

Global AI Governance

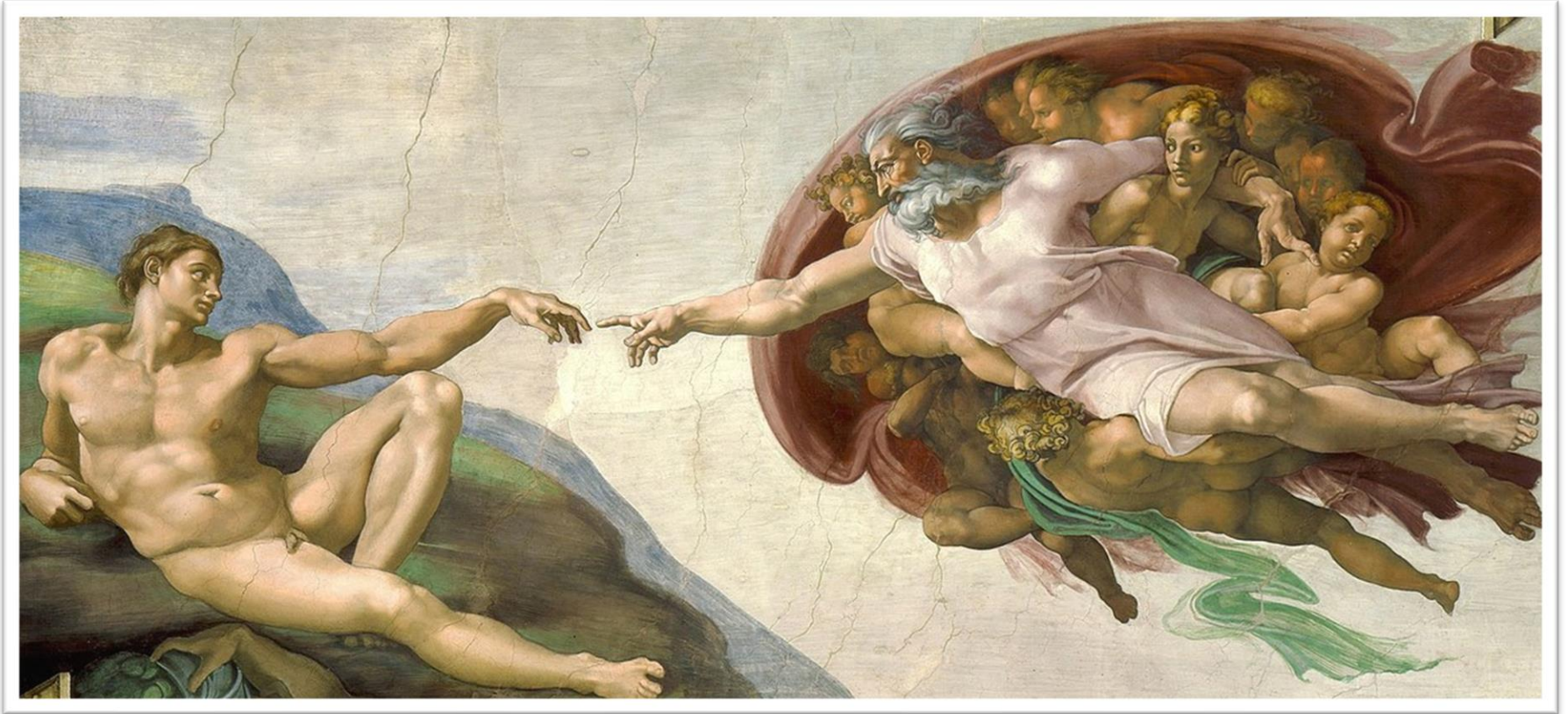
Min, Wonki
Invited Professor
KAIST Kim Jaechul Graduate School of AI



Let's start by examining our relationship with AI from a historical perspective.



Human and God



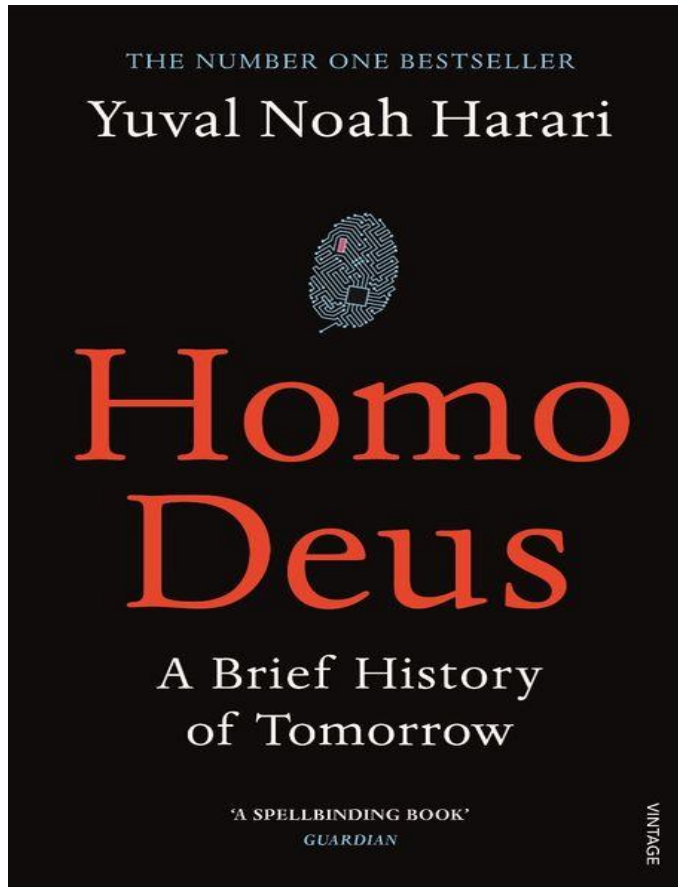
Michelangelo's "The Creation of Adam"

Human and AI



Who is the master?

Homo Deus

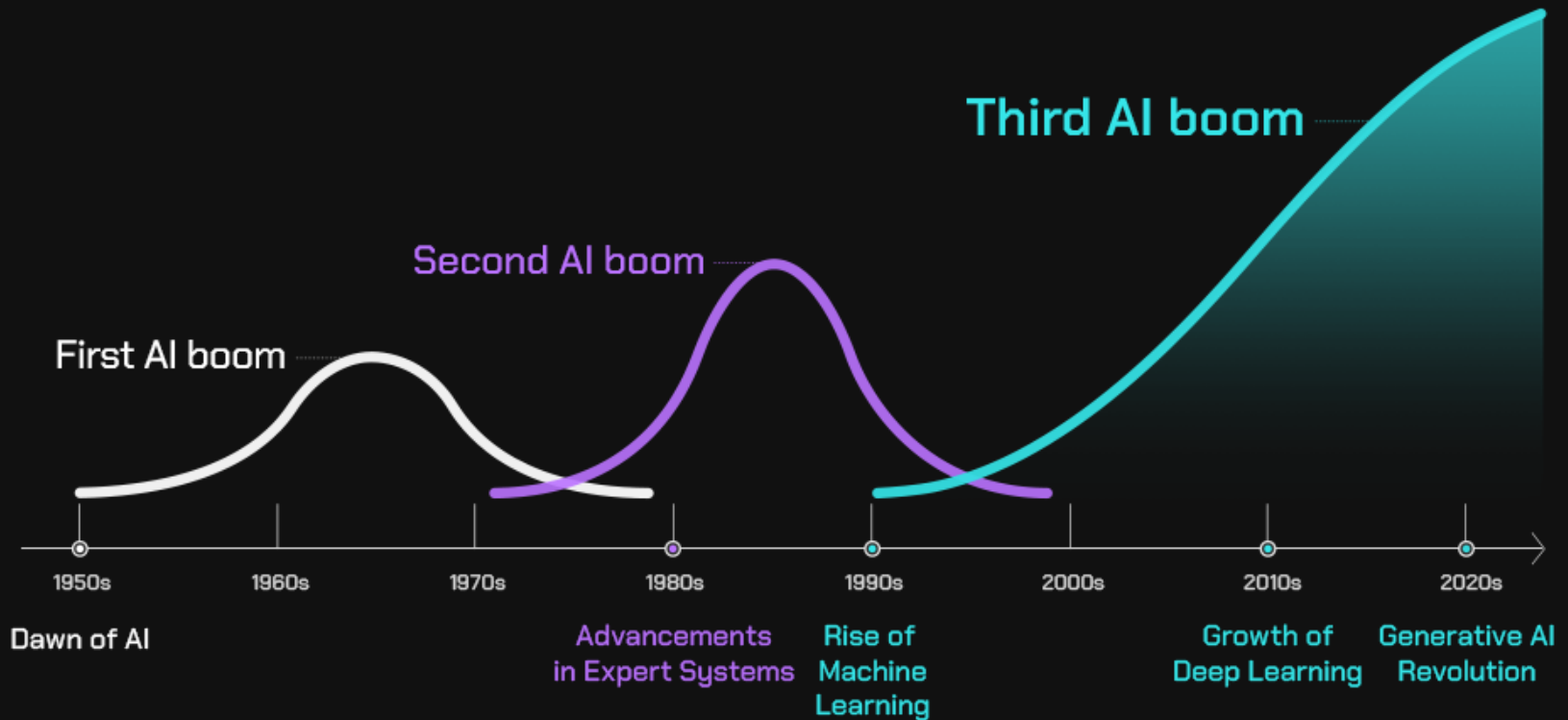


"What will happen to society, politics and daily life

when non-conscious but highly intelligent algorithms know us better than we know ourselves?"

