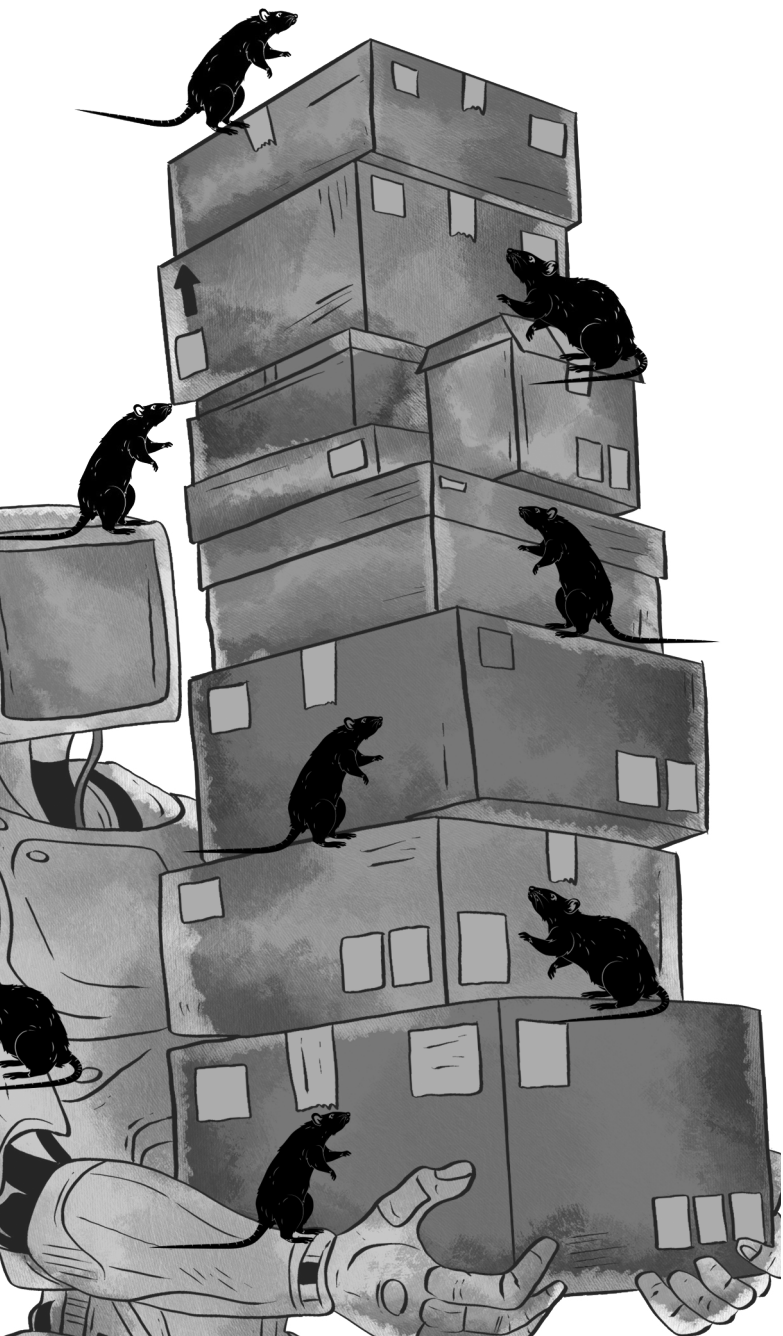




# Tracing the Indonesian Government's AI Technology Procurement Track from 2021 to 2024

Between Digital Ambition and Governance Risk





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Governance Risk

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## Executive Summary

The Indonesian government has allocated a massive budget of IDR 75 trillion from 2019 to 2022 to accelerate digital transformation. One of its main focuses is the adoption of Artificial Intelligence (AI) technology in the public sector to improve efficiency, transparency, and the quality of government services.

To find out how the government is using AI technology, researchers looked at 28 keywords that can be found in the procurement records of the Government Goods/Services Procurement Policy Agency (LKPP), which include the planning, bidding, and finishing contracts. Between 2021 and 2024, 264 AI technology procurement packages were awarded, with a total contract value of IDR 4.71 trillion. A total of 24.62% of contracts were cancelled without a clear cause, indicating inadequate paperwork and accountability.

The purchase of goods and other services, such as cloud computing and big data services, accounted for the majority of procurement, totalling IDR 1.87 trillion. Meanwhile, consulting services, which are essential for feasibility studies and policy development, totalled only IDR 62 billion. This figure suggests that the government is prioritising technical infrastructure over formulating and strengthening the governance and benefits of AI technology to meet public needs.

The Indonesian National Police (Polri) is the institution with the largest AI procurement, with contracts totalling IDR 1.24 trillion. Polri bought AI facial recognition technology and an Electronic Traffic Law Enforcement (ETLE), which could violate citizen's digital rights because there are no proper ways to fix mistakes in identification or ensure data protection. The corruption case involving the National Data Centre's (PDN) procurement and the cyberattack that crashed 282 public services highlight the urgency of reforming AI procurement governance.

This monitoring revealed that the government's increased budget for AI technology procurement from 2021 to 2024 was not accompanied by strengthening AI governance based on the principles of transparency, accountability, human rights protection, and regulatory compliance.

This is reflected in:

- The government's AI budget prioritises technical infrastructure, such as cloud computing and big data, over consulting services, which are essential for feasibility studies and policies that can detect potential risks of human rights violations, among other things.
- Polri's AI procurement is primarily for security purposes, with no assurance that these objectives align with public needs as stipulated in the National Strategy for AI (Stranas KA) document. There are no corrective mechanisms or sanctions for the misuse of AI technology, as seen in the mistakes of the Indonesian National Police's facial recognition and ETLE systems.
- The Ministry of Communication and Digital (Komdigi) faced cyberattacks and corruption scandals during the procurement of the National Data Centre.

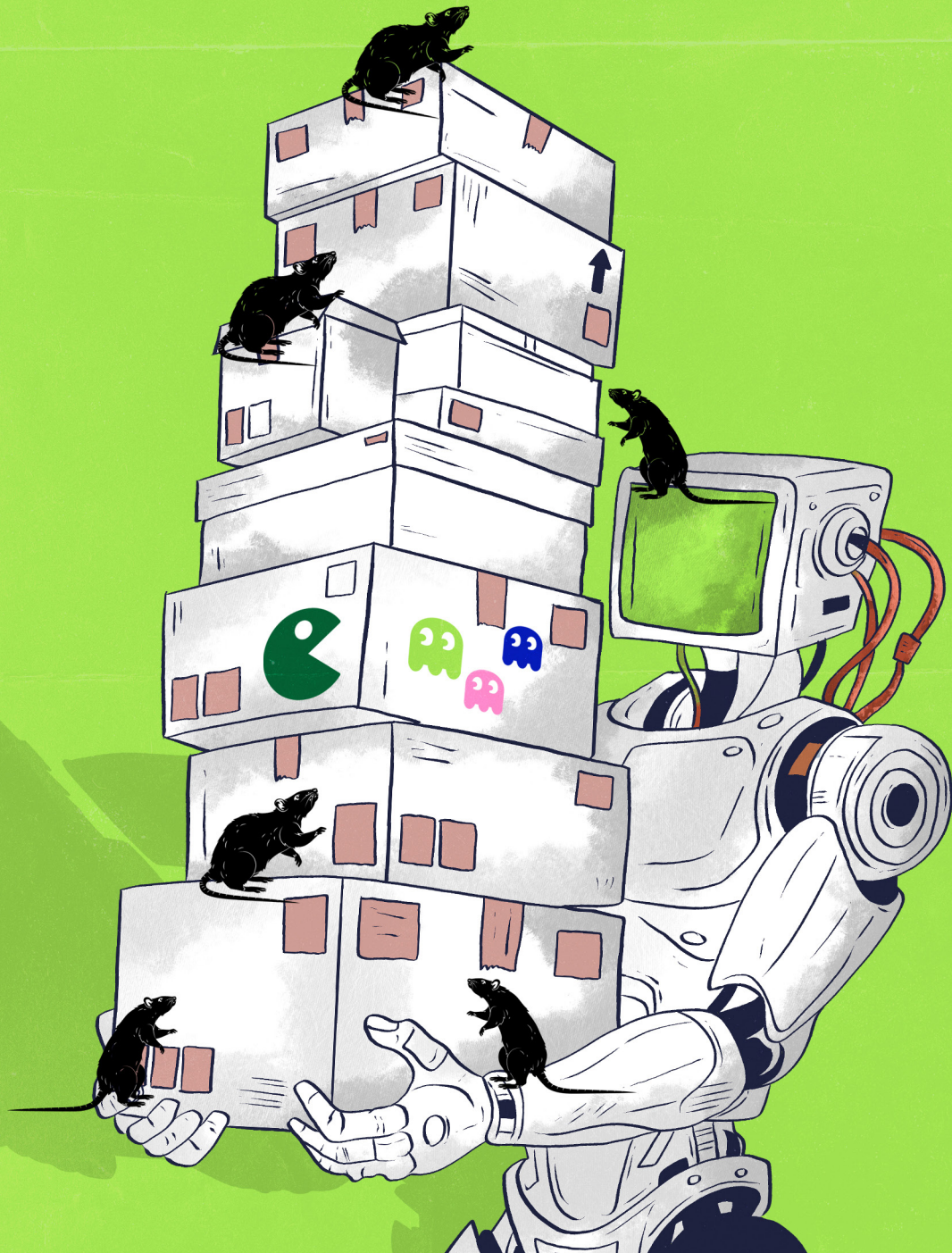
This situation indicates a lack of planning, stakeholder engagement, and risk assessment in the procurement process. Furthermore, despite increased spending on AI technology, the government appears unprepared in fundamental institutional and ethical aspects. In the global context, the government has also not fully adopted the UK government's ethical and responsible approach to AI procurement, which involves four stages: planning and preparation, transparency and accountability, ethics and compliance, and implementation and contract management. Not only are ethical testing and public engagement neglected, but also AI procurement remains vulnerable to budget misuse and lacks transparency.

