Developing Artificial Intelligence Legislation in Thailand: Lessons from the European Union

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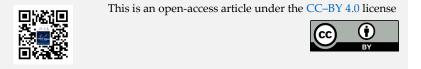* Corresponding Author: drstanati@gmail.com

ARTICLE INFO

ABSTRACT

Artificial Intelligence (AI) is a transformative technology driving global digital transformation, significantly impacting daily life and business operations. As AI continues to advance and integrate into various sectors, the need for a well-defined regulatory framework becomes increasingly urgent. This study investigates the development of AI legal frameworks in the European Union (EU) and Thailand, analyzing their legislative approaches, priorities, and regulatory structures. Utilizing a qualitative research methodology, this study examines legislative documents, policy reports, and expert analyses to identify key similarities and differences. The findings indicate that both jurisdictions adopt a research-based and collaborative approach to AI regulation. However, while the EU prioritizes fundamental rights protection in its legal framework, Thailand places greater emphasis on fostering business growth and technological innovation, with comparatively fewer safeguards for fundamental rights. This divergence has resulted in distinct regulatory obligations, particularly for high-risk AI systems. The study concludes that Thailand could benefit from adopting aspects of the EU's regulatory approach to achieve a more balanced framework—one that not only promotes AI-driven economic growth but also ensures stronger protections for fundamental rights and ethical considerations.

1. Introduction

Artificial Intelligence (AI) is a rapidly advancing technology that has the potential to deliver a wide array of shared advantages across various sectors and social spheres.[1] Innovations in AI such as deep learning technology, have empowered machines with the extraordinary ability to analyze and learn from extensive datasets to make forecasts and produce results.[2] AI has found

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[1] Ajay Agrawal, Joshua S. Gans, and Avi Goldfarb, 'Artificial Intelligence', The Journal of Economic Perspectives, 33.2 (2019), pp. 31–50 https://www.jstor.org/stable/26621238

[2] Yongjun Xu and others, 'Artificial Intelligence: A Powerful Paradigm for Scientific Research', The Innovation, 2.4 (2021), p. 100179. https://doi.org/10.1016/j.xinn.2021.100179

applications in a diverse range of fields surrounding human daily activities,[3] whether that be financial supportive systems, medical diagnostic software, advertising, automated hiring systems, education, and facial recognition in the criminal justice system, with a primary aim to overcome previous human error.[4]

However, misuse of AI can lead to negative societal consequences such as fraud, discrimination, bias, misinformation, displacement of workers, suppression of competition, violations of privacy, and threats to national security. AI technologies currently affect every category of fundamental rights as outlined in international human rights treaties, including civil and political rights, as well as economic, cultural, and social rights.[5] AI's effects on fundamental rights are not evenly spread across society, with certain individuals and groups experiencing stronger impacts. In some cases, specific AI applications can enhance the enjoyment of fundamental rights for some while diminishing it for others. A question of interest is therefore whether the development of legal regulation has kept pace with the development of AI.[6]

Examining AI through a human rights lens underscores its significant impact on fundamental rights, highlighting concerns that the existing international human rights legal framework may be insufficiently comprehensive. A key issue is the lack of clarity regarding the roles and responsibilities of various stakeholders involved in the development and implementation of AI, including private enterprises and government entities. In response to these challenges, some jurisdictions have taken proactive steps in establishing regulatory frameworks for AI governance. Notably, the European Union (EU) and Thailand have developed legal frameworks to regulate AI. The EU, in particular, has led global efforts by enacting the Artificial Intelligence Act, which is widely regarded as the first comprehensive AI law in the world.[7]

The EU has undertaken the regulation of AI as part of its broader digital strategy and Digital Decade Policy 2030, aiming to create favorable conditions for AI

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[3] Jason Furman and Robert Seamans, 'AI and the Economy', *Innovation Policy and the Economy*, 19 (2019), pp. 161–91, https://doi.org/10.1086/699936

[4] Habil Csongor Herke, Barbara Szabó, "Self-Driving Vehicles and Their Impact on the European Convention on Human Rights", Journal of Human Rights, Culture and Legal System, Vol. 4 No. 3 (2024), https://doi.org/10.53955/jhcls.v4i3.376

[5] Irakli Beridze James Butcher, 'What Is the State of Artificial Intelligence Governance Globally?', *The Rusi Journal*, 164.5–6 (2019), 88–96 https://doi.org/https://doi.org/10.1080/03071847.2019.1694260

[6] Johann Laux, Sandra Wachter, and Brent Mittelstadt, 'Three Pathways for Standardisation and Ethical Disclosure by Default under the European Union Artificial Intelligence Act', *Computer Law & Security Review*, 53 (2024), 105957 https://doi.org/https://doi.org/10.1016/j.clsr.2024.105957

[7] Muhammad Danish Danial Bin Mohamed Anuar and others, 'Investigating the Impacts of ASEAN-EU Comprehensive Air Transport Agreement on the Carriers' Competitive Dynamics', *Journal of Air Transport Management*, 124 (2025), 102739 https://doi.org/https://doi.org/10.1016/j.jairtraman.2025.102739

utilization and advancement. The European Union Artificial Intelligence Act (EU AI Act) was published in the Official Journal of the EU on July 12, 2024, and officially entered into force on August 1, 2024.[8] This landmark legislation represents the first comprehensive horizontal legal framework for AI regulation across the EU. The regulation primarily addresses critical concerns related to AI governance, with a strong emphasis on safeguarding fundamental rights. Its well-structured provisions establish a robust foundation for addressing emerging challenges associated with AI technologies. Furthermore, the EU AI Act reflects the EU's commitment to ensuring that AI systems are safe, transparent, traceable, non-discriminatory, and environmentally sustainable, reinforcing ethical and responsible AI development.[9]

Another jurisdiction is Thailand, poised to be the first country in the Association of Southeast Asian Nations (ASEAN) to enact legislation to regulate AI. Whereas the European Union's Artificial Intelligence has already entered into force, the Thai legal framework is currently in the form of a draft open to public consultation. As such, before enacting the draft legislation into law, Thailand still has an opportunity to revise the draft, possibly drawing some lessons from the European Union's AI Act.[10]

The governance of Artificial Intelligence (AI) has become a focal point of growing scholarly and policy discourse as governments globally endeavor to reconcile technical advancement with ethical and legal imperatives. The EU has led in AI governance by implementing the Artificial Intelligence Act (EU AI Act), the first extensive legal framework for AI regulation globally. The EU AI Act employs a risk-based framework, enforcing more stringent requirements on high-risk AI systems while promoting innovation via regulatory sandboxes.[11] Academics contend that this framework functions as an international standard, shaping AI regulations in several regions, including Asia. In contrast, studies on AI regulation in Thailand are notably few. Current research predominantly

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[8] Aprajita Kaushik and others, 'Challenges and Opportunities for Data Sharing Related to Artificial Intelligence Tools in Health Care in Low- and Middle-Income Countries: Systematic Review and Case Study From Thailand', *Journal of Medical Internet Research*, 27 (2025) https://doi.org/https://doi.org/10.2196/58338

[9] Eirini Michailidou and others, 'Nuclear Education and Training Activities of the Joint Research Centre of the European Commission: Maintaining and Enhancing Nuclear Skills and Competences', *Nuclear Engineering and Design*, 423 (2024), 113087 https://doi.org/https://doi.org/10.1016/j.nucengdes.2024.113087

[10] Saowapha Limwichitr, 'Academic Library 4.0 and Beyond: Investigating Adaptation of Academic Libraries in Thailand Towards a 4.0 Landscape', *The Journal of Academic Librarianship*, 50.2 (2024), 102857 https://doi.org/https://doi.org/10.1016/j.acalib.2024.102857

[11] James Butcher.

examines Thailand's digital economy policies and the function of AI in economic advancement.[12]

The Thailand National AI Strategy seeks to enhance AI integration in critical sectors; yet, its legislative framework is nascent and deficient in comprehensive regulatory structures akin to those in the EU. Research indicates that Thailand's regulatory framework promotes economic development and commercial competitiveness, while placing relatively less importance on fundamental rights protections and AI ethics.[13] Comparative research on AI governance between the EU and Thailand is currently developing. Scholars contend that Thailand can derive insights from the EU's experience, especially in formulating explicit legal responsibilities for high-risk AI systems and instituting measures to safeguard fundamental rights and ensure AI transparency. This research expands on current literature by examining Thailand's advancements in AI regulation and extracting insights from the EU's regulatory framework to suggest a balanced legal structure that fosters both innovation and responsible AI development.[14]

This research follows the development of AI regulation in the European Union and Thailand and points out what lessons can the Thai legal framework on AI learn from the European Union's AI Act.