Evolution of AI

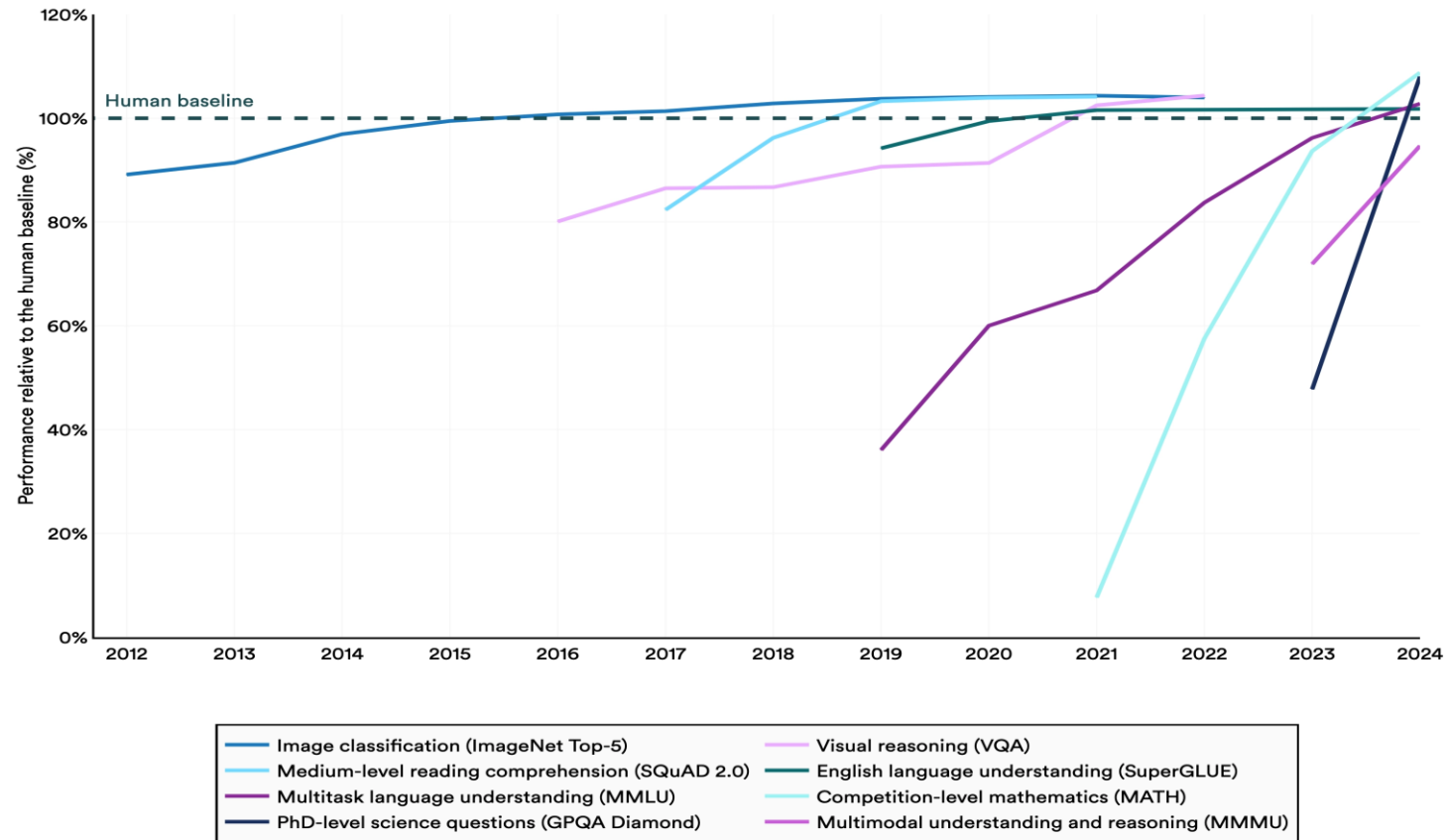
The Evolution of AI Through the Decades



Hyper Moore's Law

Select AI Index technical performance benchmarks vs. human performance

Source: AI Index, 2025 | Chart: 2025 AI Index report

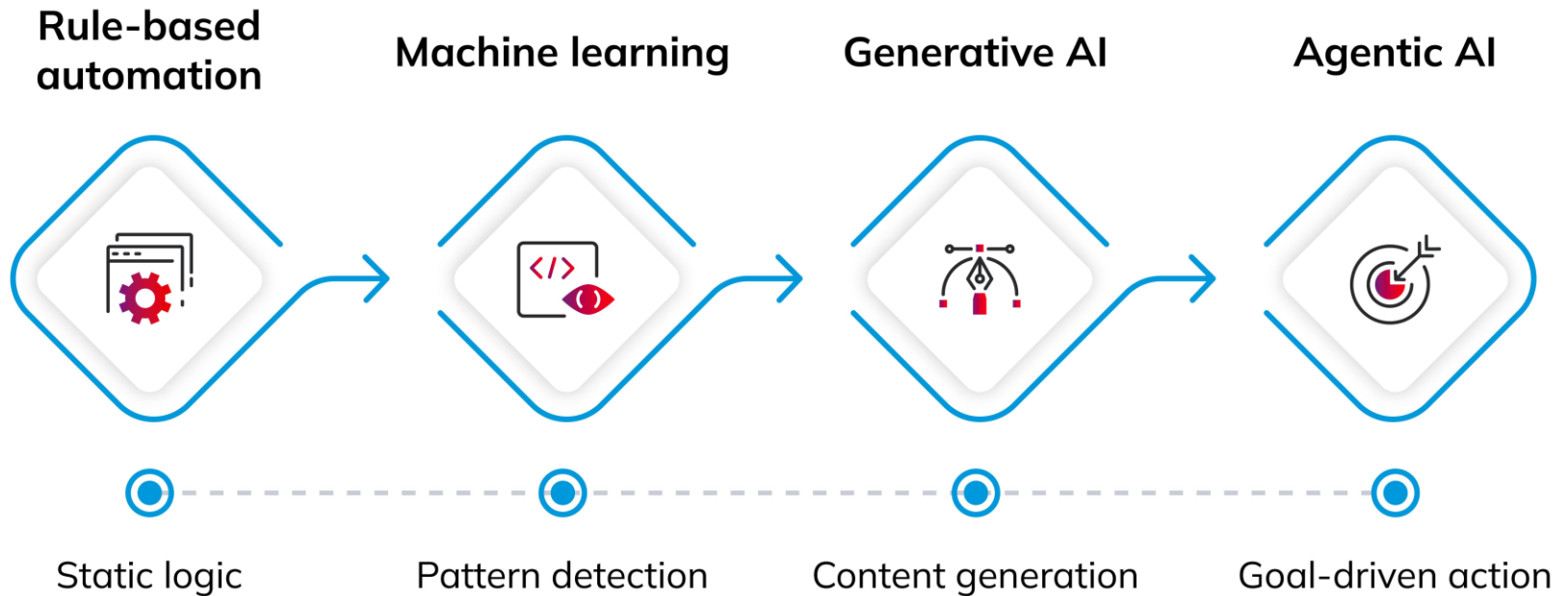


Source: AI Index Report 2025 (Stanford HAI, 2025)

“Unlike Moore's Law, which is bound by hardware advancements, this hyper-accelerated pace would be fueled by **holistic improvements in software, networking, algorithms, and datacenter infrastructure.**” (Jensen Huang)

Continuing Technological Advancements

Evolution of AI towards agency



This evolution mirrors the increasing intelligence and independence of systems:

From
"if X, the Y"
logic



to
"Analyse
and predict"

