

gaskita
Juaranya Gas Ngalir Terus

by **PGN**



PLN

Konferensi Auditor Internal

GOVERNANCE 5.0

Redefining Board Oversight and Internal Audit in a Digital-First Era



REDEFINING GOVERNANCE IN THE **AGE OF AGENTIC AI**:

OVERSIGHT BEYOND HUMAN DECISION-MAKING



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Indonesia (IATI)



**8 - 9
JULI 2026**



THE ALANA
YOGYAKARTA HOTEL &
CONVENTION CENTER



IN THIS BUILDING DURING THE SUMMER OF 1956

JOHN MCCARTHY (DARTMOUTH COLLEGE), MARVIN L. MINSKY (MIT)
NATHANIEL ROCHESTER (IBM), AND CLAUDE SHANNON (BELL LABORATORIES)
CONDUCTED

THE DARTMOUTH SUMMER RESEARCH PROJECT ON ARTIFICIAL INTELLIGENCE

FIRST USE OF THE TERM "ARTIFICIAL INTELLIGENCE"

FOUNDING OF ARTIFICIAL INTELLIGENCE AS A RESEARCH DISCIPLINE

"To proceed on the basis of the conjecture
that every aspect of learning or any other feature of intelligence
can in principle be so precisely described that a machine can be made to simulate it."

IN COMMEMORATION OF THE PROJECT'S 50th ANNIVERSARY
JULY 13, 2006

ORIGIN OF ARTIFICIAL INTELLIGENCE

IN THE SUMMER OF 1956,
A GROUP OF LEADING SCIENTISTS
MET AT DARTMOUTH COLLEGE TO
LAY THE FOUNDATIONS FOR A NEW FIELD:
ARTIFICIAL INTELLIGENCE



