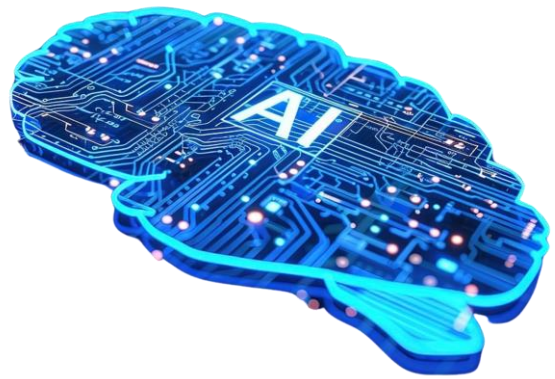




AI Ethics & Governance 2025



A Framework for Malaysia's Tech Industry

MAY 2025

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Executive Summary

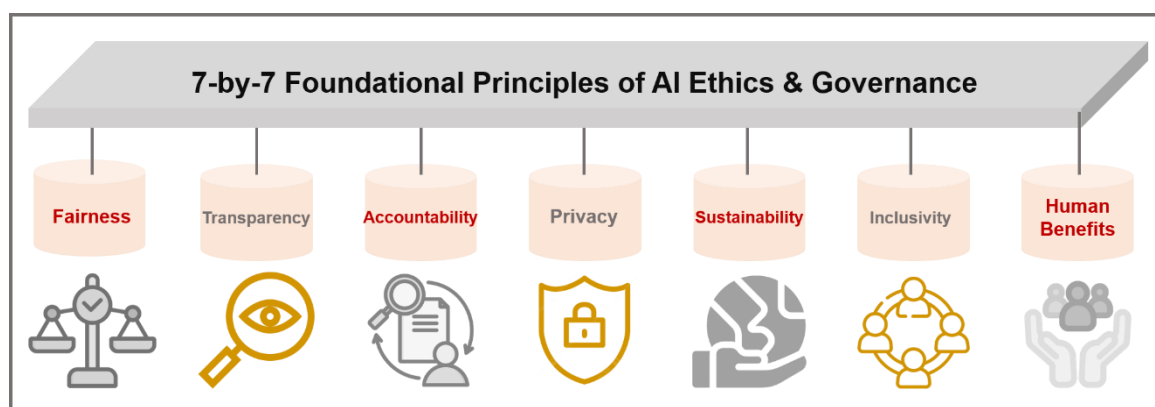
The **AI Ethics and Governance 2025 paper** is a forward-looking guide designed to help the National Tech Association of Malaysia (PIKOM) and the local tech industry to navigate the rapidly evolving artificial intelligence (AI) landscape.

Building on the *PIKOM AI Ethics Policy 2024* framework, this updated version addresses ongoing and emerging challenges such as generative AI, sustainability and workforce transformation while aligning with global standards, trends and local needs.

AI has become a transformative force across industries, driving innovation and efficiency. However, its rapid adoption has also raised significant ethical and governance challenges including bias, privacy concerns and environmental impact.

To address these challenges, PIKOM proposes an enhanced version of AI ethics and governance for 2025. This framework builds on the 2024 foundation, incorporating the latest trends, global developments and industry priorities to ensure Malaysia remains relevant in ethical AI adoption.

Foundational Principles for Ethical AI



The 7-by-7 PIKOM AI Ethics Policy 2024 is built on key foundational principles that guide the development and deployment of ethical AI, aligning with global best practices while addressing emerging challenges in the industry.

FAIRNESS ensures that AI systems operate without bias, promoting equitable outcomes for all users. This principle calls for continuous efforts to eliminate discrimination in AI decision-making processes.

TRANSPARENCY emphasizes the need for clear, understandable explanations of how AI systems work and make decisions. By prioritizing transparency, stakeholders can foster trust and accountability in AI systems.

ACCOUNTABILITY ensures those responsible for AI development and deployment are held liable for their actions, including any negative consequences of AI-driven decisions. It encourages a culture of responsibility within organizations and among developers.

PRIVACY underscores the importance of safeguarding personal data and ensuring AI systems are designed with privacy at their core. It calls for adherence to privacy-by-design principles and secure data management practices.