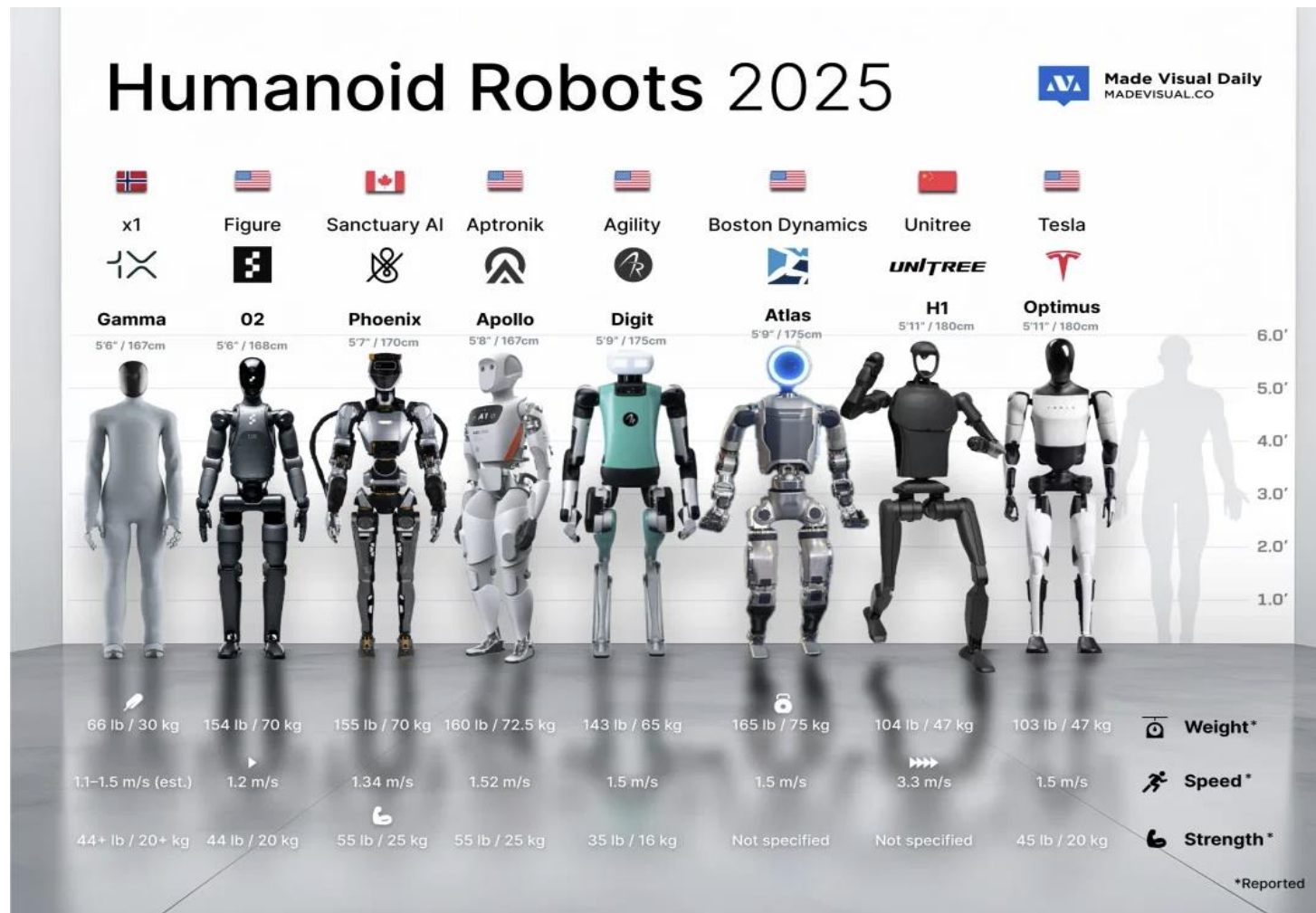


to
"Understand
and generate"



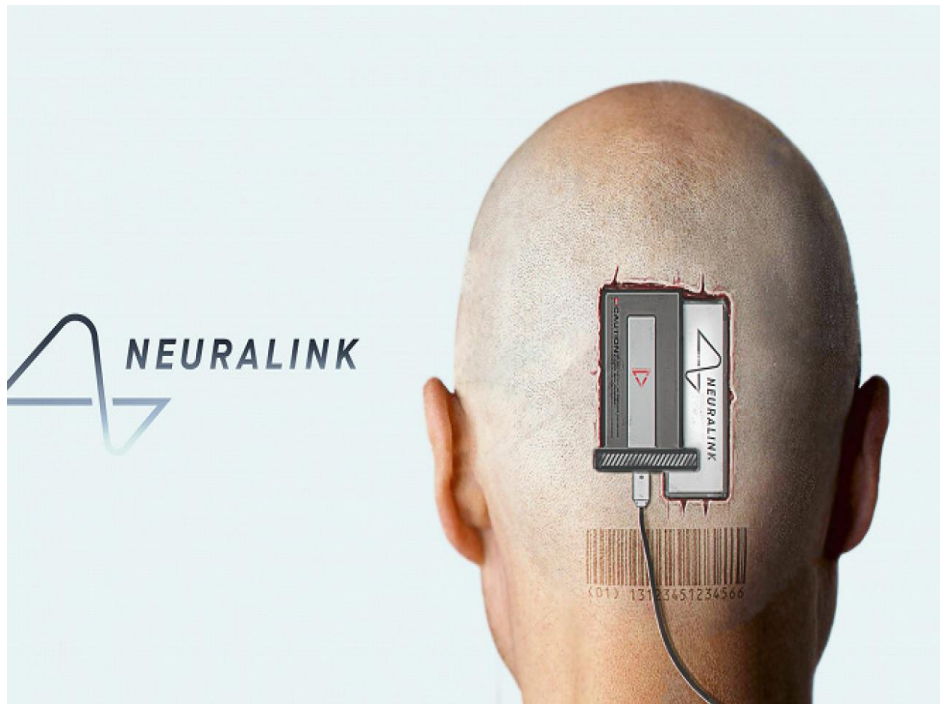
to
"Act and plan
to fulfill a goal"

Physical AI



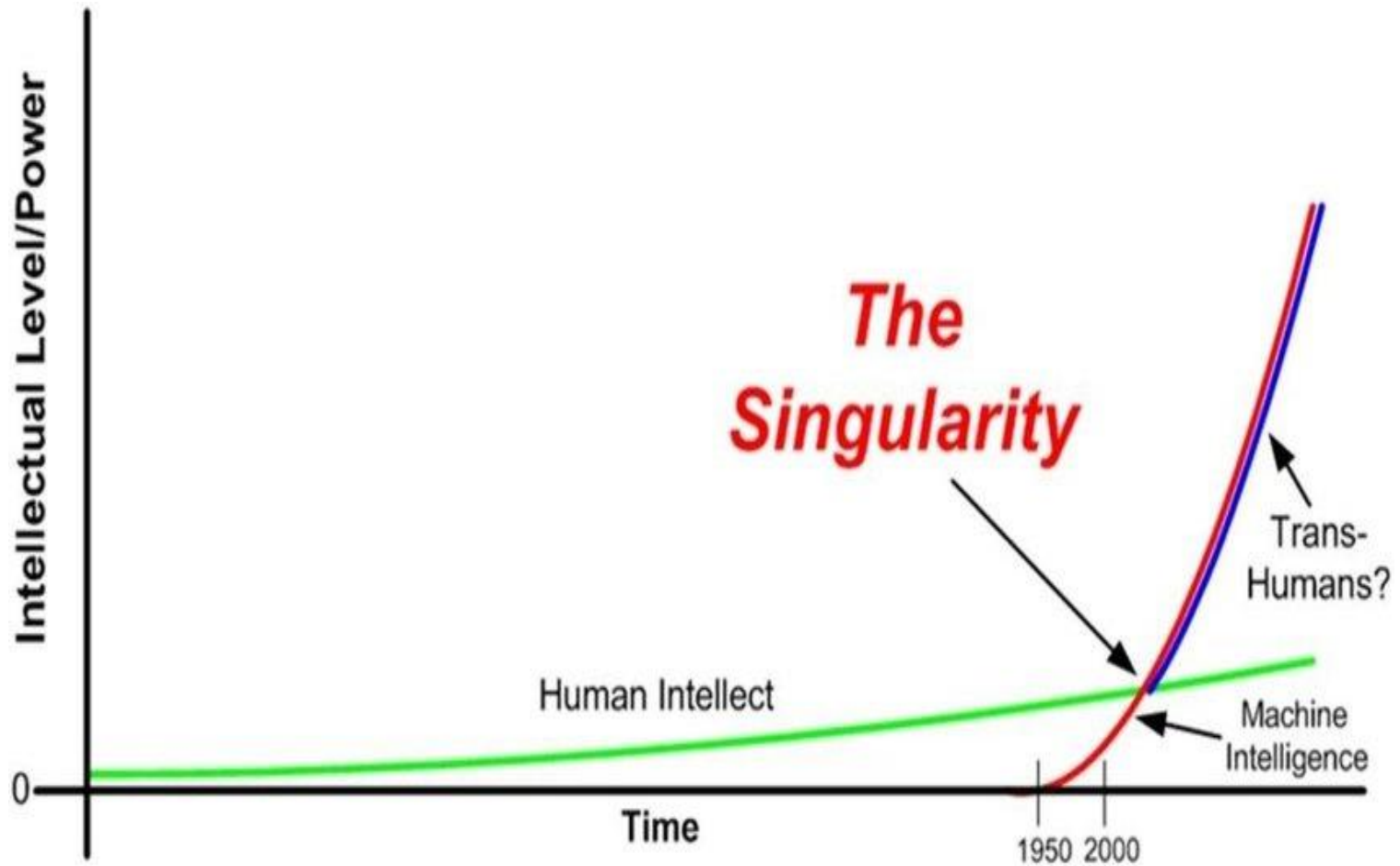
“ By 2040 there could be as many as 10 billion humanoid robots worldwide.”
(Elon Musk)