JOHN MCCARTHY



MARVIN MINSKY



NATHANIEL ROCHESTER



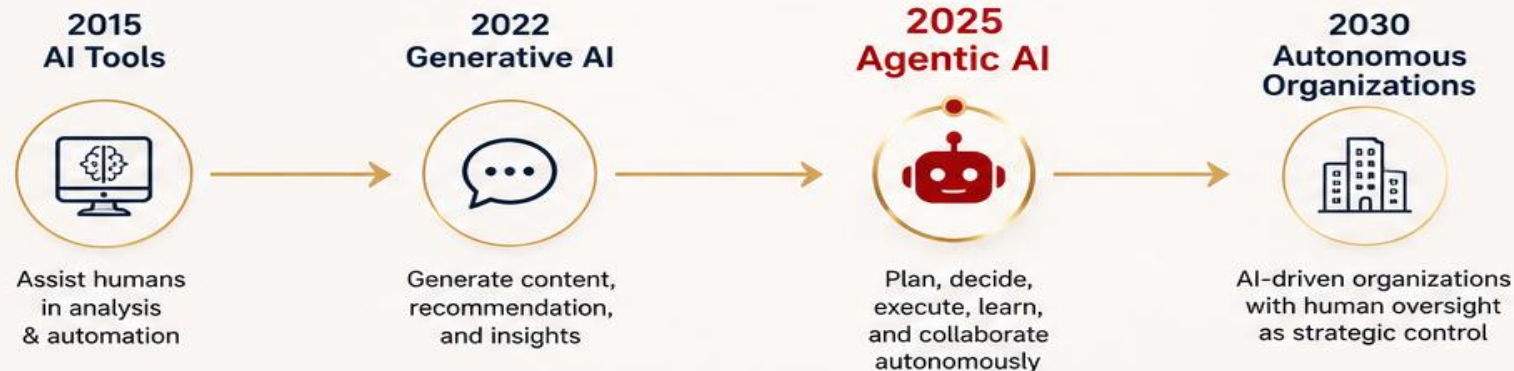
CLAUDE SHANNON

TERM '**ARTIFICIAL INTELLIGENCE**' COINED
AI ESTABLISHED AS A RESEARCH DISCIPLINE

THE NEW ERA OF GOVERNANCE

From AI Tools to Agentic AI

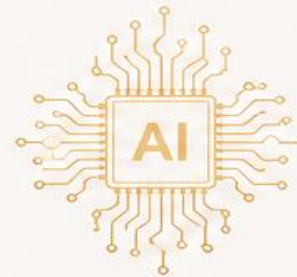
Oversight Beyond Human Decision-Making



-  **UNDERSTAND**
-  **DECIDE**
-  **EXECUTE**
-  **LEARN**
-  **COLLABORATE**

Agentic AI is no longer just generating answers.

It plans, decides, executes, collaborates, and continuously learns with minimal human intervention.



“
The future challenge is not building smarter AI.
It is building smarter governance.”

WHY TRADITIONAL GOVERNANCE NO LONGER WORKS

From Human-Centered Governance to Human + AI Governance

OLD GOVERNANCE PARADIGM

Human-Centered



HUMAN
makes
decisions

DECISION
based on
information

EXECUTION
by people
and systems

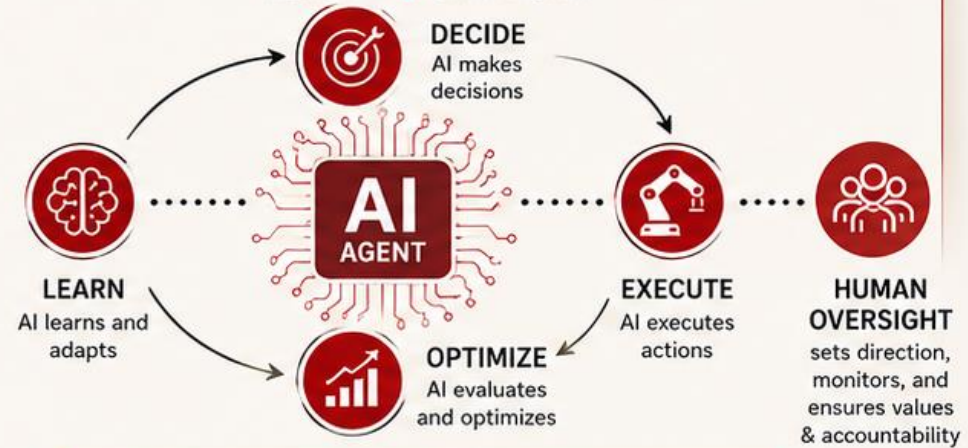
AUDIT
after the
fact

Linear • Reactive • Periodic • Siloed

VS

NEW GOVERNANCE PARADIGM

Human + AI Governance



Networked • Proactive • Continuous • Integrated

REAL-WORLD EXAMPLES OF AI MAKING DECISIONS TODAY



Amazon
AI manages
supply chain
and inventory



Tesla
AI decides
while driving
autonomously



Singapore Gov
AI optimizes
public services
and resources



Banks
AI determines
fraud and credit
decisions



Healthcare
AI prioritizes
patients and
treatment



Manufacturing
AI controls
quality and
production



Governance is **evolving** from **Human-Centered** to **Human + AI**.
Our frameworks, roles, and oversight must **evolve** as well.