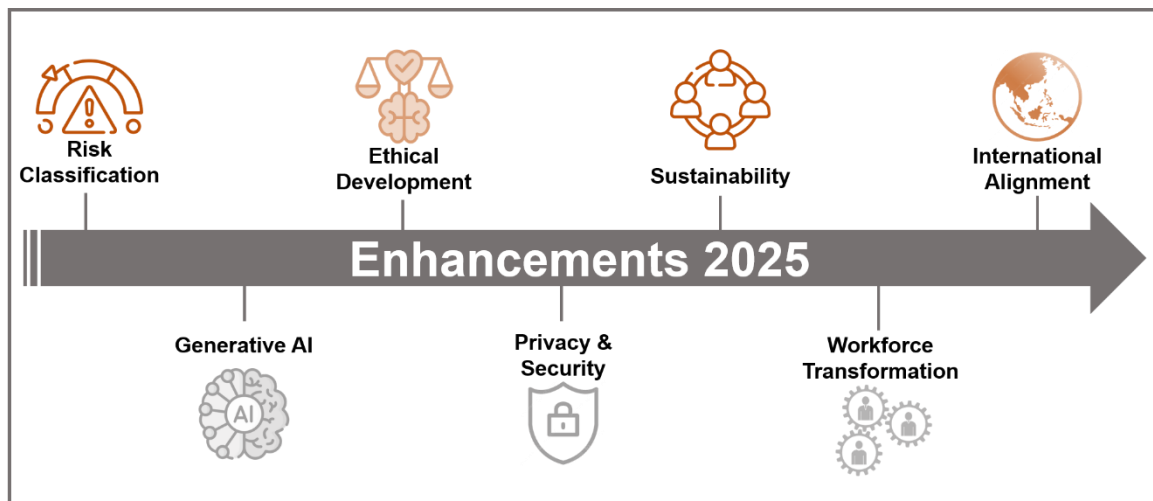
SUSTAINABILITY focuses on minimizing the environmental impact of AI technologies, promoting energy-efficient solutions and encouraging AI applications that contribute to addressing global challenges like climate change.

INCLUSIVITY ensures that AI systems are accessible and beneficial to all, regardless of socioeconomic status, gender or disability. This principle strives to prevent exclusion and ensure that AI benefits are widely distributed.

HUMAN BENEFITS Prioritizing user input and focusing on benefiting humanity over efficiency ensures AI serves human welfare, preventing dissatisfaction and promoting societal well-being.

These principles provide a comprehensive foundation for ethical AI practices, guiding the industry toward responsible and impactful AI development.

Key Updates and Enhancements for 2025



As the AI landscape continues to evolve, several key developments have shaped AI risk management, governance and ethical practices for 2025 beyond.

Notably, **AI systems are now categorized into high, medium and low-risk classifications**, ensuring tailored oversight based on potential impact. **Generative AI governance** has become a priority, with a focus on **content verification**, **intellectual property protection** and mitigating **misinformation**.

Ethical development practices are being enhanced through **bias audits**, **diverse datasets** and the integration of **Human-in-the-Loop (HITL)** approaches to maintain human oversight.

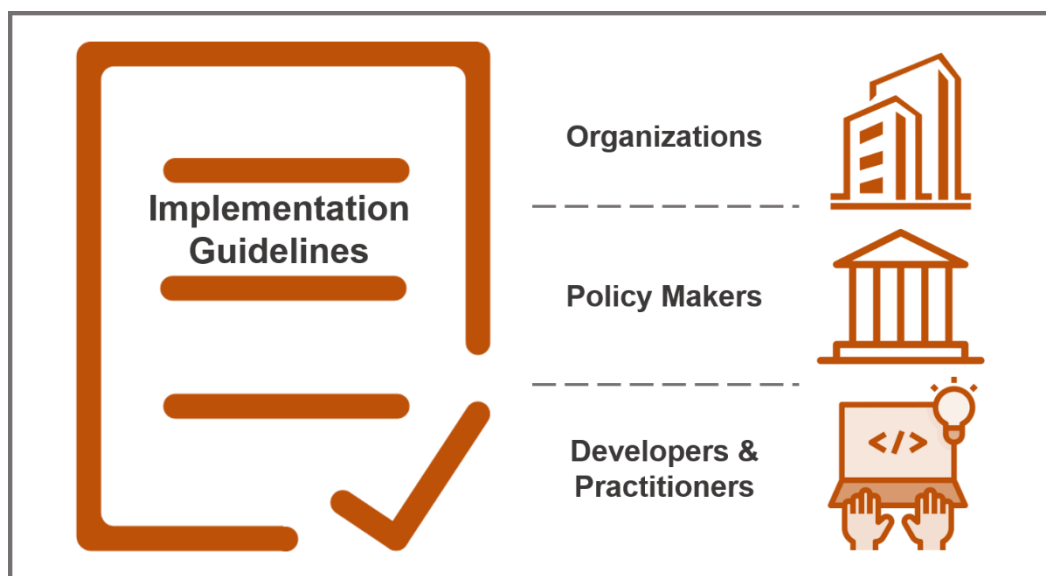
Data privacy and security continue to be critical, with emphasis on **data anonymization**, **consent management** and the use of **federated learning** to preserve privacy while enabling innovation.