Brain Computer Interface and B2B Communication

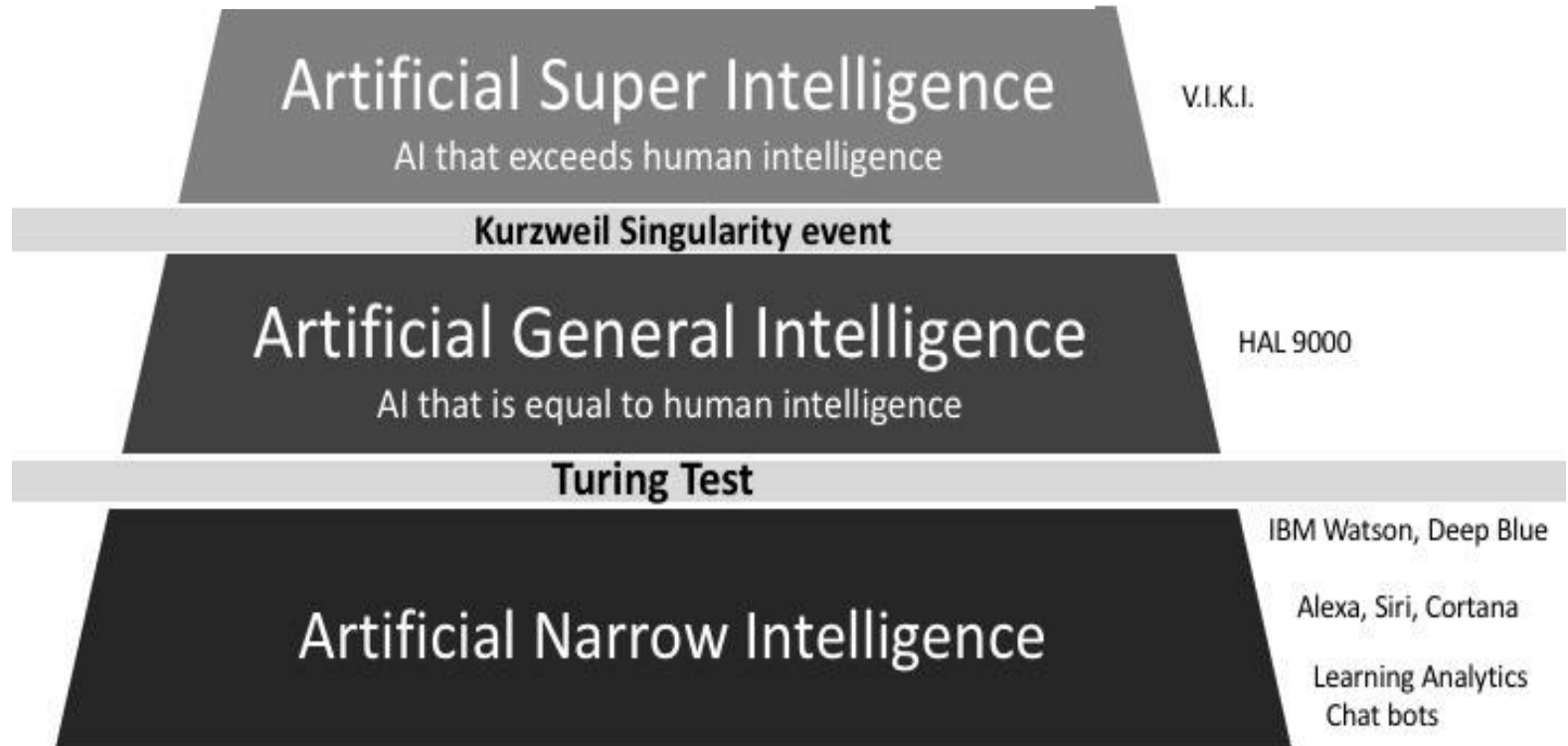


**“By 2040 you will be able to upload your brain...”
(Ray Kurzweil)**

Will we reach the singularity?



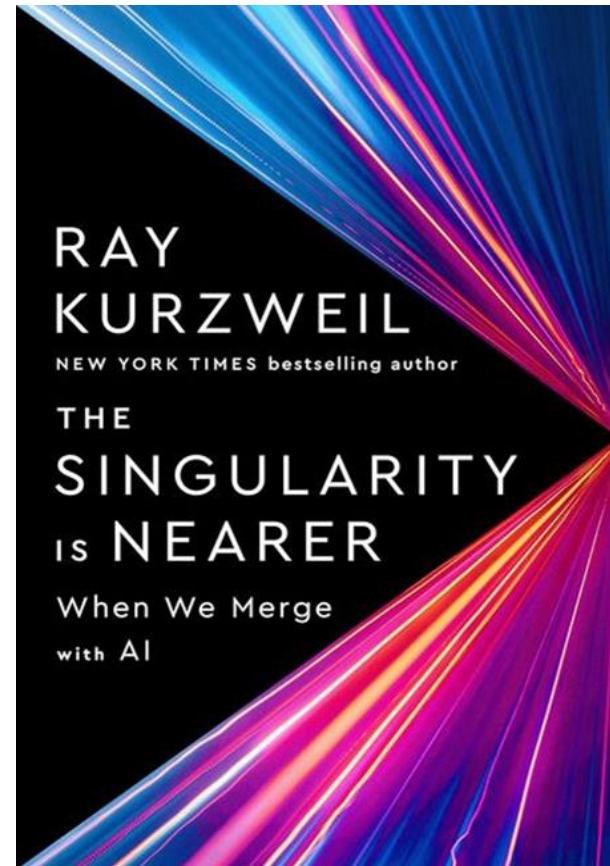
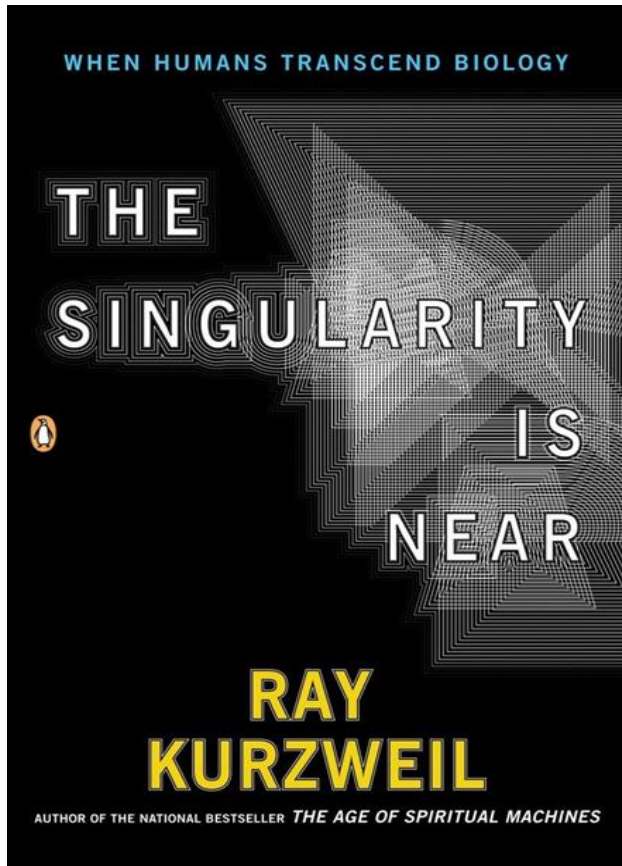
Levels of Artificial Intelligence



Graphic concept by Steve Wheeler (2019) - adapted from various sources

Artificial Super Intelligence is an advanced form of AI that surpasses human intelligence in all aspects.