THE FOUR GOVERNANCE CHALLENGES

New Risks, New Responsibilities, New Paradigm

1. ACCOUNTABILITY

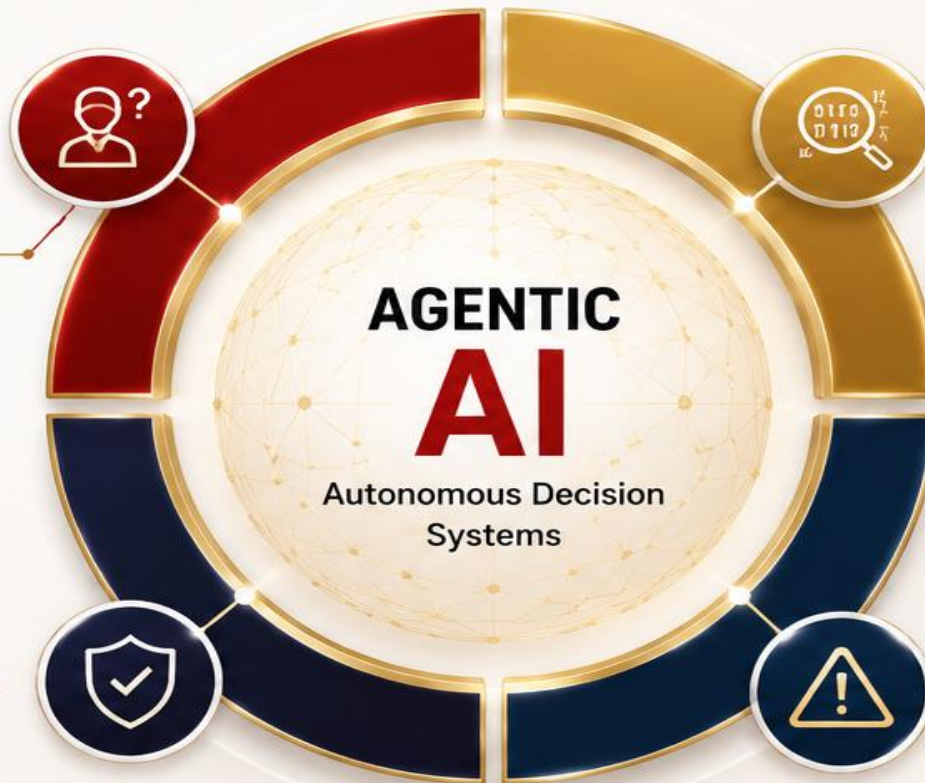
Who is responsible when decisions are made by AI?

- Shared responsibility?
- Developer, operator, or the organization?
- Clear liability frameworks are still evolving.

3. TRANSPARENCY

Can we see, audit, and understand the AI?

- Algorithmic transparency
- Data lineage & traceability
- Right to information and auditability



2. EXPLAINABILITY

Why did the AI make this decision?

- Black box problem
- Model complexity
- Need for interpretable and explainable AI

4. RISK MANAGEMENT

What happens when AI makes a wrong decision?

- Bias & fairness
- Safety & security
- Unintended consequences
- Systemic risk



The smarter the AI,
the **stronger** the governance must be.