Additionally, the industry is prioritizing **sustainability**, incorporating **green AI practices**, **carbon footprint reporting** and **renewable energy** in AI development. Workforce transformation is also a focus, with initiatives like **reskilling programs**, **job displacement mitigation** and **AI ethics education**. Finally, to align with global standards, the framework supports **ASEAN collaboration**, adherence to **global standards** and facilitation of **cross-border data flows**.

These enhancements reflect the growing complexity of AI governance and its alignment with ethical, sustainable and responsible practices in the global context.

Implementation Guidelines and Monitoring for Ethical AI

This paper also endeavors to outline the key guidelines for implementing ethical AI practices across different stakeholders, ensuring responsible and transparent development of AI in Malaysia's tech industry.



For **organizations**, the framework recommends establishing **AI Ethics Committees** to oversee ethical practices, publishing **Transparency Reports** to disclose AI decision-making processes and conducting **Third-Party Audits** to ensure compliance with ethical standards.

For **policymakers**, the framework suggests the introduction of **Regulatory Sandboxes** to foster innovation while maintaining oversight, offering **incentives for ethical AI** development and launching **Public Awareness Campaigns** to educate citizens on AI's ethical implications.

For **developers and practitioners**, the focus is on providing accessible **Ethical AI Toolkits**, supporting **Certification Programs** to ensure adherence to ethical standards and encouraging participation in **Collaborative Platforms** to foster knowledge-sharing and collective responsibility.

This paper further emphasizes the importance of **Monitoring and Evaluation**, with the use of **Key Performance Indicators (KPIs)** to track progress and ensure **Continuous Improvement** in AI ethics.

This ongoing effort supports PIKOM and its members in adopting evolving best practices for ethical AI, addressing the latest trends and promoting a sustainable tech ecosystem.

This purpose of this paper is designed as a continuing effort to guide PIKOM and its members in the Malaysian tech industry to adopt ethical AI practices while addressing the latest trends and priorities.