Date of AGI and Singularity



AGI will emerge by 2029 and the singularity will be achieved in 2045.

AI and Our Human Future

The Age of AI

And Our Human Future

Henry A.
Kissinger

×

Eric
Schmidt

×

Daniel
Huttenlocher

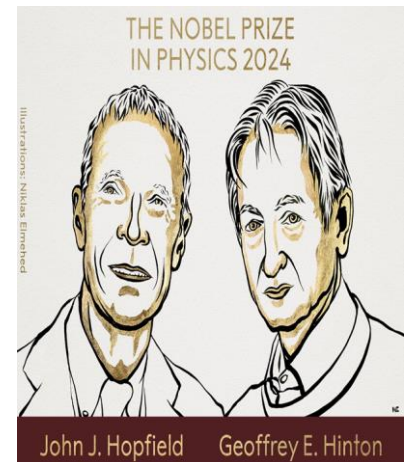
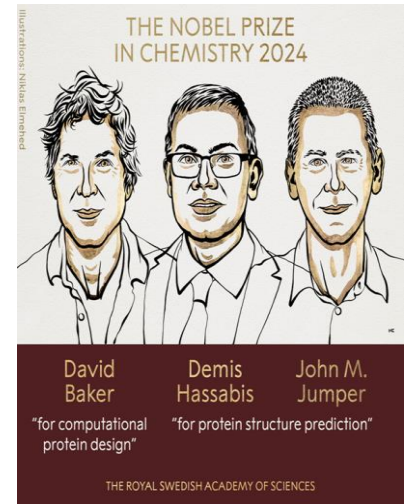
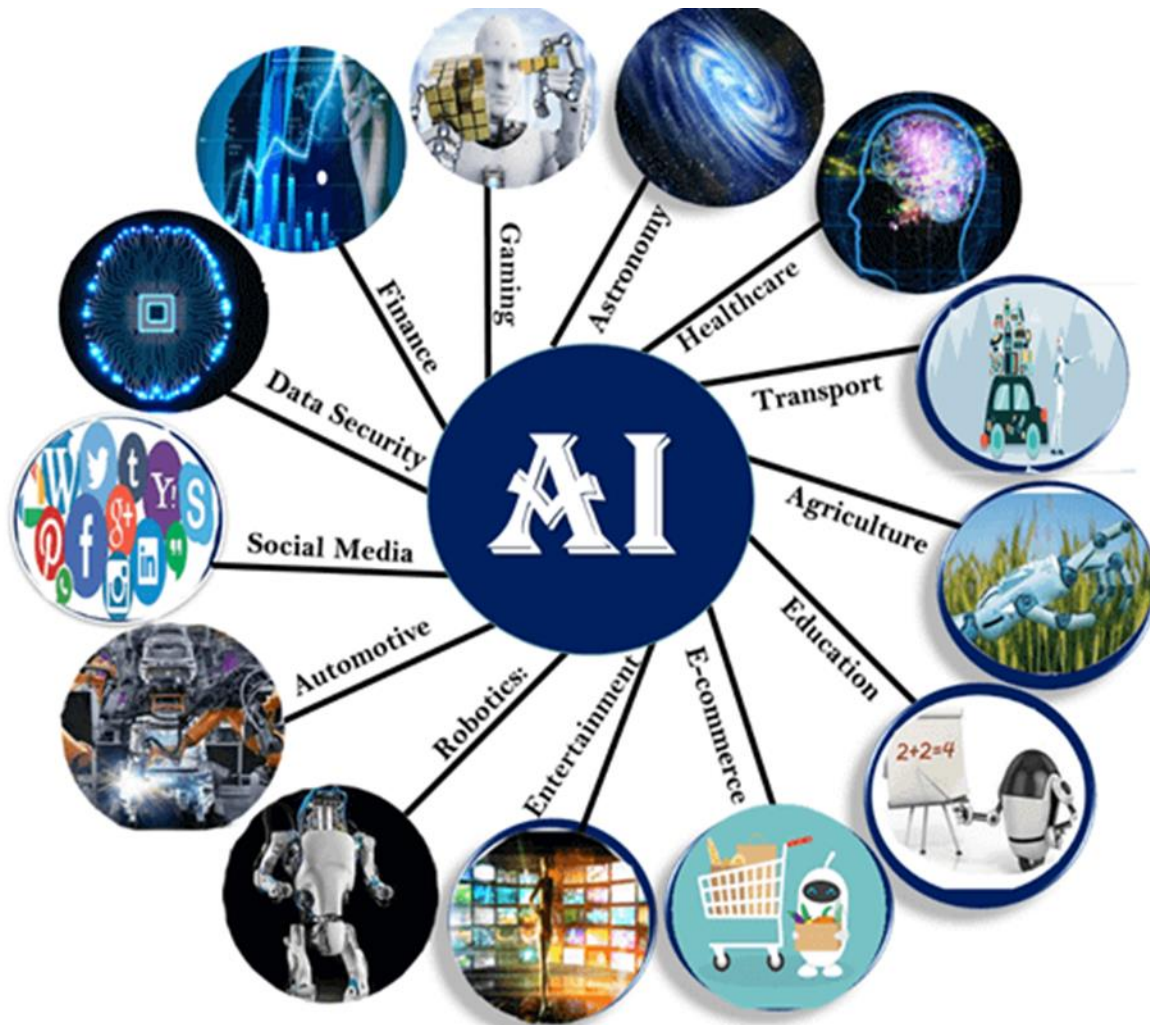
“The characteristics of AI – including its capacity to learn, evolve, and surprise – will disrupt and transform everything.

AI is changing human thought, knowledge, perception, and reality and, in doing so, changing the course of human history”

Now ,let's look at the current status of AI and whether it can be effectively governed.