2. Research Method

This research was conducted at the Research Center of Private International Law (CREDIP), Faculty of Law, University of Lyon III. It employs a legal desk study methodology, analyzing relevant legislative acts, policy reports, and other legal documents. To examine the European regulatory framework, key sources include the Recommendations on Civil Law Rules on Robotics, the EU White Paper on Artificial Intelligence, the Ethics Guidelines, the Policy and Investment Recommendations for Trustworthy AI, and the Impact Assessment of the AI Regulation. For the Thai AI legal framework, the study focuses on existing legislation and policy documents issued by governmental bodies, policymakers, and regulatory agencies. Primary sources were collected from the Ministry of Digital Economy and Society of Thailand (MDES), the National Electronics and Computer Technology Center (NECTEC), the Academic and Legal Database of Government Agencies under the Parliament, the National Science and Technology Development Agency (NSTDA), and the Office of the Council of State. Key documents under analysis include the Draft Promotion and Support of Artificial Intelligence Innovation Act, the Draft Royal Decree on Business Operations Using AI Systems, the Draft AI Policy, and the AI Risk Assessment Draft. Additionally,

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[12] Bin Mohamed Anuar and others.

[13] Limwichitr.

[14] Laux, Wachter, and Mittelstadt.

ethical guidelines such as the Digital Thailand AI Ethics Guideline and the NSTDA AI Ethics Guideline were reviewed to provide further context.

3. Results and Discussion

The Development of the Legal Framework for AI in the European Union

The European Union (EU) has embarked on regulating AI as part of its digital strategy and digital decade policy 2030, to enhance the conditions for its utilization and advancement. A concrete starting point could be said to be in April of 2018, when the European Commission proposed a European strategy for AI as outlined in its communication titled "Artificial Intelligence for Europe." To spearhead the task, the High-Level Expert Group (HLEG) on Artificial Intelligence was established by the European Commission in June of 2018.[15] Within six months of its establishment, in December of 2018, the High-Level Expert Group on AI was able to produce a first draft of the ethics guidelines for trustworthy AI on which open consultation was sought. Also in December of 2018, the European Commission adopted a Coordinated Plan that outlines a series of collaborative actions for both the Commission and member states.[16]

After the open consultation on the ethics guidelines, in April 2019, the High-Level Expert Group on AI then presented its Ethics Guidelines for Trustworthy Artificial Intelligence, the seven key necessities of which were endorsed by the European Commission in June 2019. The momentum continued in the following year, where in February 2020, the European Commission published a White Paper on AI, and the Commission Report on the safety and liability implications of AI, resulting in over 1,215 contributions from a diverse array of stakeholders, including industry representatives, academic professionals, public authorities, international organizations, standardization entities, civil society groups, and individual citizens.[17] In July of the same year, the AI HLEG released an Assessment List for Trustworthy AI for self-evaluation (ALTAI), which has been tested by more than 350 organizations. The following year 2021 marks a significant moment for the development of the legal framework for AI in the European Union. In April of 2021, the European Commission announced the Proposal for a Regulation on Artificial Intelligence, and the Commission Staff Working Document Impact

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[15] Taoufiq El Moussaoui, Chakir Loqman, and Jaouad Boumhidi, 'Decoding Legal Processes: AI-Driven System to Streamline Processing of the Criminal Records in Moroccan Courts', *Intelligent Systems with Applications*, 25 (2025), 200487 https://doi.org/https://doi.org/10.1016/j.iswa.2025.200487

[16] David Ramiro Troitiño, Viktoria Mazur, and Tanel Kerikmäe, 'E-Governance and Integration in the European Union', *Internet of Things*, 27 (2024), 101321 https://doi.org/https://doi.org/10.1016/j.iot.2024.101321

[17] Beatriz Botero Arcila, 'AI Liability in Europe: How Does It Complement Risk Regulation and Deal with the Problem of Human Oversight?', *Computer Law & Security Review*, 54 (2024), 106012 https://doi.org/https://doi.org/10.1016/j.clsr.2024.106012

Assessment laying down harmonized rules on artificial intelligence. To fortify the safe and trustworthy AI aspect of the framework, in 2022, the European Commission released the Standardisation Request in support of safe and trustworthy AI.[18]

In 2023, the legal document to become the EU AI Act started taking shape. On 9 December 2023, a provisional agreement on the legislation was achieved between the European Council and the European Parliament. Following extensive negotiations, the European Artificial Intelligence Act, commonly referred to as the EU AI Act (EU Regulation 1689/2024), was officially published in the Official Journal of the European Union on July 12, 2024.[19] The Act came into effect on August 1, 2024, and will achieve full implementation on August 2, 2026. The objective of this Regulation is to enhance the operation of the internal market by establishing a consistent legal framework specifically for the development, marketing, deployment, and utilization of AI systems within the European Union (EU). This European legal framework aims to foster the adoption of human-centric and reliable AI while ensuring a high standard of protection for health, safety, and fundamental rights. Also, it seeks to mitigate the adverse effects of AI systems within the Union, and promote innovation.[20]

Starting with an iteration in the regional strategy, to which progress was delivered continuously year by year, the manner in which the European Union developed its legal framework for AI can therefore be characterized as active. Moreover, as comments from the public on draft documents through an open consultation process were taken into account, the manner in which the European Union developed its AI legal framework can also be characterized as collaborative, and research and consultation-based. The EU AI Act itself can be characterized as ambitious. It marks the first extensive horizontal legal framework for the regulation of AI throughout the EU.[21] It aims to address significant concerns, particularly focusing on safeguarding fundamental rights which its structure and components demonstrate a solid foundation for addressing future challenges

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[18] Alessandro Mantelero, 'The Fundamental Rights Impact Assessment (FRIA) in the AI Act: Roots, Legal Obligations and Key Elements for a Model Template', *Computer Law & Security Review*, 54 (2024), 106020 https://doi.org/https://doi.org/10.1016/j.clsr.2024.106020

[19] Jan De Bruyne, Orian Dheu, and Charlotte Ducuing, 'The European Commission's Approach to Extra-Contractual Liability and AI – An Evaluation of the AI Liability Directive and the Revised Product Liability Directive', *Computer Law & Security Review*, 51 (2023), 105894 https://doi.org/https://doi.org/10.1016/j.clsr.2023.105894

[20] Federica Casarosa, 'Cybersecurity of Internet of Things in the Health Sector: Understanding the Applicable Legal Framework', *Computer Law & Security Review*, 53 (2024), 105982 https://doi.org/https://doi.org/10.1016/j.clsr.2024.105982

[21] Justin T. Tarka, Patty Shapiro, and Zachary V. Zagger of Ogletree, 'EU Publishes Groundbreaking AI Act, Initial Obligations Set to Take Effect on February 2, 2025', The National Law Review. Volume XIV, Number 211, 2024 https://natlawreview.com/article/eu-publishes-groundbreaking-ai-act-initial-obligations-set-take-effect-february-2

related to AI. It underscores the EU's commitment to ensuring a safe, transparent, traceable, non-discriminatory, and environmentally-friendly use of AI.[22]