AI Ethics & Governance 2025

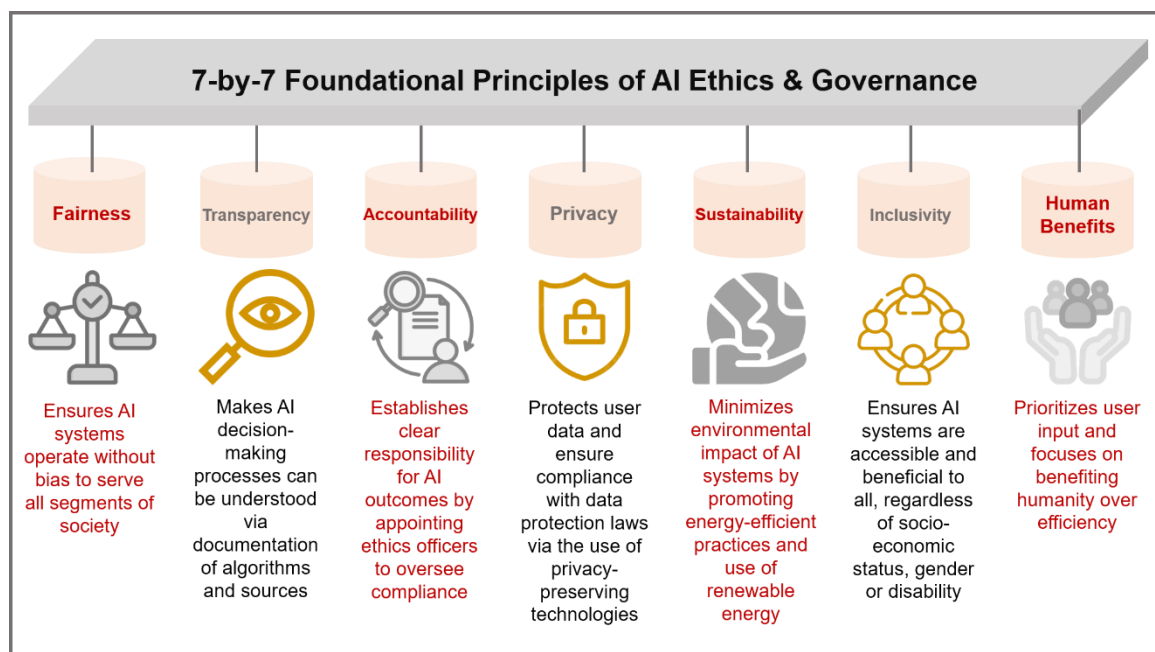
Introduction

Artificial Intelligence (AI) has become a transformative force across industries, driving innovation and efficiency. However, its rapid adoption has also raised significant ethical and governance challenges including bias, privacy concerns and environmental impact.

To address these challenges, PIKOM proposes an enhanced AI Ethics and Governance Framework for 2025. This framework builds on the 2024 foundation, incorporating the latest trends, global developments and industry priorities to ensure Malaysia remains a leader in ethical AI adoption.

Foundational Principles

The framework is grounded in the following core principles, which align with global best practices while addressing emerging challenges: (published in PIKOM AI ETHICS AND GOVERNANCE POLICY 2024).



- **Fairness**

- Ensure AI systems do not perpetuate bias or discrimination.
- Promote inclusivity by designing systems that serve all segments of society.



Ensures AI systems operate without bias to serve all segments of society

- **Transparency**

- Make AI decision-making processes understandable and accessible to stakeholders.
- Require clear documentation of AI algorithms and data sources.



Makes AI decision-making processes can be understood via documentation of algorithms and sources

- **Accountability**

- Establish clear responsibility for AI outcomes including mechanisms for redress in cases of harm.
- Encourage organizations to appoint AI ethics officers to oversee compliance.



Establishes clear responsibility for AI outcomes by appointing ethics officers to oversee compliance

- **Privacy**

- Protect user data and ensure compliance with data protection laws such as Malaysia's Personal Data Protection Act (PDPA).
- Promote the use of privacy-preserving technologies such as federated learning and differential privacy.



Protects user data and ensure compliance with data protection laws via the use of privacy-preserving technologies

- **Sustainability**

- Minimize the environmental impact of AI systems by promoting energy-efficient practices.
- Encourage the use of renewable energy in AI infrastructure.



Minimizes environmental impact of AI systems by promoting energy-efficient practices and use of renewable energy

- **Inclusivity and Human Benefits**

- Ensure AI benefits all segments of society including marginalized and underserved communities.
- Engage diverse stakeholders in the design and deployment of AI systems.
- Ensure benefits to human (and no harm) welfare.

