Transforming Indonesian MSMEs with AI:
Innovations, Strategies, and Insights

Navigating AI Integration for a Human-centered, Job Rich, Productive MSME Sector: Strategic Pathways for Indonesia

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The Importance of MSMEs in Indonesia's Economy

- MSMEs comprise over 99% of all businesses in Indonesia
- MSMEs contribute approximately 61% to Indonesia's total Gross Domestic Product (GDP)
- MSMEs absorb around 97% of Indonesia's domestic employment, creating a significant number of jobs.

Structure of Business in Indonesia:

Type of Enterprise	Number of Enterprises	Number of Workers	% of Total Enterprises	Definition
Big	± 5,500	± 3,700,000	0.01%	Assets > IDR 10 billion
Medium	± 61,000	± 4,000,000	0.09%	Assets IDR 500 mln–10 bln
Small	± 783,000	± 6,000,000	1.2%	Assets IDR 50 mln–500 mln
Micro	± 63,350,000	± 108,500,000	98.7%	Assets < IDR 50 million

Source: Bisnis Indonesia (08.12.2021)

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How can AI be the game-changer that propels MSMEs into the Indonesia 2045 Digital Economy?

As businesses navigate the digital landscape, AI isn't just an advantage—it's a necessity for staying competitive and driving growth

Acceleration of Digital Economy (DE) development can enable Visi 2045 for Indonesia; most countries are already betting on Digital

Definition & Scope

OECD

Digital Economy

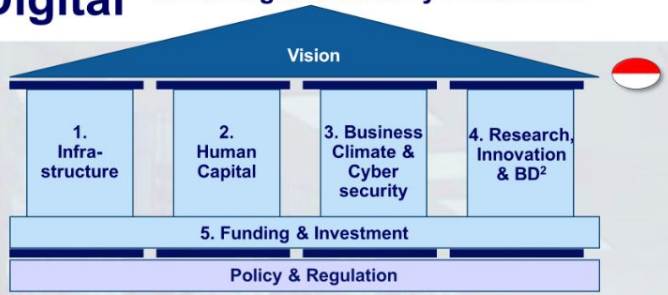
Core: IT/ ICT Industry	**Narrow:** Digital Economy	**Broad:** Digitalized Economy
Hardware (incl. Semiconductors), Software, Telco Equip, ICT Services, etc.	ISP, Media Broadcast, Digital Platforms, etc.	E-commerce, Fintech, Healthtech, Edutech, etc.
TELKOMSEL, oppo, XL axiata, SAMSUNG, ORACLE, infineon[1]	KOMPAS.com, NETFLIX, Grab, traveloka, Uber	Shopee, tokopedia, gopay, bukalapak, halodoc

*As DE matures, **broad typically becomes the largest contributor to DE***

Digital Economy Strategy *(selection)*

*Many countries dedicate resources & effort, with **clear DE strategies***

CMEA Digital Economy Framework



Vision – *Clarity and cohesiveness of overarching national DE vision*

1. Infrastructure – *Availability and quality of digital & physical infrastructure (e.g., fiber-optic networks, data centers, electricity)*

2. Human Capital – *Availability and quality of professional talent with required skills to drive DE development*

3. Business Climate & Cybersecurity – *Overall business landscape's digital adoption and mature cybersecurity*

4. Research, Innovation & BD² – *Acquisition, development and utilization of skills and technology to innovate within and beyond ICT*

5. Funding & Investment – *Ability to generate, attract, and maximize different sources of funding/ investment into ICT and other industries*