ETHICS



SECURITY



COMPLIANCE



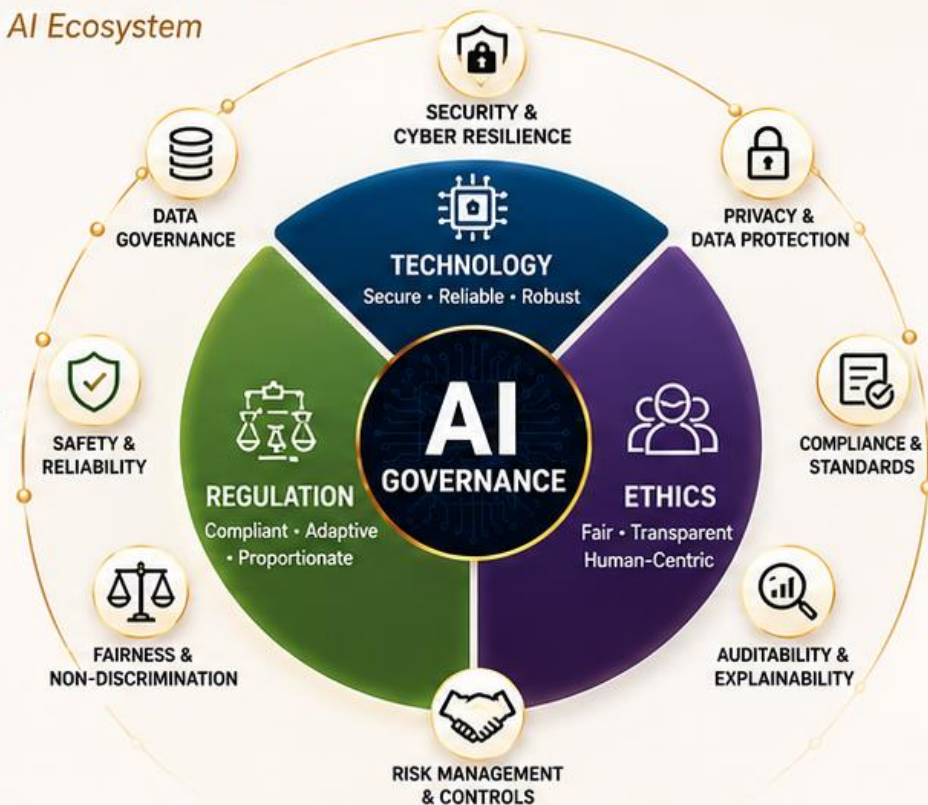
HUMAN VALUES



PUBLIC INTEREST

AI GOVERNANCE FRAMEWORK