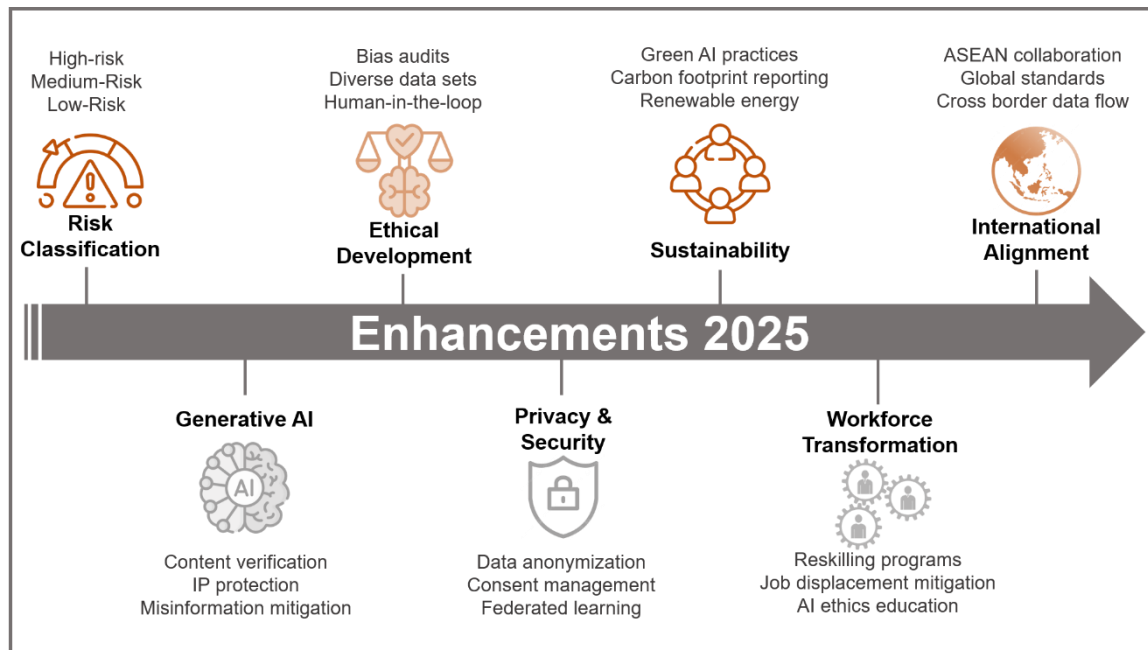


Ensures AI systems are accessible and beneficial to all, regardless of socio-economic status, gender or disability



Prioritizes user input and focuses on benefiting humanity over efficiency

Key Updates and Enhancements for 2025



Risk-Based AI Classification

To ensure proportionate governance, AI systems should be classified based on their risk levels:



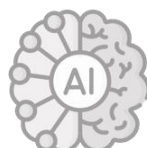
High-Risk Systems	
Examples	<ul style="list-style-type: none"> ✓ Healthcare diagnostics ✓ Financial decision-making ✓ Criminal justice ✓ Critical infrastructure
Requirements	<ul style="list-style-type: none"> ✓ Rigorous testing and certification before deployment

	<ul style="list-style-type: none"> ✓ Continuous monitoring and periodic audits ✓ Mandatory human oversight and explainability
Medium-Risk Systems	
Examples	<ul style="list-style-type: none"> ✓ Customer service chatbots ✓ Recommendation engines ✓ Marketing automation tools
Requirements	<ul style="list-style-type: none"> ✓ Periodic audits to ensure compliance with ethical guidelines ✓ Transparency in how decisions are made and data is used
Low-Risk Systems	
Examples	<ul style="list-style-type: none"> ✓ Entertainment applications such as AI-generated art or music
Requirements	<ul style="list-style-type: none"> ✓ Adherence to basic ethical guidelines ✓ Minimal regulatory oversight

Generative AI Governance

The rise of generative AI (e.g., ChatGPT, DALL-E, DeepSeek) has introduced new challenges including misinformation and IP concerns. These challenges and issues may be addressed through the following measures:

Generative AI



Content verification
IP protection
Misinformation mitigation

Content Verification	<ul style="list-style-type: none"> ✓ Require watermarking or labelling of AI-generated content to distinguish it from human-created content ✓ Develop tools for detecting and verifying AI-generated content
IP Protection	<ul style="list-style-type: none"> ✓ Establish guidelines for addressing copyright and ownership issues related to AI-generated works ✓ Collaborate with legal experts to develop frameworks for IP rights in the context of AI
Misinformation Mitigation	<ul style="list-style-type: none"> ✓ Partner with social media platforms and regulators to combat the spread of AI-generated false information ✓ Promote public awareness campaigns to educate users about the risks of AI-generated content

Ethical AI Development

To ensure fairness and inclusivity, the framework emphasizes the following practices:



Ethical Development

Bias audits
Diverse data sets
Human-in-the-loop

Bias Audits	<ul style="list-style-type: none"> ✓ Mandate regular audits to identify and mitigate biases in AI algorithms ✓ Encourage the use of open-source bias detection tools
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Diverse Data Sets	<ul style="list-style-type: none"> ✓ Promote the use of inclusive data sets that represent all demographics ✓ Provide guidelines for data set collection and annotation
Human-in-the-Loop (HITL)	<ul style="list-style-type: none"> ✓ Ensure human oversight in high-stakes AI applications to prevent harmful outcomes ✓ Develop training programs for professionals involved in AI oversight