Table 1: The Formulation of the EU AI Act

Organizations	Timeline/Progresses
The European Commission (EC)	1. 2018 (April) proposed a European strategy for AI as outlined in its communication titled "*Artificial Intelligence for Europe*." 2. 2018 (June) appointed the High-Level Expert Group on Artificial Intelligence resulting in the creation of two key documents— *the Ethics Guidelines for Trustworthy AI and the Policy*, and *the Investment Recommendations for Trustworthy AI*. 3. 2018 (December) adopted a Coordinated Plan on AI with Member States. 4. 2019 (June) endorsed the seven key necessities for Trustworthy AI identified by the HLEG. 5. 2020 (February) published a White Paper on AI, and the Commission Report on the safety and liability implications of AI, resulting in over 1,215 contributions from a diverse array of stakeholders, including industry representatives, academic professionals, public authorities, international organizations, standardization entities, civil society groups, and individual citizens. 6. 2020 (July) the HLEG released an Assessment List for Trustworthy AI for self-evaluation (ALTAI), which has been tested by more than 350 organizations. 7. 2021 (April) announced the Proposal for a Regulation on Artificial Intelligence, and the Commission Staff Working Document Impact Assessment laying down harmonized rules on artificial intelligence. 8. 2022 (December) released the Standardisation Request in support of safe and trustworthy AI.
The European Parliament (EP)	1. 2017 adopted a Resolution on Civil Law Rules on Robotics 2. 2019 adopted a Resolution on a Comprehensive European Industrial Policy on Artificial Intelligence and Robotics. 3. 2020 (June) established a Special Committee on Artificial Intelligence in the Digital Age (AIDA) with the responsibility of examining the prospective effects of AI systems on the EU economy in the digital era and guiding future EU priorities. 4. 2020 (October) adopted a Resolution on a framework of ethical aspects of artificial intelligence, robotics, and related technologies. 5. 2021 (May) adopted a Resolution on artificial intelligence in education, culture, and the audiovisual sector.

Source: Analysis from the Author

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[22] Peide Liu, Hasan Dinçer, and Serhat Yüksel, 'Multidimensional Assessment of the European Energy Union: Integrating Artificial Intelligence and Quantum Fuzzy Ranking Approaches', *Applied Soft Computing*, 171 (2025), 112735 https://doi.org/https://doi.org/10.1016/j.asoc.2025.112735

Table 1 highlights the key advancements made by the European Commission (EC) and the European Parliament (EP) in shaping the AI regulatory framework. These developments, spanning from strategic planning to legislative implementation, played a crucial role in the formulation of the EU AI Act. The EC's initiatives focused on policy formulation, ethical guidelines, and risk assessment, while the EP's contributions emphasized legislative oversight and sector-specific regulations. Together, these efforts established a comprehensive governance structure, ensuring that AI deployment within the EU aligns with fundamental rights, safety, and innovation-driven growth.

The Development of the Legal Framework for AI in Thailand

Thailand, like the European Union (EU), is actively working towards establishing a legal framework for AI. It is among the most proactive and ambitious nations in Southeast Asia in terms of AI development strategies, aiming to position itself as a regional leader in AI by 2037. Similar to the EU, Thailand's AI governance journey began with policy integration into national strategic planning. The 20-Year National Strategy Plan (2018–2037) provides a structured roadmap for AI advancement, particularly through Strategy 2, which emphasizes the integration of digital technology, data, and AI. This strategy prioritizes AI applications across key sectors, including the economy, natural resource management, environmental sustainability, public health, energy, education, culture, sports, labor, and human resource development. These sectors are central to Thailand's national reform agenda and align with the Thailand 4.0 policy, which seeks to drive economic transformation through innovation and digitalization.[23]

In particular, the Thai government views that AI is a tool to enhance the country's competitiveness, especially in the industry, service, and health sectors. This is evident from the National Strategy for 2018-2037's Strategy on Competitiveness Enhancement, specifically in article 4.2.3: Digital, Data, and Artificial Intelligence Industry and Service, and article 4.5.4: Developing a Modern Public Health Service System to Promote Well-Being. The recognition of AI as a tool to enhance the country's competitiveness is also echoed in the Ministry of Digital Economy and Society's Strategy for 2020 to 2024, and the National AI Action Plan for Thailand's Development (2022 - 2027), approved by the Cabinet on July 26, 2022.[24] Being the national and ministerial strategies, these core initiatives have led to subsequent official plans, strategies, and practical works in other

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[23] Natalia Díaz-Rodríguez and others, 'Connecting the Dots in Trustworthy Artificial Intelligence: From AI Principles, Ethics, and Key Requirements to Responsible AI Systems and Regulation', *Information Fusion*, 99 (2023), 101896 https://doi.org/https://doi.org/10.1016/j.inffus.2023.101896

[24] Nida Buawangpong and others, 'Transcultural Adaptation, Validation, Psychometric Analysis, and Interpretation of the 22-Item Thai Senior Technology Acceptance Model for Mobile Health Apps: Cross-Sectional Study', *JMIR Aging*, 8 (2025) https://doi.org/https://doi.org/10.2196/60156

governmental sectors to be set into motion. Simultaneously, private and business actors appear to have a widespread understanding of AI and its applications, particularly in commercial settings. The foregoing provides the context and impetus for the rise of the development of a legal framework for AI in Thailand.[25]

As mentioned, the implementation of the 20-Year National Strategy has prompted relevant government sectors to expedite their initiatives, resulting in the production of research, reports, and formally drafted regulations concerning AI development. The Ministry of Digital Economy and Society (MDES) and the Ministry of Higher Education, Science, Research, and Innovation (MHESI) have collaborated to conduct a comprehensive study, leading to the formulation of the National AI Development Plan and Action of Thailand 2022-2027 including five main strategies and their goals as illustrated in the table below.

Table 2: The National AI Development Plan and Action of Thailand 2022-2027

No.	Strategies	Principles and Plans	Goals
1	AI Ethics and Regulation	to develop national AI-related laws, standards, and policies	Having at least one AI regulation, and a population of at least 600,000 individuals possess awareness and comprehension of AI and its associated legal frameworks.
2	Infrastructure for AI	to establish specialized networks, develop big data linkage and analysis centers, develop integrated national central platforms, and develop advanced computing and computation infrastructure	Investment in AI has increased by 10% per year.
3	AI workforce	focuses on skill development and knowledge at all levels of learning, support for scholarships to develop personnel for the business sector, and cooperation mechanisms with researchers	Produce a manpower of at least 30,000 individuals obtaining expertise in AI.
4	AI Research, Development, and Innovation	to promote the development of technology and innovation to key target groups, develop core technology and research to support AI platforms	Develop a minimum of 100 novel innovations in AI, aiming to achieve a revenue of at least 48 billion THB.

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[25] Lindelani Mnguni and others, 'The Behavioural Intentions for Integrating Artificial Intelligence in Science Teaching among Pre-Service Science Teachers in South Africa and Thailand', *Computers and Education: Artificial Intelligence*, 7 (2024), 100334 https://doi.org/https://doi.org/10.1016/j.caeai.2024.100334

5	**Promoting business and AI usage**	To promote the use of AI in the public sector, target industries, industries linking AI to usage, and to develop mechanisms and sandboxes for business innovation and AI startups	A minimum of 600 governmental and private organizations will implement AI in their operational processes.