Key recommendations include:

- Strengthening planning and justifying needs. The government must ensure that AI technology procurement fulfils public needs by involving stakeholders, particularly affected groups, early in the planning process.
- Increasing transparency and accountability. The government must publish the reasons for all cancelled procurement plans, disclose information on every stage of the AI technology procurement

process, and establish a complaint channel so that the public can proactively monitor the entire procurement process and report any misuse of procurement funds and the use of AI technology. Every institution procuring AI technology must publish a report on its AI procurement performance and the basis for its procurement appointment.

- Implementation of human rights and ethics principles in AI procurement. The government must ensure that all AI technology undergoes ethical, proportionate, and human rights impact assessments; create technical guidelines for the use of AI technology based on human rights principles; and establish an independent team to oversee the use of AI technology in the public sector.
- Capacity building and training for AI technology users. The government must provide ethical and technical training to civil servants (ASN) who employ AI technology, as well as long-term technical support, to prevent technical errors that could harm the public.



## Background

Since 2019, the Indonesian government has been working to accelerate digital transformation in the public sector. Between 2019 and 2022, the total budget allocated for accelerating digital transformation was approximately IDR 75 trillion. This budget tends to fluctuate annually. The government allocated IDR 7 trillion in 2019, increasing to IDR 10 trillion in 2020, and then tripling in 2021 to IDR 32 trillion. In 2022, the budget decreased to IDR 25 trillion.<sup>1</sup>

The government is accelerating digital transformation to improve the quality of public services, transparency, accountability, efficiency, and citizen participation in accessing them.<sup>2</sup> This includes creating several applications or websites, preparing infrastructure to accommodate big data, or even utilising artificial intelligence.

Good intentions without adequate planning will inevitably lead to problems. Several examples of issues with the government's digital transformation goals have surfaced during the past two years. For example, the projected gain in efficiency through digital transformation has, in fact, resulted in waste. This condition occurs when the government has over 27,000 non-interoperable and overlapping applications.<sup>3</sup>

This problem stems from a lack of transparency and accountability in government spending. Therefore, it is critical to evaluate the government's efforts to accelerate digital transformation rapidly. Furthermore, the government has numerous plans to accelerate digital transformation, one of which is the deployment of artificial intelligence, also known as *Akal Imitasi* (AI)<sup>4</sup>.

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<sup>1</sup>Baren, Oki. "Rp 75 Trillion, Digital Infrastructure Allocation in the State Budget – Property Industry," *Industri Properti*, March 24, 2022, <https://www.industriproperti.com/nasional/rp-75-triliun-alokasi-infrastruktur-digital-di-apbn/>.

<sup>2</sup>Sari, Nani Permata. "Examining the Steps of Digital Transformation in Public Services," *Ministry of Administrative and Bureaucratic Reform*, n.d., <https://menpan.go.id/site/berita-terkini/menilik-langkah-transformasi-digital-pelayanan-publik>.

<sup>3</sup>Idris, Muhammad. "Budget Waste, There Are 27,000 Government Apps Through Vendors," *KOMPAS.com*, March 20, 2023, <https://money.kompas.com/read/2023/03/20/193607826/pemborosan-anggaran-ada-27000-aplikasi-milik-pemerintah-lewat-vendor?page=all>.

<sup>4</sup>In English, it is referred to as an 'Imitation Brain.' *Akal Imitasi*, abbreviated as AI, is an acronym derived from the more commonly known AI (Artificial Intelligence). This acronym is considered an alternative term for AI that more appropriately represents the [definition of AI](#).

In general, AI is a computer system that relies on human intelligence to execute a variety of tasks.<sup>5</sup> These tasks include recognising patterns, as well as understanding texts and languages provided by humans. It relies on studying vast amounts of data, thereby maintaining differences from human neural networks in terms of acting, reasoning, and decision-making.

Discussions about the use of AI in the public sector have been ongoing for a considerable time. In a November 2019 report by the Organisation for Economic Co-operation and Development (OECD), “Hello, World: Artificial Intelligence and its Use in the Public Sector,” the use of AI can have a positive impact on public services, including helping design sound policies and decisions, improving communication and engagement between government and citizens, increasing the speed and quality of public services, and improving internal government organisations.<sup>6</sup> The use of AI in the public sector has the potential to reduce government administrative work by up to 30% depending on the level of investment in AI.<sup>7</sup>

Despite the claims of AI’s potential benefits for the public service sector, its investment costs remain significant. According to the Artificial Intelligence Index Report 2025<sup>8</sup>, numerous countries have allocated budgets to implement AI based on contracts. For example, the United States spent approximately US\$831 million (equivalent to IDR 13.79 trillion) in 2023. Meanwhile, AI-related contracts in the United Kingdom totalled around US\$262.59 million, equivalent to IDR 4.35 trillion. The large investment budget allocation for AI must be weighed against the principles of transparency, accountability, and participation. Without these principles, the possibility of budget misuse and AI abuse will increase.

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<sup>5</sup>Andersen, Lindsey. “Human Rights in the Age of Artificial Intelligence.” *Access Now*, November 8, 2018. <https://www.accessnow.org/wp-content/uploads/2018/11/AI-and-Human-Rights.pdf>

<sup>6</sup>Berryhill, Jamie; Kévin Kok Heang; Rob Clogher; dan Keegan McBride. *Hello, World: Artificial Intelligence and Its Use in the Public Sector*, OECD Working Papers on Public Governance No. 36 (Paris: OECD Publishing, 2019), <https://doi.org/10.1787/726fd39d-en>.

<sup>7</sup>Deloitte. *How Much Time and Money Can AI Save Government?* Deloitte Insights, 2017. [https://www2.deloitte.com/content/dam/insights/us/articles/3834\\_How-much-time-and-money-can-AI-save-government/DUP\\_How-much-time-and-money-can-AI-save-government.pdf](https://www2.deloitte.com/content/dam/insights/us/articles/3834_How-much-time-and-money-can-AI-save-government/DUP_How-much-time-and-money-can-AI-save-government.pdf).

<sup>8</sup>Nestor Maslej et al., *The AI Index 2025, Annual Report* (AI Index Steering Committee, Institute for Human-Centered AI, Stanford University, Stanford, CA, April 2025).

In the context of AI use in Indonesia, the government has a National Strategy for Artificial Intelligence 2020-2045 (Stranas KA), published in August 2020.<sup>9</sup> In general, Stranas KA contains a framework encompassing four focus areas and five priority areas, as shown in Figure 1. The document, orchestrated by the Agency for the Assessment and Application of Technology (BPPT), also includes a 2020-2024 roadmap, one of the outputs of which is Law Number 27 of 2022 concerning Personal Data Protection (UU PDP).

