial Intelligence Association of Thailand (AIAT), which aspires to produce 30,000 AI specialists by 2030 and has already enrolled over 43,000 participants via intensive annual training cohorts of 10,000 individuals. The project offers tiered learning pathways for AI researchers, engineers, innovators, beginners, and prompt engineers, with advanced modules designed to cultivate AI instructors and entrepreneurs, thereby expanding career trajectories, facilitating international educational exchanges, and stimulating AI-driven enterprise. Nevertheless, a critical bottleneck persists at the mid-level, where generalist software developers, integral to the commercialization and operational integration of AI technologies, remain under-supported. Moreover, despite these advances, Thailand currently lacks mandatory diversity reporting for technology firms and higher-education institutions, and no formal affirmative-action frameworks exist to ensure gender and regional inclusivity across the AI lifecycle. Institutionalizing such requirements will be essential to sustain momentum toward an equitable and high-impact AI ecosystem.

Linguistic Diversity

From an inclusivity perspective, although existing policies do not explicitly enumerate ethnic minorities, they inherently address broader demographic dimensions such as socioeconomic status and geographic disparities; to advance these inclusive aims, it is essential to consider the specific modalities by which these communities acquire digital knowledge, thereby ensuring equitable dissemination of information and authentically integrating their lived experiences.

Online content and data for training AI systems in Thailand's languages warrant thorough consideration. According to the Global Data Barometer 2021 and the Royal Thai Government's 2011 report to the Committee on the Elimination of All Forms of Racial Discrimination, all official documentation and data-collection processes in Thailand remain firmly anchored in Central Thai, despite the country's rich tapestry of five language families and 62 ethnolinguistic groups. Consequently, while there exists ample online content and robust datasets, such as those provided by the Open Government Data of Thailand platform, fostering the development of high-performing Central Thai AI systems, training resources for indigenous and dialectal languages remain limited and underrepresented.

56 MHESI (Ministry of Higher Education, Science, Research and Innovation). 2025. "Super AI Engineer Season 5 พัฒนากำลังคน AI ชั้นนำของประเทศ สู่ Global AI Talent." Ministry of Higher Education, Science, Research and Innovation. https://www.mhesi.go.th/index.php/news-and-announce-all/news-all/executive-ps-news/11068-SuperAIEngineerSeason5.html.

Thailand's Central Thai AI ecosystem has demonstrated remarkable maturity and innovation, that Academia and industry have also contributed specialized tools, collectively positioning Thailand at the forefront of Thai-language AI research and application. Notable implementations include:

- SCB 10X's LoRA-tuned Typhoon-7B, which rivals GPT-3.5 in Thai text comprehension
- NECTEC/NSTDA's multi-modal Pathumma LLM, capable of processing text, audio, and imagery
- OpenThaiGPT, which excels at natural conversational flow in Thai.
- Chulalongkorn University's Gowajee for high-accuracy speech-to-text and text-to-speech
- the AI for Thai suite for NLP, OCR, face recognition, and speech services
- Alisa AI for dynamic personal assistance
- Anthropic's Claude AI for contextual understanding
- the scb-mt-en-th-2020 English -Thai parallel corpus

Emerging projects aimed at broadening linguistic inclusivity offer a promising counterbalance to the indigenous and dialectal languages. Such as:

- Khon Kaen University's AI 'Waoja',
- Chulalongkorn University's AI Gowajee, and
- CMKL University's AI Porjai exemplify targeted efforts to capture local speech patterns and lexical diversity.

These initiatives, supported by grants from national research bodies and collaborative partnerships with community organizations, have begun assembling preliminary corpora for Northeastern (Isan), Northern, and Southern dialects, thereby laying the groundwork for more representative indigenous-language models.

Looking ahead, Thailand's AI landscape stands to benefit from a formalized policy framework that encourages the systematic collection and open publication of dialectal and indigenous data. Ongoing dialogues between the MDES, universities, and civil society stakeholders are positively fostering the drafting of guidelines that would incentivize contributions from local communities and ensure ethical data governance. With sustained investment, capacity building, and inclusive policymaking, Thailand is well poised to evolve its AI ecosystem into one that not only excels in Central Thai but also enriches and empowers its full spectrum of linguistic and cultural heritage.

3.2 PUBLIC ENGAGEMENT AND TRUST

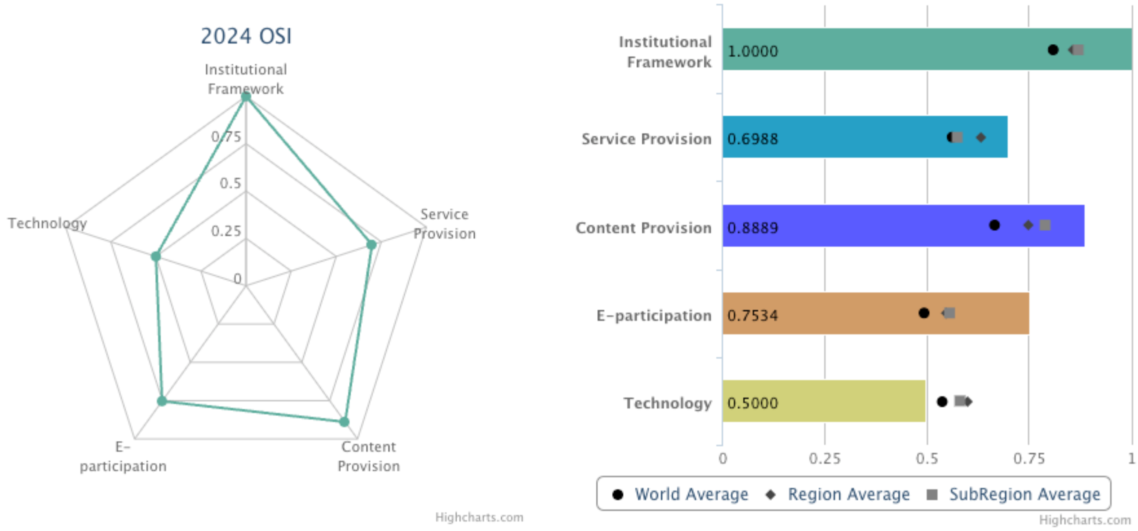
Public engagement and trust relate to the principles of *Transparency and Explainability*, *Awareness and Literacy*, and *Responsibility and Accountability*.[57] Ethical AI governance depends on citizens' ability to understand, access, and influence how AI is used in public services. Without transparent communication and meaningful participation, trust in AI systems remains fragile, potentially undermining democratic legitimacy and civic inclusion.

Thailand has made progress in its Online Service Index (OSI), which measures the development of national e-government capacities, increasing from 0.639 in 2018 to 0.761 in 2024, although it has slightly declined in subsequent years.[58] While Thailand demonstrates strong performance in institutional frameworks, public information access, and service delivery, there is room for growth in technological infrastructure compared to global and regional leaders.

57 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

58 United Nations 2024b, "Country Selector: Thailand." on E-Government Knowledgebase. https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/169-Thailand/dataYear/2024. access on 29 December 2024.

Figure 21: Thailand's Online Service Index



Source: United Nations 2024b

The E-Participation Index (EPI), part of the UN E-Government Survey, assesses how effectively countries engage citizens in governance through e-information, e-consultation, and e-decision-making. In 2024, Thailand achieved an EPI score of 0.7534, ranking 42nd out of 193 countries, showing steady improvement through initiatives like the e-government portal, the Thang Rath super app, and the Pao Tang financial services app. Thailand's EPI scores have risen consistently from 0.652 in 2018 to 0.784 in 2022, reflecting its growing commitment to digital citizen engagement.

Regarding trust in government websites and apps, the analysis includes data on the usage of government applications and access to the national open data platform. The "Open Government Data platform"[59] recorded 324,672 accesses, 267,347 views, and 57,325 downloads between 2020 and 2024, with a notable increase in 2023 but a decline in mid-2024.[60] The "Thang Rath"[61] government super app has seen significant growth in usage, surpassing 10 million downloads by December 2024. Although internet and mobile phone penetration are high in Thailand[62], the relatively modest engagement with the Open Government Data platform indicates potential challenges related to public awareness, ease of access, and the perceived usefulness of the available data. These differences in access arise because each platform's design responds to distinct citizen needs: the OGD platform primarily serves researchers, analysts, and policymakers seeking raw or processed government datasets, whereas "Thang Rath" addresses a broader range of everyday transactional requirements (such as credit bureau checks, utility payments, social security information, and savings plans). In this way, the state's strategic development of "Thang Rath" aligns more closely with the wider public's needs, accounting for its substantially higher usage relative to the OGD platform.

In terms of trust in AI and technology, data from Ipsos AI Monitor 2024[63] shows that 46 percent of Thais trust that companies using AI will protect their data, and 73 percent trust AI not to discriminate, with 81 percent expressing excitement about AI products and services, higher than the global average. Also, the 2024 survey by BBDO Bangkok Research in the Bangkok Metropolitan Region revealed that the primary AI concern was the security of personal data

59 The Open Government Data platform serves as a centralized hub for public access to government data in Thailand. The platform ensures seamless, round-the-clock access to government data through features such as data previews, visualizations, and automated APIs, while also allowing for efficient management of datasets and metadata. Access at data.go.th

60 Digital Government Development Agency 2024a, ข้อมูลสถิติผู้ใช้งานระบบ data.go.th. access on 31 December 2024.

61 "Thaung Rath" is a government super app developed by the Digital Government Development Agency (DGA) to centralize services from various government agencies into a single, accessible online platform. Offering over 172 services, including credit bureau checks, utility payments, social security information, and savings plans, the app addresses a wide range of public needs.

62 Thailand's population of over 70 million, data from the National Statistical Office (Q3 2024) reveals that 89.5 percent (approximately 59 million individuals) are internet users, and 95.4 percent (around 62.9 million individuals) possess mobile phones.

63 Ipsos 2024a, The IPSOS AI monitor 2024. access on 29 December 2024.

(36.79 percent), followed by the high cost of AI technology (30.77 percent) and fears of AI replacing human jobs (29.10 percent).[64]

Moreover, NAIS aims to cultivate public trust in AI by emphasizing ethical, transparent, and inclusive development. To this end, the plan articulates comprehensive AI ethics and governance guidelines and establishes an AI Governance Clinic to advise governmental and non-governmental entities on responsible AI deployment. It further promotes citizen participation through digital platforms, such as Traffy Fondue, which allows users to report public issues directly to relevant authorities and aims to enhance AI literacy by developing competencies and knowledge among at least 600,000 citizens and public-sector personnel by 2027. Additionally, the initiative facilitates international collaboration with organizations such as UNESCO to evaluate and elevate AI governance standards in alignment with global norms. Leveraging Thailand's notably high levels of public trust and enthusiasm for AI, the strategy also aspires to propel the nation toward an AI-driven economy by training 50,000 AI professionals, fostering public-private partnerships, and attracting substantial investments. Collectively, these measures are designed to establish a transparent, inclusive, and trustworthy AI ecosystem that benefits all sectors of Thai society.

3.3 ENVIRONMENTAL AND SUSTAINABILITY POLICIES

AI governance must consider both the environmental impact of AI use—such as energy-intensive data processing—and its potential to support energy efficiency and sustainability. Thailand is in the early stages of addressing both. *Advancing Environmental and Ecological Sustainability*, *Proportionality and Do No Harm*, and *Future Generations' Interests* [65] requires inclusive participation and strategic partnerships to ensure AI development aligns with environmental priorities and local contexts.

Thailand does not have a specific policy exclusively addressing the impact of AI on the environment and sustainability. However, several existing policies and frameworks indirectly cover these concerns. The Environmental Impact Assessment (EIA) framework under the National Environmental Quality Promotion and Conservation Act, B.E. 2535 (1992) ensures compliance with environmental laws, including AI-driven projects with significant ecological implications. The NAIS emphasizes on AI's social and environmental impacts. Additionally, the AI Ethics Guidelines by the MDES highlight sustainability and transparency in AI deployment.

In the energy sector—particularly for data centers—policies such as the Power Development Plan (PDP), along with incentives like the Utility Green Tariff (UGT), Renewable Energy Certificates (REC), and Direct Power Purchase Agreements (PPA), play a critical role in addressing the growing demand for renewable energy. Furthermore, the Data Center Certification issued by the Digital Technology Evaluation and Certification Institute (DTEC)[66] encourages the adoption of voluntary standards aligned with the vision of sustainable and green data centers.

The efficacy of these policies has not been explicitly assessed in the context of AI. However, Thailand's CO_2 emissions from energy consumption decreased by 2.4 percent in 2023 compared to the previous year,[67] reflecting the impact of various sustainability policies. A key challenge remains the country's heavy reliance on fossil fuels, which contrasts with the growing demand from data centers for renewable energy to support sustainable operation.

While policies do not explicitly reference the Sustainable Development Goals (SDGs) or Environmental, Social, and Governance (ESGs) criteria, their principles align with international agreements such as the Paris Agreement and the

64 BBDO Bangkok Research 2024, ผลสำรวจการใช้ AI ของคนไทย. On BBDO Bangkok. access on 9 January 2025.

65 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

66 https://www.nectec.or.th/dtec/

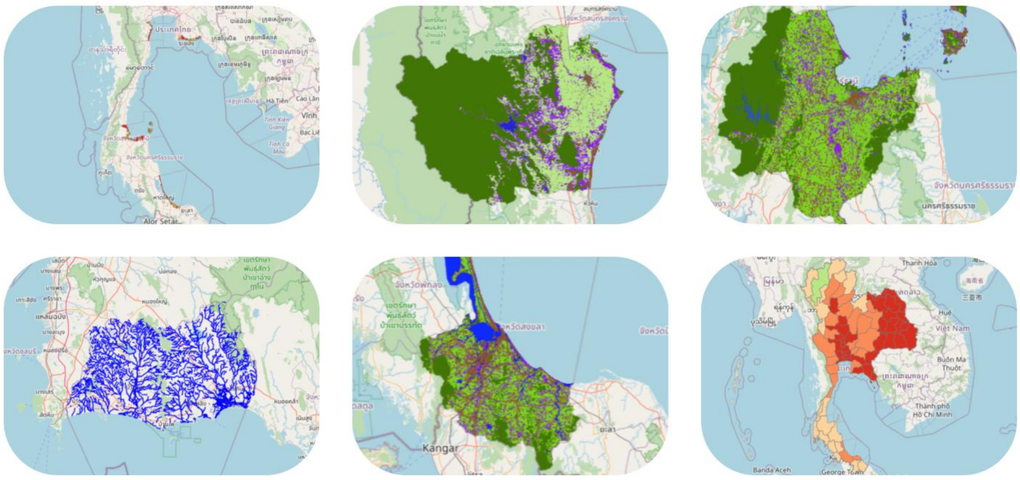
67 MoE (Ministry of Energy). 2025. "สถานการณ์การปล่อยก๊าซคาร์บอนไดออกไซด์จากภาคพลังงานรายปี 2566." Energy Policy and Planning Office (EPPO). https://www.eppo.go.th/index.php/th/energy-information/situation-co2/per-year?orders%5BpublishUp%5D=publishUp&issearch=1.