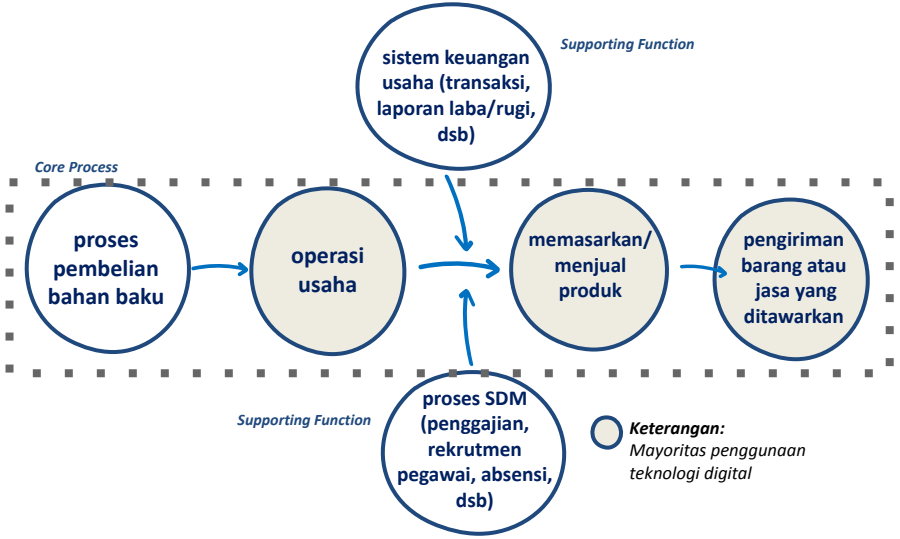
Policy & Regulation (P&R) – *Sufficiency of policy and regulations in place to support digital economy development*

1. Indonesia has limited operations both from global as well as local semiconductor companies; 2. Business development
Source: Kearney

ADOPSI TEKNOLOGI DIGITAL DALAM AKTIVITAS UMKM

UMKM telah menggunakan teknologi digital, dalam membantu aktivitas usahanya

Adopsi Teknologi Digital pada proses bisnis UMKM



Menggunakan teknologi digital (produk fisik) dalam usaha

- **98,53%** Handphone
- **32,00%** Komputer/Laptop/PC
- **0,53%** Digital Scanner/Printer

Menggunakan berbagai *software, social media* maupun aplikasi

Marketplace

- Shopee: **9,95%**
- Tokopedia: **4,06%**
- Gojek: **3,40%**
- Grab: **2,62%**
- Bukalapak, Lazada & Blibli: **1,96%**

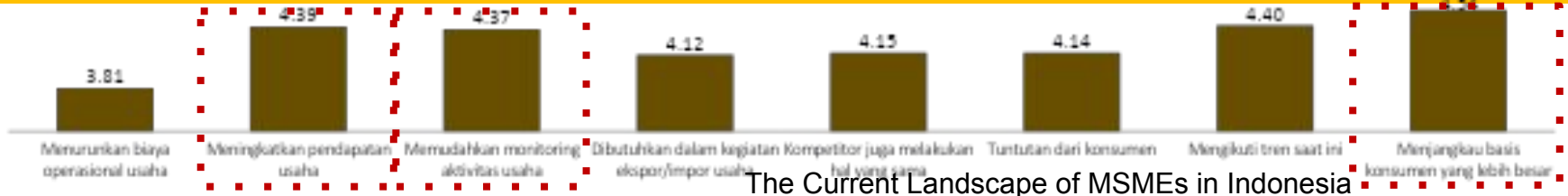
Social Media

- WhatsApp: **38,22%**
- Facebook: **32,33%**
- Instagram: **30,63%**
- Youtube: **2.23%**
- TikTok & Twitter: **1,70%**

OS & Other Supporting Software

- Microsoft: **5,10%**
- Canva: **3,66%**
- Google: **2,88%**
- Corel: **2,88%**
- Adobe: **2.36%**
- Bukukas: **1,83%**

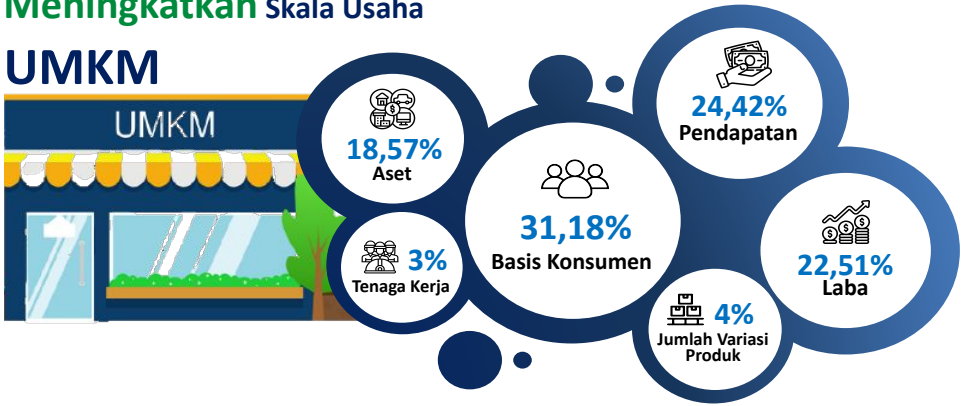
FAKTOR YANG MENDORONG UMKM UNTUK MENGADOPSI TEKNOLOGI DIGITAL DALAM MENJALANKAN BISNIS