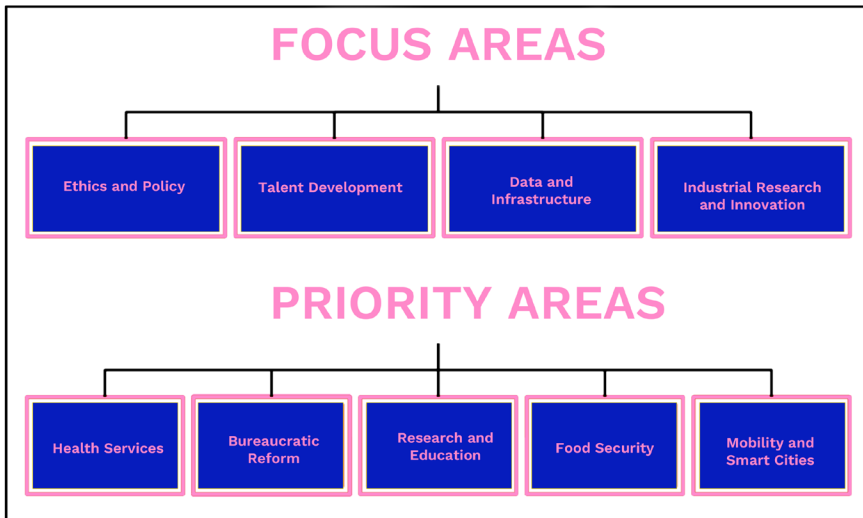


Figure 1. Four Focus Areas and Five Priority Areas Based on the Results of the SWOT Study, Indonesia's National Artificial Intelligence Strategy 2020-2045, 2025.

Meanwhile, the use of AI in public services also requires adequate infrastructure. Therefore, the National Strategy for Artificial Intelligence (Stranas KA) includes a roadmap, one of which is providing infrastructure and a shared platform for AI machine learning services through the establishment of the Indonesian National AI Supercomputer Centre. To provide this infrastructure, the government must allocate a significant budget through the procurement of goods and services mechanisms.

<sup>9</sup>[“National Artificial Intelligence Strategy of Indonesia 2020–2045”](#).

Goods and Services Procurement (PBJ) is a government activity aimed at providing services and is capable of delivering significant benefits to the public. However, PBJ is also the sector most prone to corruption. According to the 2024 Integrity Assessment Survey by the Corruption Eradication Commission (KPK), 97% of PBJ management in ministries/agencies is prone to abuse.<sup>10</sup> This situation is despite the fact that the digitalisation of PBJ processes has been underway since 2010.

Procurement corruption in AI infrastructure development also occurred in 2024 when the Temporary National Data Centre (PDNS) was attacked by ransomware. The PDNS serves as a supporting facility for big data and artificial intelligence management for central and regional government agencies (IPPD).<sup>11</sup> The National Civil Service Agency's (PDNS) procurement budget totals approximately IDR 959.4 billion.<sup>12</sup> Due to the impact of the ransomware attack, 282 government services became inaccessible.

The aforementioned situation highlights a significant vulnerability when the government intends to build AI infrastructure, as the potential for budget misuse casts a shadow. Consequently, providing AI infrastructure will have no meaningful benefits for the public and may even be detrimental. Therefore, following the principles of transparency, accountability, and participation is key to ensuring that the deployment of AI infrastructure is free from budget misuse.

The situation above underscores a significant risk associated with the government's plans to construct AI infrastructure, as the potential for budget mismanagement casts a shadow.

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<sup>10</sup>“Procurement of Goods and Services, the Sector Most Vulnerable to Corruption in SPI Findings 2024,” *KPK*, n.d., <https://www.kpk.go.id/id/ruang-informasi/berita/pengadaan-barang-dan-jasa-sektor-paling-rentan-korupsi-di-temuan-spi-2024>.

<sup>11</sup>“PDN-PDNS.” *Aptika Kominfo*. <https://aptika.kominfo.go.id/informasi/layanan/pdn-pdns/>.

<sup>12</sup>Martiar, Norbertus Arya Dwiangga. “A New Chapter in the National Data Center Corruption Case, the Prosecutor's Office Has Obtained the Names of Suspects,” *Kompas.id*, April 25, 2025, <https://www.kompas.id/artikel/babak-baru-kasus-korupsi-pusat-data-nasional-kejaksaan-telah-kantongi-nama-tersangka>.

## Objectives

1. To identify the total government expenditure on the procurement of AI infrastructure from 2021 to 2024.
2. To scrutinise adherence to the AI procurement cycle.

## Monitoring Method

We utilised Open Source Intelligence (OSINT) methods to gather information on government spending through procurement procedures for goods and services. OSINT is the activity of collecting and analysing information from publicly available and auditable sources.<sup>13</sup> Our data source came from the Government Goods and Services Procurement Policy Agency (LKPP) website, which comprises the General Procurement Planning Information System (SiRUP)<sup>14</sup> and the Electronic Procurement System Service (LPSE)<sup>15</sup>.

To identify whether government procurement falls within the AI category, we ran a keyword search using the snowball effect for the 2021-2024 period. Table 1 displays the government's budget allocation for AI development based on 28 keywords that we used.

Table 1. AI-related keywords

Nr.	Keywords	No.	Keywords	No.	Keywords
1	Artificial	11	Intelligence	21	Pusat Data Nasional
2	Artificial Intelligence	12	Kecerdasan	22	Recognition
3	Big Data	13	Kecerdasan Artificial	23	Satusehat
4	Chatbot	14	Kecerdasan Artifisial	24	Social media analytics
5	Cloud Computing	15	Kecerdasan Buatan	25	Speech recognition
6	Electronic Traffic	16	Komputasi Awan	26	Supercomputer

<sup>13</sup>Colquhoun, Cameron. "A Brief History of Open Source Intelligence - Bellingcat," *Bellingcat*, July 17, 2020. <https://www.bellingcat.com/resources/articles/2016/07/14/a-brief-history-of-open-source-intelligence/>.

<sup>14</sup>[General Procurement Planning Information System](#)

<sup>15</sup>[Electronic Procurement System Service](#)

7	Electronic Traffic Law Enforcement (ETLE) <sup>16</sup>	17	Lisensi ABIS <sup>17</sup>	27	Tensor <sup>18</sup>
8	Face Recognition	18	Machine Learning	28	Visual Assist
9	<i>Hadoop</i> <sup>19</sup>	19	<i>Media Intelligence</i>		
10	HPC <sup>20</sup>	20	Pengenalan Wajah		

We have limited the scope of this monitoring to government spending at the ministry and state institution levels, including tender, direct procurement, and direct appointment methods. We did not collect procurement outside of these methods due to the government's inadequate information. However, we will elaborate on this critical point in the discussion.

<sup>16</sup>*Electronic Traffic Law Enforcement*

<sup>17</sup>*Automated Biometric Identification System*

<sup>18</sup>Nurogo, Bayu Adi. "Prosesor Google Tensor: Rahasia di Balik Kecerdasan Pixel." *RRI*, 31 Oktober 2024. <https://rri.co.id/lain-lain/1084497/prosesor-google-tensor-rahasia-di-balik-kecerdasan-pixel>.

<sup>19</sup>"Mengenal Apa Itu Hadoop? Solusi Dalam Era Big Data Analytics," *Cloud Computing Indonesia*, n.d., <https://www.cloudcomputing.id/pengetahuan-dasar/mengenal-hadoop-bigdata>.

<sup>20</sup>"Apa Itu High Performance Computing? Pengertian Dan Karakteristik." *Cloud Computing Indonesia*, n.d. <https://www.cloudcomputing.id/pengetahuan-dasar/high-performance-computing>.