Basel Convention. For example, the Department of Climate Change and Environment applies AI to improve climate forecasting, risk analysis, and adaptation planning, aligning with SDG 13 on resilience, policy integration, and climate awareness. This reflects Thailand's broader efforts to advance ethical and regionally coordinated AI use in climate adaptation.

Box 4: Thailand's Digital Climate Risk Platform for Coastal Adaptation

Thailand, in partnership with UNDP, has developed the Thailand Adaptation Platform—a data and AI-driven digital tool that leverages satellite analytics and advanced modeling to assess climate risks and support planning in coastal provinces. Piloted in Phetchaburi, Rayong, Surat Thani, and Songkhla, the platform informs decisions in sectors such as fisheries and tourism. Its use of intelligent analytics provides a strong foundation for future AI-enhanced forecasting and risk planning.

Figure 22: Climate Risk Map from Thailand Adaptation Platforms



Source: The Department of Climate Change and Environment 2025[68]

Box 5: Thailand's Regional Collaboration on AI for Climate Action

Thailand has actively promoted ethical AI for climate adaptation, particularly in agriculture and disaster resilience. 16.5% of Thai organizations have adopted AI ethics frameworks. Thailand also participates in regional AI governance efforts such as the ASEAN Guide on AI Governance and Ethics and the ASEAN AI Safety Network, which foster shared standards across Southeast Asia. These collaborations enhance transparency, strengthen data-sharing on climate risks, and promote AI solutions aligned with SDG 13 on climate resilience.

Regarding specific AI's impact on land and water use, there is no dedicated regulatory framework, but the Environmental Quality Promotion Act, B.E. 2535 (1992) and the Water Resources Act, B.E. 2561 (2018) can apply to AI-driven projects in agriculture, urban planning, and resource management. Similarly, AI-related projects are subject to EIA mandates when they significantly impact the environment, but assessments are project-based rather than AI-specific.

Thailand lacks direct policies to address AI's carbon footprint and energy consumption, especially in data centers, despite growing investments from global tech companies. The country's commitment to carbon neutrality by 2050

68 Department of Climate Change and Environment. 2023. Thailand Adaptation Platform. http://thailandadaptationinfo.dcce.go.th/#/.

and net-zero emissions by 2065 presents an opportunity to integrate AI-specific sustainability measures into future energy and digital infrastructure strategies. While there is no immediate energy shortage, the dominance of fossil fuels (58 percent of the energy mix)[69] limits access to clean energy for AI-driven industries. Thailand's forthcoming Climate Change Act could help bridge this gap by introducing carbon pricing and supporting clean energy adoption, while AI can also be leveraged to optimize energy consumption in data centers and digital infrastructure—enhancing efficiency and aligning with the country's net-zero ambitions.

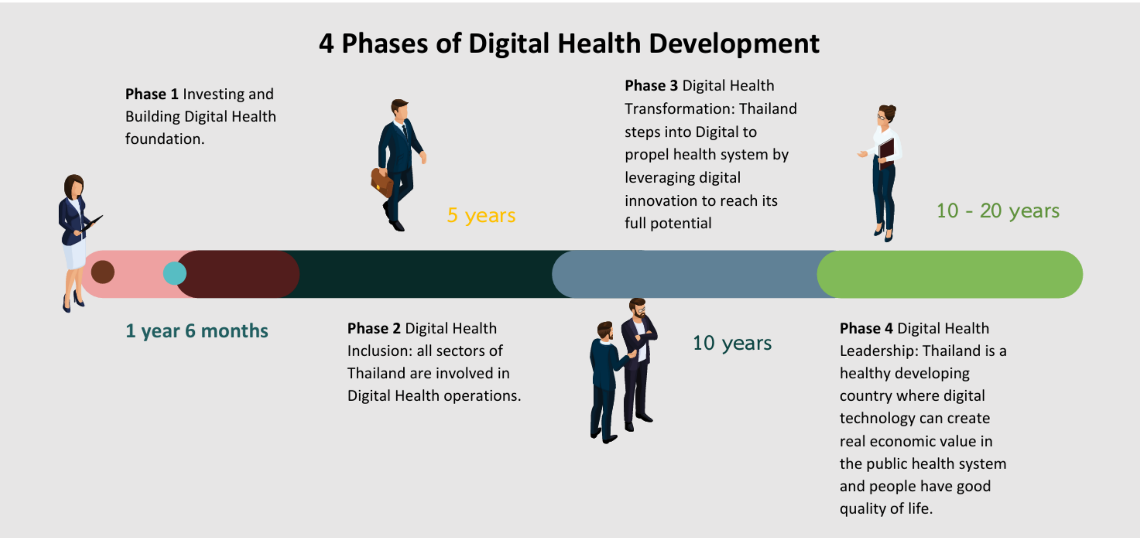
Finally, regulatory oversight on the environmental impact of AI use cases remains limited. Policies primarily focus on energy efficiency and e-waste, with sector-specific applications of AI in energy (smart grids and renewable integration) and AI in environmental monitoring (carbon measurement and analytics). However, it remains unclear whether these initiatives adequately account for AI's overall environmental footprint, indicating the need for more comprehensive AI-specific environmental policies.

3.4 HEALTH AND SOCIAL WELLBEING

Health and social well-being relate to the principles of *Proportionality and Do No Harm*, *Safety and Security*, and *Respect for Human Rights and Dignity*.[70] As digital health policies increasingly adopt AI to support care and decision-making, ethical safeguards are essential to ensure that technologies promote human welfare without causing harm, reinforcing inequality, or infringing fundamental rights. AI in health and social services must uphold dignity, protect rights, and be implemented with fairness and accountability.

Thailand has embraced digital health transformation in line with the WHO Global Strategy on Digital Health 2020–2025. The National Digital Health Strategy (2021–2025) and eHealth Strategy (2017–2026) aim to enhance healthcare accessibility, efficiency, and interoperability through telemedicine, Electronic Health Records (EHR), and national health data sharing. While in Thailand, AI plays a crucial role in enhancing diagnostics, treatment, and healthcare decision-making, supporting disease detection and predictive analytics. This transformation is being implemented through a phased national framework. As of 2025, Thailand is in Phase 2, focusing on inclusion and system integration, as illustrated in the roadmap below.

Figure 23: Phases of Digital Health Development

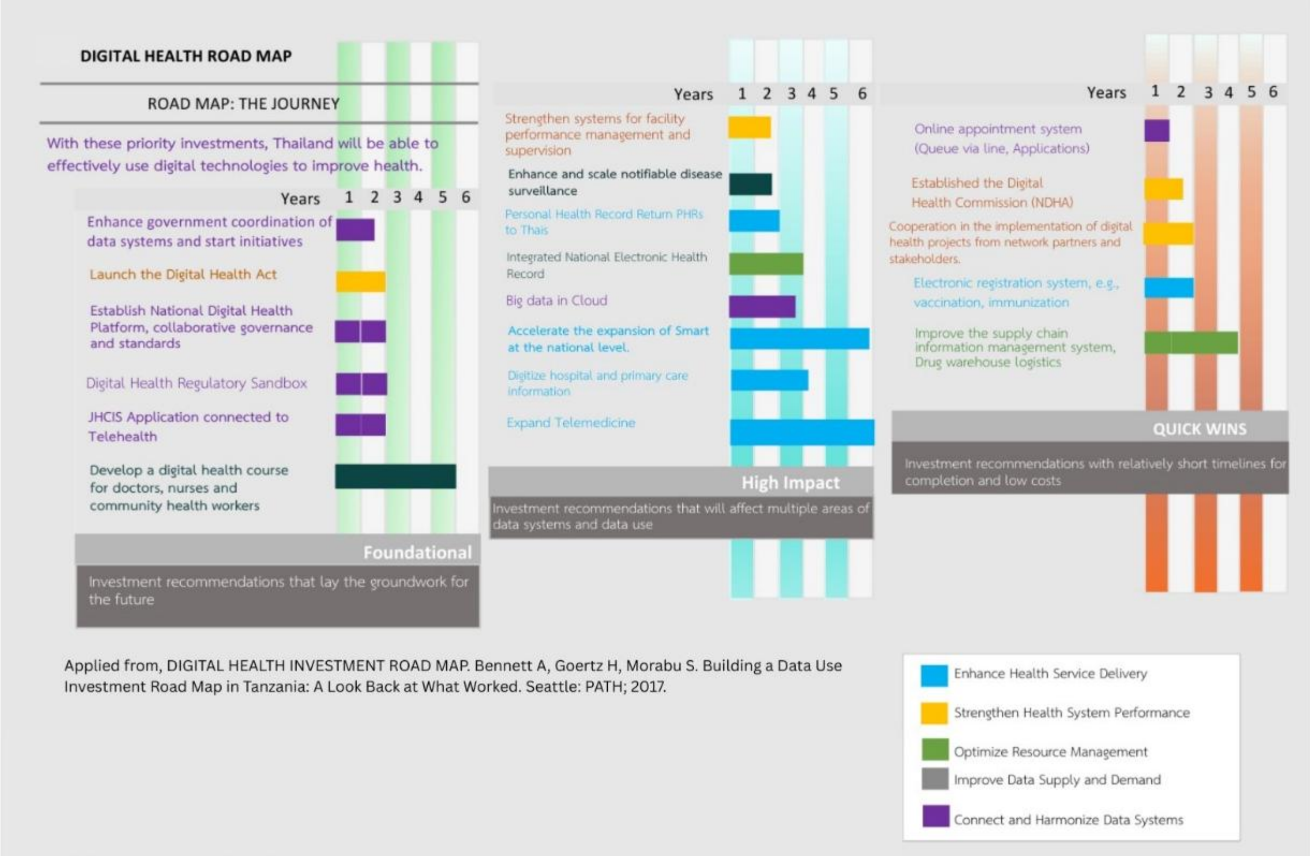


Source: The National Digital Health Strategy 2021–2025

69 JustPow. 2025. "สัดส่วนเชื้อเพลิงที่ใช้ผลิตไฟฟ้าในประเทศไทย ปี 2529–2566." JustPow. https://justpow.co/infographic-fuel-consumption-power-generation/.

70 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

Figure 24: Thailand's Digital Health Road Map – Timeline of Key Investments (Years 1–6)



Source: The National Digital Health Strategy 2021–2025

Thailand has implemented a range of flagship initiatives to advance its national digital health strategy. The Universal "30-Baht Healthcare Anywhere" policy serves as a key driver, enabling nationwide healthcare access through national ID-linked AI-powered health data. Core digital infrastructures supporting this policy include the Medical AI Data Sharing Platform—containing over 2.2 million standardized medical images for AI model training—the "Mor-Prom" application, which facilitates digital vaccination records and AI-based appointment scheduling for over 15 million users[71], and "Health Link," a national health data exchange system currently connecting more than 1,100 hospitals. As of 2024, over 1.2 million telemedicine consultations have been conducted, and 902 hospitals have achieved Smart Hospital status through integration of electronic medical records (EMRs), digital triage systems, and AI-enabled workflows. .[72]

While the National Health Act B.E. 2550 (2007) and the Personal Data Protection Act B.E. 2562 (2019) provide a legal basis for health data protection, challenges remain in ensuring secure and efficient data interoperability across platforms. Key barriers include infrastructure limitations, fragmentation in data architectures, and misalignment with international standards. Notably, integration between Mor-Prom[73] and Health Link[74] remains constrained due to technical incompatibilities, underscoring the need for interoperability frameworks such as the Fast Healthcare Interoperability Resource (FHIR). To address these structural challenges, the Draft Digital Health Act proposes the

71 เปิดตัว Medical AI Data Platform ชวนโรงพยาบาล แชร์-เชื่อม-ใช้ ภาพทางการแพทย์ 2.2 ล้านภาพ https://www.nectec.or.th/news/news-pr-news/medical-ai.html

72 Royal Thai Government. 2025. "รัฐบาลประกาศ '30 รักษาทุกที่' เต็มรูปแบบ ด้วยโอกาสของคนไทยนับจากนี้ ต้องมีชีวิตดี สุขภาพดี เริ่มแล้วครอบคลุมทุกพื้นที่ 77 จังหวัดของประเทศไทย." รัฐบาลไทย-หน้าแรก. https://www.thaigov.go.th/news/contents/details/91979.

73 สำนักงานประชาสัมพันธ์จังหวัดปทุมธานี. 2025. "สธ.เผย Line OA 'หมอพร้อม' พัฒนามา 3 ปี มีผู้ใช้กว่า 15 ล้านคน เพิ่มฟีเจอร์ – ฟังก์ชันต่าง ๆ ที่ปลอดภัยและสะดวกให้ประชาชน." สำนักงานประชาสัมพันธ์จังหวัดปทุมธานี. https://pathumthani.prd.go.th/th/content/category/detail/id/38/iid/322331.

74 The Coverage. 2025. "Health Link คาด ส.ค.นี้ เชื่อมข้อมูลหน่วยบริการ กทม.ได้ 1,500 แห่ง รับ '30 บ.รักษาทุกที่." TheCoverage.info. https://www.thecoverage.info/news/content/7164.

establishment of a dedicated Digital Health Office and a National Digital Health Committee to enhance governance, coordinate implementation, and ensure alignment across digital health initiatives.

The National Digital Health Strategy comprehensively mentions that AI is considered as "Digital Health Innovation" in enhancing diagnostics, treatment, and healthcare decision-making, supporting disease detection and predictive analytics. Aligning with Sustainable Development Goal (SDG3), this Strategy covers both physical and mental health, with the "DMIND" AI-powered screening tool in Mor-Prom serving as a key example by aiding early detection of depression and promoting mental health support.

While Thailand's digital health strategy integrates AI, it does not explicitly address children's unique needs. UNICEF research[75] highlights that the absence of a fully costed implementation plan remains a key barrier to equitable access to digital health services, particularly for children and young people. On the other hand, programs such as the Child Development Promotion Program reflect growing concern over screen addiction and digital overexposure. Thai children currently spend more than twice the recommended amount of screen time, raising concerns about mental health and developmental risks. To ensure AI in paediatric healthcare is used safely, future policies should incorporate child-specific safeguards, usage guidelines, and parental engagement.