Data Privacy and Security

Data privacy remains a critical concern in AI development. The framework includes the following measures:

Privacy & Security



Data anonymization
Consent management
Federated learning

Data Anonymization	<ul style="list-style-type: none"> ✓ Require anonymization of personal data used in AI training ✓ Provide guidelines for effective anonymization techniques
Consent Management	<ul style="list-style-type: none"> ✓ Ensure users are informed and provide explicit consent for data usage ✓ Develop standardized consent forms and processes

Federated Learning	<ul style="list-style-type: none">✓ Promote decentralized AI training methods to enhance data security✓ Provide resources and training for implementing federated learning
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Sustainability in AI

The environmental impact of AI has become a major concern. The framework addresses this through the following measures:



Sustainability

Green AI practices
Carbon footprint reporting
Renewable energy

Green AI Practices	<ul style="list-style-type: none">✓ Encourage the use of energy-efficient algorithms and hardware✓ Provide guidelines for optimizing AI models to reduce energy consumption
Carbon Footprint Reporting	<ul style="list-style-type: none">✓✓ Require companies to report the environmental impact of their AI systems✓ Develop standardized metrics for measuring carbon emissions
Renewable Energy	<ul style="list-style-type: none">✓ Advocate for the use of renewable energy in data centers and AI infrastructure✓ Collaborate with energy providers to promote green energy solutions

Workforce Transformation

AI-driven automation is transforming the workforce. The framework includes the following measures to support workers:

Workforce Transformation



Reskilling programs
Job displacement mitigation
AI ethics education

Reskilling Programs	<ul style="list-style-type: none"> ✓ Partner with educational institutions to offer AI-related training and certifications ✓ Develop online courses and workshops for professionals
Job Displacement Mitigation	<ul style="list-style-type: none"> ✓ Create policies to support workers affected by AI-driven automation ✓ Provide financial incentives for companies that invest in employee training
AI Ethics Education	<ul style="list-style-type: none"> ✓ Integrate AI ethics into university curricula and professional training programs ✓ Develop educational materials and resources for students and professionals

International and Regional Alignment

To ensure compatibility with global standards, the paper emphasizes the following:

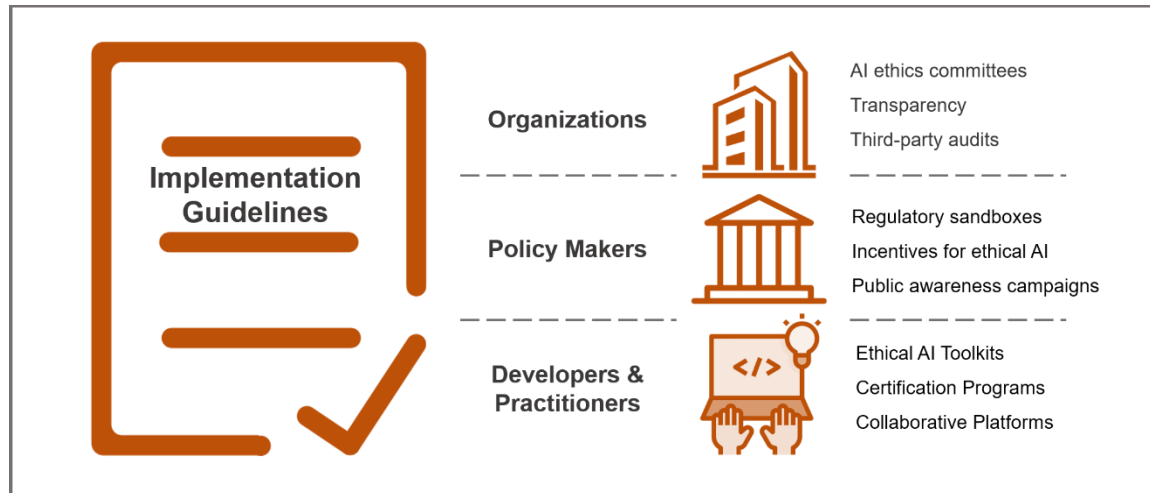


International Alignment

ASEAN collaboration
Global standards
Cross border data flow

ASEAN Collaboration	<ul style="list-style-type: none">✓ Align with the ASEAN Digital Masterplan 2025 and other regional initiatives✓ Participate in ASEAN working groups on AI governance✓ Leverage on Malaysia being the Chair of ASEAN in 2025
Global Standards	<ul style="list-style-type: none">✓ Ensure compliance with international frameworks such as the EU AI Act and OECD AI Principles✓ Engage with global and regional organizations to share best practices
Cross-Border Data Flow	<ul style="list-style-type: none">✓ Develop guidelines for secure and ethical cross-border data sharing✓ Collaborate with international partners to address data sovereignty issues✓ Ensure consistent regulations across borders on data flow