## Overview

Many concepts have been proposed to define Artificial Intelligence (AI). Stanford University explains that AI is a science and a set of computing technologies inspired by humans but typically operating in ways that differ significantly from how humans use their neurological systems and bodies to sense, learn, reason, and act.<sup>21</sup> Meanwhile, the OECD defines AI as a machine-based system capable of making predictions, recommendations, or decisions that impact the environment or virtual world for a particular set of human-defined objectives.<sup>22</sup>

Broadly speaking, AI is a machine designed to mimic human abilities to learn, reason, and act independently. By discovering patterns in large amounts of trained data, AI can be automated to make decisions or generate answers when faced with new situations, much like humans and animals.<sup>23</sup>

## The Procurement of Goods and Services in Indonesia

Procurement of goods and services, hereinafter referred to as PBJ, is an activity carried out by ministries, agencies, regional apparatuses, other institutions, and village governments, funded by the APBN (State Budget), APBD (Regional Budget), or APB Desa (Village Budget). The process covers everything from identifying needs to handling work outcomes.<sup>24</sup> The procurement process requires the application of principles such as efficiency, effectiveness, transparency, openness, competitiveness, fairness, and accountability.<sup>25</sup>

Three regulations closely relate to the principle of transparency in the procurement process. First, there is Law Number 7 of 2006, which concerns

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<sup>21</sup>Peter Stone et al., “Artificial Intelligence and Life in 2030,” *One Hundred Year Study on Artificial Intelligence: Report of the 2015–2016 Study Panel* (Stanford University, Stanford, CA, September 2016), accessed September 6, 2016, <http://ai100.stanford.edu/2016-report>.

<sup>22</sup>Berryhill, Jamie; Kévin Kok Heang; Rob Clogher; and Keegan McBride. *Hello, World: Artificial Intelligence and Its Use in the Public Sector*, OECD Working Papers on Public Governance No. 36 (Paris: OECD Publishing, 2019), <https://doi.org/10.1787/726fd39d-en>.

<sup>23</sup>Hao, Karen. “What is AI? We drew you a flowchart to work it out.” *MIT Technology Review*, November 10, 2018. <https://www.technologyreview.com/2018/11/10/139137/is-this-ai-we-drew-you-a-flowchart-to-work-it-out>.

<sup>24</sup>Indonesia, *Presidential Regulation No. 46 of 2025 on the Second Amendment to Presidential Regulation No. 16 of 2018 on Government Procurement of Goods/Services* (Perpres 46/2025), Article 1 paragraph (1).

<sup>25</sup>Indonesia, *Presidential Regulation No. 16 of 2018 on Government Procurement of Goods/Services* (Perpres 16/2018), Article 6.

the Ratification of the United Nations Convention Against Corruption (UNCAC) 2003 (Law 7/2006). Article 9, paragraph 1, of the UNCAC<sup>26</sup> states:

*“Each State Party shall, in accordance with the fundamental principles of its legal system, take the necessary steps to establish appropriate procurement systems, based on transparency, competition and objective criteria for decision-making, that are effective, among other things, in preventing corruption. Such systems, which may consider proper thresholds in their application, must address, among other things:*

- a. Public dissemination of information relating to procurement and contracting procedures, including information on tender invites and information relevant to or related to the contract, to allow bidders sufficient time to prepare and submit their bids;*
- b. Establishment, in advance, of conditions for participation, including selection and award criteria and tender rules, and their publication;*
- c. Use objective and pre-established criteria for public procurement decisions to facilitate further verification of the correct application of regulations or procedures;*
- d. Effective domestic review systems, including effective appeal systems, ensure remedies if the rules or procedures established under this paragraph are not followed;*
- e. Where necessary, measures to regulate matters connected to personnel involved in procurement, such as statements of interest in specific public procurements, screening procedures, and training requirements.”*

Second, Law Number 14 of 2008, also known as Law 14/2008, governs the disclosure of public information. Public information refers to information that is generated, stored, managed, transmitted, and received by a public body in connection with the administration and operation of the state and other public bodies in accordance with this law, as well as other information relevant to the public interest.<sup>27</sup> Law 14/2008 establishes the principle that all public information must be open and accessible to all users of public information. Law

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<sup>26</sup>United Nations Convention Against Corruption, *United Nation*, 2004. [https://www.unodc.org/documents/brussels/UN\\_Convention\\_Against\\_Corruption.pdf](https://www.unodc.org/documents/brussels/UN_Convention_Against_Corruption.pdf)

<sup>27</sup>Indonesia. Law No. 14 of 2008 concerning Public Information Disclosure, Article 1 paragraph (2).

14/2008 distinguishes three types of information that must be provided and announced: 1) information that must be provided and disclosed periodically; 2) information that must be disclosed immediately; and 3) perpetually available information.

The issuing of Presidential Regulation Number 54 of 2010, addressing government procurement of goods and services (Perpres 54/2010), reflects the fulfilment of the UNCAC and Law 14/2008. Article 106 explains that procurement of goods and services (PBJ) can be conducted electronically<sup>28</sup> through e-tendering or e-purchasing<sup>29</sup>. There are five objectives<sup>30</sup> of conducting procurement electronically, including:

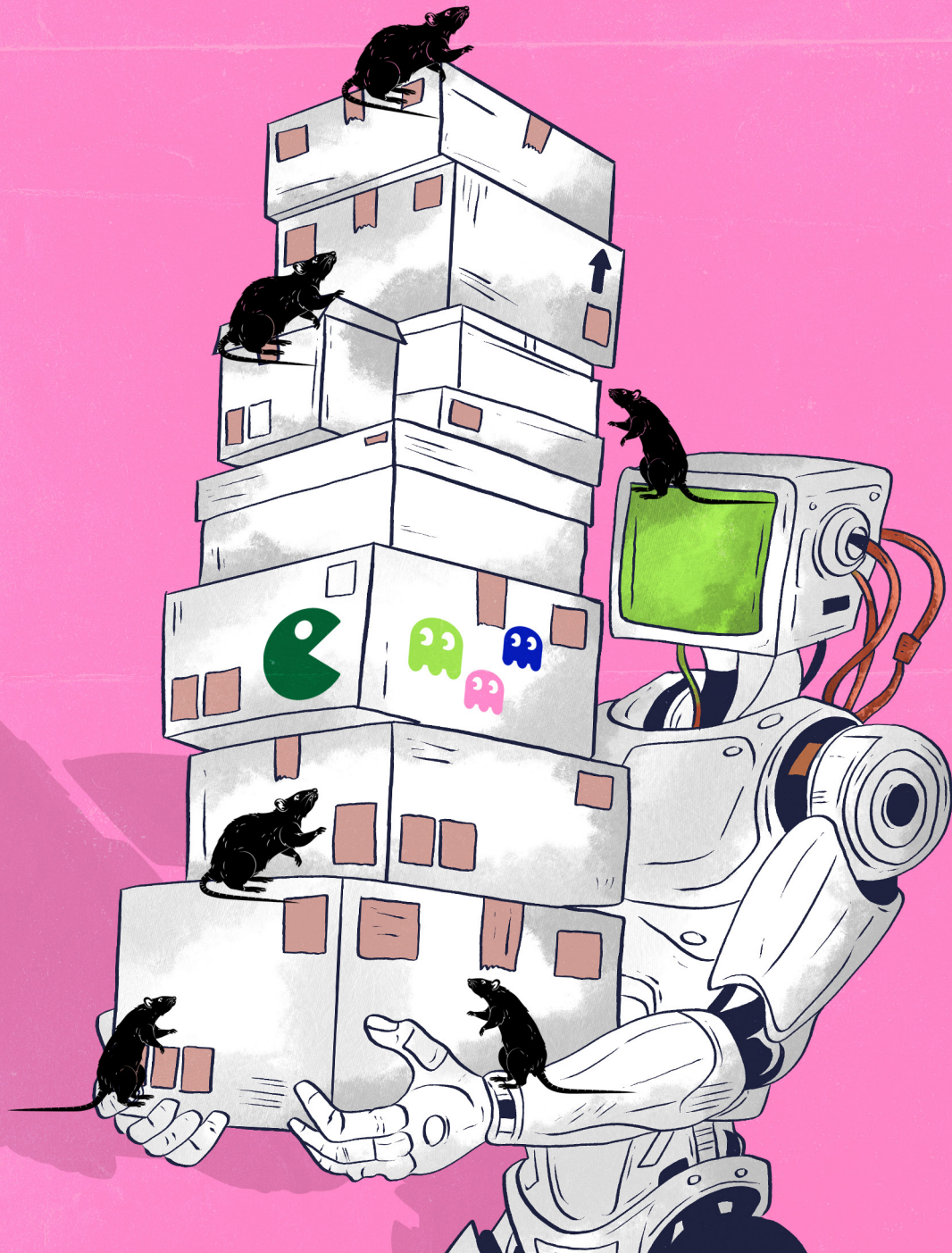
- a. Increasing transparency and accountability;
- b. Improving market access and fair business competition;
- c. Improving efficiency in the procurement process;
- d. Supporting the monitoring and auditing processes;
- e. Meeting the requirement for real-time information access.