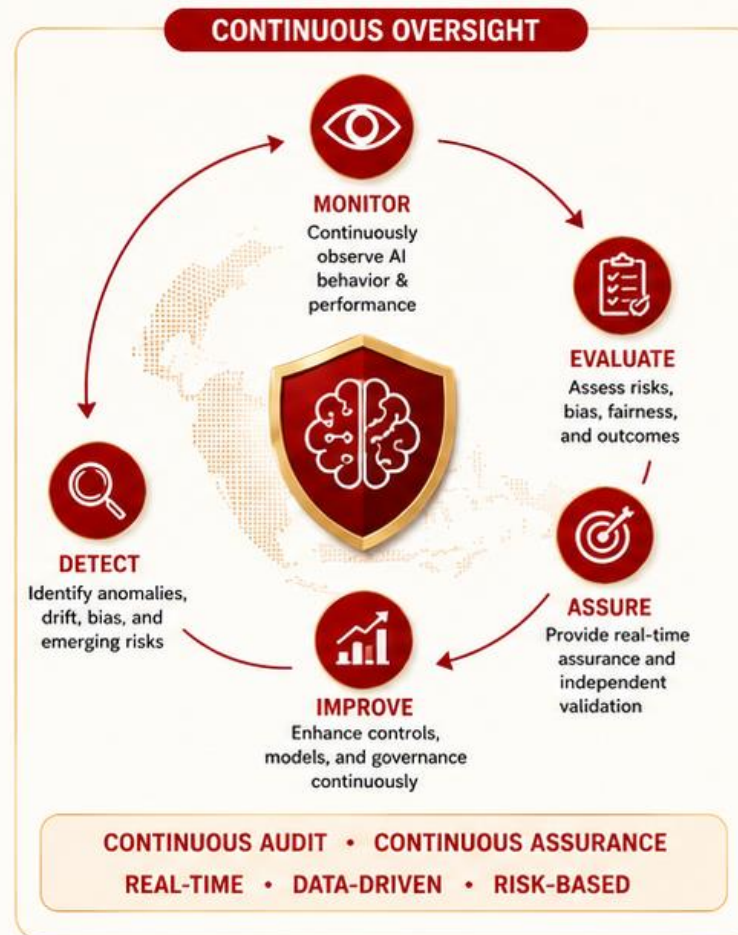
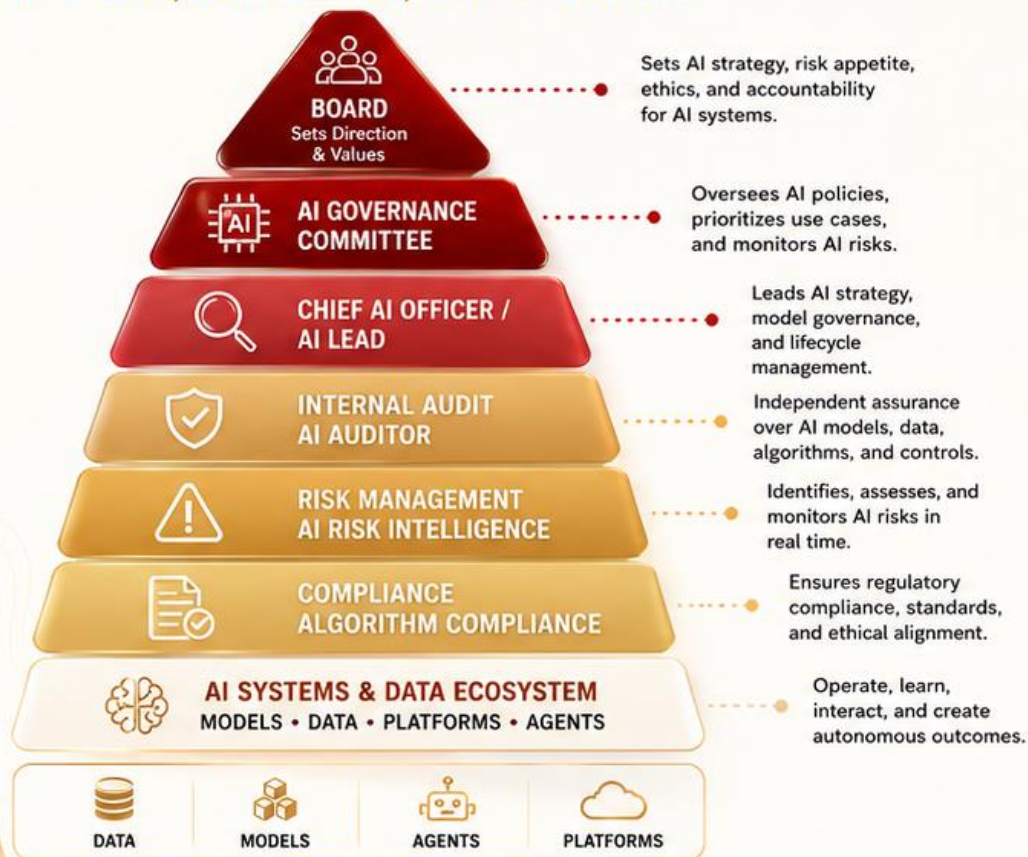
Building Trustworthy, Responsible, and Sovereign AI Ecosystem