3.5 CULTURE

The cultural dimension of AI aligns with the principles of *Respect for Cultural Diversity*, *Inclusiveness and Equity*, and *Awareness and Literacy*.[76] Ethical AI should recognize and preserve the diversity of languages, heritage, and identities. Without inclusive strategies, AI risks homogenizing cultural narratives and marginalizing minority voices.

Thailand is increasingly leveraging AI and digital technologies to support the preservation of its cultural heritage and minority languages. Collaborative efforts among government agencies, academic institutions, and private organizations have led to the development of initiatives such as digital heritage databases, AI-driven language models, and virtual documentation systems. Although these projects encourage community participation, Thailand currently lacks a comprehensive national policy framework specifically guiding the integration of AI in cultural and linguistic preservation. This policy gap hinders cohesive development across initiatives and underscores the need for a unified national strategy to fully harness AI's potential in preserving Thailand's rich cultural diversity.

In the realm of cultural heritage preservation, Thailand demonstrates significant commitment through various sectoral collaborations despite the absence of a dedicated national AI policy. Key initiatives include the Digital Cultural Heritage Database System spearheaded by the Fine Arts Department and the Ministry of Culture, the Nawanurak Platform developed by the NSTDA, the Seagate x CyArk digital preservation project, the Mobility Data for Secondary City Tourism Development led by ONDE, Dtac, and Chulalongkorn University's Faculty of Architecture, and the Artificial Intelligent Platform Development for Metaverse Historical Tourism (AI-MHT) financed by the National Research Council of Thailand (NRCT) (Suvarnabhumi Animation, Online Historical Encyclopedia, LanG-Ta Chatbot, SimiLand Tourism Website, "Golden Land: The Journey of Beads" Online Game, SuTRA (Suvarnabhumi Trade Route) Mapping & Guides)

These initiatives have advanced the systematic documentation, conservation, and promotion of heritage sites. Community engagement is at the core to ensure cultural relevance, but formal mechanisms for structured participation are inconsistently applied across projects. Moreover, evaluations of existing initiatives are fragmented, lack a unified national evaluation framework, and remain limited in their ability to measure long-term, large-scale impacts.

75 UNICEF "Digital Health Services for young people in Thailand"- Accessed April 19, 2025. https://www.unicef.org/thailand/media/12221/file/Digital Health Services for Young People in Thailand - EN.pdf.

76 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

Similarly, efforts to preserve minority and indigenous languages through AI are primarily driven by academic and private-sector initiatives, without any specific national policy framework. Notable projects include Khon Kaen University's AI 'Waoja', designed to convert text into spoken Isan language, and Chulalongkorn University's AI 'Gowajee', which advances Thai-language processing with potential applications for minority languages. These projects illustrate notable progress in digital language documentation, speech synthesis, and linguistic revitalization. While technological advancements and community involvement are apparent at the project level, the lack of coordinated national strategies and comprehensive evaluation frameworks continues to constrain the ability to assess the long-term effectiveness of these initiatives.

SCIENTIFIC AND EDUCATIONAL

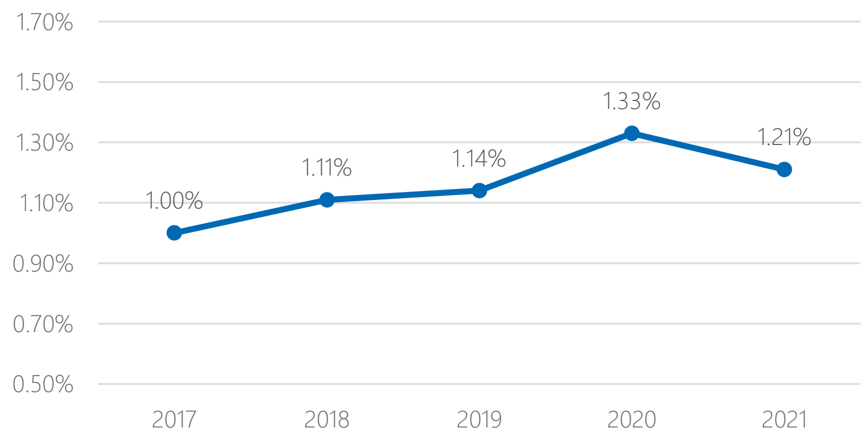
The scientific and educational components play a significant role in the advancement of AI. Therefore, evaluating them becomes an important method for assessing a country's readiness for AI development. The scientific aspect is measured by the country's performance in research and innovation, which includes research and development (R&D) expenditure, research output, ethical AI research, and the output of AI talent innovation. On the other hand, the educational aspect is assessed based on the country's performance in various educational factors, such as educational strategy, infrastructure, curriculum content, educational attainment, and public access to AI education.

4.1 RESEARCH AND INNOVATION

Research and innovation in AI reflect the principles of *Sustainability*, *Responsibility and Accountability*, and *Awareness and Literacy*.[77] According to the UNESCO Recommendation on the Ethics of Artificial Intelligence, AI technology is not a stand-alone progress – it is a result of continuous scientific research. Expanding public investment and ensuring open, interdisciplinary collaboration help ensure that AI development responds to societal needs and respects human rights. The Recommendation also states that ethical innovation requires inclusive, well-funded, and socially responsible research ecosystems.

One of the key constraints in the development of the AI industry in Thailand is the limitation of R&D expenditure. Thailand's gross expenditure on research and development (GERD) in 2021 was 195.6 billion THB (1.21 percent of GDP)[78], with government R&D spending reaching 42.3 billion THB. Furthermore, the government has set aside 1.29 billion THB for AI research and development from 2023 to June 2024.[79] Additionally, TSRI data shows a breakdown of R&D AI research funding provided by TSRI since 2017, shown in Figure 25.

Figure 25: Gross expenditure on Research and Development (GERD) as a share of GDP, Thailand



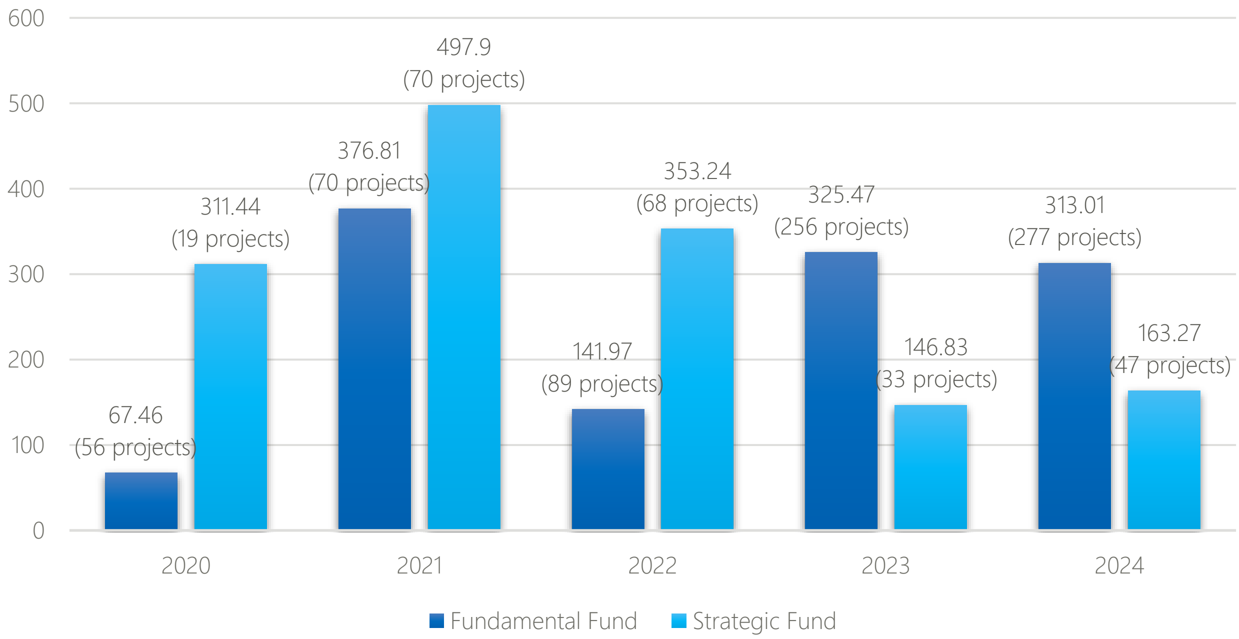
Source: UNESCO 2021

77 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

78 UNESCO, "UNESCO Institute for Statistics (UIS) Database," 2021, https://data.uis.unesco.org/.

79 NSTDA, "NSTDA Unveils One-Year Progress Report on the Implementation of National AI Strategy and Action Plan," 2023, https://www.nstda.or.th/en/news/news-years-2023/nstda-unveils-one-year-progress-report-on-the-implementation-of-national-ai-strategy-and-action-plan.html.

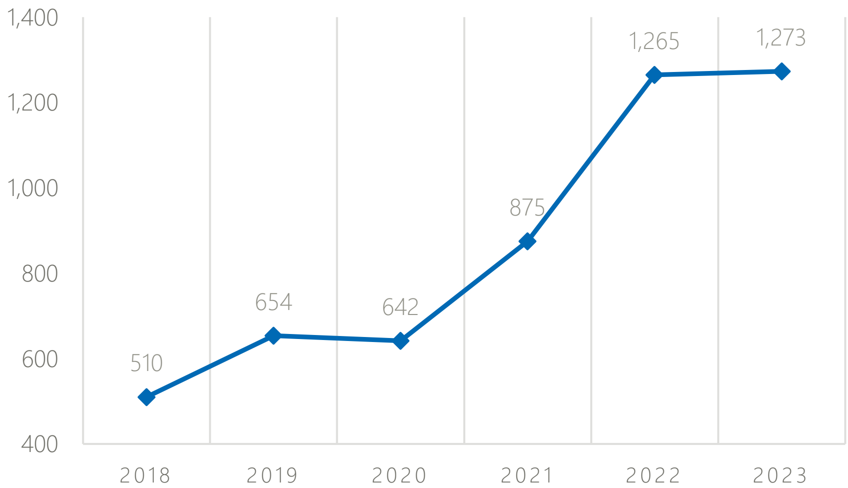
Figure 26: TSRI research funding on AI projects (Unit: Million Baht)



Source: TSRI 2024

One of the consequences of low R&D expenditure in Thailand is the limited AI and AI-related research output. Since 2018, while the number of AI-related publications has increased (Figure 26), the output remains low, with only 18 publications per million people in 2023[80]. Lastly, Thailand recorded a peak of 7,457 citations for AI and AI-related publications in 2021, translating to approximately 102 citations per million capita shown in Figure 27 [81].

Figure 27: Number of AI and AI-related publications, Thailand

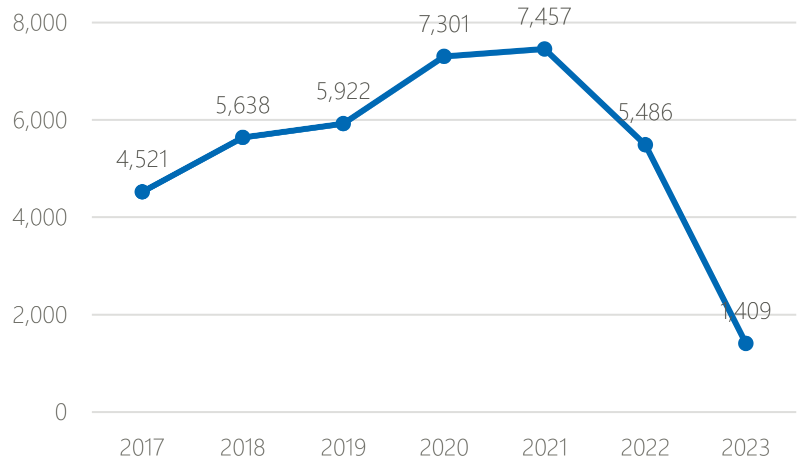


Source: OECD.AI 2024

80 OECD.AI, "OECD.AI Policy Observatory," 2024, https://oecd.ai/en/data.

81 OECD.AI, "OECD.AI Policy Observatory," 2024, https://oecd.ai/en/data.

Figure 28: Number of citations for AI and AI-related publications, Thailand



Source: OECD.AI 2024

In terms of ethical AI research, publications on AI ethics from Thai institutions are minimal, with only 1-2 papers published in the MAG online library[82]. The Thai Journals Online (ThaiJO) database contains just 90 results with both "AI" and "Ethics" in the title or abstract since the beginning of time up until May 2025.

Furthermore, there is growing attention to ethical AI, shown by recent conferences organized such as the AI Ethics Exhibition Thailand 2024 hosted by Chulalongkorn University[83] and the AI Governance Webinar 2024 hosted by ETDA[84]. In addition, a global conference has been planned in Thailand in 2025, namely the 3rd UNESCO Global Forum on the Ethics of AI 2025[85] which the Government of Thailand will co-host with UNESCO – a first edition in the Asia-Pacific region. Another positive step was the creation of the AI Governance Center in 2022 by the ETDA, which operates under the MDES. Therefore, it remains to be seen how these initiatives will impact research on AI ethics and promote ethical AI usage.

The shortage of AI talent is one of the major weaknesses in the potential for adoption, development, and future innovation in Thailand. The talent shortage in Thailand is reflected in having only 52 AI researchers who published in SciVal and Scopus databases[86], equivalent to 0.73 AI talents per million people. Additionally, Thailand's AI ecosystem has demonstrated limited innovation output. The country has seen minimal AI-related patent activity, with the most recent application filed in 2017 and none granted so far.[87] Therefore, when considering factors such as research publications, citations, patent filings, and the availability of AI talent, Thailand's statistics are relatively modest.

82 Chien-Wei Chuang et al., "A Worldwide Bibliometric Analysis of Publications on Artificial Intelligence and Ethics in the Past Seven Decades," Sustainability 14, no. 18 (January 2022): 11125, https://doi.org/10.3390/su141811125.

83 AI Thailand, "Summary of 4 Issues on AI Ethics: Challenges and Approaches for Thailand - Content from the Discussion 'AI Ethics with the Government and Policy' at the AI Ethics Exhibition Thailand 2024," June 2, 2024, https://ai.in.th/en/news/pr-new/ai-ethics/.

84 ETDA, "AIGC by ETDA Invites Experts to Capture Gen AI Trends: Supporting Organizations to Accelerate the Establishment of AI Governance Frameworks," ETDA, 2024, https://www.etda.or.th/th/pr-news/Gen_ai_etda_live.aspx.

85 ETDA, "Thailand to Host the First Asia-Pacific 'UNESCO Global Forum on the Ethics of AI 2025,'" ETDA, 2024, https://www.etda.or.th/th/pr-news/ai_etda_unesco_EN.aspx.

86 NXPO, "ASEAN Talent Pool Dashboard," ASEAN Talent Mobility, accessed December 23, 2024, https://asean-talent.nxpo.or.th/dashboard.