Source: National Assembly Library of Thailand, 2023, and Analysis from the Author

Table 2 shows a summary of five strategies along with their objectives as outlined in Thailand's National AI Development Plan and Action for the years 2022 to 2027. Thailand has made significant strides in developing a legal and regulatory framework for AI, as evidenced by the initiatives outlined in the table above. The first key strategy focuses on AI ethics and regulation, with a primary objective of enacting at least one AI-related regulation between 2022 and 2027. The Ministry of Digital Economy and Society of Thailand (MDES) is responsible for overseeing these efforts, employing a collaborative, research-based approach similar to that of the European Union (EU). In executing its responsibilities, the MDES collaborates with various external stakeholders, including the National Electronics and Computer Technology Center (NECTEC), the National Science and Technology Development Agency (NSTDA), private sector firms, and academic institutions. Within the MDES, the Office of the National Digital Economy and Society Commission (ONDE) plays a crucial role.[26]

ONDE developed the Digital Thailand AI Ethics Guideline, which was approved by the Cabinet on February 2, 2021, followed by the NSTDA AI Ethics Guideline in 2022. Both frameworks align with the principles outlined in the EU's Ethics Guidelines for Trustworthy AI. These guidelines serve as operational standards for AI developers and service providers while informing users of their rights and associated risks. Additionally, ONDE partnered with Chula Unisearch and scholars from Chulalongkorn University's Faculty of Law to draft the Royal Decree on Business Operations Using Artificial Intelligence Systems. To ensure inclusivity, seven workshops were conducted, culminating in a public hearing on October 18–19, 2022. However, the Artificial Intelligence Entrepreneur Association of Thailand expressed concerns that the final version of the Royal Decree might deviate from the original academic draft, reflecting the preferences of the Ministry instead.[27]

Another key sub-department under MDES is the Electronic Transactions Development Agency (ETDA), which plays a pivotal role in AI-related research and policy development. The ETDA facilitated a collaborative project with Baker & McKenzie Co., Ltd. and Thammasat University's Faculty of Law, focusing on AI oversight and

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[26] Narinthon Imjai and others, 'The Influence of AI Competency and Design Thinking Skills on Innovative Entrepreneurial Competency: The Role of Strategic Intelligence amongst New Age Entrepreneurs in Thailand', *International Journal of Information Management Data Insights*, 4.2 (2024), 100301 https://doi.org/https://doi.org/10.1016/j.jjimei.2024.100301

[27] Angkanawadee Pinkaew, Punnathorn Siriwatwechakul, and Tospol Pinkaew, 'Overloaded Truck Problem in Thailand: Investigating Root Causes, Enforcement Gaps, and Policy Solutions', *Case Studies on Transport Policy*, 20 (2025), 101402 https://doi.org/https://doi.org/10.1016/j.cstp.2025.101402

governance. This initiative led to the drafting of three key regulations: the Promotion and Support of Artificial Intelligence Innovation Act, the Announcement on the Artificial Intelligence Innovation Testing Center (AI Sandbox), and the Announcement on the Assessment of Risks from the Use of Artificial Intelligence Systems. Public hearings on these draft regulations were held on April 11, 2022, and August 10, 2023, to gather stakeholder feedback and refine the legislative framework.[28] In addition, in November 2022, ETDA partnered with NECTEC and NSTDA to establish the AI Governance Clinic (AIGC). The AIGC serves as a repository of AI governance knowledge, contributing to essential research and policy recommendations. Notable outputs include the Artificial Intelligence Governance for e-Business and Digital Services Report, the Complete Report on Thailand's AI Standard Landscape Study, and the AI Governance Guideline for Executives. These documents provide valuable insights into AI governance, risk assessment, and legal impact analysis.

Table 3: Essential Documents Relating to the Development of the AI Legal Framework and Policy in Thailand, 2022

No.	Document	Responsible Department	Type/Status
1	The National AI Development Plan and Action of Thailand 2022-2027	MDES and MHESI	Guideline/ Not legally binding
2	The Digital Thailand AI Ethics Guideline 2022	ONDE under MDES	Guideline/ Not legally binding
3	The NSTDA AI Ethics Guideline 2022	NSTDA	Guideline/ Not legally binding
4	The Royal Decree on Business Operations Using Artificial Intelligence Systems of Thailand B.E… (the Royal Decree)	ONDE under MDES	Law/ In the process of drafting, not applicable yet *(The status is a subordinate legal instrument promulgated by the ministry and endorsed by the monarch, which bypasses the legislative procedure in parliament. Its enactment is both straightforward and prompt.)*
5	The Promotion and Support of Artificial Intelligence Innovation Act of Thailand B.E…(the Act)	ETDA under MDES	Law/ In the process of drafting, not applicable yet *(An act must undergo the legislative process within parliament before receiving the monarch's signature, which makes its timeline longer compared to subordinate laws.)*
6	The Announcement on the Artificial Intelligence Innovation Testing Center (AI Sandbox)	ETDA under MDES	Law/ In the process of drafting, not applicable yet *(It is a subordinate law that has been issued to expand the meaning and specify additional details and conditions of the Act)*
7	The Announcement on the	ETDA under	Law/ In the process of drafting, not

Assessment of Risks from the Use of Artificial Intelligence Systems (the Announcement)	MDES	applicable yet *(It is a subordinate law that has been issued to expand the meaning and specify additional details and conditions of the Act)*

Table 3 shows an overview of the key documents created throughout Thailand's AI development plan since 2022. These documents reflect Thailand's strategic approach to AI governance, emphasizing ethics, risk assessment, legal compliance, and innovation support. The Digital Thailand AI Ethics Guideline and the NSTDA AI Ethics Guideline align with international best practices, particularly the EU's Ethics Guidelines for Trustworthy AI, demonstrating Thailand's commitment to responsible AI development. Additionally, Thailand has prioritized regulatory clarity and stakeholder involvement through initiatives such as the Royal Decree on Business Operations Using AI Systems and the AI Sandbox framework. These efforts highlight the government's intent to balance innovation with legal oversight, fostering an AI-friendly business environment while addressing ethical and societal concerns. The AI Governance Clinic (AIGC) and supporting reports further strengthen Thailand's AI governance by providing research-based recommendations for policymakers and businesses. These developments indicate Thailand's progressive and collaborative approach, leveraging expertise from academia, industry, and international partners to ensure a comprehensive, future-ready AI legal framework.

Fundamental Rights in AI Regulations: Lessons for Thailand from the EU

Both the European Union and Thailand have taken an active and collaborative approach to developing AI legal frameworks, involving multiple societal sectors and research-based methodologies. However, a key distinction emerges in their focus. The EU prioritizes fundamental rights protection, while Thailand emphasizes business support and innovation.[29] This contrast is evident in preparatory research, legislative output, and mechanisms for safeguarding high-risk AI systems. The EU's European Union Agency for Fundamental Rights (FRA), established by Regulation (EC) No. 168/2007, has played a crucial role in researching AI's impact on fundamental rights. Its findings, based on 91 expert interviews, highlight AI's legal and ethical implications.[30]

The FRA report analyzed fundamental rights in AI development and application across four key areas: social benefits, predictive policing, health

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[29] Daolu Tang and others, 'Regulatory Approaches towards AI Medical Devices: A Comparative Study of the United States, the European Union and China', *Health Policy*, 153 (2025), 105260 https://doi.org/https://doi.org/10.1016/j.healthpol.2025.105260

[30] Ljupcho Grozdanovski, 'My AI, My Code, My Secret – Trade Secrecy, Informational Transparency and Meaningful Litigant Participation under the European Union's AI Liability Directive Proposal', *Computer Law & Security Review*, 56 (2025), 106117 https://doi.org/https://doi.org/10.1016/j.clsr.2025.106117

services, and targeted advertising. It highlighted crucial considerations such as privacy, data protection, non-discrimination, and access to justice, ultimately contributing to the establishment of the Fundamental Rights Impact Assessment (FRIA) in the EU AI Act. The FRIA accounts for AI's automation levels, complexity, and risks, ensuring robust safeguards for fundamental rights. Additionally, the Commission Staff Working Document Impact Assessment reinforced the importance of a European AI legal framework. It identified risks such as fundamental rights violations, lack of oversight, and regulatory gaps, strengthening the EU's commitment to AI governance.[31]

The working document has identified four categories of contemplated rights, and how they are possibly impacted by using AI: human dignity and personal autonomy, protection of personal data, prevention of discrimination, and the right to an effective remedy, fair trial, and good administration. The adverse impact on such rights is exemplified accordingly. Firstly, products or services powered by AI, such as toys and personal assistants, may be deliberately designed to engage with the subliminal perceptions of users, leading them to make decisions that exceed their cognitive abilities.[32] Secondly, the implementation of remote biometric identification systems, including gait, facial, and voice recognition, poses threats to individuals' personal data, privacy, and dignity. Thirdly, algorithmic discrimination can arise for various reasons at multiple stages, often making it challenging to identify and address, while also introducing biases within their mechanisms by favoring particular characteristics of the training data. Fourthly, the application of automated decision-making in judicial contexts can significantly impact the rights to access courts and ensure a fair trial, particularly if these systems lack adequate safeguards for transparency and human oversight. Also, in law enforcement, targeting individuals without reasonable suspicion or based on biased or erroneous data may jeopardize the presumption of innocence.[33]