Sumber: Survei Indonesia Service Dialogue pada UMKM, Januari 2022

DAMPAK ADOPSI TEKNOLOGI PADA PRODUKTIVITAS DAN LITERASI UMKM

Penggunaan Barang/Layanan Digital [1] Meningkatkan Skala Usaha UMKM



Penggunaan Teknologi Digital Menurunkan Biaya Usaha UMKM

Keuangan Digital Berdampak Pada Literasi Keuangan Pelaku Usaha [2]

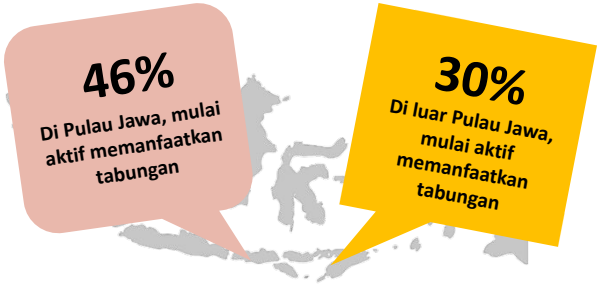
Usaha Nano Mikro Mulai Melek Keuangan

85%
Mulai mengenal perbankan

51%
Mulai aktif memanfaatkan tabungan

49%
Mulai menggunakan jasa transfer dana

Mendorong Literasi Keuangan UMKM Hingga ke Daerah

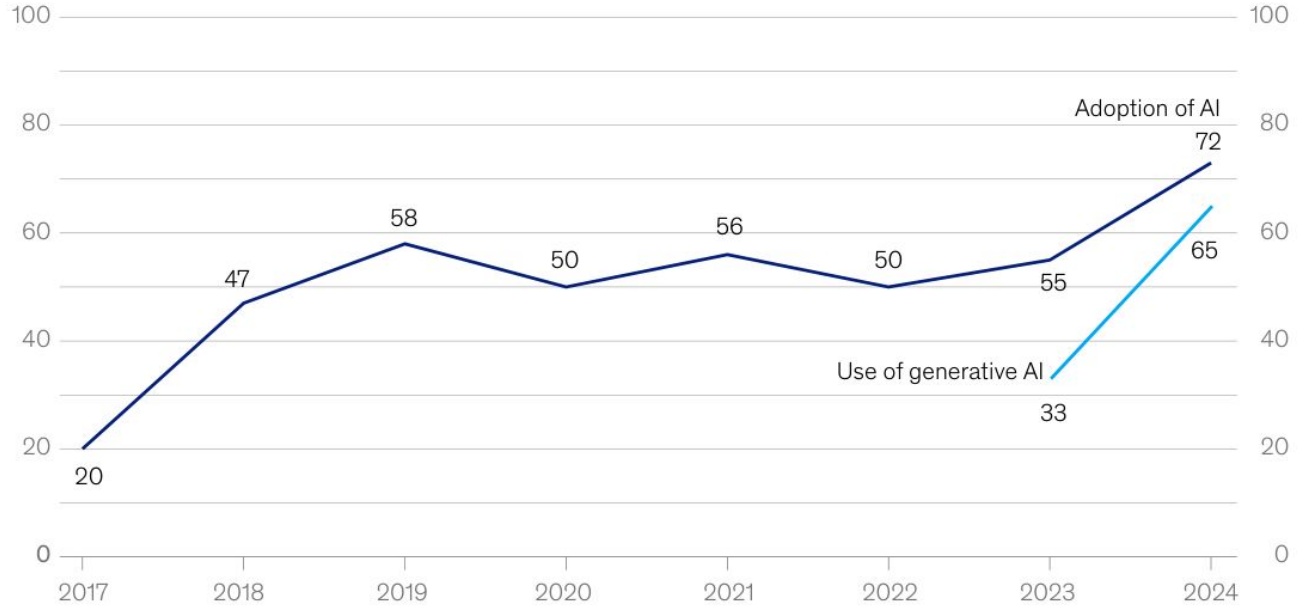


The Current Landscape of MSMEs in Indonesia

Sumber: Survei Indonesia Service Dialogue pada UMKM, Januari 2022; [2]OVO

AI adoption worldwide has increased dramatically in the past year, after years of little meaningful change.