KORIKA connects Government, Industry, Academia, and Society to build a Trusted AI Ecosystem for Indonesia.

OVERSIGHT BEYOND HUMAN DECISION MAKING

New Roles, New Mindset, New Governance



AI GOVERNANCE PRINCIPLES

- HUMAN-CENTRIC**
AI serves human values and wellbeing.
- TRUST & TRANSPARENCY**
Explainable, auditable, and accountable AI.
- SAFETY & SECURITY**
Protect data, systems, and society.
- FAIRNESS & ETHICS**
Ensure fairness, eliminate bias, and respect rights.
- INCLUSIVENESS**
AI for all, leaving no one behind.

ALIGNMENT WITH INDONESIA INITIATIVES

- AI Merah Putih
- National AI Strategy 2020–2045
- Digital Sovereignty
- Responsible AI Guidelines
- Digital Trust & Public Interest



From Control to Enabling
Audit shifts from finding problems to enabling value and innovation.



From Periodic to Continuous
Real-time monitoring, continuous audit, continuous assurance.



From Compliance to Value Creation
AI governance drives better decisions, efficiency, and sustainable impact.



From Human-Only to Human + AI
Shared intelligence, shared responsibility, shared future.



Strong oversight today, trustworthy AI tomorrow.

INDONESIA'S AI GOVERNANCE BALANCING INNOVATION AND PUBLIC TRUST

*Building Responsible AI for a Trusted,
Sovereign, and Competitive Indonesia*



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“ AI is not just about technology. It is about trust, sovereignty, and the future of our nation. ”

OUR VISION

Indonesia as a Trusted AI Nation:
Sovereign, Innovative, Inclusive,
and Respected

KEY OUTCOMES

- Trusted AI Adoption Across Sectors
- Sovereign AI Ecosystem Growth
- Better Public Services Powered by AI
- Stronger Digital Economy and Global Competitiveness
- Resilient and Future-Ready Indonesia



THE QUOTE THAT LIVES ON

“ The future will not be decided by machines, but by the wisdom with which we govern them. Let us build AI that serves humanity, not the other way around. ”

— Hammam Riza —

**TOGETHER FOR
INDONESIA**

BERDAULAT • MAJU • SEJAHTERA

KORIKA INITIATIVES FOR INDONESIA'S AI FUTURE

AI MERAH PUTIH
Developing Sovereign AI Solutions for Indonesia

NATIONAL AI STRATEGY 2020-2045
Guiding Indonesia's AI Transformation Journey

AI GOVERNANCE RESEARCH
Building Frameworks, Policies, and Best Practices

AI TALENT & CAPABILITY DEVELOPMENT
Empowering Indonesian Through AI Education

AI ECOSYSTEM COLLABORATION
Government • Industry Academia • Society

KITA SEDANG MEMASUKI ERA BARU

DARI ALAT
MENJADI AKTOR



AI sebagai
Alat



AI sebagai
Asisten



AI sebagai
Aktor (Agentic AI)

Menganalisis • Merencanakan • Memberi Rekomendasi
• Menjalankan Tindakan Secara Semi-Otonom

PERTANYAAN BESAR DI ERA AGENTIC AI

Siapa sebenarnya
yang mengambil keputusan?



Manusia?



Algoritma?



Model AI?



Kombinasi
Keduanya?

Paradigma Governance Harus Berubah

EVOLUSI GOVERNANCE



1.0

Revolusi
Industri

Pencegahan
Aset & Pencegahan
Kecurangan



2.0

Korporasi
Modern

Transparansi,
Akuntabilitas,
Fiduciary Duty



3.0

Era Digital

ERM, GCG,
Pengendalian
Internal



5.0

Age of
Agentic AI

Co-Governance,
AI Assurance,
Intelligent
Governance

Transformasi dari Compliance menuju Cognitive Governance

GOVERNANCE 5.0 – 5 KARAKTERISTIK UTAMA

1 HUMAN + AI CO-GOVERNANCE



- Manusia tidak tergantikan
- Keputusan adalah hasil kolaborasi antara:
 - Human Intelligence
 - Artificial Intelligence
 - Collective Intelligence

2 CONTINUOUS ASSURANCE



Audit berlangsung setiap detik melalui:

- Continuous Monitoring
- Anomaly Detection
- Predictive Analytics
- Digital Twin
- AI Monitoring

3 EXPLAINABLE GOVERNANCE



- Keputusan AI harus dapat dijelaskan
- Transparan
- Dapat diaudit
- Dapat dipertanggungjawabkan

4 ETHICAL GOVERNANCE



AI yang pintar belum tentu benar
AI yang benar belum tentu adil

Tunduk pada:

- Hukum
- Etika
- Nilai Organisasi
- Kepentingan Publik

5 ADAPTIVE GOVERNANCE



- Perubahan teknologi sangat cepat
- Governance harus adaptif
- Antisipasi risiko sebelum terjadi
- Bukan menunggu masalah muncul

PERAN AUDITOR INTERNAL BERUBAH

DULU

Pemeriksa
Kepatuhan



Pertanyaan:
"Apakah manusia telah
mematuhi prosedur?"