The issue of fundamental rights was prominently addressed in the efforts of the High-Level Expert Group on AI (HLEG), established by the European Commission, particularly in their Ethics Guidelines on Trustworthy AI. Within this guideline, the HLEG underscored that the deployment of AI systems should be legally mandated and subject to enforcement in accordance with the rights established in international human rights treaties, the Charter of Fundamental

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[31] Taner Kuru, 'Investigative Genetic Genealogy in Europe: Why the "Manifestly Made Public by the Data Subject" Legal Basis Should Be Avoided', *Computer Law & Security Review*, 56 (2025), 106106 https://doi.org/https://doi.org/10.1016/j.clsr.2025.106106

[32] N Meijer and others, 'Review: European Union Legislation and Regulatory Framework for Edible Insect Production – Safety Issues', *Animal*, 2025, 101468 https://doi.org/https://doi.org/10.1016/j.animal.2025.101468

[33] Markus Kattnig and others, 'Assessing Trustworthy AI: Technical and Legal Perspectives of Fairness in AI', *Computer Law & Security Review*, 55 (2024), 106053 https://doi.org/https://doi.org/10.1016/j.clsr.2024.106053

Rights of the European Union (CFR), and the European Convention on Human Rights (ECHR).[34] It is imperative that human dignity remains intact and is not undermined, compromised, or suppressed by emerging technologies such as AI systems. Individuals should be regarded with the respect they deserve as moral agents, rather than being treated merely as objects to be analyzed, categorized, evaluated, controlled, conditioned, or manipulated.[35] AI systems should not compromise democratic processes, human decision-making, or the integrity of democratic voting mechanisms. Ensuring equality means that the operations of these systems must not produce outputs that are unjustly biased; thus, the data utilized for training AI should be as inclusive as possible, reflecting diverse population groups.[36]

Furthermore, it is essential to show appropriate consideration for potentially vulnerable individuals and groups, including workers, women, persons with disabilities, ethnic minorities, children, consumers, and others who may face exclusion. The freedom of individuals must be safeguarded against both direct and indirect forms of illegitimate coercion, threats to mental autonomy and well-being, unwarranted surveillance, deception, and manipulative practices. Consequently, from those concepts, the HLEG formulated seven non-binding principles aimed at safeguarding the fundamental rights of AI users. These principles encompass human agency and oversight; technical robustness and safety; privacy and data governance; transparency; diversity, non-discrimination, and fairness; societal and environmental well-being; and accountability.[37]

Additionally, under Regulation (EU) No 1025/2012, there is a mutual rule that can be established called the European standardisation adopted by European Standardisation Organizations (ESOs), which is to agree on common specifications and/or procedures that respond to the needs of businesses and meet consumer expectations. In this context, there was a draft standardisation request in support of safe and trustworthy AI, which proposed to underpin the fundamental rights

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[34] Laura Babetto and others, 'Adoption of the Urban Air Mobility System: Analysis of Technical, Legal and Social Aspects from a European Perspective', *Journal of the Air Transport Research Society*, 1.1 (2023), 152–74 https://doi.org/https://doi.org/10.59521/C97BE694514DD2FE

[35] Shangrui Wang and others, 'Artificial Intelligence Policy Frameworks in China, the European Union and the United States: An Analysis Based on Structure Topic Model', *Technological Forecasting and Social Change*, 212 (2025), 123971 https://doi.org/https://doi.org/10.1016/j.techfore.2025.123971

[36] Yan Wang, 'Do Not Go Gentle into That Good Night: The European Union's and China's Different Approaches to the Extraterritorial Application of Artificial Intelligence Laws and Regulations', *Computer Law & Security Review*, 53 (2024), 105965 https://doi.org/https://doi.org/10.1016/j.clsr.2024.105965

[37] Federico Costantini and Fabio Balducci Romano, 'Chapter 13 - Regulating Endorobots in the European Union: An Overview of the Ethical and Legal Framework', in *Endorobotics*, ed. by Luigi Manfredi (Academic Press, 2022), pp. 297–317 https://doi.org/https://doi.org/10.1016/B978-0-12-821750-4.00013-X

dimension that can adversely be affected by the characteristics of AI.[38] Although this document is private and non-binding, it establishes an initial requirement to safeguard fundamental rights within the context of AI for European citizens. It advocates for the design and development of AI systems to take into account the potential risks of violating rights, ensuring that AI systems placed in the EU market shall minimize the risks to health and safety and that the rights of persons are safeguarded as guaranteed in the Charter of Fundamental Rights of the EU.[39]

In contrast with the significant amount of effort put into the ascertaining of the impact towards fundamental rights from AI usage in the European Union as examined in detail above, the preparatory research work for the draft legislation in Thailand seem to be more business-oriented. Unlike the European Union's establishment of the FRA, there is no entity tasked by the Thai government with the specific mandate to conduct research solely into the impact of fundamental rights from the usage of AI systems.[40] On the other hand, resource seems to be allocated to the preparatory work for the drafting of business-oriented laws and by-laws, namely the Promotion and Support of Artificial Intelligence Innovation Act of Thailand, the Announcement on the Artificial Intelligence Innovation Testing Center (AI Sandbox), Recommendations on the Governance and Promotion of Emerging Digital Technology (Emerging Digital Law Recommendation Paper): Artificial Intelligence Governance for e-Business and Digital Services, the Report on the study of guidelines for establishing an AI technology working model evaluation center, and the AI Governance Guideline for Executives, which were the result of the collaborative work between the ETDA and entities such as Baker & McKenzie Co., Ltd., the Faculty of Law at Thammasat University, NECTEC, and NSTDA as mentioned in the previous section. [41]

Since Thailand already has established a collaborative network of academics, institutions, and civil society, it would be fruitful to conduct further study into the extent of fundamental rights impacted by the use of AI systems faced specifically by relevant parties in Thailand. The research in this aspect would contribute towards ensuring that fundamental rights of users of AI systems in Thailand are

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[38] Erzsébet Csatlós, 'Prospective Implementation of Ai for Enhancing European (in)Security: Challenges in Reasoning of Automated Travel Authorization Decisions', *Computer Law & Security Review*, 54 (2024), 105995 https://doi.org/https://doi.org/10.1016/j.clsr.2024.105995

[39] Hannah van Kolfschooten and Carmel Shachar, 'The Council of Europe's AI Convention (2023–2024): Promises and Pitfalls for Health Protection', *Health Policy*, 138 (2023), 104935 https://doi.org/https://doi.org/10.1016/j.healthpol.2023.104935

[40] Carla Zarbà and others, 'The Trade of Algae for Human Consumption: The Common Market Competitiveness and Impacts of the European Union Legislation', *Journal of Agriculture and Food Research*, 18 (2024), 101407 https://doi.org/https://doi.org/10.1016/j.jafr.2024.101407

[41] Wanrudee Isaranuwatchai and others, 'An Empirical Study Looking at the Potential Impact of Increasing Cost-Effectiveness Threshold on Reimbursement Decisions in Thailand', *Health Policy and Technology*, 13.6 (2024), 100927 https://doi.org/https://doi.org/10.1016/j.hlpt.2024.100927

take into account, thereby leading to increased trust by citizens, consumers, and customers. Such trust will benefit the overall business landscape in alignment with the goals of the Thai government to support AI systems as a tool to enhance the country's competitiveness.[42]

The EU AI Act establishes a structured risk-based regulatory framework to ensure the protection of fundamental rights. AI systems are categorized into four risk levels: unacceptable risk, high risk, limited risk, and minimal risk, each with corresponding compliance requirements. Unacceptable risk AI systems (Article 5) are strictly prohibited, including manipulative systems, biometric categorization, social scoring, and real-time biometric identification. High-risk AI systems (Article 6, Annex III) face stringent regulations, covering areas such as critical infrastructure, law enforcement, and credit scoring. Limited-risk AI systems (Article 50) require transparency measures, while minimal-risk AI systems (e.g., spam filters) remain largely unregulated.[43]