Winning Nobel Prizes

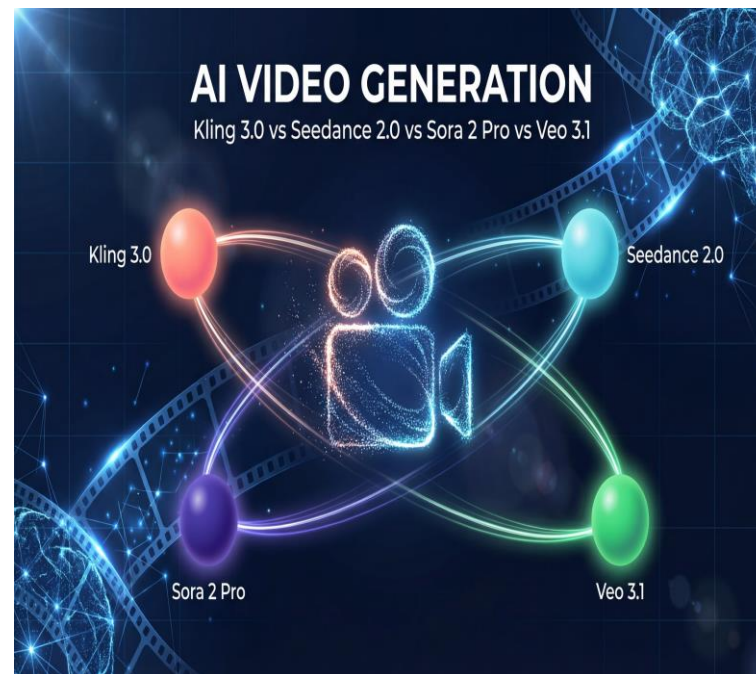


'24 Nobel prizes in Physics and Chemistry were awarded to work related to AI

Enabling something impossible before



**Revolutionizing Molecular
Structure Prediction**



**Turning your written ideas into
realistic, high-quality moving pictures
in just seconds**

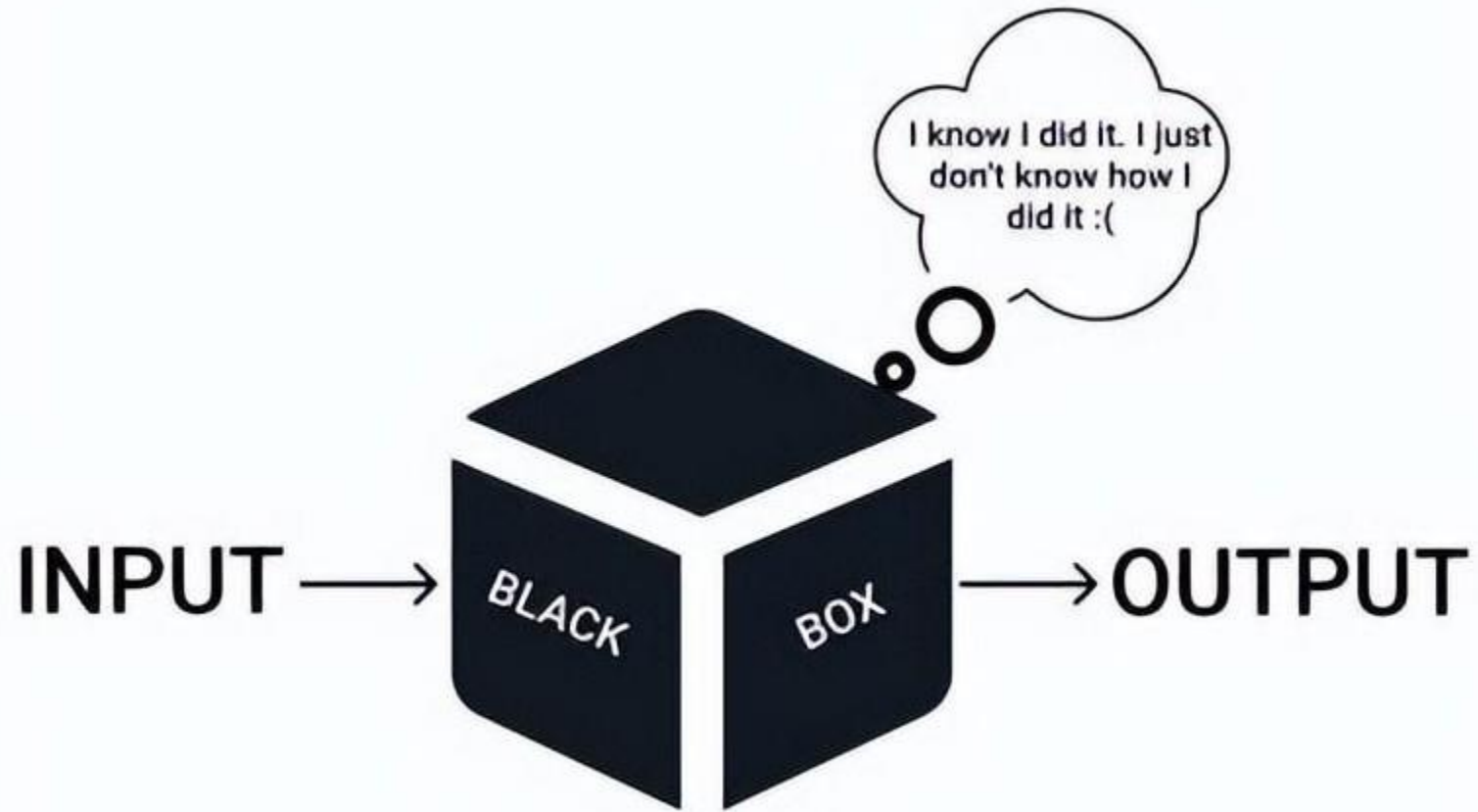
Determining winners and losers in the market

Company	Value (USD)	Industry
Nvidia	\$4.3 trillion	Semiconductors
Apple	\$3.7 trillion	Technology
Alphabet (Google)	\$3.6 trillion	Technology
Microsoft	\$2.9 trillion	Technology
Amazon	\$2.3 trillion	Technology
TSMC	\$1.8 trillion	Semiconductor
Meta Platforms	\$1.5 trillion	Technology
Broadcom	\$1.5 trillion	Semiconductor
Tesla	\$1.4 trillion	Technology
Berkshire Hathaway	\$1 billion	Investment

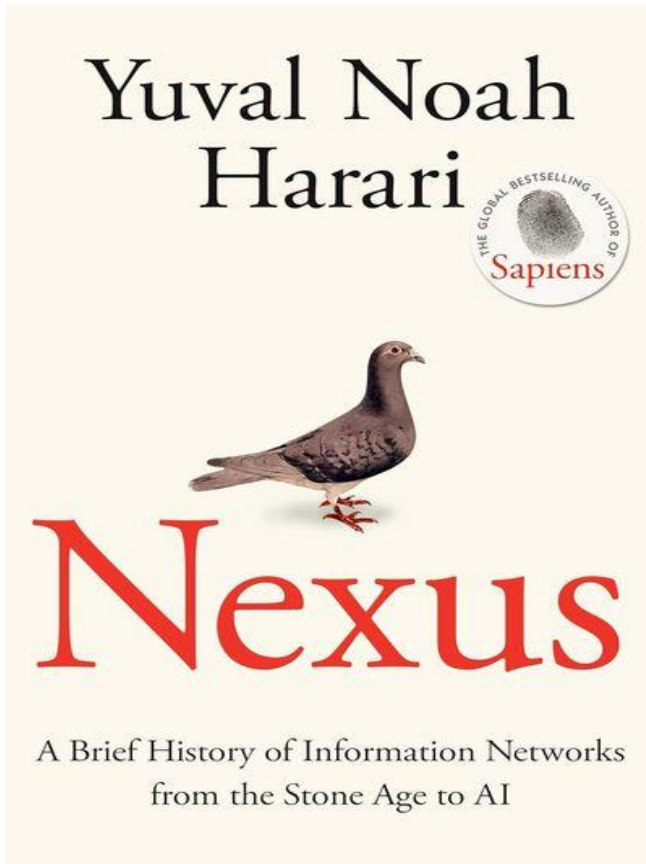
Global top 10 Companies by Market Capitalization ('26. 3. 13)

Among the global top 10 companies, except Berkshire Hathaway, 9 are AI companies.

By the way, can we trust it?



Who owns the decision making?



“All previous human inventions have empowered humans, because no matter how powerful the new tool was, the decision about its usage remained in our hands.

In contrast, AI can process information by itself, and thereby **replace humans in decision making. AI isn't a tool – it's an **agent**.”**

Control Problem



RISKS OF AI



Job Displacement



BIAS



Privacy



Deepfakes



Persuasive AI



Weaponization



Ethical



Power-seeking

Can we control AI to address risks of it?

Concerns about AI Risks



“ We call on all AI labs to **immediately pause for at least 6 months** the training of AI systems more powerful than GPT-4

Elon Musk March 29, 2023

“ It will be important for policymakers to consider how to implement **licensing regulations** on a global scale and ensure international cooperation on AI safety, including examining potential **intergovernmental oversight mechanisms and standard-setting**

Sam Altman May 16, 2023



“ Mitigating the risk of extinction from AI should be a **global priority** alongside other societal-scale risks such as pandemics and nuclear war

May 30, 2023

“ As their capabilities and degree of agency grow, we need to make sure we can rely on **technical and societal guardrails to control them**, including the ability to shut them down if needed.

Yoshua Bengio December 30, 2025



**Yes, there is consensus
to build the global AI
governance framework.**



OECD AI Principles (2019)

Values-based principles



Inclusive growth, sustainable development and well-being >



Human-centred values and fairness >



Transparency and explainability >



Robustness, security and safety >



Accountability >

Recommendations for policy makers



Investing in AI research and development >



Fostering a digital ecosystem for AI >



Shaping an enabling policy environment for AI >

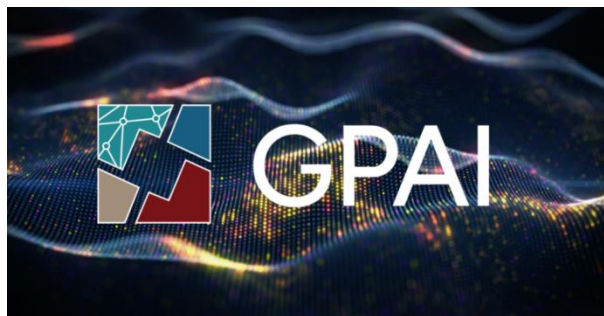


Building human capacity and preparing for labour market transformation >








International co-operation for trustworthy AI >

Global Partnership on AI (2020)



A collaborative global initiative of 44 member countries to promote the responsible development and use of artificial intelligence (AI)

GPAI member countries

 Argentina	 Estonia	 Japan	 Senegal
 Australia	 Finland	 Korea	 Serbia
 Austria	 France	 Latvia	 Singapore
 Belgium	 Germany	 Lithuania	 Slovakia
 Brazil	 Greece	 Luxembourg	 Slovenia
 Canada	 Hungary	 Mexico	 Spain
 Chile	 Iceland	 Netherlands	 Sweden
 Colombia	 India	 New Zealand	 Switzerland
 Costa Rica	 Ireland	 Norway	 Türkiye
 Czechia	 Israel	 Poland	 United Kingdom
 Denmark	 Italy	 Portugal	 United States

UNESCO AI Ethics Recommendation (2021)



“UNESCO produced the first-ever global standard on AI ethics – the 'Recommendation on the Ethics of Artificial Intelligence' in November 2021”



UN AIAB (2023) & IISP-AI (2025)