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<sup>28</sup>Indonesia, *Presidential Regulation No. 54 of 2010*, Article 106 paragraph (2).

<sup>29</sup>Indonesia, *Presidential Regulation No. 54 of 2010*, Article 106 paragraph (2).

<sup>30</sup>Indonesia, *Presidential Regulation No. 54 of 2010*, Article 107.



# The AI Procurement Cycle

Before the government purchases equipment and builds AI infrastructure in any of its derivative fields, it is crucial to formulate an AI implementation strategy to ensure its benefits and efficacy. Therefore, the government must conduct the AI procurement cycle ethically, effectively, and responsibly. Figure 2 depicts four steps that the government should consider before procuring AI.<sup>31</sup>

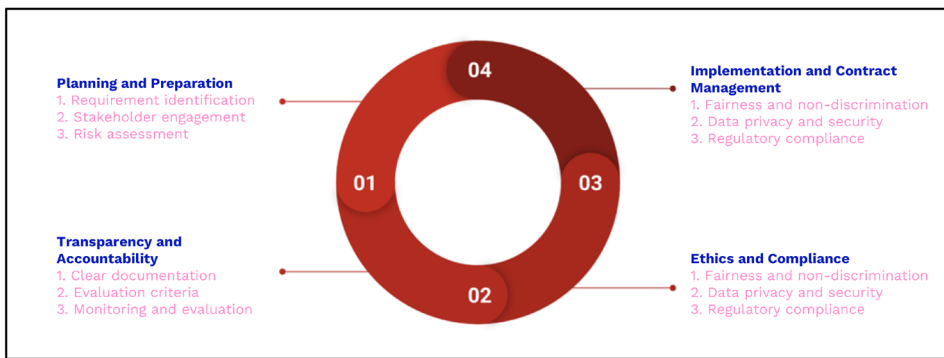


Figure 2. The AI Procurement Cycle, Sourced: Department for Science, Innovation and Technology, GOV.UK<sup>32</sup>

The first is the planning and preparation process. Several technical steps should be taken, such as requirement identification, stakeholder engagement, and risk assessment. The requirement identification is a step in identifying the problem to be solved and whether AI is the appropriate solution. Involving internal and external stakeholders from the outset is crucial for the government to address their needs and concerns. The government is also obligated to conduct a risk assessment to mitigate potential bias and privacy impacts, which tend to be high when implementing AI.

Second, the government must prioritise transparency and accountability. Mandatory measures include clear documentation, evaluation criteria, and

<sup>31</sup>Department for Science, Innovation and Technology. “Guidelines for AI Procurement.” *Gov.uk*, June 8, 2020. <https://www.gov.uk/government/publications/guidelines-for-ai-procurement>.

<sup>32</sup>Department for Science, Innovation and Technology. “Guidelines for AI Procurement.” *Gov.uk*, June 8, 2020. <https://www.gov.uk/government/publications/guidelines-for-ai-procurement/guidelines-for-ai-procurement#ai-specific-considerations-within-the-procurement-process>.

monitoring and evaluation. Clear documentation ensures all decisions and processes are well-documented. Evaluation criteria are required to provide an objective basis and relevance for assessing AI solutions. When implementing AI, it is crucial to monitor and analyse its performance regularly.

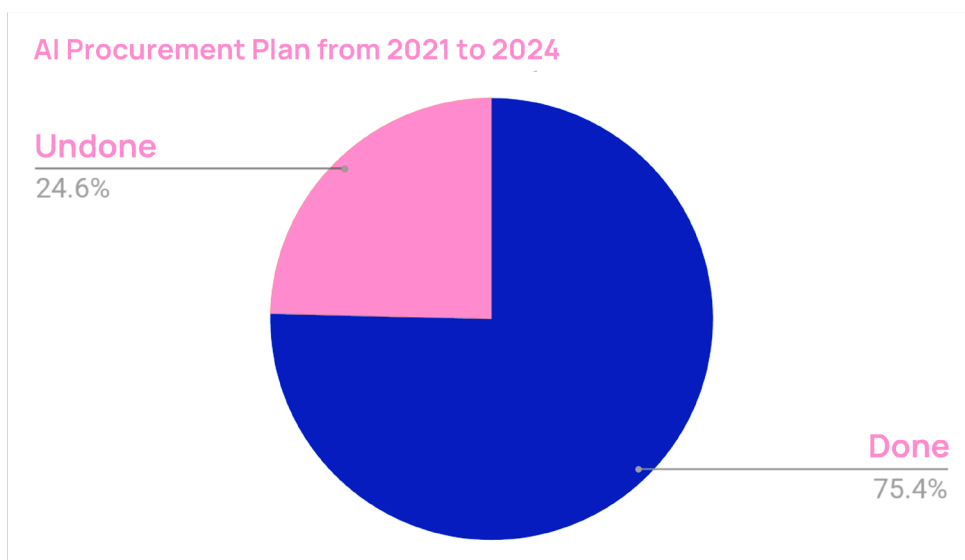
The third step is ethics and compliance. This cycle addresses concerns like fairness and non-discrimination, data privacy and security, and regulatory compliance. When developing AI, the government must ensure that the AI system does not perpetuate existing biases or discrimination. Furthermore, since data is the fundamental foundation for the operation of AI systems, the government is obligated to protect and secure the public's personal data in accordance with relevant regulations. The government must also ensure compliance with existing regulations in AI use and procurement.

Fourth, the government must ensure the implementation and contract management. Several technical areas require attention, including vendor management, training and support, and performance evaluation. When developing AI, the government must collaborate with vendors to guarantee that the implementation goes as planned. For system users, the government must provide training and ensure vendors provide adequate technical support to State Civil Apparatus (ASN) who will use the AI system. Lastly, regularly evaluate the performance of the AI system and service providers to ensure objectives are achieved.

# Analysis

## AI Technology Procurement Budget Plan and Implementation

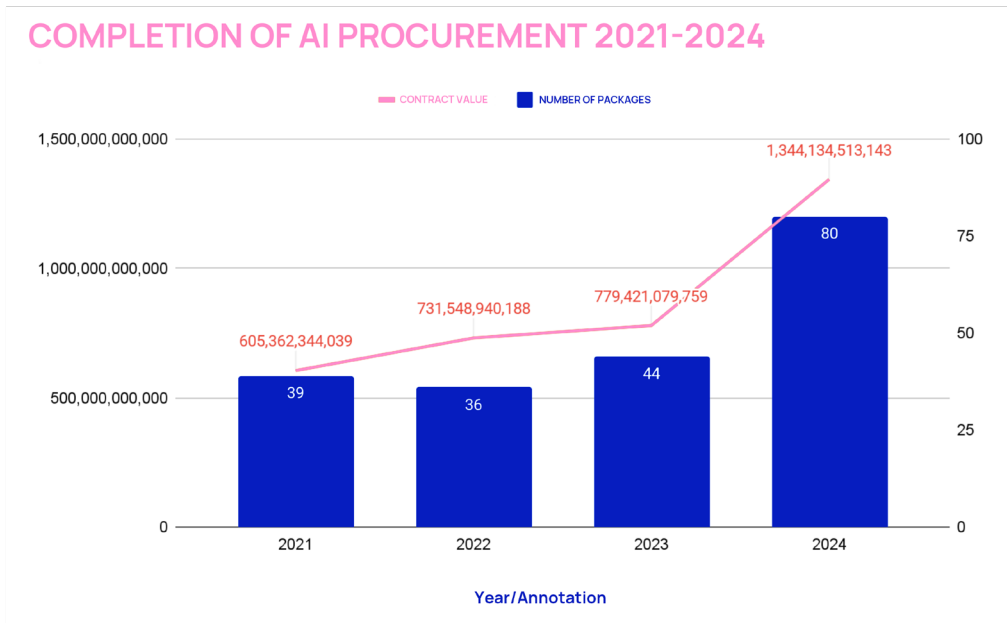
Based on data collected through the National Public Procurement Agency (LKPP)'s General Procurement Planning Information System (SiRUP), the government has planned 264 AI-related procurement packages. Meanwhile, the LKPP's Monitoring and Evaluation Application (AMEL) shows that 199 out of the 264 procurement packages, or 75.4%, have been completed, with a contract value of IDR 4.71 trillion. The remaining 65 procurement packages, or approximately 24.6%, have not been implemented.