The EU AI Act establishes a comprehensive regulatory framework to safeguard fundamental rights, particularly concerning high-risk AI systems, which are subject to the most stringent regulatory requirements within the EU market. These systems must undergo a Conformity Assessment (CA) to ensure compliance with essential safeguards. This includes the implementation of a risk management framework throughout the system's lifecycle, the use of appropriate and representative datasets for training and evaluation, the maintenance of detailed technical documentation, and the provision of clear risk disclosures for deployers. Furthermore, high-risk AI systems must support automatic logging of system events and incorporate human oversight mechanisms during operation. Additionally, the significant model that inherently emphasizes fundamental rights is the Fundamental Rights Impact Assessment (FRIA), outlined in Article 27. It is important to recognize that the CA and FRIA are not novel tools within the EU; there are already established assessments such as the Human Rights Impact Assessment (HRIA),[44] Privacy Impact Assessment (PIA), and Data Protection Impact Assessment (DPIA),[45] which have been developed and utilized by various organizations and companies across the EU. However, it is essential to understand

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[42]Vitoon Chotanapund and others, 'Does the Electric Vehicle Promotion Policy Drive Thailand's Passenger Transport towards Environmental Sustainability?', *Sustainable Production and Consumption*, 51 (2024), 23–41 https://doi.org/https://doi.org/10.1016/j.spc.2024.08.029

[43] Antonis Troumpoukis and others, 'European AI and EO Convergence via a Novel Community-Driven Framework for Data-Intensive Innovation', *Future Generation Computer Systems*, 160 (2024), 505–21 https://doi.org/https://doi.org/10.1016/j.future.2024.06.013

[44] Adebayo Majekolagbe, 'Nora Götzmann (Ed.), Handbook on Human Rights Impact Assessment (Cheltenham: Edward Elgar Publishing, 2019), 483 Pp.', Business and Human Rights Journal, 6.3 (2021), pp. 621–24, https://ideas.repec.org/a/cup/buhurj/v6y2021i3p621-624_16.html

[45]Roger Clarke, 'Privacy Impact Assessment: Its Origins and Development', Computer Law & Security Review, 25.2 (2009), pp. 123–35, https://doi.org/10.1016/j.clsr.2009.02.002

that the CA is considered as the broader framework, and FRIA, is addressed as a specific issue, on human rights assessment tools.

Thailand has introduced four key draft legislative instruments to regulate and promote AI: (1) the Royal Decree on Business Operations Using Artificial Intelligence Systems, (2) the Promotion and Support of Artificial Intelligence Innovation Act, (3) the Announcement on the Artificial Intelligence Innovation Testing Center (AI Sandbox), and (4) the Announcement on the Assessment of Risks from the Use of Artificial Intelligence Systems.[46] The Royal Decree closely aligns with the EU AI Act, establishing prohibitions on certain AI systems, obligations for high-risk AI, and transparency requirements for chatbots, biometric identification, and deepfake technologies. The AI Innovation Act primarily supports AI development by granting businesses access to the AI Clinic, AI testing centers, and data for AI training, while also mandating AI standards and introducing a compensation fund for AI-related damages. The AI Sandbox Announcement outlines procedures for entrepreneurs to access testing environments.[47]

Thailand's AI legislation adopts a business-oriented approach, emphasizing entrepreneurial support and innovation, whereas the EU prioritizes fundamental rights and risk regulation. While there is no intrinsic flaw in Thailand's aim to develop AI regulation for business and innovation-oriented purposes, as is the case with fortifying research into the aspect of impacts to fundamental rights, increased focus in official documents or legislation, whether that be in the form of statutes, announcements, or even governmental-issued guidelines, would help clarify how the fundamental rights of citizens are taken into account and protected, which would again contribute to increased trust by both customers and investors, thereby enhancing the competitiveness of the AI business landscape in Thailand.[48]

In terms of the obligations related to high-risk AI systems, the EU's more fundamental rights-oriented focus and Thailand's more business-friendly focus can be seen in three aspects, namely, the obligation of assessment of high-risk AI systems, the obligation of providers of high-risk AI systems, and the obligation for

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[46] Jutaporn Keson, Thapat Silalertruksa, and Shabbir H Gheewala, 'Land-Water-GHG-Food Nexus Performance and Physical-Socio-Economic-Policy Factors Influencing Rice Cultivation in Central Thailand', *Science of The Total Environment*, 932 (2024), 173066 https://doi.org/https://doi.org/10.1016/j.scitotenv.2024.173066

[47] Wutthiya Aekthanate Srisathan and others, 'Driving Policy Support for Open Eco-Innovation Enterprises in Thailand: A Probit Regression Model', *Journal of Open Innovation: Technology, Market, and Complexity*, 9.3 (2023), 100084 https://doi.org/https://doi.org/10.1016/j.joitmc.2023.100084

[48] Panchapawn Chatsuwan and others, 'Personal Data Protection Compliance Assessment: A Privacy Policy Scoring Approach and Empirical Evidence from Thailand's SMEs', *Heliyon*, 9.10 (2023), e20648 https://doi.org/https://doi.org/10.1016/j.heliyon.2023.e20648

related parties along the value chain of high-risk AI systems, which will be discussed in turn below. Article 6 of the EU AI Act establishes classification rules for high-risk AI systems. Subparagraphs 1 and 2 define high-risk AI, with Annex III listing specific systems. Subparagraph 3 outlines exceptions, while subparagraph 4 mandates that providers assess and document whether an AI system in Annex III qualifies as high-risk before its market entry. Providers must also register in the EU database for high-risk AI systems and submit documentation if requested by authorities. This self-assessment process enhances regulatory transparency, offering insights into AI risks and their impact on fundamental rights for regulators, industry stakeholders, and the public.[49]

In Thailand, the draft Royal Decree on Businesses Using AI in its Article 8 provides that services which make use of AI systems which may result in unfair discrimination or affect the rights and liberties of an individual as specified in Annex C are considered to be a service which has a high-risk towards security. In contrast with the EU AI Act, there is no obligation for providers who are of view that their AI system does not constitute a high-risk AI system to conduct an assessment and be subject to any registration obligation.[50] The absence of the obligation for providers to conduct an assessment and register themselves and their AI systems into a database, irrespective of whether they consider their AI system to be high-risk or not, can be seen as more business-friendly to providers. Providers who do not consider their AI system to be high-risk do not have to undergo the task of assessment, documentation, and registration, which may incur costs and resources. However, the lack of such obligation may cause regulators, the industry, and laypersons to miss the opportunity to learn and better be informed about real-life examples and applications of high-risk and non-high-risk AI systems, and accordingly missing the opportunity to gain insight into the extent of impact of fundamental rights of the users in respect of each AI system.[51]

The EU AI Act establishes comprehensive obligations for providers of high-risk AI systems to ensure the protection of fundamental rights. These obligations include implementing risk management measures, ensuring data governance, maintaining technical documentation, keeping records, promoting transparency, providing human oversight, and enhancing cybersecurity.[52] Providers must first

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[49] Celso Cancela-Outeda, 'The EU's AI Act: A Framework for Collaborative Governance', *Internet of Things*, 27 (2024), 101291 https://doi.org/https://doi.org/10.1016/j.iot.2024.101291

[50] Chung Phan, Stefano Filomeni, and Seng Kiong Kok, 'The Impact of Technology on Access to Credit: A Review of Loan Approval and Terms in Rural Vietnam and Thailand', *Research in International Business and Finance*, 72 (2024), 102504 https://doi.org/https://doi.org/10.1016/j.ribaf.2024.102504

[51] Kaushik and others.