87 Our World in Data, "Annual Patent Applications Related to Artificial Intelligence," Our World in Data, 2020, https://ourworldindata.org/grapher/artificial-intelligence-patents-submitted.

Box 6: AI Governance Center (AIGC)

The AI Governance Center (AIGC) is a collaborative initiative involving networked agencies and experts, both domestic and international, aimed at developing AI governance frameworks for electronic transactions across all sectors. The AIGC also serves as a hub for consultation, capacity building, and the exchange of academic knowledge, innovations, and technologies related to AI governance.

The core missions of AIGC include:

AI Policy and Governance: Developing AI governance frameworks for electronic transactions that are contextually appropriate for Thailand and aligned with international standards.

Consultation: Providing policy and AI governance consultation services for electronic transactions.

Knowledge Sharing: Developing and sharing information, knowledge, and research on the application of AI with a focus on ethical and responsible governance.

Networking: Building a network of domestic and international experts to facilitate the exchange of academic knowledge, innovation, and technology in AI governance.

In addition, AIGC, in collaboration with the MDES and ETDA, has established the AI Governance Practice Center (AIGPC) to serve as a regional hub for AI governance under four key missions:

Regional Knowledge Hub: Promoting understanding and awareness of AI ethics grounded in UNESCO's framework.

Capacity Building Center: Delivering training programs, workshops, and governance tools tailored to public agencies, private enterprises, and civil society organizations.

Ethical AI Tools Promoter: Supporting the development and adoption of tools that reflect UNESCO's ethical principles.

Collaboration Platform: Facilitating regional and global partnerships and hosting high-level events such as the UNESCO Global Forum on the Ethics of AI.

4.2 EDUCATION

Education is grounded in the principles of *Awareness and Literacy*, *Inclusiveness and Equity*, and *Fairness and Non-Discrimination*.[88] AI learning and literacy should go beyond technical skills to include ethical reasoning, critical thinking, and social responsibility. This requires revisiting the education system and the learning and teaching culture and methods themselves. Expanding AI literacy at all levels enables meaningful participation and appropriation by the people and helps prevent the exclusion of vulnerable groups in an AI-driven world.

In terms of education infrastructure, statistics reports the proportion of primary, lower secondary and upper secondary schools with access to internet and computers for pedagogical purposes for Thailand in 2024 at 99.9 percent, 99.79 percent and 100 percent, respectively.[89] These same high percentages apply to internet connectivity across all three educational levels.[90]

The NAIS aims to enhance human capabilities through its Strategy 3: "Increasing human capability and improving AI education." [91] The plan's ambitions focus on improving AI education and knowledge creation, increasing the number

88 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

89 UNESCO, "UNESCO Institute for Statistics (UIS) Database," 2024, https://data.uis.unesco.org/.

90 UNESCO, "UNESCO Institute for Statistics (UIS) Database," 2024, https://data.uis.unesco.org/.

91 MHESI & MDES, "Thailand National AI Strategy and Action Plan (2022 – 2027)," 2022, https://ai.in.th/en/about-ai-thailand/.

of AI scholarship programs, and developing a cooperation mechanism with international researchers and experts. A key target is to develop over 30,000 AI professionals within six years.

The Education Policy of the Ministry of Education for Fiscal Year 2025-2026 [92] focuses on adopting modern technologies and AI in learning management, digital skills enhancement, and foreign language development. Moreover, the (Draft) Policy and Strategic Directions for the OBEC for Fiscal Years 2025-2026[93] aims to enhance learning management by utilizing modern technologies such as AI, hybrid learning systems, VR-based gamification, the metaverse, Digital Twin 3.0, and digital classrooms. The Thai government's strategy has expanded AI education across all educational levels. The national Computing Science curriculum is mandatory under the Basic Education Core Curriculum B.E. 2551 (2008), providing foundational knowledge through four main objectives such as computational thinking, information and data skills development, knowledge application, and promotion of safe and ethical ICT use[94].

At the tertiary level, AI-related programs in AI, machine learning, and data science are available, though no official compilation exists. According to 2024 data from the Office of the Permanent Secretary of the MHESI, compiled by AI Engineering Institute, Thailand offers tertiary educations courses in the following topics: AI (21 courses), data science (26 courses), intelligent systems (27 courses), information technology (76), computer (161 courses), and innovation (384 courses).[95] In terms of vocational education, Thailand offers a vocational certificate in AI Technology, under the Digital Industry and Information Technology study field, focusing on both technical and ethical aspects of AI to equip students with the skills needed for responsible AI development and application.

The MHESI has launched a project called "MHESI for AI" which aims to support the use of AI in higher education[96]. The NSTDA, in collaboration with the Institute for the Promotion of Teaching Science and Technology (IPST), OBEC, and Office of Vocational Education Commission (OVEC) has developed a project aimed at advancing AI and modern technology instruction in educational settings.[97] Furthermore, many higher education institutions provide general education courses open to students across departments. These beginner-friendly courses, including "Digital, Data, and AI Literacy," and "Fun with AI," aim to enhance AI literacy across disciplines. They are available at various institutions such as Chulalongkorn University, Kasetsart University, Dhurakij Pundit University and others[98].

Although tertiary programs offering digital anthropology, philosophy of technology, or AI ethics module remain limited, which illustrate a gap in ethical considerations within AI curricula, some good examples should be noted and encouraged. This includes the Faculty of Arts at Chulalongkorn University delivers Bachelor's, Master's, and Doctoral degree programs with a strong emphasis on interdisciplinary fields such as digital humanities, philosophy of technology, and technology ethics. Additionally, the Technology Law specialization at Chulalongkorn University's Faculty of Law covers areas such as digital privacy, intellectual property, and other legal domains impacted by AI[99].

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92 "Thai government gazette (on 13 November, 2024), notifications of Ministry of Education Re : Education Policy of the fiscal year 2025-2026 – กระทรวงศึกษาธิการ," accessed January 2, 2025, https://www.moe.go.th/moe-policy-2025-2026/.

93 "นโยบายและจุดเน้นของสำนักงานคณะกรรมการการศึกษาขั้นพื้นฐาน ประจำปีงบประมาณ พ.ศ. 2568-2569," ครูบ้านนอกดอทคอม, 2024, https://www.kroobannok.com/92286.

94 Institute for the Promotion of Teaching Science and Technology (IPST), "Manual for the Basic Science Curriculum: Computational Science for Primary and Secondary Education," accessed December 23, 2024, https://oho.ipst.ac.th/download/mediaBook/tg-curr-cs.pdf.

95AI Engineering Institute. "Curriculum and Personnel Information on Artificial Intelligence," 2024. https://app.powerbi.com/view?r=eyJrIjoiNjEzOTg3ZGltNjVkMi00MDNmLWE5ZDktMmY2MGYyNGU1YmNiIiwidCI6ImMxNTQyMTI2LTBiNmMtNGM0NS05ODBjLWI3Yzk4YjJhZmVlMyIsImMiOjEwfQ%3D%3D.

96 ศุภมาส " ประกาศนโยบาย 'อว. for AI' ติดอาวุธคนไทยใช้ AI พัฒนาประเทศ ชู Flagship การพลิกโฉมมหาวิทยาลัยด้วย AI ผลัก 3 แผนงานเด่น หนุน AI เพื่อการเรียนรู้ตลอดชีวิต สร้างบุคลากรด้าน AI 3 หมื่นคนใน 3 ปี พร้อมดัน AI ใช้จริงในภาคธุรกิจยกระดับเศรษฐกิจไทย https://www.mhesi.go.th/index.php/news-and-announce-all/news-all/106-minister-supamas/10300-for-ai-ai-fagship-al-3-al-ai-3-3-al.html.

97 Suwicha Boonyanupong, "ศธ. จับมือ อว. ขับเคลื่อนการสอนปัญญาประดิษฐ์และเทคโนโลยีสมัยใหม่ในสถาบันการศึกษา," สำนักงานรัฐมนตรี, July 6, 2024, https://om.moe.go.th/ศธ-จับมือ-อว-ขับเคลื่อนก/.

98 GenEd Center Chulalongkorn University, "General Education Course," accessed February 7, 2025, https://gened.chula.ac.th/en/course/gened; Office of General Education, KMITL, "Fun With AI," Gened.kmitl.ac.th, accessed February 7, 2025, https://gened.kmitl.ac.th/subjectge/90642112/.

99 Law Chula, "Bachelor of Laws, experiential learning in Business and Tech Law (LLBel) (International Program)," คณะนิติศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย, accessed February 7, 2025, https://www.law.chula.ac.th/study-at-law-chula/bachelor-of-laws-experiential-learning-in-business-and-tech-law-llbel-international-program/.

Despite Thailand's strong educational infrastructure and course availability, the impact on AI literacy remains unclear. In 2022, STEM graduates made up 29.04 percent of tertiary graduates[100], with ICT graduates at 4.58 percent[101]. However, despite the graduate statistics, the lack of digital skills remains a challenge. Thailand ranked 67th in data science skills in the Coursera Global Skills Report 2024[102]. While the report has limitations, it offers insight into the readiness of the workforce. In summary, Thailand excels in producing AI-aligned graduates, but a broader digital skill development is still needed.

For the general public, Thailand offers extensive learning opportunities through multiple channels for public access. Chulalongkorn University provides public courses like "Google AI Essentials" and "Chula MOOC" to enhance programming and AI prompting skills. Government agencies, on the other hand, have developed free online resources, with the Digital Government Development Agency offering technical and ethical courses through its "Thailand Digital Government Academy" e-learning platform.[103] The Digital Economy Promotion Agency provides a free coding platform for primary students.[104] For AI ethics specifically, NSTDA offers a comprehensive free online course for researchers, students, and the public, covering ethical principles, relevant laws, and case studies.[105] Additionally, technology startups like SkillLane, FutureSkill, and Skooldio offer paid online courses. Research implications reveal an abundance of technical AI resources across multiple providers, while AI ethics courses remain significantly limited. An exception is the Super AI Engineer training program which includes an ethics course and has trained over 43,000 participants to date. Overall, this indicates a significant discrepancy between technical AI and ethical AI education.

100 UNESCO, "UNESCO Institute for Statistics (UIS) Database," 2022, https://data.uis.unesco.org/.

101 UNESCO, "UNESCO Institute for Statistics (UIS) Database," 2022, https://data.uis.unesco.org/.

102 Coursera, "Global Skills Report 2024," 2024, https://www.coursera.org/skills-reports/global/pdf/gsr-2024.

103 Digital Government Agency, "TDGA E-LEARNING," accessed December 26, 2024, https://e-learning.dga.or.th/xlms_ega/userroom/elearningshow.jsp.

104 Digital Economy Promotion Agency, "Coding Thailand," accessed December 26, 2024, https://codingthailand.org/.

105 NSTDA, "NSTDA Artificial Intelligence Ethics course," accessed December 26, 2024, https://elearn.career4future.com/courses/artificial-intelligence-ethics/.

ECONOMIC

The economic dimension examines important factors within the ecosystem where AI systems are developed and used. This includes aspects related to the labor market, intermediate consumption, and investments in AI production. Key elements for assessing the performance and readiness of specific ecosystems for AI deployment are the dynamism and skill level of the labor market, as well as the spending on intermediate consumption and investments in production.

5.1 LABOR MARKETS

AI's impact on labor markets relates to the principles of *Fairness and Non-Discrimination*, *Inclusiveness and Equity*, and *Awareness and Literacy*.[106] Ethical AI governance integration requires proactive investment in reskilling and upskilling to reduce inequalities and ensure that all groups benefit from new opportunities. Without such preparation, AI may deepen employment gaps and reinforce existing structural disadvantages.

The Thai government has put in place various strategies aimed at developing a skilled AI workforce. This is evident in Thailand's National AI Strategy Action Plan (2022–2027), which aims to enhance human capabilities through Strategy 3: "Increasing human capability and improving AI education."[107] The concept of development is "Reskill, Upskill, and Newskill" to produce skilled AI professionals at all levels and sectors, aligning with private sector needs.[108]

These initiatives outlined in the Education section have resulted in many individuals undergoing AI training, a positive step toward preparing the country for widespread AI implementation. The "MHESI for AI" mission focuses on enhancing the skills of individuals across all levels of the labor market, including AI professionals, engineers, and beginners. This comprehensive approach aims to equip the workforce with the necessary competencies to thrive in an AI-driven economy. Additionally, lifelong learning initiatives ensure continuous skill development, enabling workers to adapt to rapid technological changes and maintain global competitiveness.[109]

However, while these efforts are crucial for establishing AI adoption, there has been little reported on the actual quality and effectiveness of training programs or their outcomes. It remains uncertain how these initiatives will translate into tangible value, particularly in enhancing productivity, innovation, and broader economic impact.

Thailand's job market data reveals limited demand for AI skills. According to MHESI, Thailand is currently facing a shortage of 80,000 professionals in the field of AI.[110] The research by TDRI found a total of 22,800 job postings related to AI from April 2024 to March 2025.[111] Additionally, PwC Thailand reports a shortage of AI-ready talent as a barrier to AI technology

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106 UNESCO, "Recommendation on the Ethics of Artificial Intelligence," 2021, https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

107 MHESI & MDES, "Thailand National AI Strategy and Action Plan (2022 – 2027)."

108 NSTDA, "NSTDA Unveils One-Year Progress Report on the Implementation of National AI Strategy and Action Plan," 2023, https://www.nstda.or.th/en/news/news-years-2023/nstda-unveils-one-year-progress-report-on-the-implementation-of-national-ai-strategy-and-action-plan.html.

109 Bangkok Post, "New AI Policy Aims to Transform Economy," 2024, https://www.bangkokpost.com/business/general/2802008/new-ai-policy-aims-to-transform-economy.

110 ศุภมาส " ประกาศนโยบาย 'อว. for AI' ติดอาวุธคนไทยใช้ AI พัฒนาประเทศ ชู flagship การพลิกโฉมมหาวิทยาลัยด้วย AI ผลัก 3 แผนงานเด่น หนุน AI เพื่อการเรียนรู้ตลอดชีวิต สร้างบุคลากรด้าน AI 3 หมื่นคนใน 3 ปี พร้อมดัน AI ใช้จริงในภาคธุรกิจยกระดับเศรษฐกิจไทย," กระทรวงการอุดมศึกษา วิทยาศาสตร์ วิจัยและนวัตกรรม, May 29, 2024, https://www.mhesi.go.th/index.php/news-and-announce-all/news-all/106-minister-supamas/10300-for-ai-ai-fagship-al-3-al-ai-3-3-al.html.