Graphic 1. AI Procurement Spending in Indonesia 2021-2024 Based on the Implementation Process. Source: SiRUP, AMEL LKPP, data processed by researchers.

In Appendix 3.2 of LKPP Regulation Number 11 of 2021, concerning Guidelines for Government Procurement Planning, it is explained that procurement plans can be revised for two reasons to ensure transparency and accountability to the public. First, the person in charge of the activity may change the strategy for achieving performance targets. Second, the budget may undergo a modification.

If a state institution cancels a planned procurement, the person in charge of the activity must justify the cancellation. Several institutions failed to clearly articulate the reasons behind the non-implementation of the 65 procurement packages. Although no regulations were violated, institutions that failed to document the reasons for their cancellations are failing to uphold the principles of transparency and accountability in goods/services procurement.



Graphic 2. AI Procurement 2021-2024 by Year. Source: AMEL LKPP, data processed by researchers.

Meanwhile, referring to Graph 2, government spending on AI has consistently increased from 2021 to 2024. This surge in the AI procurement budget aligns with the government’s 2020 document on Indonesia’s National AI Strategy 2020-2045 (Stranas KA).

Although the budget seems aligned with Stranas KA, the government must meticulously consider the application of AI in the public interest. The government should apply the general principle of need, not desire.

Before spending public funds on AI technology, the government must seek a wise answer to the question, “What are the real benefits of using AI?” rather

than “How can the current problem be adapted to AI technology?”<sup>33</sup> This question can guide the government in preventing budget waste. If forced, government procurement will not only lead to waste and potential corruption, but the adopted technology is also vulnerable to misuse and potential human rights violations.

Planning and preparation are critical steps for the government to take when conducting AI-related procurement. This process identifies the government’s requirements for providing AI-based public services. The government must invite stakeholders, especially the public, as the recipients of the services. This step assesses the risks that the public will face once AI is implemented.

To examine the budget in Graph 2, researchers used Presidential Regulation Number 16 of 2018 on Government Procurement of Goods and Services (Perpres 16/2018) to identify the types of government procurement.

Article 3 of Perpres 16/2018 defines four types of procurement: procurement of goods, construction work, consultancy services, and procurement of other services. A procurement of goods includes any object, tangible or intangible, movable or immovable, that the user can trade, use, or utilise.<sup>34</sup> Construction procurement refers to all or part of the activities that include the construction, operation, maintenance, demolition, and reconstruction of a building.<sup>35</sup>

Consultancy services, on the other hand, are professional services that require specific expertise in various scientific fields while prioritising thought processes.<sup>36</sup> Governments often use consultancy services to conduct research.

Unlike consultancy, other services require specialised equipment, methodologies, and expertise in a well-known governance system in the

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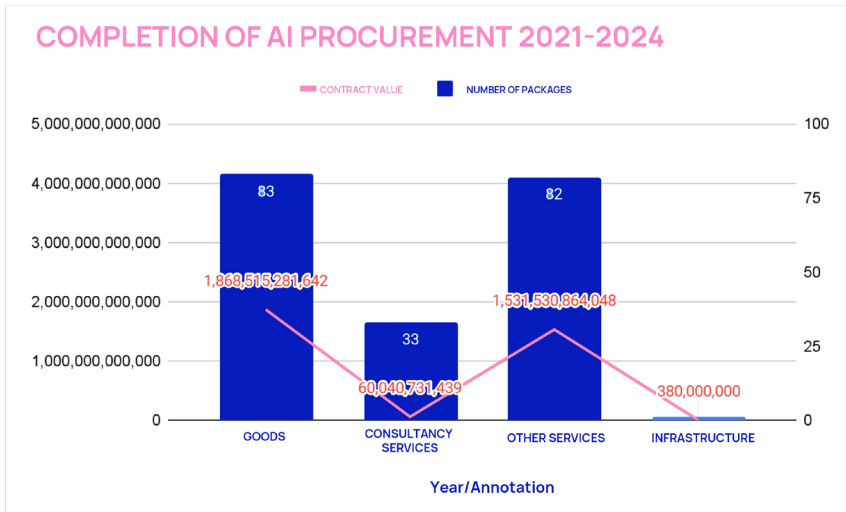
<sup>33</sup>Department for Science, Innovation and Technology. “Guidelines for AI Procurement.” [Gov.uk](https://www.gov.uk/government/publications/guidelines-for-ai-procurement/guidelines-for-ai-procurement#ai-specific-considerations-within-the-procurement-process), June 8, 2020. <https://www.gov.uk/government/publications/guidelines-for-ai-procurement/guidelines-for-ai-procurement#ai-specific-considerations-within-the-procurement-process>.

<sup>34</sup>Indonesia, *Presidential Regulation No. 16 of 2018 on Government Procurement of Goods/Services* (Perpres 16/2018), Article 1 paragraph (29).

<sup>35</sup>Indonesia, *Presidential Regulation No. 16 of 2018 on Government Procurement of Goods/Services* (Perpres 16/2018), Article 1 paragraph (30).

<sup>36</sup>Indonesia, *Presidential Regulation No. 16 of 2018 on Government Procurement of Goods/Services* (Perpres 16/2018), Article 1 paragraph (31).

business world to complete a task.<sup>37</sup> The government frequently uses services such as server repairs and internet installations.



Graphic 3. AI Procurement 2021-2024 by Procurement Type.

Source: AMEL LKPP, data processed by researchers.

The graph above illustrates the government's tendency to procure goods or provide other supporting service systems, such as cloud computing rentals or big data development. The trend is evident in the large budget allocation for goods, amounting to IDR 1.87 trillion, and other services, amounting to IDR 1.53 trillion. Both types of procurement contribute to the provision of facilities and infrastructure necessary for implementing AI.

AI policy implementation should not simply involve providing infrastructure but also designing and strengthening AI governance and policies for public services to prevent human rights violations. The low spending on consultancy services indicates the government's tendency to focus on outputs, neglecting outcomes. This reflects an imbalance between infrastructure provision and institutional capacity. Instead of hiring consultants to formulate and strengthen policies to align with public needs, the government is spending large sums of money on purchasing or leasing AI technology support services.

<sup>37</sup>Indonesia, *Presidential Regulation No. 16 of 2018 on Government Procurement of Goods/Services* (Perpres 16/2018), Article 1 paragraph (32).

One example is the Ministry of Communication and Informatics (now known as the Ministry of Communication and Digital-Komdigi). From 2021 to 2024, Komdigi focused on providing cloud computing services for the National Data Centre (PDN). The budget spent was approximately IDR 945.88 billion.

The PDN is a facility that emplaces, stores, processes, and recovers data for central and regional institutions.<sup>38</sup> Moreover, all institutions can use PDN as a shared data centre. According to Stranas KA, data centres are a key strategy for infrastructure and data management. One issue is that there are over 2,700 data centres spread across government institutions, resulting in cost inefficiencies and the risk of data breaches.

In June 2024, a cyberattack targeted the national data centre. The attack knocked out websites managed by more than 280 institutions.<sup>39</sup> As a result, personal information such as health records and citizen identification numbers (IDs) was inaccessible. Furthermore, the ransomware attack, carried out by a group whose identity is still unknown, poses a significant risk of data breaches in Indonesia.

The possibility of data breaches goes beyond that. The Centre of Economic and Law Studies (Celios) estimates that the ransomware attack could cause economic losses of IDR 6.3 trillion.<sup>40</sup> Furthermore, law enforcement officials have uncovered a corruption scandal related to the procurement of a national data centre and have named five individuals as suspects. Samuel Abrijani Pangerapan, Komdigi's Director General of Informatics Applications, is one of the named suspects.<sup>41</sup>

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<sup>38</sup>Indonesia, *Presidential Regulation No. 95 of 2018 on Electronic-Based Government Systems (SPBE)*.