Implementation Guidelines



- For Organizations**



AI Ethics Committees	✓ Establish internal committees to oversee AI development and deployment
Transparency Reports	✓ Publish annual reports detailing AI use cases, ethical considerations and compliance measures
Third-Party Audits	✓ Engage independent auditors to assess AI systems for bias, fairness and compliance

- **For Policy Makers**

Implementation
Guidelines

Policy Makers

Regulatory sandboxes
Incentives for ethical AI
Public awareness campaigns

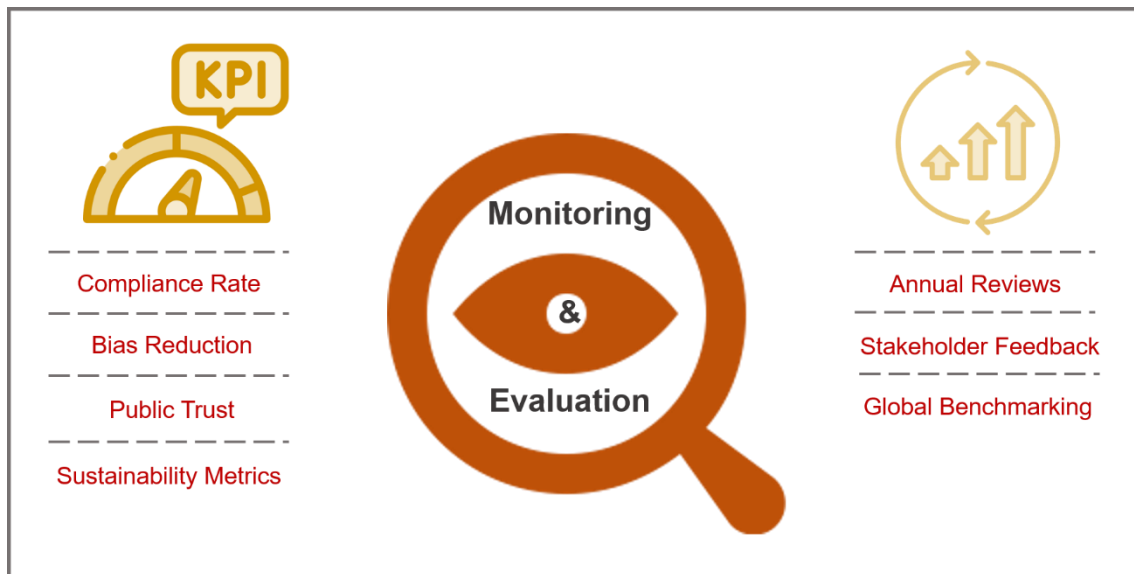
Regulatory Sandboxes	✓ Create safe environments for testing innovative AI solutions under regulatory supervision
Incentives for Ethical AI	✓ Offer tax breaks or grants to companies that adopt sustainable and ethical AI practices
Public Awareness Campaigns	✓ Educate citizens about AI's benefits and risks to foster informed public discourse

- **For Developers and Practitioners**

Implementation
GuidelinesDevelopers &
PractitionersEthical AI Toolkits
Certification Programs
Collaborative Platforms

Ethical AI Toolkits	✓ Provide open-source tools and resources for bias detection, explainability and privacy preservation
Certification Programs	✓ Develop certifications for AI practitioners to demonstrate their expertise in ethical AI
Collaborative Platforms	✓ Create forums for sharing best practices and addressing ethical challenges

Monitoring and Evaluation



Key Performance Indicators (KPIs)

Compliance Rate	✓ Percentage of companies adhering to AI ethics guidelines
Bias Reduction	✓ Measurable reduction in algorithmic bias across industries
Public Trust	✓ Survey results indicating public confidence in AI systems
Sustainability Metrics	✓ Reduction in carbon emissions from AI operations

Continuous Improvement

Annual Reviews	✓ Regularly update the framework to reflect technological advancements and emerging risks
Stakeholder Feedback	✓ Engage with industry, academia and civil society to gather input on the framework's effectiveness
Global Benchmarking	✓ Compare Malaysia's AI governance practices with global leaders to identify areas for improvement

Conclusion

The enhanced AI Ethics and Governance Framework for 2025 reflects the latest trends and priorities in the AI landscape including generative AI, sustainability and workforce transformation.