Organizations that have adopted AI in at least 1 business function,[1] % of respondents



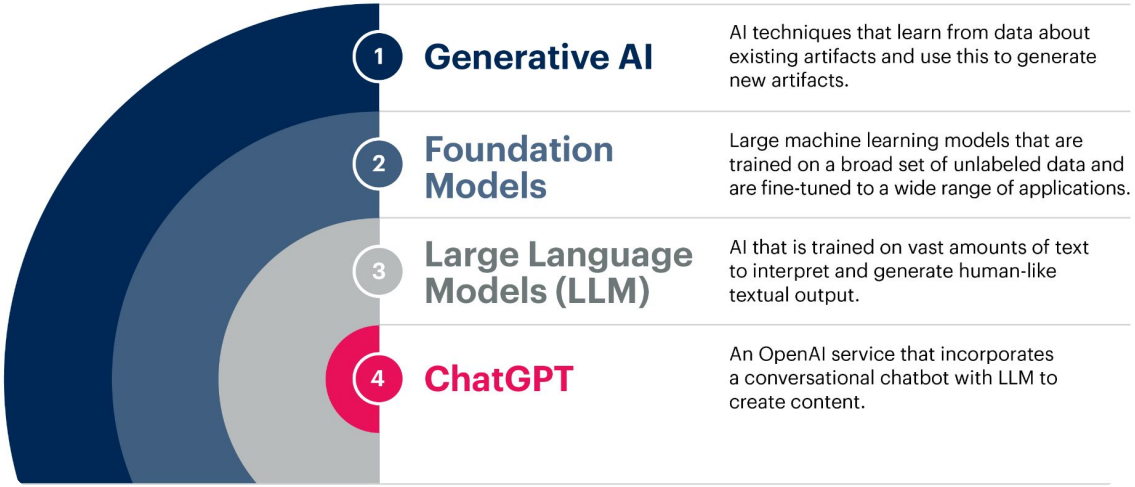
[1]In 2017, the definition for AI adoption was using AI in a core part of the organization's business or at scale. In 2018 and 2019, the definition was embedding at least 1 AI capability in business processes or products. Since 2020, the definition has been that the organization has adopted AI in at least 1 function.
Source: McKinsey Global Survey on AI, 1,363 participants at all levels of the organization, Feb 22–Mar 5, 2024

AI Adoption Surges

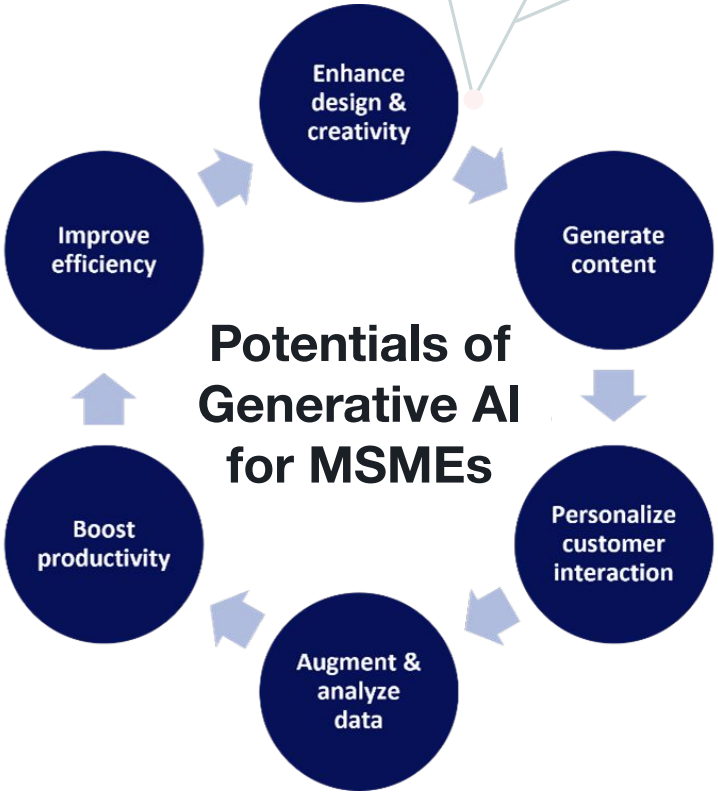
For the past six years, AI adoption by organizations has hovered at about 50 percent. This year, the survey finds that adoption has **jumped to 72%.**