<sup>39</sup>Nurani, Sukma Kanthi, dan S. Dian Andryanto. "Chronology of the National Data Center Breach and the Pressure for Minister of Communication and Informatics Budi Arie to Resign," *Tempo*, June 30, 2024, <https://www.tempo.co/politik/kronologi-pusat-data-nasional-jebol-hingga-desakan-menkominfo-budi-arie-mundur-dari-jabatannya-44552>.

<sup>40</sup>Azzahra, Qonita. "Calculating the Potential Economic Losses to the State Due to the Hacking of the National Data Center," *Tirto*, July 1, 2024, <https://tirto.id/menghitung-potensi-kerugian-ekonomi-negara-akibat-peretasan-pdn-gZ7o>.

<sup>41</sup>Octavia, Salsabilla Azzahra, dan Edy Can. "Chronology of Alleged Corruption in the National Data Center," *Tempo*, May 25, 2025, <https://www.tempo.co/hukum/kronologi-dugaan-korupsi-pusat-data-nasional-sementara-1543851>.

The above demonstrates that a lack of rigorous planning and preparation, as well as the absence of robust, human rights-oriented policies, has had serious consequences for Indonesia’s digital transformation efforts. The cyberattack on PDN and alleged corruption in its procurement show that poor governance harms the state financially and jeopardises citizens’ fundamental rights—such as privacy, access to information, and a sense of security.

### Actors Procuring AI Technology Goods and Services

To identify the institutions making the most AI procurement, researchers conducted an analysis based on the actors involved. This approach is crucial for understanding how state spending on AI technology procurement is concentrated and whether any plans deviate from the National Strategy for AI.

Table 2. 10 Institutions with the Largest Contract Values in AI Procurement 2021-2024.

Source: AMEL LKPP, data processed by researchers.

No.	Institutions	Contract Value	
1	Indonesian National Police (Polri)	Rp1,24 trillion	39
2	Ministry of Communication and Informatics or Komdigi	Rp1,07 trillion	25
3	Attorney General’s Office of the Republic of Indonesia	Rp473,24 billion	4
4	Ministry of Finance	Rp125,85 billion	11
5	Ministry of Manpower	Rp118,59 billion	17
6	Ministry of Health	Rp117,38 billion	7
7	Ministry of Law and Human Rights of the Republic of Indonesia	Rp71,66 billion	9
8	Ministry of Home Affairs	Rp65,53 billion	19
9	National Counterterrorism Agency	Rp62,25 billion	1
10	Ministry of Education and Culture	Rp42,09 billion	9

Based on the analysis, 10 government institutions have made the highest contractual AI procurements. These institutions manage budgets ranging from tens of billions to trillions of rupiah across various sectors, from systems to supporting AI infrastructure. The findings above suggest that the National Strategy for AI is likely being translated in a direction inconsistent with its four focus areas: ethics and policy, talent development, infrastructure and data, and industrial research and innovation.

The Indonesian National Police (Polri) ranks first in terms of public budget utilisation for AI needs. Thirty-nine procurement packages worth IDR 1.24 trillion have been completed. This situation indicates the intensive development of AI-based systems within the Polri. This procurement involves the purchase of facial recognition technology and electronic ticketing systems. Facial recognition technology is a system that identifies individuals through images or videos. Because the data collection process occurs without consent, this technology has the potential to violate human rights.<sup>42</sup> Polri's predominant acquisition of this equipment suggests a focus on control and security aspects in AI. This raises the potential for digital rights violations against citizens.

For example, the Polri procured nine packages of facial recognition equipment from 2021 to 2024, with a contract value of IDR 605.83 billion. The use of this facial recognition technology caused problems when Polri identified the perpetrators of the assault on Ade Armando in 2022. At that time, the Polri released the faces of the alleged perpetrators. The results revealed that the facial recognition technology incorrectly identified two individuals. Polri even admitted that the use of AI for facial recognition is not 100% accurate.<sup>43</sup>

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<sup>42</sup>“Human Rights in AI: Facial Recognition.” *Ideas for Peace*. <https://ideasforpeace.org/content/human-rights-in-ai-facial-recognition/>.

<sup>43</sup>Friastuti, Rini. “The Assault on Ade Armando, Face Recognition, and Police Mistakes,” *Kumparan*, April 14, 2022, <https://kumparan.com/kumparannews/pengeroyokan-ade-armando-face-recognition-dan-kekeliruan-polisi-1xsbqMXoqBw/full>.

Table 3. Procurement of Face Recognition by the Indonesian National Police (Polri) in 2021, 2023, and 2024. Source: LKPP, data processed by researchers.

Nr.	Package Name	Bid Winner	Contract Value (IDR)
1	Addition of Face Recognition System for the Existing Multi-Modal Biometric Platform INAFIS	PT Chandra Andhesthi Caksana	149.998.465.275
2	Portable Face Recognition System and Video Synopsis	PT Sangkuriang Jaya Persada	139.998.927.000
3	Upgrade of Special Equipment for the Face Recognition System at the Fotopol Laboratory of Pusinafis (Software and Hardware)	PT Fajar Sentosa Indonesia	59.993.280.000
4	Procurement of Face Recognition System	PT Kemala Inti Solusi	59.577.971.000
5	Procurement of Area Monitoring System Utilizing Portable Devices and Artificial Intelligence-Based Face Recognition for the Korbrimob Police, APBN Program FY 2024	PT Infiniti Reka Solusi	49.981.628.680
6	Addition of Face Recognition System for the Existing Multi-Modal Biometric Platform System	PT Chandra Andhesthi Caksana	41.370.366.000
7	Surveillance and Monitoring Equipment with Artificial Intelligence-Based Face Recognition for the Korbrimob Police	PT Asesmatik Edukasi	39.961.900.000
8	Development of Surveillance and Monitoring System with Artificial Intelligence-Based Face Recognition for Satlat Cikeas, Korbrimob Police	PT Asesmatik Edukasi	39.956.499.000

9	Addition of Face Recognition System for the Existing Multi-Modal Biometric Platform INAFIS FY 2023	PT Navaro Berkah Semesta	24.999.340.000
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A similar incident occurred with the Polri's procurement of the Electronic Traffic Law Enforcement (ETLE) system. Since 2018, the Polri have begun installing and using ETLE technology to prosecute suspected traffic violations electronically.<sup>44</sup> At least 11 ETLE procurement contracts, totalling IDR 96.29 billion, exceeded IDR 1 billion in value between 2021 and 2024.

Despite the substantial budget allocation and several years of implementation, the ETLE system began to raise issues and garner public criticism. The public criticised Polri's ETLE implementation at the beginning of 2025. Several cases highlighted the system's weaknesses, from an ambulance being ticketed by ETLE while transporting an emergency patient to a Transjakarta bus being ticketed in its lane<sup>45</sup>. The police explained that ETLE works automatically by reading vehicle licence plates, so it cannot assess specific conditions.

Police officers who erred while using AI technology in the two aforementioned cases received no punishment. In fact, there is a strong suspicion that this action violates human rights and causes severe harm to citizens. This incident highlights the absence of a sanction mechanism for officers who commit errors, resulting in impunity for those suspected of wrongdoing. Tabel 4. Pengadaan *Face Recognition* oleh Polri Tahun 2021, 2023, dan 2024.

<sup>44</sup> Hidayati, Nurul. "The Difference Between e-Tilang and ETLE to Be Implemented in Jakarta," *Kumparan*, March 14, 2019, <https://kumparan.com/kumparannews/perbedaan-e-tilang-dan-etle-yang-akan-diterapkan-di-jakarta-1537270612815292467/full>.

<sup>45</sup> ETLE Ticket List: Wrong Target, Ambulance Action to Parking Attendants," *CNN Indonesia*, April 17, 2025, <https://www.cnnindonesia.com/otomotif/20250417144118-579-1219848/daftar-tilang-etle-salah-sasaran-tindak-ambulans-sampai-tukang-parkir>.

Table 4. Procurement of Face Recognition by the Indonesian National Police (Polri) in 2021, 2023, and 2024. Source: LKPP, data processed by researchers.