[52] Victoria Kalogirou, Antonis Stasis, and Yannis Charalabidis, 'Assessing and Improving the National Interoperability Frameworks of European Union Member States: The Case of Greece',

ensure compliance with these requirements. They are also required to identify themselves, maintain a quality management system, keep essential documentation, and log system events. Additionally, providers must conduct conformity assessments, issue a declaration of compliance, affix the CE marking, and register their AI systems. If non-compliance is detected, they must take corrective actions and demonstrate compliance when requested. Lastly, they must ensure accessibility and transparency, contributing to the safe and ethical deployment of AI technologies.[53]

In both the EU AI Act and Thailand's draft Royal Decree on Businesses Using AI Systems, obligations for providers of high-risk AI systems are established, though with differing levels of detail. While the EU AI Act provides a comprehensive framework, with each requirement and obligation elaborated in separate provisions, Thailand adopts a simplified approach. Under the Thai draft Royal Decree, providers have four key obligations, including market entry requirements. They must ensure appropriate risk control measures throughout service provision, either by developing them independently or referencing external documents. These measures include risk management, data governance, technical documentation, logging, deployer guidance, human oversight, and system monitoring.[54]

The Thai draft Royal Decree on Businesses Using AI Systems outlines four primary obligations for providers of high-risk AI systems. First, providers must comply with the registration obligation, requiring them to register their high-risk AI systems with the competent authority, a duty similarly imposed under the EU AI Act. Second, the competent authority is responsible for issuing a mark of compliance to providers who have fulfilled the registration requirement. However, unlike the EU AI Act, which mandates affixing the CE marking, the Thai legislation does not impose an obligation on providers to display this compliance mark. Third, providers must undertake corrective actions if their AI systems fail to meet the prescribed "appropriate measures," a duty that mirrors the EU AI Act's requirement to rectify non-compliant AI systems. Lastly, the decree establishes a shared obligation between providers and deployers to ensure AI systems adhere to "appropriate measures," within the scope of their control. While the EU AI Act provides a detailed framework for ensuring compliance, the

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Government   Information   Quarterly,   39.3   (2022),   101716
https://doi.org/https://doi.org/10.1016/j.giq.2022.101716
[53] Andrea Fedele, Clara Punzi, and Stefano Tramacere, 'The ALTAI Checklist as a Tool to Assess Ethical and Legal Implications for a Trustworthy AI Development in Education', *Computer Law & Security Review*, 53 (2024), 105986 https://doi.org/https://doi.org/10.1016/j.clsr.2024.105986
[54] Miguel Angel Astorayme, Ian Vázquez-Rowe, and Ramzy Kahhat, 'The Use of Artificial Intelligence Algorithms to Detect Macroplastics in Aquatic Environments: A Critical Review', *Science   of   The   Total   Environment*,   945   (2024),   173843
https://doi.org/https://doi.org/10.1016/j.scitotenv.2024.173843

Thai legislation employs a broader approach, defining "appropriate measures" without specifying concrete assessment methods. This simplified framework may offer flexibility to businesses but risks creating regulatory ambiguity, potentially undermining legal certainty and the effective enforcement of fundamental rights protections.[55]

Moreover, the absence of the obligation to put in place a quality management system in addition to a risk management system and the requirement to ensure accessibility under the Thai draft Royal Decree may entail less requirements to fulfill for businesses. However, this is at the expense of users of AI systems, where there may be using AI systems without a quality management system, and where accessibility is not ensured. The absence of the duty to conduct a conformity assessment and draw up a declaration of conformity may also be aimed at streamlining the process for market entry by entailing fewer obligations for businesses.[56] However, this means businesses may only say that their AI systems comply with the required attributes without having to undergo concrete testing for conformity assessment and without having to draw up a declaration to expressly certify their conformity. As such, the Thai business-friendly approach may lack a mechanism for providers to really test and demonstrate the conformity of their AI systems. In this vein, it may be useful to mandate providers to carry out a testing of their AI systems as is the requirement under the more fundamental right-oriented approach EU AI Act. This is so that the conformity to the required attributes of the AI system can be truly verified.[57]

Under the EU AI Act, it is not only the providers of the high-risk AI system who shall be subjected to regulatory obligations concerning the AI system. The deployer, importer, distributor, and those identified along the AI value chain are also assigned varying degrees of regulatory obligations which are uniquely tailored to them aimed at forming a safety net of obligations to ensure accountability from possible harms arising from high-risk AI systems. For the deployer, the deployer can be said to have seven main duties under Articles 26 and 27. Four of those seven duties could be said to be the basic duties that should be required. The first is to take appropriate measures to ensure that they use the AI system in accordance with the provider's instructions for use. The second is to ensure that input data under the deployer's control is relevant and sufficiently

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[55] Hien Thu Pham and others, 'Artificial Intelligence (AI) Development in the Vietnam's Energy and Economic Systems: A Critical Review', *Journal of Cleaner Production*, 438 (2024), 140692 https://doi.org/https://doi.org/10.1016/j.jclepro.2024.140692

[56] A S Albahri and others, 'A Systematic Review of Trustworthy Artificial Intelligence Applications in Natural Disasters', *Computers and Electrical Engineering*, 118 (2024), 109409 https://doi.org/https://doi.org/10.1016/j.compeleceng.2024.109409

[57] Markko Liutkevičius and Sadok Ben Yahia, 'Research Roadmap for Designing a Virtual Competence Assistant for the European Labour Market', *Procedia Computer Science*, 207 (2022), 2404–13 https://doi.org/https://doi.org/10.1016/j.procs.2022.09.299

representative. The third obligation is to keep the logs which are under the deployer's control. The fourth is to cooperate with the authorities.[58]v

In addition to those basic duties, the EU AI Act adds three further meaningful duties that allows the deployer to contribute in its role as the deployer, with closer proximity to the end user than the provider. The three further meaningful duties are first, to assign human oversight of the AI system to competent natural persons. Second is a rather significant obligation.[59] It obligates the deployer to monitor the operation of the high-risk AI system on the basis of the instructions for use. It should be noted that the wording used is that the deployer's monitoring is on the basis of the instructions by the provider, not exactly as per the instructions by the provider. This signifies that there is room for the deployer to take into account various factors present in the face of deployment. Concurrent in this obligation to monitor is the obligation to inform the relevant parties when the deployer has reason to consider that the use of the high-risk AI system in accordance with the instructions may result in the AI system presenting a risk to the health or safety, or to fundamental rights, of persons, or has identified a serious incident. The third obligation is also a highly significant one, which is to conduct a Fundamental Rights Impact Assessment which will be considered in detail below.[60]

It should be noted that, under Article 26, there are other duties for specific types of deployers, such as deployers who are employers, deployers that are public authorities, and deployers of high-risk AI systems for post-remote biometric identification, which are not mentioned in the main obligations common for all types of deployers here. In respect of the duty for deployers to conduct a Fundamental Rights Impact Assessment (FRIA), during the legislative development of the EU AI Act, the European Parliament established the FRIA aimed at bridging the divide between AI providers and end users, emphasizing the crucial regulatory responsibilities assigned to deployers. The responsibilities of the deployer are closely tied to the pertinent contextual aspects of FRIA associated with the specific application of an AI system. Certain risk factors, such as the unique vulnerabilities of the individuals involved, may not be anticipated or effectively managed by the provider at ground level. In this context, the feasibility of FRIA by the deployer is essential: the system must be adequately accessible and

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[58] Nirav Chokshi and Subhodeep Chakraborty, 'Chapter 22 - Artificial Intelligence from a Regulatory Perspective: Drug Delivery and Devices', in *A Handbook of Artificial Intelligence in Drug Delivery*, ed. by Anil Philip and others (Academic Press, 2023), pp. 581–607 https://doi.org/https://doi.org/10.1016/B978-0-323-89925-3.00022-8

[59] Hongchuan Lei, Yunli Guo, and Nayab Khan, 'Forecasting Energy Use and Efficiency in Transportation: Predictive Scenarios from ANN Models', *International Journal of Hydrogen Energy*, 106 (2025), 1373–84 https://doi.org/https://doi.org/10.1016/j.ijhydene.2025.01.474

[60] Shafiqul Hassan and others, 'Big Data and Predictive Analytics in Healthcare in Bangladesh: Regulatory Challenges', *Heliyon*, 7.6 (2021), e07179 https://doi.org/https://doi.org/10.1016/j.heliyon.2021.e07179

customizable by the deployer, and the provider must supply sufficient risk information.[61]