Source: McKinsey

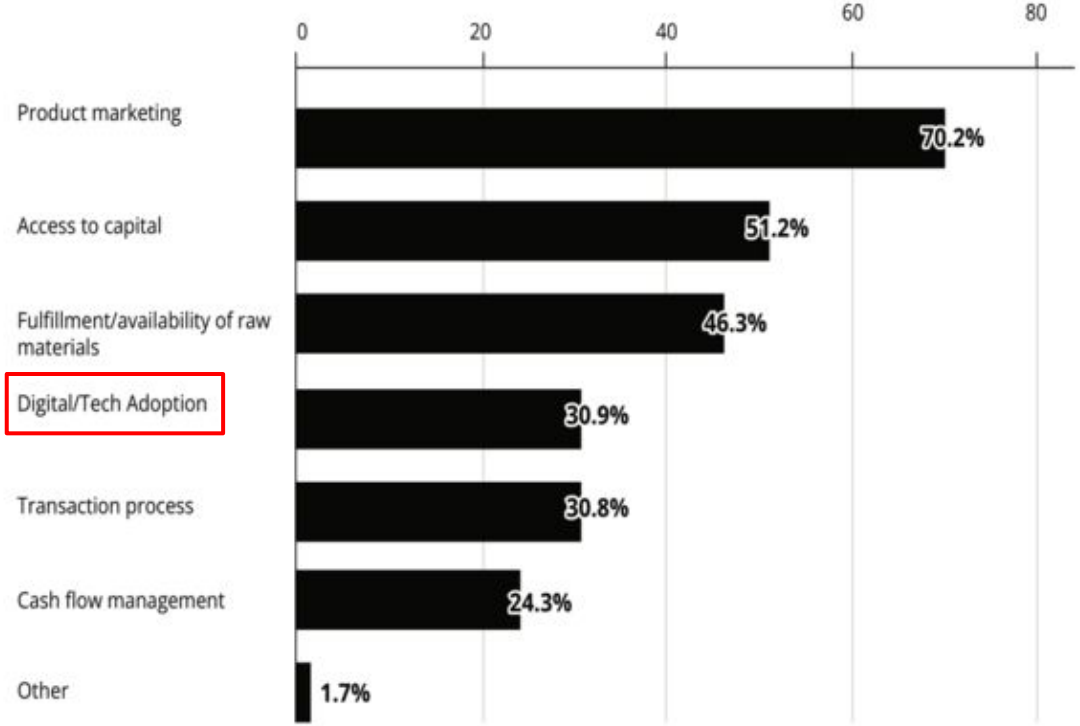
What Is Generative AI?



1	**Generative AI**	AI techniques that learn from data about existing artifacts and use this to generate new artifacts.
2	**Foundation Models**	Large machine learning models that are trained on a broad set of unlabeled data and are fine-tuned to a wide range of applications.
3	**Large Language Models (LLM)**	AI that is trained on vast amounts of text to interpret and generate human-like textual output.
4	**ChatGPT**	An OpenAI service that incorporates a conversational chatbot with LLM to create content.



Source: MSME Empowerment Report 2022 (page 20)



AI Challenges Faced by MSMEs in Indonesia

Lack of Reliable Digital Infrastructure: Many remote or rural areas in Indonesia lack internet connectivity, making it difficult for MSMEs to adopt digital technologies like e-commerce and online marketing

Limited Digital Skills: MSME owners and employees often lack the necessary digital skills, hindering their ability to utilize technology efficiently.

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Considering the impact that AI has in different tasks including those managerial ones, it is relevant to recognize the importance of governance frameworks throughout AI's lifecycle to guarantee that all relevant stakeholders are taken into account, in order to protect workers rights while also promoting technological innovation.