111 TDRI, "TDRI Survey Finds Surge in AI Adoption, 20,000 Postings in One Year (in Thai)," TDRI: Thailand Development Research Institute (blog), June 5, 2025, https://tdri.or.th/2025/06/bigdata-report-labourmarket-q1-2025/.

adoption in workplaces. Consequently, 58 percent of business leaders in Thailand have prioritized upskilling employees to enhance generative AI usage.[112]

It can be said that Thailand's AI skills development policy currently emphasizes broad and general training initiatives. In contrast, some international approaches have implemented more targeted upskilling strategies such as, offering financial support to mid-career professionals to enroll in government-approved courses in areas like data analytics, cybersecurity, and various AI-related fields.[113] This targeted initiative provides workers with the opportunity to acquire specialized, in-demand skills, helping to create a workforce better equipped to meet the growing demand for AI and digital technologies.

In the e-commerce market, platform workers such as, food delivery riders and taxi drivers, are currently not classified as workers under the Labour Protection Act B.E. 2541 (2008). As a result, they do not receive any protections or benefits typically afforded to employees under labor law.

5.2 INTERMEDIATE CONSUMPTION

The adoption of AI in business operations often reduces reliance on human labor, raising ethical concerns under the principles of *Responsibility and Accountability*, *Sustainability*, and *Inclusiveness and Equity*.[114] While AI can increase productivity, its uneven implementation may concentrate benefits among large firms and displace workers in smaller or less automated sectors. Ethical integration requires support systems to help businesses adopt AI responsibly and equitably.

A significant adoption gap persists, as ETDA's survey shows only 18 percent of organizations have implemented AI technologies, while 74 percent is still in a preparation stage, with the education, financial services, and logistics sectors demonstrating higher AI readiness.[115] At the same time, A Cisco AI readiness survey reveals that Thai organizations are dedicating a substantial portion of their budgets to AI, particularly in the education and financial services sectors. Currently, 53 percent of Thai organizations allocate between 10-30 percent of their IT budgets to AI initiatives, with primary investments directed towards IT infrastructure, cybersecurity, and marketing and sales management. Looking ahead, approximately 23 percent of organizations plan to increase their AI-related spending to over 40 percent of their IT budgets within the next four to five years.[116]

Meanwhile, combined AI startup revenue grew from 8 billion THB to 9.7 billion THB.[117] The domestic AI sector's expansion underscores growth potential—AI entrepreneurs increased by 37 percent year-on-year in 2023, reaching 133 individuals.

5.3 INVESTMENTS AND OUTPUT

AI-driven investments and economic output raise ethical considerations under the principles of *Sustainability*, *Responsibility and Accountability*, and *Inclusiveness and Equity*.[118] While AI can accelerate productivity and attract capital, it may also reduce labor demand and concentrate wealth in a few sectors or actors. Ethical strategies must ensure that growth is inclusive, benefits are widely shared, and negative impacts on employment and inequality are actively addressed.

112 PricewaterhouseCoopers, "PwC Thailand Warns of Skills Gap as Key Barrier to AI Adoption," PwC, 2024, https://www.pwc.com/th/en/press-room/press-release/2024/press-release-05-06-24-en.html.

113 The Inclusive AI, "4 Powerful Lessons from Singapore's AI Education Policy for Inclusive Upskilling," December 5, 2024, https://theinclusiveai.com/singapores-ai-education-policy/.

114 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

115 ETDA, "ETDA, in Collaboration with NSTDA, Reveals the Findings of a Study on AI Adoption Readiness for 2024 (in Thai)," ETDA, 2024, https://www.etda.or.th/th/pr-news/AI_SurveyxETDA.aspx.

116 "Cisco-Ai-Readiness-Index-Th.Pdf," accessed May 19, 2025, https://www.cisco.com/c/dam/m/en_us/solutions/ai/readiness-index/2024-m11/documents/cisco-ai-readiness-index-th.pdf.

117 Bangkok Post, "Bid to Create 7.5-Fold Growth in Local AI Firms," January 8, 2025, https://www.bangkokpost.com/business/general/2935257/bid-to-create-7-5-fold-growth-in-local-ai-firms.

118 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

Thailand's digital economy is expanding, represented by the significant growth various sectors. The software and software services industry grew by 12.8 percent in 2023 to reach 215 billion THB (includes cloud services, system integration, software maintenance services and consultants), whereas the digital services sector also expanded by 9.3 percent to 308 billion THB[119] (services that integrate with other sectors, such as e-logistics, edtech, fintech, health tech, etc.), reflecting increasing demand for digital solutions among Thai businesses. In particular, sectors such as e-logistics (92.4 billion THB, +10.7% yoy), e-retail (80.05 billion THB, +2.25% yoy) and FinTech (47.69 billion, +12.1% yoy) has the largest market values. Thailand maintains a substantial share of high-tech exports within its trade portfolio, presenting an opportunity to further enhance its position in global value chains by investing in innovation, advanced manufacturing, and AI-driven industrial transformation. Thailand's high-tech exports accounted for 16.7 percent of total exports (US$54.14 billion; approximately 1,774,436,188,796.86 THB), ranking 8th worldwide. However, production often occurs under multinational corporations, limiting national economic benefits.

On the other hand, Thai businesses in the computer programming, consultancy, and related activities sector (SIC 62.0) spent only 47.5 million THB on training, research, planning, and development in 2022—just 0.66 THB per capita. This limited private-sector investment may constrain long-term innovation.

119 DEPA, "Digital Industry 2023," https://www.depa.or.th/storage/app/media/file/Digital%20Industry%202023%20Final01.pdf.

TECHNICAL AND INFRASTRUCTURAL

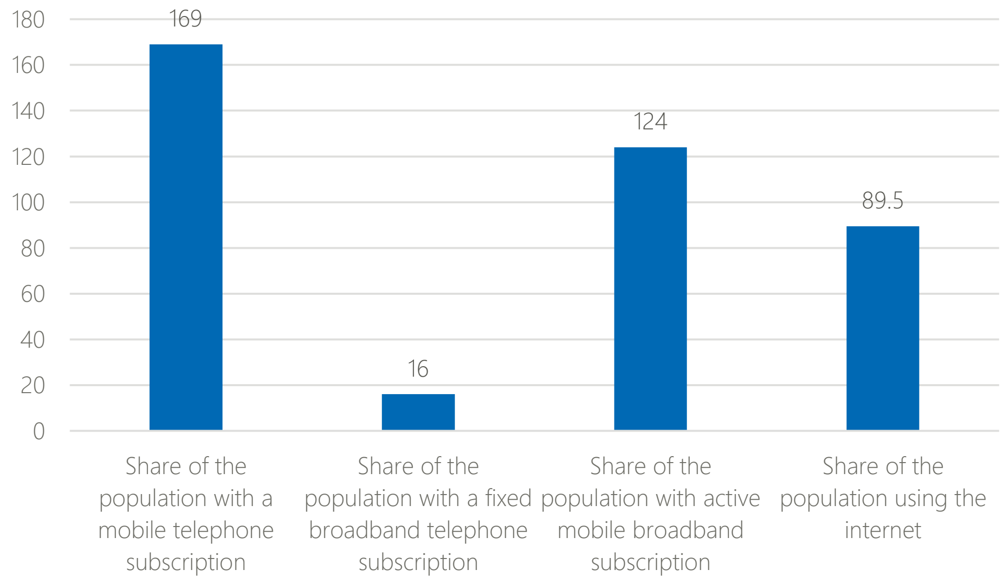
The technical and infrastructure dimensions refer to a country's capacity to develop and deploy AI solutions. This includes factors such as computing power, the availability of data centers, connectivity, and internet access. These elements are essential enablers for the development of AI systems, as they influence the capabilities available based on the necessary infrastructure to support processed information.

6.1 INFRASTRUCTURE AND CONNECTIVITY

Digital infrastructure and connectivity relate to the principles of *Sustainability*, *Inclusiveness and Equity*, and *Awareness and Literacy*.[120] Strong foundational infrastructure is essential for enabling access to AI technologies and ensuring they benefit all groups. Without reliable connectivity, communities may be excluded from digital opportunities, reinforcing systemic inequalities and undermining inclusive AI development.

Thailand has established a robust digital infrastructure and connectivity, comparable to leading nations. Key metrics highlight Thailand's advanced digital infrastructure, as seen in its mobile-cellular subscription rate of 169 per 100 people.[121] Additionally, Figure 29 shows that the country had an active mobile broadband subscription rate of 124 percent per population in 2023[122]. Additionally, 89.5 percent of Thailand's population uses the internet. These metrics reflect Thailand's strong position in mobile and internet penetration. Therefore, Thailand's successful development of essential digital infrastructure remains crucial to supporting technological advancements, including AI implementation.

Figure 29: Connectivity statistics for Thailand (percentage of population), 2023



Source: International Telecommunication Union 2023

120 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

121 International Telecommunication Union, "ITU DataHub," 2023, https://datahub.itu.int/.

122 International Telecommunication Union, "ITU DataHub," 2023, https://datahub.itu.int/.

Notably, Thailand demonstrates exceptional performance in download speeds, with the country's average fixed broadband download speed reaching 237.85 Mbps in 2024[123]. Moreover, the country also demonstrates impressive digital inclusivity, with global rankings of 30th for gender gap in internet access and 11th for gender gap in mobile access[124], while having a low rural/urban gap for internet access (92.7 percent in municipality areas, 86.9 percent outside of municipality areas[125]). Overall, these metrics collectively illustrate Thailand's success in creating not only high-performing digital infrastructure but also ensuring its accessibility across demographic groups, establishing a strong foundation for widespread AI adoption and utilization.

6.2 APPLIED STANDARDS

The development and application of AI standards relate to the principles of *Responsibility and Accountability*, *Transparency and Explainability*, and *Safety and Security*.[126] Ethical AI requires robust technical and governance standards to ensure systems perform reliably, safely, and fairly. Without active engagement in standard-setting processes, countries risk lagging in regulatory readiness and may face challenges in aligning domestic systems with international benchmarks.

Thailand actively participates in AI and digital technology standardization through ISO/IEC engagement at both technical and ethical levels. The country has established AI standards including ISO/IEC TS 4213:2022 for machine learning classification performance assessment[127], ISO/IEC TR 24368:2022 addressing ethical concerns[128], and ISO/IEC TR 24028:2020 on AI trustworthiness[129, 130].

As an Observing Member in ISO/IEC JTC 1/SC42 and five Working Groups focused on foundational standards, big data, trustworthiness, use cases, and computational approaches, Thailand attends meetings, receives documents, and contributes to discussions without voting right[131, 132]. Additionally, the Department of Provincial Administration's biometric identity verification initiative is pursuing ISO/IEC 29119-11 and ISO/IEC DIS 25059 certifications[133, 134]. Moreover, Thailand further collaborates with international partners such as Standards Australia to strengthen AI standardization frameworks and promote responsible development[135]. Therefore, these efforts enhance Thailand's influence in shaping global AI governance, while improving the country's regulatory alignment and technological preparedness.

6.3 COMPUTING CAPABILITIES

Computing capabilities are closely linked to the principles of *Sustainability*, *Inclusiveness and Equity*, and *Responsibility and Accountability*.[136] Robust data center infrastructure and high-performance computing are critical for ethical and

123 Speedtest Global Index, "Internet Speed around the World," Speedtest Global Index, November 2024, https://www.speedtest.net/global-index.

124 Economist Impact, "The Inclusive Internet Index," 2022, https://impact.economist.com/projects/inclusive-internet-index/2022.

125 NSO, "The 2023 Household Survey on the Use of Information and Communication Technology (Quarter 4)," 2024, https://www.nso.go.th/nsoweb/storage/survey_detail/2024/20240229135937_44161.pdf.

126 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

127 Thai Industrial Standards Institute. Information Technology – Artificial Intelligence – Assessment of Machine Learning Classification Performance (TIS 3645-2566). Bangkok: Ministry of Industry, January 6, 2024. https://a.tisi.go.th/t/?n=7507.

128 Thai Industrial Standards Institute (TISI). Information Technology – Artificial Intelligence – Overview of Ethical and Societal Concerns (TIS 24368-2566). Bangkok: Ministry of Industry, January 6, 2024. https://a.tisi.go.th/t/?n=7512.

129 Thai Industrial Standards Institute (TISI). Information Technology – Artificial Intelligence – Overview of Trustworthiness in Artificial Intelligence (TIS 24028-2566). Bangkok: Ministry of Industry, January 6, 2024. https://service.tisi.go.th/tisi-standard-shop/item/tis/7511.

130 AlphaSec. "3 Thai Standards on Artificial Intelligence: A Beginner's Guide" AlphaSec, 2023. https://www.alphasec.co.th/post/3-มาตรฐานไทยเกี่ยวกับปัญญาประดิษฐ์-คู่มือฉบับสมบูรณ์สำหรับผู้เริ่มต้น.

131 ISO/IEC JTC 1/SC 42. "SC 42 – Artificial Intelligence." JTC 1 Information, https://jtc1info.org/sd-2-history/jtc1-subcommittees/sc-42/.

132 ISO. "ISO/IEC JTC 1/SC 42 – Artificial Intelligence." International Organization for Standardization, https://www.iso.org/committee/6794475/x/?view=participation.

133 ETDA. "Recommendations on Information and Communication Technology Standards Essential for Electronic Transactions: Biometric Technology – Part 1: Application of Biometric Technology for Identification and Authentication." MDES, 2022. https://www.etda.or.th/getattachment/19c40254-8bb8-474f-baab-b760de85d5c2

134 Bank of Thailand. "Guidelines on the Use of Biometric Technology in Financial Services." Bank of Thailand, 2020. https://www.bot.or.th/content/dam/bot/fipcs/documents/FOG/2563/ThaiPDF/25630177.pdf.

135 Austrade. "Australia, Thailand Partner to Boost Digital Economy." Mirage News, August 29, 2024. https://www.miragenews.com/australia-thailand-partner-to-boost-digital-1305329.

136 UNESCO, Recommendation on the Ethics of Artificial Intelligence (Paris: UNESCO, 2021), available at https://www.unesco.org/en/artificial-intelligence/recommendation-ethics.

inclusive AI development. Without sufficient computing power, countries risk falling behind in innovation and limiting access to AI technologies for broader societal benefit.

Thailand's data center infrastructure is limited, with only 0.59 data centers per million people[137]. The existing centers are highly concentrated, with 33 facilities in Bangkok and merely 9 centers dispersed across other provinces including Pathum Than and Chonburi. This centralization creates geographical challenges, as the distance from Bangkok to Mae Sai in the northernmost point reaches approximately 850 km, while the southernmost point (Betong) lies roughly 1,200 km away. This infrastructure deficit can represent a barrier to AI development, as these facilities provide the essential computational foundation for storing and processing the massive datasets required for AI systems. which may hinder advanced AI research and applications.