UN High-Level Advisory Body on AI

- 39-member expert advisory body representing 33 nationalities, gender-balanced multi-stakeholders
- 5 Working Groups: Opportunities & Enablers, Risks & Challenges, Interoperability, Alignment with Norms and Values, International Institutions
- “Governing AI for Humanity” Report to highlight the global governance deficit in AI and to discuss AI risks & challenges to help achieve the SDGs

Independent International Scientific Panel on AI

- The first global scientific body on AI to provide authoritative, evidence-based assessments of AI risks, impacts, and technological developments
- 40 Panel members from various backgrounds, including academia, private sector, civil society, govt/int’l organization, and technical community
- Co-Chairs: Prof. Maria Ressa & Prof. Yoshua Bengio



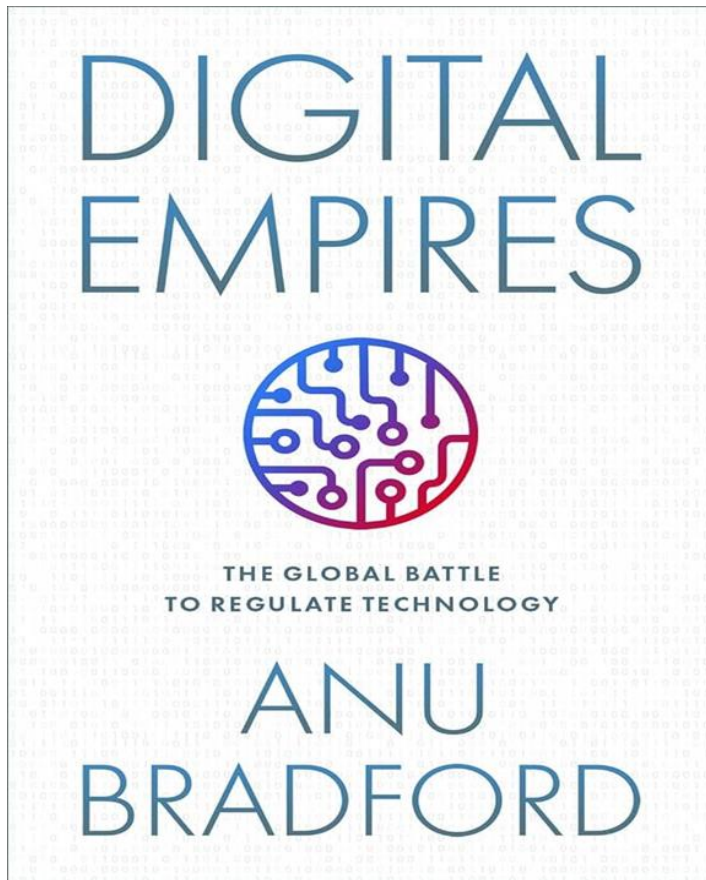
Independent International Scientific Panel on Artificial Intelligence



Can we translate global AI principles into global AI regulation?



Competing Governance Models



- **US: Market-driven (Innovation First)**
- **EU: Rights- driven (Regulation First)**
- **China: State-driven (Strategic Control)**

US AI Action Plan

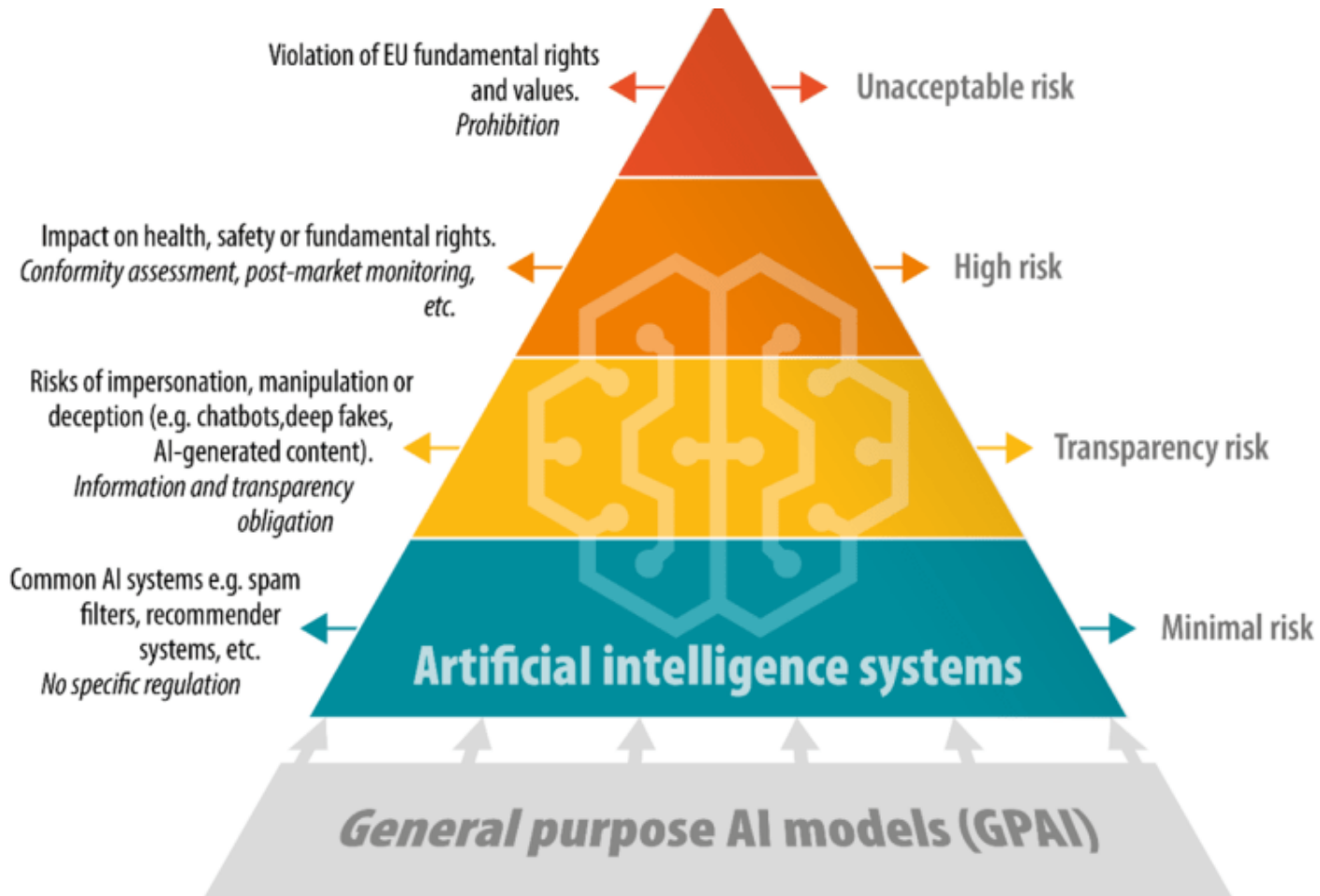


Three Pillars of "America's AI Action Plan"

1. Accelerate AI Innovation
2. Build American Infrastructure
3. Lead in International AI Diplomacy and Security

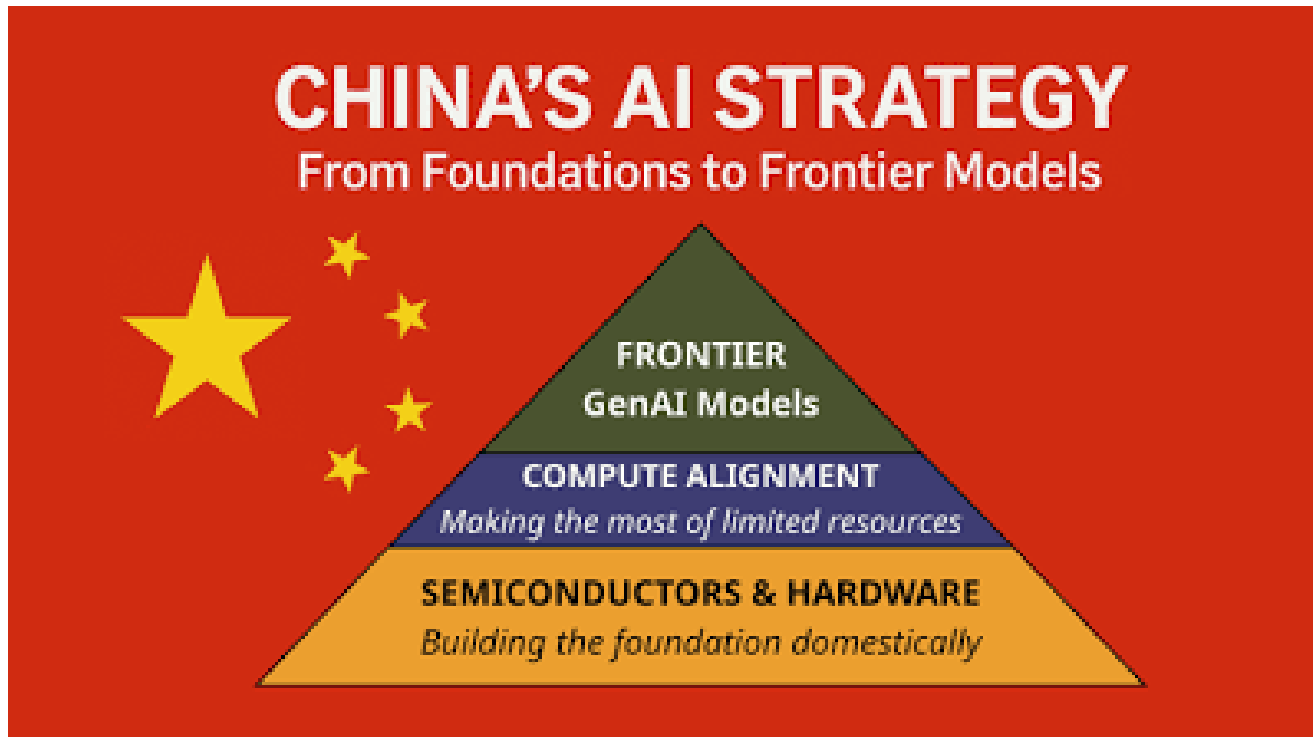
"Winning the AI Race is non-negotiable. America must continue to be the dominant force in artificial intelligence to promote prosperity and protect our economic and national security."