Nr.	Package Name	Bid Winner	Contract Value (IDR)
1	Facial Biometric Platform Supporting the National ETLE System and Supporting Equipment for the National Traffic Corps of the Indonesian National Police, FY 2024	PT Perkasa Tradco Utama	39.996.057.000
2	Development of National ETLE	PT Kemala Inti Solusi	20.212.223.981
3	Procurement of Portable ETLE Devices	CV Ergasia Putrimandiri	10.416.240.000
4	Care and Maintenance of the National ETLE System for the National Traffic Corps of the Indonesian National Police, FY 2024	PT Otello Kreasi Bersama	5.269.725.000
5	Care and Maintenance of ETLE in West Java and Riau for the National Traffic Corps of the Indonesian National Police, FY 2024	Topas Optical Persada	4.443.951.600
6	Mobile Handheld ETLE Devices and System for the National Traffic Corps of the Indonesian National Police, FY 2022	CV Bhara Sakti Abadi	3.230.160.000
7	Procurement of ETLE Infrastructure for Balangan Subregional Police	Mahkota Erpan Jaya	3.099.866.650
8	Care and Maintenance of the National ETLE System for the National Traffic Corps of the Indonesian National Police, FY 2024	Fazza Rajasa Abadi	2.999.886.000
9	Procurement of ETLE System	PT Prima Tekno Integra	2.499.358.750

10	Procurement of ETLE Infrastructure for Hulu Sungai Tengah Subregional Police	Mahkota Erpan Jaya	2,377,943,400
11	Care and Maintenance of ETLE for the Directorate of Traffic at West Java Regional Police, FY 2024	PT Lentera Sinyal Nusantara	1,744,950,000

In the context of traffic law enforcement using ETLE, practices in several countries have demonstrated benefits. However, stricter governance is also needed to prevent abuse and bias. Based on experience in the United States, there are several risks arising from the use of ETLE.<sup>46</sup> The first risk is the intimidation effect. Extensive licence plate reading allows officers to build profiles about individuals' lives, including religious, medical, and political activities. The result creates a fear of freedom of expression and assembly, as individuals feel they are being monitored.

Secondly, there is a potential for tracking abuse. Implementing technology without strict policies and oversight will lead to abuse of power. State actors with vast amounts of data can track specific individuals, opening up opportunities for serious privacy violations.

Thirdly, the system may lead to the discriminatory targeting of individuals. The placement of cameras and the use of the system can potentially bias groups based on race, religion, and political views. For example, authorities in the UK installed hundreds of cameras in Muslim-majority areas, and police in New York monitored mosque congregations.<sup>47</sup> These actions reinforce discrimination and undermine public trust in law enforcement.

<sup>46</sup> ALPR Report." *ACLU*, July 16, 2013. <https://www.aclu.org/files/assets/071613-aclu-alprreport-opt-v05.pdf>.

<sup>47</sup> *Ibid.*, 9.

## Measuring the Procurement Cycle Based on AI Technology Purchases by the Indonesian Government in 2021-2024

The Indonesian government's procurement of AI technology from 2021 to 2024 experienced a significant increase in contract value. However, strengthened governance, transparency, accountability, and human rights protection did not necessarily accompany the increase in public spending on AI. In fact, AI procurement in a global context must adhere to ethical and accountable principles, as outlined in Figure 2.

This cycle consists of four stages: planning and preparation, transparency and accountability, ethics and compliance, and contract implementation and management. The following is an analysis of the AI technology procurement cycle in Indonesia.

### Planning and Preparation: Needs Not Aligned with the National Strategy for AI

At this stage, the government needs to identify needs, engage stakeholders, and assess risks carefully. As a result, 24.62% (65 procurement packages) were discontinued without clear documentation. This result demonstrates the weakness of the government's planning process.

Furthermore, government procurement of AI technology often deviates from the National Strategy for AI. The National Strategy for AI (Stranas KA) is the government's foundational document for implementing AI. The data above demonstrates that the government's purchase of several devices is driven by a technology-as-a-solution approach, rather than as a response to the four focus areas outlined in the Stranas KA. Procurements such as facial recognition and Electronic Traffic Law Enforcement (ETLE) are suspected of being conducted without public participation or a transparent needs analysis. Consequently, the government fails to assess potential bias and risks to citizens' rights from the outset.

### Transparency and Accountability: Infrastructure Dominance, Minimal Evaluation

The second stage is a fundamental and crucial requirement in the procurement process. Without transparency and accountability, the potential for budget misuse, such as corruption, increases. The second stage stresses the

importance of documenting decisions, establishing evaluation criteria, and monitoring and evaluating the system.

Spending on other goods and services dominates AI technology procurement spending, as Graph 3 demonstrates. Meanwhile, the budget allocation for consulting services remains relatively small. Consulting services are a crucial foundation for preparing feasibility studies and assessing potential risks that arise during the implementation of AI.

Every institution should publish a performance report on its use of AI. This demonstrates government accountability, which has cost citizens trillions of rupiah in taxes over the past four years. Furthermore, given the numerous cases, including corruption in the national public sector (PDN) and errors in the use of facial recognition and ETLE, it is now the responsibility of every institution purchasing AI technology to publish its evaluation results openly to the public.

### **Ethics and Compliance: Risks of Human Rights Violations Without Corrective Mechanisms**

The third stage encourages the implementation of the principles of fairness, non-discrimination, privacy protection, and regulatory compliance. In practice, the use of AI technology actually creates the potential for digital rights violations.

For example, the procurement of facial recognition equipment by the Indonesian National Police (Polri), mentioned previously in the Analysis of Actors in the Procurement of AI Technology Goods/Services section, cost Rp605 billion and was proven to be flawed. This is a serious issue, as in this case, there were no sanctions for Polri officers who made mistakes and no redress mechanism for individuals who suffered losses. This incident highlights Polri's lack of effective corrective mechanisms, thereby reinforcing the impunity of law enforcement agencies.

Meanwhile, the 2024 PDN cyberattack, managed by Komdigi, reflects a serious lapse in personal data protection, which is at the heart of data-driven AI systems. This demonstrates that Komdigi has not yet incorporated data privacy and security principles into its procurement process.

### **Contract Implementation and Management: Without Performance Standards and Quality Control**

The final stages of the AI procurement cycle emphasise vendor management, user training, and system performance evaluations. Vendor selection in AI technology procurement practices requires robust data and extensive experience. The goal is to prevent collusion between the government and vendors, thereby ensuring the production of high-quality tools. The PDN procurement serves as a concrete example of how transparent vendor selection must be, as its corruption was uncovered by the Attorney General's Office of the Republic of Indonesia. The selected vendor is suspected to have been the result of manipulation by various parties to favour one company.

Furthermore, training for AI users and technical support are key considerations. The case of an Electronic Traffic Law Enforcement (ETLE) incorrectly ticketing an ambulance exemplifies weak training and technical support. The incident resulted in the misidentification of objects due to a failure to distinguish between emergencies.

# Recommendations

## Strengthening Planning and Justification of Needs

- The government must ensure that every procurement of AI technology begins with a clear identification of needs based on public benefit rather than technology adoption.
- The government must involve stakeholders, including civil society and affected groups, from the early planning stages.

## Increasing Transparency and Accountability

- The government must publish the reasons for all cancellations of procurement plans to ensure accountability.
- Every institution procuring AI technology must publish performance reports, including its effectiveness and challenges, regularly.
- Each institution must publish the rationale for appointment during the provider selection process to prevent collusion between the procurement committee and the provider.
- The government must disclose information on every AI technology procurement process so that the public can monitor them.
- The government must open a complaint channel where the public can report any misuse of AI budgets and technology.

## Implementing Human Rights and Ethical Principles in AI Procurement

- The government must ensure that any AI technology with the ability to heavily monitor public activities, such as facial recognition and ETLE, has completed an ethical test, a proportionality test, and a human rights impact assessment.
- The government must develop human rights-based technical guidelines for the use of AI technology in procurement.
- The government must establish an independent institution or team to oversee the use of AI technology in the public sector as a check and balance function.

## Building Capacity and Providing Training for AI Technology Users

- The government must provide ethical and technical training to civil servants who will use AI technology, enabling them to comprehend the risks associated with these systems.
- The government must ensure the availability of long-term technical support to prevent technical errors that could harm the public.