On the flip side, growth opportunities are observed as Thailand is receiving attention from foreign investors to invest in data centers from companies such as Alibaba Cloud and Huawei Technology from China and Amazon Web Services and Microsoft from the US to name a few[138]. While cloud-first policies have been implemented in Thailand, their impact on driving tangible improvements in efficiency and fostering the growth of AI technologies is yet to be fully realized.

Moreover, the Thai government, through the NSTDA Supercomputer Center (ThaiSC), provides high-performance computing (HPC) resources for private sector hire, including the advanced LANTA and TARA systems. LANTA, ranked among the top 70 most powerful supercomputers globally in 2022 and the best in ASEAN[139], supports a range of innovative applications. Notable use cases include the chatbot "BOTNOI" for psychological counselling and OpenThaiGPT, developed using LANTA and Facebook's LLAMA. These HPC resources enable businesses to leverage cutting-edge computational power for research, development, and various high-demand applications, fostering technological advancement and innovation in Thailand.

Thailand's digital infrastructure is also bolstered by the BDI and the Government Data Center and Cloud Service (GDCC). The BDI, established under the MDES, serves as a national platform to accelerate data-driven innovation, offering big data analytics capabilities, talent development, and support for integrating data across ministries. Complementing this, the GDCC under the MDES provides centralized cloud and data center services for government agencies. It ensures secure, scalable infrastructure to host critical applications and datasets, contributing to improved interoperability and digital service delivery across the public sector.

6.4 STATISTICAL PERFORMANCE

Statistical performance relates to the principles of *Transparency and Explainability*, *Data Governance and Access to Information*, and *Inclusiveness and Equity*.[140] Strong national statistical systems are essential for evidence-based AI development and public accountability. While high-quality data products and infrastructure support informed decision-making, gaps in data sources—especially geospatial and administrative data—must be addressed to ensure equitable and effective use of AI.

Thailand demonstrates strong statistical performance, providing a solid foundation for data-driven decision-making. With a data infrastructure score of 85, Thailand's system is well-developed, supported by robust legal frameworks, governance standards, and data compilation processes[141]. Thailand's statistical capabilities are an asset for AI development and implementation. Additionally, the country demonstrates strong statistical capability in data products,

137 Data Center Map, "Data Center Map," 2024, https://www.datacentermap.com/.

138 Nation Thailand, "Thailand a Favourite Pick for Data Center Investors," November 27, 2024, https://www.nationthailand.com/business/tech/40043641.

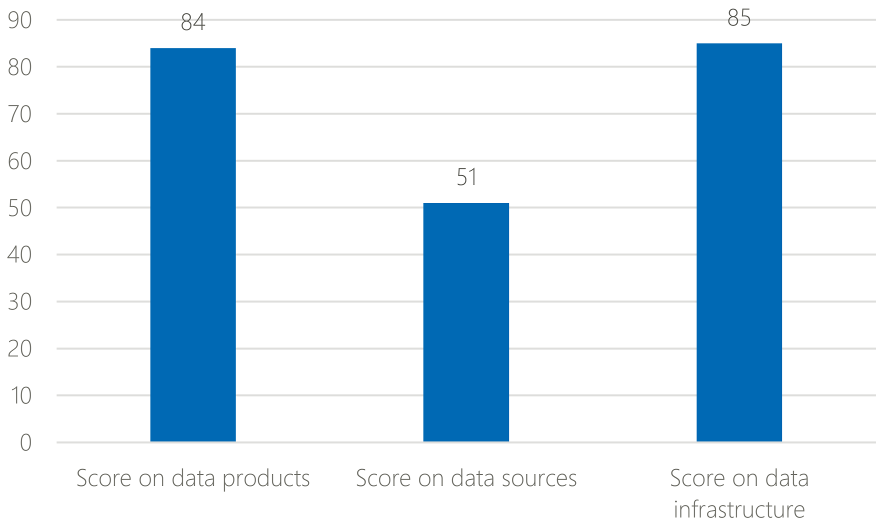
139 TOP500 List, "TOP500 LIST – NOVEMBER 2022," 2022, https://top500.org/lists/top500/list/2022/11/

140 UNESCO. Recommendation on the Ethics of Artificial Intelligence. Paris: United Nations Educational, Scientific and Cultural Organization, 2021.

141 World Bank, "Statistical Performance Indicators (SPI)," Text/HTML, World Bank, accessed December 27, 2024, https://www.worldbank.org/en/programs/statistical-performance-indicators/explore-data.

scoring 84. This reflects Thailand's ability to produce comprehensive social, economic, environmental, and institutional statistics. However, Thailand faces a critical shortfall in data sources, scoring just 51. This category includes censuses, surveys, administrative data, and geospatial data, with geospatial data being particularly underdeveloped at just 3 out of 25 points. Addressing this gap in data sources is essential for Thailand to fully align with global standards despite its otherwise strong statistical foundation.

Figure 30: World Bank Statistical Performance Indicators scores for Thailand, 2023



Source: World Bank 2023

TOWARDS A NATIONAL AI MULTI-STAKEHOLDER APPROACH

Thailand's AI ecosystem is shaped by various key stakeholders, each contributing significantly to its development and governance.

The public sector plays a crucial role in the development of AI in Thailand. The MHESI and DE have collaborated through the ONDE and NSTDA to create the Thailand's National AI Strategy. They also established the NAIC, which is responsible for leading the implementation of this plan, monitoring and evaluating its progress, and coordinating efforts among relevant agencies. As a result, over 40 agencies are collaborating with the NAIC to drive this initiative forward.

Academia also plays a vital role in the AI ecosystem by making significant strides in developing AI-related academic programs and research institutions. Various initiatives, such as the "Super AI Engineer" and the "AI for All" campaign, have been launched, highlighting the importance of the academic sector in building AI capacity.

The private sector is another important part in the AI ecosystem by developing AI technologies, promoting their adoption at the enterprise level, and driving technical innovation and infrastructure to support AI usage. Feedback from the private sector offers valuable insights that shape key policy decisions across various domains. This feedback enables the creation of targeted policies tailored to the specific needs of each industry, ensuring comprehensive and strategic support for AI development and adoption across the ten key sectors identified by the government.

Box 7: ASEAN Guide on AI Governance and Ethics

The *ASEAN Guide on AI Governance and Ethics* is a voluntary framework that has been regionally endorsed. This document serves as a practical resource for organizations in the region that want to design, develop, and deploy traditional AI technologies in commercial applications, as well as in non-military or dual-use contexts. The Guide emphasizes the importance of aligning efforts within ASEAN and promoting the interoperability of AI frameworks across different jurisdictions. Additionally, it offers recommendations for both national and regional initiatives that governments in the region can implement to ensure the responsible design, development, and deployment of AI systems.

To align with the regional approach, Thailand has established ETDA's AI Governance Guideline, which closely follows the principles outlined in the ASEAN Guide. It aims to serve as a practical mechanism for AI governance at the enterprise level within the national context. Additionally, as Thailand aspires to become an AI ethics hub in Southeast Asia, promoting the widespread adoption of this guideline could support the development of a regional governance mechanism, fostering a unified, principle-based approach to trustworthy AI across the region.

Additionally, various international organizations have significantly contributed to the development of AI in Thailand. Cooperation among regional and international organizations, including ASEAN, OECD, and UNESCO, plays a crucial role in this effort. By collaborating with global partners, Thailand has the opportunity to enhance AI knowledge and engage in the exchange of ideas on the worldwide stage. This cooperation enables the exploration of global AI trends, contributing to the establishment of a unified approach to AI governance.

Lastly, civil society is crucial for the development of the AI ecosystem. Their contributions emphasize the importance of societal inclusion, digital literacy, trust, gender equity, cultural preservation, and access for rural communities. This sector actively collaborates with government initiatives to ensure that the policies enacted by the government consider fairness and inclusiveness alongside technological development.

OVERVIEW OF STAKEHOLDER ENGAGEMENT PROCESS

During the RAM process, stakeholder mapping was designed to collect data through surveys, interviews, and consultation meetings. As a result, more than 30 agencies participated in the surveys and interviews. An official launch event for the RAM project took place on December 4, 2024, attracting 168 representatives from various sectors. This included high-ranking officials, UNESCO representatives, embassy delegates, as well as members from the public sector, private sector, and academia.

Furthermore, two national stakeholder meetings were organized to gather feedback, validate preliminary findings, and report progress to a wide range of relevant actors. Each session was structured around in-depth focus group discussions, concentrating on specific RAM dimensions. The meetings featured presentations of initial diagnostic findings, expert panel discussions with national specialists, and open dialogues to collect stakeholder perspectives.

1) UNESCO RAM project - Feedback session & Progress (Round 1)

- Held on February 19, 2025
- Attended by 114 representatives from the public sector, private sector, and academia.
- Focus on legal and regulatory, economic, technical and infrastructural dimensions.

2) UNESCO RAM project - Feedback session & Progress (Round 2)

- Held on March 14, 2025
- Attended by 89 representatives from the public sector, private sector, and academia.
- Focus on legal and regulatory (cont.), social and cultural, scientific, and educational dimensions.

Additionally, on May 6, 2025, the MHESI, through NSTDA, hosted a validation workshop titled **"National Validation Workshop of Thailand Readiness Assessment Methodology (RAM) Country Report Supporting the Implementation of the UNESCO Recommendation on the Ethics of Artificial Intelligence in Thailand".** The event attracted over 100 participants, including representatives from government agencies, the private sector, academic institutions, and international organizations.

The workshop included a presentation on Thailand's AI status and recommendations. An open forum allowed representatives from various sectors to give feedback on the study and its recommendations. This workshop was a significant step in reviewing and validating the study findings within the framework of the RAM. Its goal was to establish a database and essential guidelines for the effective and responsible development and promotion of AI use in Thailand, in accordance with international ethical principles. This effort aims to enhance competitiveness and drive sustainable national development.

MAIN OPPORTUNITIES AND CHALLENGES IDENTIFIED THROUGH THE CONSULTATIONS.

Drawing from multi-stakeholder consultations and cross-sector evidence, this section synthesizes Thailand's current AI governance landscape through the RAM framework. The findings highlight systemic strengths, policy momentum, and foundational infrastructure that Thailand can leverage, while also revealing persistent regulatory, ethical, social, and capacity-related challenges. This part outlines the country's core opportunities and barriers across legal, social, scientific, economic, and technical dimensions, offering a forward-looking strategic vision for implementation.

Opportunities

Thailand stands at a pivotal moment in shaping its AI future. Insights gathered from the RAM consultations reveal that the country has laid a promising policy and infrastructure foundation. Legally, progress has been made through the PDPA, National AI strategies, and open data reforms

Socially, Thailand benefits from widespread digital access, growing e-government platforms, and international commitments to inclusion and gender equality. Cultural digitization, renewable energy strategies, and digital health frameworks offer opportunities to embed ethical, inclusive, and sustainable AI practices.

In education and research, the high percentage of STEM and ICT graduates, combined with the government's aim to increase R&D to 2 percent of GDP and programs like MHESI for AI, vocational certificates, and school-level AI curricula, suggest potential for developing future AI talent. Thailand's growing software and high-tech sectors, along with increased AI-related spending, facilitate digital transformation and industrial modernization.

For the economic dimension, Thailand demonstrates a robust path to advancing its digital economy, particularly through the NAIS, which prioritizes reskilling and upskilling initiatives to meet the growing demand for AI talent. The country exhibits significant potential in AI-related labor markets, supported by healthy labor demand and ongoing workforce development programs. Furthermore, Thailand is experiencing growth in its software and digital services sectors, as well as substantial exports in high-tech sectors. These factors underscore Thailand's opportunity to enhance its position in the global AI landscape.

Technically, Thailand's high mobile penetration, fast broadband, and low rural-urban divide present a strong foundation for AI implementation. Regional and global engagement—including ASEAN DEFA, OECD accession, UNESCO AI ethics leadership, and GPAI collaboration—positions Thailand to influence global standards and benefit from international knowledge exchange.

Challenges

Despite this momentum, Thailand faces key challenges that must be addressed to fully realize its AI ambitions. Legally, implementation gaps persist, with limited assessment of the National AI Strategy. Transparency mechanisms and procurement standards remain underdeveloped, and AI ethics training among civil servants is insufficient

Social inclusion faces barriers from digital divides, underrepresentation of women in STEM, and weak public understanding of AI. Fragmented cultural AI initiatives, lack of child-sensitive design, and unsustainable energy policies limit equitable participation and trust.

In science and education, low R&D spending, minimal AI publications and patents, and a shortage of AI researchers impede Thailand's regional competitiveness. Research-industry links and interdisciplinary collaboration require further strengthening.

Economically, AI adoption remains uneven, with 74 percent of businesses still in preparation. Training program effectiveness is uncertain, and private sector investment in R&D remains low. A clearer transition plan is needed to link talent supply with market demand.

Infrastructure-wise, Thailand faces some gaps: limited data center capacity (0.59 per million people), concentration in Bangkok, and poor-quality geospatial and government data. Renewable energy capacity is insufficient to meet green infrastructure demands, and legal restrictions on direct PPA and third-party access further constrain energy innovation. Without data standardization and interoperable public-sector data, Thailand cannot fully unlock the value of AI.

The way forward demands a pivot from foundational planning to integrated execution and measurable scaling through enforceable governance, expanded renewable energy, inclusive workforce development, and active international leadership in ethical AI governance.

HIGH LEVEL RECOMMENDATIONS

Led by the Ministry of Higher Education, Science, Research and Innovation (MHESI) and the Ministry of Digital Economy and Society (MDES), Thailand's National AI Strategy and Action Plan 2022–2027 (NAIS) was developed to establish a robust AI ecosystem that drives economic growth, enhances quality of life, and positions the country as a regional leader in AI by 2027. To support this effort, the National AI Committee (NAIC) was formally established as the key body responsible for implementing and overseeing the strategy.

After the implementation of the NAIS in 2027, conducting assessments based on UNESCO’s Readiness Assessment Methodology (RAM) will be a timely action to comprehensively identify the current status of the AI ecosystem in Thailand and design further actions towards a more ready ecosystem, with collaboration and co-ownership of all stakeholders, while ensuring the direction towards ethical AI.

To this end, the next phase focuses on structuring Thailand’s National AI Strategy around five key dimensions adapted from UNESCO’s Readiness Assessment Methodology (RAM) for the Ethics of Artificial Intelligence. These five dimensions including legal and regulatory, social and cultural, scientific and educational, economic, and technical and infrastructure provide a comprehensive lens through which Thailand’s AI governance ecosystem can be assessed, strengthened, and scaled.

The following sections will set out actionable recommendations in each specific policy areas and strategic milestones for each dimension, ensuring that Thailand’s AI strategy is not only future-oriented but also pragmatic, actionable, and deeply rooted in national priorities.