The EU AI Act requires deployers to conduct a Fundamental Rights Impact Assessment (FRIA) before putting a high-risk AI system into service and to update it when relevant factors change. However, this obligation excludes AI systems functioning as safety components in critical infrastructure, including digital infrastructure, road traffic management, and utilities such as water, gas, heating, and electricity. Deployers required to perform FRIA include public sector entities, service providers of public interest, financial institutions assessing creditworthiness (excluding fraud detection AI), and insurers conducting risk assessments for life and health insurance. Despite mandating FRIA, the Act does not specify a procedural framework for conducting it but entrusts the European Artificial Intelligence Office with developing a standardized template.[62]

The Fundamental Rights Impact Assessment (FRIA) requires deployers to detail the intended use, duration, and frequency of high-risk AI systems while identifying affected individuals and potential risks. By emphasizing context-specific risk evaluation, this framework acknowledges the deployer's proximity to end-users, ensuring greater accountability. However, its effectiveness relies on the implementation of concrete preventative measures to mitigate identified risks. Without mandatory corrective actions, the impact of FRIA may be limited in practice. Importers of high-risk AI systems have seven key obligations tailored to their role. Primarily, they must ensure that the AI system complies with regulatory requirements, which includes verifying that the provider has conducted a conformity assessment, prepared technical documentation, affixed the CE marking, issued a declaration of conformity, and appointed a representative. Additionally, importers must refrain from placing non-compliant systems on the market, clearly identify themselves on packaging or documentation, and ensure that transport or storage conditions do not compromise compliance. They are also required to maintain certificates, provide documentation upon request, and cooperate with authorities.[63]

Distributors share similar obligations, including verification, refraining from placing non-compliant AI systems on the market, preserving compliance during

[61]Alessandro Mantelero, 'The Fundamental Rights Impact Assessment (FRIA) in the AI Act: Roots, Legal Obligations and Key Elements for a Model Template', Computer Law & Security Review, 54 (2024), p. 106020, https://doi.org/10.1016/j.clsr.2024.106020

[62] Ji-Peng Olivia Li and others, 'Digital Technology, Tele-Medicine and Artificial Intelligence in Ophthalmology: A Global Perspective', *Progress in Retinal and Eye Research*, 82 (2021), 100900 https://doi.org/https://doi.org/10.1016/j.preteyeres.2020.100900

[63] Yicong Li and others, 'The Classification, Detection and "SMART" Control of the Nine Sins of Tea Fraud', *Trends in Food Science & Technology*, 149 (2024), 104565 https://doi.org/https://doi.org/10.1016/j.tifs.2024.104565

handling, providing documentation, and cooperating with authorities. However, unlike importers, distributors are not required to identify themselves but must take corrective actions to ensure AI systems meet regulatory standards. The EU AI Act assigns responsibilities along the AI value chain to ensure accountability, preventing regulatory gaps. If a distributor, importer, deployer, or third party modifies an AI system in specific ways, they assume the role and obligations of a provider of a high-risk AI system.[64] Such modifications include placing their name or trademark on an AI system already on the market, making substantial modifications while maintaining its high-risk classification, or altering the intended purpose of a non-high-risk AI system, causing it to become high-risk. Once a party assumes "providership," the original provider must continue cooperating with them.[65]

Unlike the EU AI Act's differentiated obligations for providers, importers, distributors, and deployers, the Thai draft Royal Decree takes a more uniform approach, applying similar obligations across roles. Thai deployers of high-risk AI systems have three primary duties compared to seven under the EU AI Act. They must monitor AI systems in accordance with instructions, report national risks to authorities, and store system-generated logs. Additionally, under a shared responsibility with providers, deployers must ensure AI systems comply with "appropriate measures" within their control. However, the absence of specific guidelines risks creating uncertainty in implementation and enforcement.[66]

The Thai draft law does not assign meaningful obligations to deployers regarding human oversight or fundamental rights impact assessments, despite their close proximity to end-users. Instead, the duty to monitor AI systems is restricted to following the provider's instructions, limiting the deployer's ability to ensure responsible AI use independently. This approach contrasts with the EU AI Act, which grants deployers greater responsibility in overseeing AI deployment.[67] For importers and distributors, the Thai draft law condenses their duties into a single provision. They have two primary obligations: ensuring AI system registration and legal compliance, and taking corrective action when non-

[64] Emmanouela Kokolaki and others, 'Investigating the Dynamics of Illegal Online Activity: The Power of Reporting, Dark Web, and Related Legislation', *Computer Law & Security Review*, 38 (2020), 105440 https://doi.org/https://doi.org/10.1016/j.clsr.2020.105440

[65] Mohamed Maaouane and others, 'Using Neural Network Modelling for Estimation and Forecasting of Transport Sector Energy Demand in Developing Countries', *Energy Conversion and Management*, 258 (2022), 115556 https://doi.org/https://doi.org/10.1016/j.enconman.2022.115556

[66] Sophia Falk, Aimee van Wynsberghe, and Lisa Biber-Freudenberger, 'The Attribution Problem of a Seemingly Intangible Industry', *Environmental Challenges*, 16 (2024), 101003 https://doi.org/https://doi.org/10.1016/j.envc.2024.101003

[67] Maaike Okano-Heijmans and Wilhelm Vosse, 'Promoting Open and Inclusive Connectivity: The Case for Digital Development Cooperation', *Research in Globalization*, 3 (2021), 100061 https://doi.org/https://doi.org/10.1016/j.resglo.2021.100061

compliance arises. However, unlike the EU AI Act, the Thai law does not specify how compliance should be ensured, such as through verifiable documentation. Additionally, it lacks key safeguards present in the EU AI Act, such as prohibiting non-compliant AI systems from entering the market, maintaining compliance during storage and transport, and requiring importers to identify themselves. These omissions create ambiguities in enforcement and may hinder effective regulation of high-risk AI systems.[68]v

There is neither assignment of responsibilities to those along the AI value chain whose action tampers with the original placed high-risk AI system. It could be argued that this lack of value chain responsibility appears less intimidating to parties that may become involved with the high-risk AI system and hence more business-friendly, but is not helpful in clarifying and encapsulating the duties of those persons, potentially causing an accountability gap which may be to the detriment of the end-users.[69] In this sense, the Thai draft law may consider adopting the approach of the EU by clarifying the roles of each actor along the value chain, adding diversified and meaningful obligations with a view towards more comprehensive protection of fundamental rights of the end-user, particularly the deployer duty of assigning human oversight and conducting a succinct fundamental rights impact assessment specific to its deployment of the AI system, as well as taking into account actions of more actors along the AI value chain that would be deserving of some assignment of responsibility.[70] It can be argued that if roles are clarified and appropriately distributed instead of simplified and condensed, the law would be more helpful to providers and relevant actors to achieve compliance, and trust would be gained from the consumers, which will again benefit the business landscape and increase competitiveness as intended by the Thai government.[71]

4. Conclusion

This research highlights the active, collaborative, and research-based approach of both the European Union and Thailand in developing AI regulations. However, the differing priorities between the two jurisdictions—fundamental rights in the

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EU and business-friendliness in Thailand—result in distinct regulatory frameworks. While the EU AI Act establishes a structured and risk-based approach with clear obligations for various stakeholders, the Thai draft law adopts a more streamlined framework that emphasizes flexibility for businesses. The study reveals that Thailand's approach, while fostering innovation, lacks robust mechanisms to address AI-related harms comprehensively. The absence of obligations for providers to register non-high-risk AI systems, the lack of clarity in compliance duties for deployers, importers, and distributors, and the missing responsibility regime for parties modifying AI systems create regulatory gaps. These shortcomings limit the ability of regulators to learn from industry practices and effectively mitigate risks along the AI value chain. To enhance the Thai regulatory framework, it is recommended that clearer and more comprehensive obligations be introduced in the draft law, potentially through supplementary announcements to the Royal Decree. A balanced approach that integrates elements of the EU's rights-based framework while maintaining business-friendliness would ensure both regulatory effectiveness and competitive AI sector growth in Thailand. Further research should explore how Thailand can incorporate structured compliance mechanisms without stifling innovation.

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