On that note, our KORIKA multi stakeholder should provide recommendations on how to better assess the labor related issues pointed out, and how to **promote meaningful policy discussions that defend a human-centered and human rights based development and deployment of AI systems in the labor market.**

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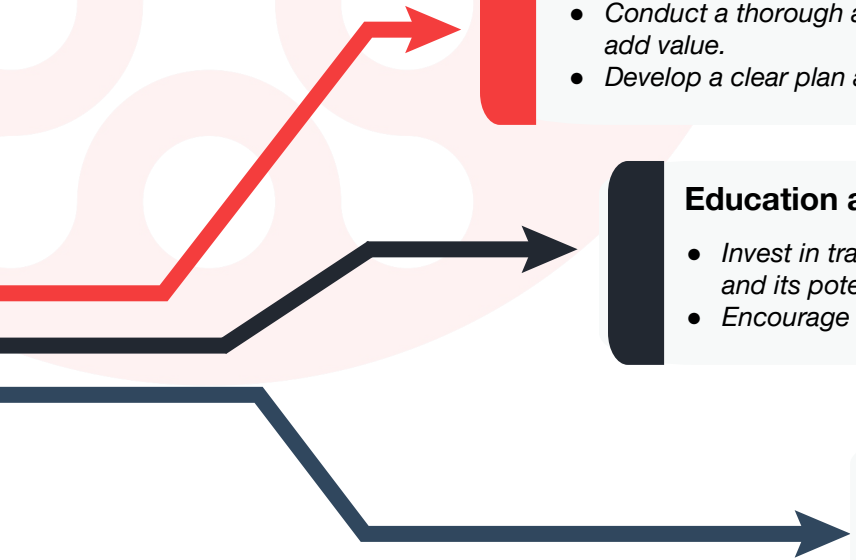
Adopting AI in MSMEs Indonesia



Assessment and Planning

- *Conduct a thorough assessment of current business processes and identify areas where Generative AI can add value.*
- *Develop a clear plan and strategy for AI adoption, including goals, timelines, and resource allocation.*

Education and Training

- *Invest in training programs to educate employees about Generative AI and its potential applications.*
- *Encourage a culture of continuous learning and innovation.*

Pilot Projects

- *Start with small-scale pilot projects to test and refine AI applications before full-scale implementation.*
- *Measure the impact and gather feedback to make necessary adjustments.*

AI National Strategy

Framework for the National Strategy

The framework helps describe the conditions of priority sectors and their relation between national initiating programs in the four areas of focus and priority sectors, as well as the selection of quick win activities to utilize artificial intelligence

Four Areas of Focus

1. Ethics and Policy
2. Talent Development
3. Infrastructure and Data
4. Research and Industrial Innovation

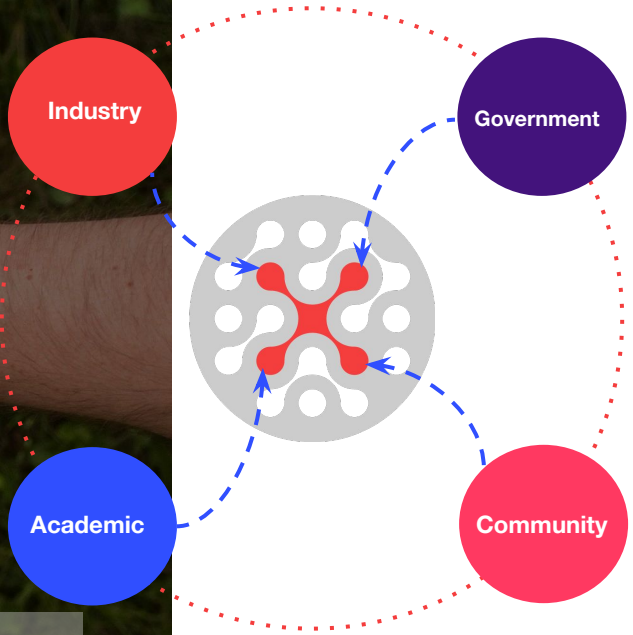
Five Priority Sectors

1. Health Care Services
2. Bureaucratic Reform
3. Research and Education
4. Food Resilience
5. Mobility and Smart Cities

Call to Action

Empowering MSMEs through AI Adoption

Fostering Collaboration to Strengthen Indonesia's AI Ecosystem



- Open Invitation to Stakeholders: Be a part of nurturing Indonesia's AI ecosystem.
- Collaboration for Advancement: Together, we can reach significant milestones.
- Driving AI Integration: Combining expertise and resources across healthcare, finance, transportation, agriculture, and education.
- Building Partnerships and Sharing Knowledge: Promote collaboration for an inclusive AI ecosystem.
- Supporting Responsible AI: Join us in collectively developing a vibrant AI ecosystem in Indonesia.

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THANK YOU