1. LAW AND REGULATION

A clear and adaptive legal framework is essential for supporting responsible AI development and protecting fundamental rights. Thailand should focus on establishing frameworks for data sharing, risk assessment, grievance mechanisms, and ethical AI procurement. A balanced regulatory approach will help foster innovation while reinforcing accountability, fairness, and public trust in AI deployment.

1.1 Establish a National Framework for Data Sharing and Trusted Data Pooling

Thailand should stablish a clear legal framework to support data sharing and create trusted data pooling between the public and private sectors. Government agencies should lead by providing high-quality open government data in standardized, machine-readable formats to enhance accessibility for AI training and research. The framework must prioritize the reuse of non-personal and anonymized datasets under strong privacy and ethical safeguards. Beyond the public sector, data-sharing mechanisms should be established to encourage private sector participation through incentive structures and risk-governance model that balance competitive interests with the protection of individual rights. Strategic prioritization of high-value datasets, driven my user demand, will help lay the foundation for ethical, resilient, and socially beneficial AI development in Thailand.

Timeline: 2025-2026

Priority: High

1.2 Strengthen Legal Safeguards for Human Rights and Algorithmic Accountability

To promote fair and transparent AI governance, the Personal Data Protection Act (PDPA) should be enhanced to guarantee the rights of individuals to object to automated decision-making and profiling where such processing significantly impacts their rights or access to services. Given that AI systems often rely on personal data to make predictions or decisions, clear legal pathways for objections are essential to safeguard individual autonomy and build public trust.

Additionally, individuals should be able to challenge and appeal automated outcomes that significantly affect them, especially when they affect critical areas such as public services, credit, employment, or education. These rights would strengthen public accountability and ensure that AI systems respect fairness, transparency, and due process. Enhancing these legal safeguards would help bridge current regulatory gaps and reinforce trust in AI-driven decision-making.

Timeline: 2025–2030

Priority: Low

1.3 Establish Risk Assessment Framework

Thailand should develop a national risk assessment framework to systematically identify, evaluate, and mitigate the potential harms associated with AI systems, particularly those classified as high-risk. This framework should outline clear criteria for assessing AI risks to fundamental rights, safety, fairness, and transparency, and offer practical tools for both public and private sector developers to evaluate their systems throughout the AI lifecycle.

The framework should initially focus on high-impact or high-risk use cases, such as AI systems used in healthcare, law enforcement, finance, education, and critical public services—where errors, bias, or lack of oversight could result in significant harm to individuals or society. For high-risk AI systems, policymakers should also consider requiring insurance or liability coverage schemes to ensure adequate compensation in cases of harm, especially when legal responsibility cannot be clearly assigned.

While the framework should not impose unnecessary regulatory burdens on low-risk innovation, it should strongly encourage risk-based self-assessment, documentation, and transparency practices for any AI system that affects human decision-making or public trust. The framework can be integrated into existing regulatory sandboxes, procurement processes, or audit mechanisms to ensure responsible AI deployment.

Timeline: 2025-2026

Priority: High

1.4 Establish AI procurement guideline

Thailand has set up a special committee to oversee government procurement of computer systems, requiring agencies to obtain approval for projects exceeding 100 million baht. However, the committee's considerations focus only on technical feasibility and financial efficiency, while neglecting the ethical implications and potential impacts of AI on human rights. Additionally, there are currently no guidelines in Thailand for evaluating human rights risks during AI procurement, leading to an increase in the deployment of opaque systems in public services.

In comparison to international practices, such as the United Kingdom, having AI procurement guidelines is essential for public agencies. This guideline could assist agencies in evaluating their AI needs by providing clear instructions and recommendations for acquiring AI systems. It can also emphasize the importance of ethical considerations in the procurement process aligning with UNESCO's Ethical Impact Assessment, ensuring a responsible evaluation of suppliers and the adoption of AI technologies that serve the public's best interests.

Timeline: 2025-2030

Priority: Low

2. INSTITUTIONAL FRAMEWORK AND GOVERNANCE

Establishing a robust institutional framework is critical to advancing Thailand's National AI Strategy and promoting responsible AI development. Developing a monitoring and evaluation (M&E) mechanism, building a system for AI testing and standards, and establishing national level of AI governance will help ensure that AI policies remain effective, transparent, and responsive to evolving national and global challenges.

2.1 Develop Thailand's National AI Strategy Monitoring and Evaluation (M&E) mechanism

The achievements of Thailand's National AI Strategy and Action Plan (2022–2027) are outlined in the National AI Strategy Annual Report. Even though the National AI Strategy's annual report provides a broad overview of each strategy achievement. It does not specify more details about the plan's evaluations, limitations, or challenges in the implementation phase. As a result, the annual report does not serve as an effective measure for assessing the plan's implementation.

To effectively assess the implementation of the plan, adopting a Monitoring and Evaluation (M&E) mechanism is essential. M&E is a systematic process that enables organizations to measure the performance, effectiveness, and impact of programs, projects, or policies. Monitoring ensures activities align with objectives, identifying inefficiencies and delays, while evaluation provides deeper analysis of relevance, efficiency, and outcomes to determine whether goals have been achieved.[142] A robust M&E framework typically includes key performance indicators (KPIs), data collection methods, reporting structures, and feedback loops, supporting informed decision-making and continuous improvement.[143] It enhances transparency, accountability, and strategic planning, ensuring initiatives remain effective and aligned with their intended purpose.[144]

Thailand should establish an M&E mechanism to assess the effectiveness of the National AI Strategy, ensuring that its implementation is data-driven and results-oriented. This would provide a structured approach to evaluating real performance, optimizing resources, and maintaining efficiency and accountability. The National AI Committee could serve as the primary agency responsible for M&E, overseeing execution and driving the strategy forward while ensuring its alignment with national objectives.

Timeline: 2025-2026

Priority: High

142 "Me-Handbook," accessed April 29, 2025, http://web.undp.org/evaluation/documents/handbook/me-handbook.pdf.

143 "Demystifying the M&E Framework: A Guide for Effective Evaluation," EvalCommunity (blog), accessed April 29, 2025, https://www.evalcommunity.com/career-center/me-framework/.

144 "Introduction to Monitoring and Evaluation: The Basics," EvalCommunity (blog), https://www.evalcommunity.com/career-center/monitoring-and-evaluation-basics/.

2.2 Strengthen Thailand's Existing NQI for AI and Establish a Dedicated AI Testing Infrastructure

Thailand already has the foundational elements of a National Quality Infrastructure (NQI)—including metrology, standardization, accreditation, and conformity assessment bodies—but these systems are not yet fully prepared to support the unique demands of AI technologies. To ensure AI systems developed or deployed in Thailand are safe, trustworthy, and internationally interoperable, the country must urgently adapt its NQI to be AI-ready and simultaneously establish a dedicated infrastructure for AI testing.

This involves:

- Upgrading Accreditation Systems: Ensure that existing accreditation mechanisms are capable of certifying laboratories and conformity assessment bodies (CABs) specifically for AI-related evaluations, including fairness, explainability, and robustness testing.
- Expanding CAB Capabilities: Promote the development and recognition of Thai CABs that can perform AI-specific conformity assessments, covering both algorithmic behavior and data governance.
- Adapting Metrology and Standardization: Equip Thailand's national metrology and standardization systems with the tools and expertise to measure and validate AI-specific indicators, including performance benchmarking and probabilistic outputs.
- Establishing AI Testing Facilities: Build dedicated infrastructure for AI system testing. These facilities would simulate real-world conditions and evaluate AI systems prior to deployment, especially in high-risk sectors like healthcare, mobility, and public administration.
- Market Surveillance for AI: Leverage existing market surveillance mechanisms and adapt them for continuous monitoring of AI systems post-deployment, to detect systemic risks or violations of standards.

By preparing the national NQI system to accommodate AI and filling the current testing infrastructure gap, Thailand can lay the groundwork for trusted, safe, and export-ready AI ecosystems—aligned with international frameworks and resilient against emerging risks.

Timeline: 2025-2026

Priority: High

2.3 Establish National-level AI Governance and Promote International Cooperation

Thailand should explore the establishment of a dedicated AI Governance and Policy Center, leveraging existing expertise within the Electronic Transactions Development Agency (ETDA). Over time, this center could evolve into a UNESCO Category 2 Center (C2C), serving as a regional hub for ethical AI implementation, policy development, and capacity building in ASEAN and aligned with UNESCO's Recommendation on the Ethics of AI. For international cooperation, such Centre can be associated with the UNESCO Global Observatory on the Ethics of AI. The C2C model would further position Thailand as an active contributor to South-South knowledge exchange and inclusive AI governance, enhancing the country's influence in regional and global dialogues on responsible AI through international cooperation.

Timeline: 2025–2026

Priority: High

3. CAPACITY BUILDING

As AI becomes a cornerstone of global economic transformation, Thailand must enhance its human capital to remain competitive. Building a workforce that can develop, deploy, and work alongside AI technologies is essential not only for sustaining productivity growth but also for ensuring inclusive access to emerging job opportunities. This requires a coordinated national effort to modernize education, incentivize continuous learning, and attract high-caliber global talent. The following policy recommendations aim to equip Thailand's workforce with the necessary skills and capabilities to thrive in an AI-enabled future.

3.1 Integrate AI Literacy and Ethics into the National Education Curriculum (K to 12 or Higher Education), including teacher training and certification program

Thailand has made initial progress in integrating AI and related subjects into the national education system, particularly through efforts by the Ministry of Education and the MHESI. Current initiatives mainly focus on technical competencies such as programming, data science, and machine learning. However, ethical, societal, and governance aspects of AI remain significantly underrepresented in curricula, and early assessments indicate a persistent skills gap, particularly in aligning education outcomes with labor market demands. Coordination between educational institutions and industry also remains limited.

To build a comprehensive and future-proof education system, it is critical to expand the curriculum across all levels—from K-12 to higher education—to systematically incorporate AI literacy, ethics, and responsible innovation. Students must not only learn how to build AI systems, but also understand how to design, deploy, and manage AI technologies in a safe, fair, and socially responsible manner. In this time of major technological revolution, the education system should be revisited along two parallel tracks, to actively foster youth's intellectual immunity in the face of misinformation, disinformation, and technological solutionism: (i) integrating specific AI-focused contents that tackle all dimensions (technical and sociocultural); and (ii) enhancing the quality of the teaching and learning methods in the existing disciplines and subject matters that develop critical and creative thinking, such as humanities, social studies, and civic education.

In parallel, teacher training and certification programs should be developed to equip educators with the skills needed to teach AI concepts effectively, including both technical and ethical dimensions. Ongoing monitoring and evaluation mechanisms should be established to measure the impact and effectiveness of AI education initiatives over time. The UNESCO AI Competency Framework for Teachers and for Students should guide and inform these initiatives.

Finally, partnerships between academia, vocational institutions, and the private sector should be strengthened to better align academic programs with real-world applications and industry needs. Cross-sector collaboration will be critical to closing the talent gap, ensuring AI education remains dynamic and responsive to evolving technological and societal priorities.

Timeline: 2025-2026

Priority: High

3.2 Labor incentives and programs for upskilling and reskilling

As AI and digital technologies advance rapidly, Thailand's workforce faces growing pressure to adapt. Many existing jobs are at risk of disruption, and new roles increasingly require digital literacy and AI-related competencies. While some upskilling and reskilling initiatives have been introduced by both public and private sectors, participation remains uneven, especially among workers in informal employment or SMEs. Without stronger incentives, large segments of the workforce risk being left behind in the digital transition.

To accelerate human capital development, the government should implement labor incentives that encourage upskilling and reskilling, especially in AI and digital domains. These could include tax deductions or subsidies for companies that invest in employee training, as well as stipends or learning credits for individuals who pursue certified courses. Special attention should be given to workers in vulnerable sectors to ensure equitable access. Public-private partnerships should also be leveraged to co-develop relevant training programs and platforms, creating a more inclusive and future-ready workforce.

Timeline: 2025-2026

Priority: High

3.3 Establish AI training course

Thailand is advancing digital skills through the DGA. Therefore, the DGA establishes the "Thailand Digital Government Academy (TDGA)" to provide training for government agencies, collaborating with the Office of the Civil Service Commission (OCSC) to develop a digital skills curriculum for public employees. However, the TDGA's courses are exclusively available to IT staff, not to all government employees. Additionally, the training overlooks topics related to AI governance and ethics.

To enhance the skills and knowledge of government employees regarding AI, it is essential to develop an "AI training course." This course should emphasize a comprehensive understanding of fundamental AI concepts, effective applications of AI within the public sector, and the importance of AI ethics and governance. Therefore, such a framework will empower government employees to view AI not just as a tool, but as a responsibility that requires thoughtful and ethical utilization.

Timeline: 2025-2026

Priority: High

4. INCLUSION AND WELL-BEING

Thailand's digital transformation must be guided by an integrative framework that prioritizes both inclusion and well-being, ensuring that technological advances extend beyond infrastructure deployment to deliver equitable usability and meaningful benefits for all societal groups—including the elderly, children, persons with disabilities, low-income populations, and ethnic minorities. Without targeted inclusion strategies, the nation risks perpetuating a "layered digital divide" that compounds disparities in health, education, and economic opportunity, as evidenced by gender imbalances in STEM education and the dearth of indigenous-language digital resources. To mitigate these risks, policy interventions should embed community participation and cultural preservation within co-creative innovation processes, tailor digital services to the socio-cultural contexts of vulnerable groups and enforce rigorous ethical standards in AI development. Such a holistic approach will foster sustainable development, strengthen public trust in digital ecosystems, and ensure that the benefits of technological progress are distributed transparently, equitably, and durably across Thailand's diverse population.

4.1 Ensure Universal Design and Accessibility Standards.

Despite Thailand's commitment to digital inclusion, AI-powered government portals and health applications frequently remain inaccessible to older adults, persons with disabilities, and low-literacy users. Current development contracts seldom embed rigorous accessibility requirements, and end-users report difficulty in navigating essential services—undermining trust in e-government initiatives and perpetuating exclusion.

To rectify this, Thailand should encourage Universal Design Principles within all AI and digital-service procurement processes. Accessibility criteria, covering screen-reader compatibility, simplified interfaces, and multilingual support, should be included in the procurement criteria of public AI. Such a framework will ensure that technological innovation advances equitably, empowering all citizens to engage fully with public services.

Timeline: 2025–2028

Priority: Medium

4.2 Enhancing Digital Literacy and AI Competencies for Vulnerable Groups

Although rural broadband expansion has markedly improved connectivity, significant digital-skill gaps persist among seniors, low-income households, and ethnic-minority communities. Without targeted training, these groups struggle to leverage e-health platforms, e-government portals, and digital financial services, thereby exacerbating socioeconomic vulnerabilities.