MASA DEPAN

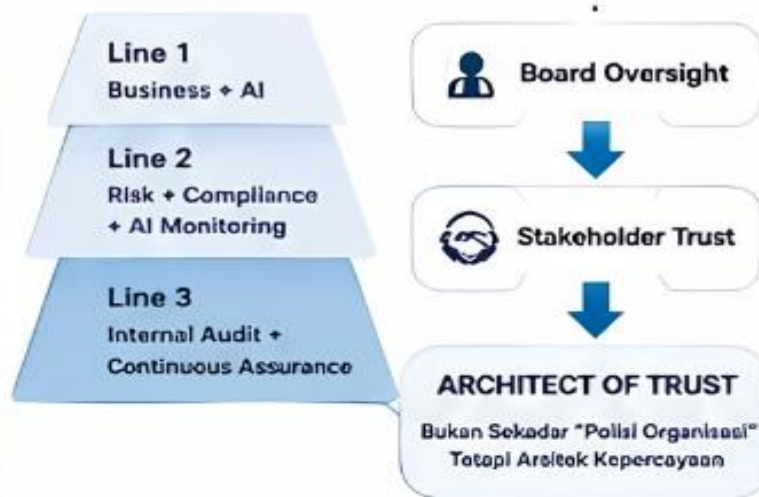
- Strategic Advisor
- Risk Navigator
- AI Assurance Leader
- Governance Architect

Pertanyaan:
"Apakah keputusan AI masih
berada dalam koridor governance?"

AUDIT TIDAK HANYA MANUSIA TETAPI JUGA:



DARI THREE LINES KE INTELLIGENT GOVERNANCE



RISIKO BARU DI ERA AGENTIC AI

- Cognitive Risk**
AI menghasilkan keputusan salah yang tampak sangat meyakinkan
- Synthetic Fraud**
Dokumen palsu, laporan palsu, suara palsu, identitas palsu.
- Model Drift**
Model berubah sendiri karena data berubah
- Automation Bias**
Manusia terlalu percaya AI
- Decision Cascade**
Satu kesalahan AI menyebar ke seluruh organisasi
- Governance Blind Spot**
Board tidak memahami teknologi yang sedang diawalnya

PERSPEKTIF DW-GPT

STRATEGIC GOVERNANCE INTELLIGENCE (SGI)

AI adalah bagian dari ekosistem pengambilan keputusan.
Governance modern harus mengintegrasikan 5 jenis intelijen:



Organisasi Adaptif • Tangguh • Dipercaya

BENCHMARK GLOBAL



IIA GLOBAL

Integral Audit sebagai
pelayanan assurance &
advisory atas transformasi
digital dan governance AI



ISO/IEC 42001

Standar Sistem Manajemen AI
(AI Management System)

COSO

Integrasi pengendalian
internal dengan manajemen
risiko berbasis teknologi



OECD AI PRINCIPLES

AI yang berpusat pada manusia,
inklusif, transparan, dan
bertanggung jawab

NIST AI RMF

AI yang valid, aman,
transparan, dan
akuntabel



EU AI ACT

Pendekatan berbasis
tingkat risiko terhadap
penggunaan AI

PESAN UNTUK INDONESIA

Indonesia memiliki peluang besar menjadi
pemimpin regional dalam tata kelola AI dengan 3 fondasi utama:

- 1 AI GOVERNANCE**
Tata kelola AI yang baik dan berbasis risiko
- 2 AI ASSURANCE**
Mampu mengaudit kinerja AI secara berkelanjutan
- 3 AI SOVEREIGNTY**
Penggunaan data, talenta, dan infrastruktur teknologi sesuai kepentingan nasional

ROADMAP IMPLEMENTASI 2026-2030



PENUTUP

“ Pada abad ke-20, organisasi unggul karena memiliki modal. Pada abad ke-21, organisasi unggul karena memiliki data. Namun pada abad ke-22, organisasi akan unggul karena mampu mengelola kebijaksanaan (wisdom) di tengah kecerdasan buatan.

AI dapat menghasilkan jawaban.
- Tetapi hanya tata kelola yang baik
yang mampu menghasilkan kepercayaan. ”

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**THANK
YOU**