EU AI Act (2024)



The EU AI Act follows a risk-based approach, meaning the stricter the potential risk to safety and fundamental rights, the tougher the rules.

China's AIDP



China's national AI strategy is centered on a "three-step" roadmap defined in the New Generation Artificial Intelligence Development Plan (AIDP), released by the State Council in 2017. The ultimate goal is to become the world's primary AI innovation center by 2030.

Everybody wants it's share in AI



The three central AI ambition archetypes and their protagonists

1 National enabler

AI as an enabler for national socio-economic growth

Promote the use of AI in societies and local sectors to improve socio-economy by developing local AI champions and prioritizing strategic sectors



KSA

"Where the best of Data & AI is made reality"



Sweden

"AI benefits for competitiveness and welfare"



Denmark

"Growth and wealth for the Danish people"

Source: BCG analysis

2 Specialist

AI specific focus areas to serve on the international scene

Leverage country-specific competitive advantage and play a global role (e.g., thought leadership, CoEs, sectors with global relevance for AI community)



India

"AI garage"



UAE

"Most advanced ... via efficient and reliable governance"



France

"World leader for AI research and innovation"

3 Industry leader

Robust AI industry to lead on a global level

Grow a leading global AI industry across the tech value chain (i.e. research, development, localization, adoption)



USA

"Maintain US leadership in AI"



China

"Lead the world in AI theories, technologies, and applications"



UK

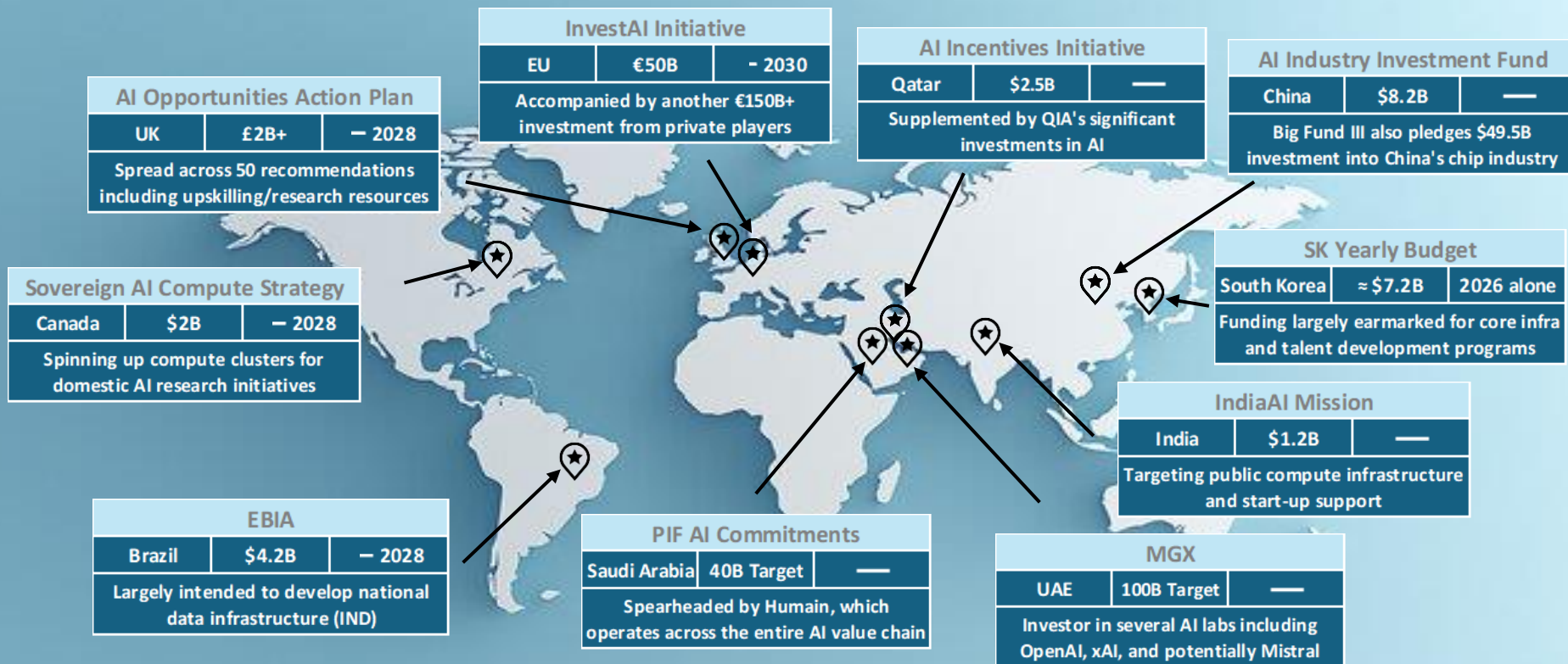
"Global leader in AI"



S. Korea

"One of the world's top 3 AI powerhouses by 2027"

The Sovereign AI spending spree



Source: stateof.ai 2025

Can countries agree on one thing?



The “Bletchley Declaration” was signed by 28 countries and the EU to collectively manage the "catastrophic" risks of frontier AI while ensuring its safe and responsible development for the benefit of all.



The "Seoul Declaration," where 27 nations committed to a shared roadmap for AI safety, innovation, and inclusivity, specifically pledging to halt the deployment of advanced models if their risks cannot be sufficiently mitigated.

From AI Safety to AI Opportunity?



“Europe will mobilize €200bn euro for investment in AI.” – EU President Ursula von der Leyen (‘25, AI Action Summit in Paris)



“U.S. will fight tighter overseas regulations on American tech giants.” – US VP JD Vance (‘25, AI Action Summit in Paris)

AI Haves and Have-Nots

The A.I. Race Is Splitting The World Into Haves and Have-Nots

Only 32 nations, mostly in the Northern Hemisphere, have A.I.-specialized data centers.

WHERE A.I. DATA CENTERS ARE LOCATED



Source: Oxford University | Note: Count of data centers in China excludes facilities in Hong Kong and Taiwan.



“AI should serve the global common good and empower societies.” – India PM Narendra Modi (‘26, AI Impact Summit in New Delhi)

**AI is a dual-use
technology
with profound national
security implications.**



AI War



Through the Maven Smart System, Palantir integrated Anthropic's Claude AI to analyze real-time intelligence and identify high-value targets, enabling the precision strikes and rapid tracking used in the capture of Maduro and the military operations against Iran.

Who decides acceptable use of AI



- Refusing to allow their AI to be used for fully autonomous lethal weapons or mass domestic surveillance of U.S. citizens
- Any private company's safety restrictions on "lawful military use" hinder national security

LAWS (Lethal Autonomous Weapon Systems)

**“I CALL ON STATES
TO BAN THESE
WEAPONS THAT
ARE POLITICALLY
UNACCEPTABLE
AND MORALLY
REVOLTING.”**

UN Secretary General on Killer Robots, 11 Nov 2018

Photo: MSC / Kuhlmann



UN Secretary General Antonio Guterres has urged the international community to establish new prohibitions and restrictions on LAWS by 2026.



Despite growing global consensus on the importance of a unified AI regulatory framework, meaningful implementation remains elusive.

The dual-use nature of AI, coupled with the heterogeneous priorities and strategic interests of states, significantly complicates international coordination.

Thank you!