To address these disparities and build both AI and digital capabilities, Thailand should establish Boot Camps—offering hands-on workshops in AI-driven tools (e.g., voice assistants, mobile banking) alongside digital-safety training, particularly in rural areas where elderly and low-income populations have limited access to technology.

Timeline: 2025–2026

Priority: High

4.3 Preserve Cultural and Linguistic Diversity through AI initiatives

Thailand's artificial intelligence (AI) ecosystem remains predominantly centered on Central Thai, marginalizing speakers of regional dialects and ethnic minority languages that lack extensive, annotated linguistic resources. This homogeneity restricts equitable access to natural language processing (NLP) technologies and endangers the preservation of cultural heritage and linguistic diversity.

To redress this imbalance, the Thai government—working in partnership with local communities and academic institutions—should initiate a Dialectal Corpora Project. This effort would ethically collect, annotate, and curate speech and text datasets for regional dialects and hill-tribe languages, thereby enabling the creation of culturally authentic translation tools, educational platforms, and digital-heritage applications. By equipping AI systems to process the full spectrum of Thailand's linguistic variation, the project will foster inclusive technological innovation and contribute to the long-term safeguarding of the nation's rich linguistic heritage.

Timeline: 2025–2030

Priority: Low

4.4 Develop Community-Centric AI Co-Creation Platforms.

Top-down AI deployments often fail to resonate with local realities, resulting in low adoption and inadequate problem-solving. Without direct community input, precision-agriculture tools or heritage-site guides risk being technically advanced yet socially irrelevant.

Inspired by DEPA's Smart City Ambassadors, Thailand should establish AI Co-Creation Hubs in both rural and urban locales. These labs will convene residents, SMEs, NGOs, and academic researchers for hackathons, user-testing workshops, and ethics dialogues—co-designing AI solutions that reflect lived experiences. By integrating digital-human capability courses, these hubs will transform community members into active co-designers rather than passive recipients.

Timeline: 2025–2028

Priority: Medium

5. INVESTMENT ECOSYSTEM

To unlock Thailand's digital and AI-driven economy potential, a more robust and inclusive investment ecosystem is essential. Current gaps in funding, data infrastructure, and startup ecosystem impede innovation and growth. Addressing these challenges requires a coordinated approach to foster investor confidence, support startups, and build capacity. Four key strategies can strengthen the investment landscape, namely enhancing venture capital engagement, attracting quality foreign direct investment, improving data infrastructure, and optimizing incentives. These complementary solutions address critical barriers while working synergistically to promote sustainable digital development, ultimately positioning Thailand as a competitive regional digital hub.

5.1 Establish a National AI Consultancy Support Program to assist businesses and SMEs in AI solution adoption, including funding for solution design and technical training

To accelerate AI adoption among businesses and small and medium-sized enterprises (SMEs), Thailand should establish a National AI Consultancy Support Program aimed at providing targeted assistance for solution design and technical training. This program would offer expert consulting services to identify AI use cases that align with business objectives and sector-specific needs. Additionally, it would facilitate the design of fit-for-purpose AI solutions that are tailored to industry-specific challenges and opportunities. To lower the barriers to adoption, the program would also provide grants, vouchers, and co-funding mechanisms to support consultancy, prototyping, and training activities, ensuring that businesses, particularly SMEs, can access the expertise and resources needed to effectively integrate AI technologies. The initiative is prioritized for 2025–2026 with a high priority status, reflecting its strategic importance in boosting digital competitiveness and economic resilience.

Timeline: 2025 – 2026

Priority: High

5.2 Encourage AI-related infrastructure investment

The government should collaborate with relevant financial institutions to alleviate external uncertainties for the private sector, particularly concerning changes in data-related policies that may affect the effectiveness of AI-focused hyperscale data centers. For example, regulations around data localization could limit the ability of investors to integrate data from international sources. This collaboration could include providing investor access to risk assessment services with incentives such as reduced insurance premiums.

Additionally, beyond hyperscale data centers driven by global tech firms, Thailand should prioritize the development of smaller-scale data centers, such as edge and modular facilities, to enhance on-site analytical capacity, precision, and AI processing speed. This infrastructure could significantly improve user experience, supporting AI adoption in local areas, including smart cities. These data centers are designed to be energy-efficient, helping to reduce the costs of AI development across the country. Furthermore, the expansion of edge and modular data center investments should be strategically directed towards rural and provincial areas beyond major metropolitan zones, where current data infrastructure is predominantly concentrated. This shift would facilitate broader AI deployment, bridge the technology gap, and promote balanced technological development nationwide.

Timeline: 2025 - 2026

Priority: High

5.3 Strengthen Investments in Data Pooling

To enhance data-driven innovation and sectoral competitiveness, Thailand aims to strengthen investments in data pooling across 10 strategic sectors by building sectoral single dataspaces. This initiative is designed to encourage collective data sharing and aggregation, enabling participants to access richer datasets that improve analytics and AI capabilities. As part of this strategy, exclusive rights to access pooled data will be granted to private participants as an incentive, while developers will have affordable service fees to utilize the data for innovation and solution development.

Additionally, the government will prioritize upgrading its datasets, particularly in critical areas such as geospatial and mobility data, to enhance the value and reliability of shared information. This upgrade is crucial for ensuring that public-private data sharing is both efficient and beneficial, supporting nationwide digital transformation. The initiative is scheduled for implementation between 2025 and 2027 and is considered a high priority due to its potential to accelerate Thailand's digital economy and AI adoption.

Timeline: 2025 - 2026

Priority: High

5.4 Unlocking Green Energy for Sustainable Data Center Expansion

A major barrier for expanding green and energy-efficient data centers in Thailand is the limited availability of renewable energy production. While global tech investors increasingly require green energy sources for their data centers, Thailand's current renewable energy capacity remains insufficient to meet growing demand. To address this, the government should accelerate investments in solar, wind, and hydropower projects, focusing on scaling up production capacity. Initiatives such as Public-Private Partnerships (PPPs) and green energy bonds could be explored to fund large-scale renewable energy infrastructure.

Furthermore, regulatory support is needed to open direct Power Purchase Agreements (Direct PPA) and enable Third Party Access (TPA) for electricity supply. Currently, private sector entities cannot directly supply power to data centers, limiting renewable energy adoption. By allowing direct PPA and third-party grid access, clean energy producers could supply electricity directly to data centers, bypassing current regulatory constraints. This change would enable more sustainable data center expansion and facilitate broader AI deployment.

Additionally, microgrids and distributed energy generation in rural areas should be supported to localize green power, enhancing the sustainability and reliability of energy supplies for edge and modular data centers across Thailand.

Timeline: 2025 - 2026

Priority: High

6. R&D AND INNOVATION

Strengthening research and innovation is key to ensuring that AI development in Thailand remains adaptive, ethical, and globally competitive. Targeted legal reforms and institutional support can help unlock this potential. These three key actions will contribute to a more robust and responsible AI ecosystem.

6.1 Elevate Thailand's R&D Investment to 2.5 percent of GDP by 2030

According to UNCTAD, share of AI in frontier technology market in 2023 is at 7 percent, which projects to increase to 29 percent in ten years. The forecast represents the importance of increasing the size of the AI market as well as corporate and private sector R&D spending, to keep up with the global trend.

Currently, Thailand ranked is not outstanding in Global Innovation Index (ranked by the World Intellectual Property Organization). In 2024, its rank in human capital and research is at 71 among 133 countries reflecting the low proportion of R&D spending on innovation development. However, the country has a high innovation output relative to its innovation input, reflecting efficient resource utilization and indicating a strong potential for Thailand's research to thrive.

Thailand's current R&D expenditure at 1.21 percent of GDP in 2024 while the percentage share in GDP of R&D decreases from 2023, it shows a rising trend since 2013 indicating the upward trend of the R&D spending in the country. However, the proportion of R&D remains low, ranked 34 among 133 countries. To enhance its competitiveness and foster economic growth, Thailand should aim to increase its R&D spending to 2.5 percent of GDP by 2030, with a dedicated sub-allocation of 0.5–0.7 percent of GDP for AI-specific research and innovation. This target aligns with the OECD average and positions Thailand to better compete with other nations in the region.

Thailand remains primarily an importer of AI technology, positioning itself more as a user than a developer. As such, increasing investment in AI R&D may initially appear counterintuitive. However, it is crucial that the country allocate research funding strategically to areas where it can add the most value. Rather than focusing on foundational model development, Thailand should emphasize applied research aimed at optimizing and contextualizing AI technologies. It could focus its research funding on the research themes related to the application of AI, such as impact of AI adoption, education and workforce training for AI integration, sector-specific AI applications such as AI in business processes, decision support systems, energy, manufacturing, medical services, and social science. Moreover, the country should not neglect its research funding related to AI development including support for open-source AI models, computing infrastructure, and interdisciplinary research hubs. Additionally, it should focus its resources on solutions that could help substitute its import and support domestic start-ups by reducing their cost.

Timeline: 2025–2026

Priority: High

6.2 Define Copyright Exceptions for Text and Data Mining (TDM) and Strengthen Patent Guidelines for AI

Thailand should begin studying and developing a clear legal framework to support Text and Data Mining (TDM) activities in line with the country's digital and AI development goals. This includes exploring the possibility of introducing a specific exception under the Copyright Act for non-commercial TDM uses, particularly for research, education, and public-interest innovation. In parallel, Thailand should consider fair and balanced models for commercial TDM activities, including appropriate remuneration or licensing mechanisms to protect rights holders while enabling innovation.

Simultaneously, strengthening patent guidelines for AI is necessary to address emerging challenges in AI-related inventions. Updated guidelines would provide clarity on how AI innovations are protected, setting clear criteria for novelty, technical application, and the use of training datasets in patent claims. This would create legal certainty, incentivize innovation, and protect intellectual property rights in the evolving AI landscape.

Timeline: 2025–2028

Priority: Medium

6.3 Developing Regulatory Sandbox for AI Innovation

A Regulatory Sandbox should provide a supervised framework where AI applications can be deployed under temporary regulatory flexibility, allowing authorities to evaluate legal, ethical, and societal implications before broader adoption, this will ensure that there would be no adverse effects for the technology before commercialized.

One illustrative example is the case of autonomous vehicles (AVs). These systems raise complex regulatory questions around liability, data protection, algorithmic transparency, and road safety. A regulatory sandbox would allow AV developers to conduct limited trials, such as geo-fenced testing zones or designated public routes, under close regulatory supervision. This enables policymakers to observe system behavior, assess potential harm, and consult with affected stakeholders, such as insurers, city authorities, and pedestrians, before enacting permanent rules. Such an approach reduces the risk of premature or overreaching regulation while supporting evidence-based policymaking.

The sandbox model can be applied across other high-risk AI use cases, such as AI in health diagnostics, credit scoring, or predictive policing, where real-world data is essential for understanding how algorithmic decisions impact individual rights and social systems. By institutionalizing this mechanism, Thailand can improve regulatory agility, foster trust in AI innovation, and ensure that its legal frameworks evolve in step with technological change.

Timeline: 2025-2028

Priority: Medium

6.4 Strengthen Scientific Research and Institutional Collaboration

To drive ethical and sustainable AI innovation, Thailand must empower its universities and research institutions to lead in foundational and ethical AI research. This includes enhancing support for academic freedom and promoting open, inclusive, and interdisciplinary research that addresses both technical and societal challenges of AI. Institutional collaboration should be aligned with international frameworks such as UNESCO's 2017 Recommendation on Science and Scientific Researchers, ensuring that research activities are grounded in global best practices and ethical principles.

Furthermore, the scope of AI research should be expanded beyond purely technological considerations to include critical social, legal, and cultural dimensions. Addressing these broader aspects will not only improve the societal impact of AI but also enhance public trust and acceptance of emerging technologies. By reinforcing scientific research and strengthening institutional collaboration, Thailand can position itself as a leader in responsible AI development that is inclusive, rights-based, and globally aligned.

Timeline: 2025-2030

Priority: Low

Table 1 provides a summary of the recommendations presented in this report, organized by specific policy areas and strategic milestones for each dimension. It also proposes an implementation timeframe, aligned with their priority levels in advancing the implementation of UNESCO's recommendations.

Table 1: Overview of Policy Recommendations

DIMENSION	NO.	RECOMMENDATION	TIMELINE	PRIORITY
Laws and regulations	1.1	Establish a National Framework for Data Sharing and Trusted Data Pooling	2025–2026	High
	1.2	Strengthen Legal Safeguards for Human Rights and Algorithmic Accountability	2025–2030	Low
	1.3	Establish Risk Assessment Framework	2025–2026	High
	1.4	Establish AI procurement guideline	2025–2030	Low
Institutional frameworks and governance	2.1	Develop Thailand's National AI Strategy Monitoring and Evaluation (M&E) mechanism	2025-2026	High
	2.2	Strengthen Thailand's Existing NQI for AI and Establish a Dedicated AI Testing Infrastructure	2025-2026	High
	2.3	Establish National-Level AI Governance and Promote International Cooperation	2025–2026	High
Capacity building	3.1	Integrate AI Literacy and Ethics into the National Education Curriculum (K to 12 or Higher Education), including teacher training and certification program	2025-2026	High
	3.2	Labor incentives and programs for upskilling and reskilling	2025-2026	High
	3.3	Establish AI training course	2025-2026	High
Inclusion and well-being	4.1	Ensure Universal Design and Accessibility Standards.	2025-2028	Medium
	4.2	Enhancing Digital Literacy and AI Competencies for Vulnerable Groups	2025-2026	High
	4.3	Preserve Cultural and Linguistic Diversity through AI initiatives	2025–2030	Low
	4.4	Develop Community-Centric AI Co-Creation Platforms	2025-2028	Medium

DIMENSION	NO.	RECOMMENDATION	TIMELINE	PRIORITY
Investment ecosystem	5.1	Establish a National AI Consultancy Support Program to assist businesses and SMEs in AI solution adoption, including funding for solution design and technical training	2025-2026	High
	5.2	Encourage AI-related infrastructure investment	2025-2026	High
	5.3	Strengthen investments in data pooling	2025–2026	High
	5.4	Unlocking Green Energy for Sustainable Data Center Expansion	2025–2026	High
R&D and Innovation	6.1	Elevate Thailand's R&D Investment to 2.5 percent of GDP by 2030	2025-2026	High
	6.2	Define Copyright Exceptions for Text and Data Mining (TDM) and Strengthen Patent Guidelines for AI	2025–2028	Medium
	6.3	Developing Regulatory Sandbox for AI Innovation	2025–2028	Medium
	6.4	Strengthen Scientific Research and Institutional Collaboration	2025–2030	Low

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