This detailed framework provides a comprehensive roadmap for PIKOM and its members in the Malaysian tech industry to navigate the evolving AI landscape.

APPENDIX – Direct & Indirect References

1. Global AI Governance Frameworks

- *EU AI Act : The European Union’s comprehensive regulatory framework for AI, finalized in late 2023, which classifies AI systems based on risk levels and sets strict requirements for high-risk applications.*
- *OECD AI Principles - The Organisation for Economic Co-operation and Development’s guidelines for trustworthy AI, emphasizing transparency, accountability, and inclusivity.*
- *UNESCO Recommendation on AI Ethics - A global standard promoting ethical AI development, adopted by UNESCO member states.*

2. Regional and National Initiatives

- *ASEAN Digital Masterplan 2025 - A regional blueprint for digital transformation, including AI governance and ethical adoption.*
- *Malaysia’s National AI Framework - Malaysia’s strategic plan for AI development, focusing on ethical AI, data sovereignty, and workforce transformation.*
- *U.S. AI Bill of Rights - A framework outlining principles for protecting civil rights in the context of AI.*

3. Generative AI Governance

- *OpenAI’s Guidelines on AI-Generated Content - Best practices for watermarking and labeling AI-generated content to prevent misuse.*
- *World Intellectual Property Organization (WIPO) - Reports and guidelines on intellectual property issues related to AI-generated works.*

4. Ethical AI Development

- *AI Fairness 360 (IBM) - An open-source toolkit for detecting and mitigating bias in AI systems.*
- *Partnership on AI - A multi-stakeholder organization promoting ethical AI practices, including fairness and inclusivity.*

5. Data Privacy and Security

- *General Data Protection Regulation (GDPR - The EU's data protection law, influencing global standards for AI and data privacy.*
- *Malaysia's Personal Data Protection Act (PDPA - The national framework for data privacy and security.*
- *Federated Learning Research - Papers and case studies on decentralized AI training methods to enhance data security.*

6. Sustainability in AI

- *Green AI Initiatives - Research and reports on energy-efficient AI practices, including studies from institutions like the Allen Institute for AI.*
- *Carbon Footprint Reporting Standards - Guidelines from organizations like the Global Reporting Initiative (GRI) and Carbon Trust.*

7. Workforce Transformation

- *World Economic Forum (WEF) Reports - Insights on AI-driven job displacement and reskilling initiatives.*
- *AI Ethics Education Programs - Examples from universities like MIT, Stanford, and Oxford, which integrate AI ethics into their curricula.*

8. International Collaboration

- *Global Partnership on AI (GPAI - A multilateral initiative promoting responsible AI development and governance.*
- *ASEAN AI Governance and Ethics Guidelines - Regional efforts to harmonize AI standards across Southeast Asia.*

9. Industry Best Practices

- *Microsoft's Responsible AI Principles - A corporate framework for ethical AI development, including transparency and accountability.*
- *Google's AI Principles - Guidelines for AI development, emphasizing fairness, privacy, and societal benefit.*

10. Academic and Research Contributions

- *AI Ethics Research Papers* - Peer-reviewed studies on bias mitigation, explainability, and ethical AI design.
- *Case Studies on AI Governance* - Real-world examples of AI implementation in healthcare, finance, and other sectors.

11. PIKOM AI Ethics Policy 2024

Caveat on Sources

While the above references (except for the PIKOM AI Ethics Policy 2024) are not directly cited in the above, they represent the foundational knowledge and best practices that have shaped the content.

For more in-depth understanding, we recommend consulting official publications from organizations such as the EU, OECD, UNESCO, ASEAN and Malaysian government agencies as well as any more recent industry reports and academic research.