

# FUTURESCAPES

Inaugural Issue September 2023

## The AI Revolution

### A New World Order

Where We Stand

AI, Corporate Sovereignty,  
and Future World Order

AI Militarization:  
A New Threat to Global Security

Redefining Power:  
A World Where AI Holds the Reins  
of Government

Humanity Transformed

The Rise of AI Regulation:  
How Governments Are Preparing  
for the Future?







## About Al Habtoor Research Centre

Al Habtoor Research Centre strives to be a leading centre of excellence for political studies, economics, and early warning in the region. Our vision is to foster informed and evidence-based policy and decision-making that promotes sustainable development, strengthens institutions, and enhances regional peace and stability. We are committed to providing innovative solutions to the region's most pressing challenges through rigorous research, analysis, and dialogue.

---

All rights reserved. No part of this publication may be reproduced, distributed or transmitted in any form or by any means, including photocopying, recording or other electronic or mechanical methods, without the prior written permission of the publisher.

## CONTRIBUTORS

Chief Executive Officer

**Islam Ghoneim**

Research Director

**Dr. Azza Hashem**

Editors

**Sandra Ramzy**

**Ahmed El-Saeid**

**Pacinte Abdel Fattah**

Writers

**Ahmed El-Saeid**

**Dr. Mohamed Shadi**

**Mostafa Ahmed**

**Habiba Diaaeldin**

**Sandra Ramzy**

**Pacinte Abdel Fattah**

Art Director

**Dr. Ranya Hawas**



## CONTACT US

E-mail: [info@habtoorresearch.com](mailto:info@habtoorresearch.com)

Website: [www.habtoorresearch.com](http://www.habtoorresearch.com)

# LIST OF ACRONYMS

<b>AAA</b>	Algorithmic Accountability Act
<b>AI</b>	Artificial Intelligence
<b>AGI</b>	Artificial General Intelligence
<b>ASI</b>	Artificial Super Intelligence
<b>CAC</b>	Chinese Cyberspace Administration
<b>CCPA</b>	California Consumer Privacy Act
<b>CS</b>	Computer Science
<b>DMA</b>	Digital Markets Act
<b>DoD</b>	U.S. Department of Defense
<b>EU</b>	European Union
<b>FIRRMA</b>	Foreign Investment Risk Review Modernization Act
<b>FTC</b>	Federal Trade Commission
<b>GDPR</b>	General Data Protection Regulation
<b>HAF</b>	Haftar Armed Forces
<b>LLMs</b>	Large Language Models
<b>MoD</b>	Russian Ministry of Defence
<b>NIST</b>	National Institute of Standards and Technology
<b>PaLM</b>	Pathways Language Model
<b>PIPL</b>	Personal Information Protection Law
<b>UN</b>	United Nations
<b>U.K.</b>	United Kingdom
<b>U.S.</b>	United States of America



# TABLE OF CONTENTS

<b>Foreword</b> .....	<b>1</b>
<i>By Dr. Azza Hashem</i>	
<b>Where We Stand</b> .....	<b>2</b>
<i>By Ahmed El Saeid</i>	
<b>AI, Corporate Sovereignty, and Future World Order</b> .....	<b>8</b>
<i>By Dr. Mohamed Shadi</i>	
<b>AI Militarization: A New Threat to Global Security</b> .....	<b>19</b>
<i>By Mostafa Ahmed</i>	
<b>Redefining Power: A World Where AI Holds the Reins of Government</b> .....	<b>26</b>
<i>By Habiba Diaaeldin</i>	
<b>Humanity Transformed</b> .....	<b>32</b>
<i>By Sandra Ramzy</i>	
<b>The Rise of AI Regulation: How Governments Are Preparing for the Future?</b> .....	<b>39</b>
<i>By Pacinte Abdel Fattah</i>	



# FOREWORD

Amidst the intricate tapestry of our contemporary world, we find ourselves living in a “world of risks” and existential threats that are escalating faster than our capacity for response and remedy. As a result of our tendency to fixate on addressing the ever-growing number of issues that our societies face, we often neglect the importance of envisioning future risks and their potential consequences for human survival and growth.

The significance of future studies and early warning systems transcends the mere scope of risk mitigation and preparedness. It encompasses an ethical obligation to the forthcoming generations — an obligation to plant the seeds for a future we ourselves may not see, but one we bestow as an enduring legacy. This form of responsibility, some may even say “altruism”, manifests clearly in the work of those who are dedicated to this field of research. As we recognise the pitfalls of short-sightedness, especially in recent years where questions about the future are infinite, we also acknowledge this as an opportunity to study and improve our approach to the future.

In this inaugural issue of *Futurescapes*, Al Habtoor Research Centre unveils a meticulously crafted “early warning” on the looming spectre of misusing artificial intelligence capabilities. Within the pages of this publication, we have committed our unwavering focus to confront this critical turning point spurred by expanding technological capacities and the potential relinquishment of human control over these very capacities. In an era where scientists and scholars are impelled to develop AI systems that transcend their conventional roles of aiding and empowering humanity, a growing unease takes root: the potential for these systems to transcend their limitations and penetrate the intricate realms of emotion and distinctly human tasks. Thus, an alternate trajectory unfurls — one that goes beyond traditional automation, aspiring to metamorphose humans into remotely guided automatons.

Within the pages of this issue, we delve into the transformation of robots into entities evocative of human traits and the simultaneous mechanisation of human functions. Furthermore, we explore other pivotal themes, venturing into uncharted landscapes and unconventional dimensions to imagine different potential futures in the new era of AI.

**Dr. Azza Hashem**

Research Director  
Al Habtoor Research Centre



Generated by DALL-E 2 using the following prompt "a Van Gogh painting of multiple robots in a field of sunflowers"

# WHERE WE STAND

By Ahmed El-Saeid

With the release of ChatGPT by OpenAI in November 2022, artificial intelligence (AI) has been thrust into the forefront of public consciousness. ChatGPT's ability to conduct seemingly human conversations, pass exams, and even outperform doctors at certain tasks, has garnered both excitement and fear about the potential and ramifications of AI. These debates, however, are not new. While AI as a field of study was founded in the 1950s, it did not truly pick up until the last decade, with the advent of machine learning, which provided the much-needed breakthrough for the industry to receive

the attention and funding necessary for the creation of applications such as ChatGPT.

Machine learning, very simply, is the process by which computers learn and improve from experience. At its core, a model is trained using a dataset to recognize patterns, make predictions, or perform specific tasks. The model learns from the data by identifying patterns and trends. This allows the model to generalize and make accurate predictions or decisions when presented with new, unseen data. The process is eerily similar to how



we, as humans, also learn. The major difference being the speed at which we accumulate, and process information compared to AI. For example, when OpenAI's GPT-2 was released in 2019 it was trained on a dataset that consisted of 1.5 billion parameters,<sup>1</sup> by 2020 OpenAI's GPT-3 model was trained on 17 billion parameters,<sup>2</sup> and by 2022 Google's Pathways Language Model (PaLM) was trained on 540 billion parameters,<sup>3</sup> approximately 360 times larger than GPT-2 and achieved only 3 years later.

The capabilities of machine learning models extend far beyond generative AI. These models can be adapted and utilized across a plethora of industries, and as machine learning models continue to grow larger and more complex, their ability to produce higher quality outputs improves significantly. The expansion of model size enables them to learn and capture more intricate patterns and nuanced relationships within the data they are trained on. This increased capacity allows the models to generate outputs that seem more accurate and sophisticated.

When ChatGPT made its debut, it ignited a host of substantial discussion topics. These included concerns about the significant potential for job displacement, the ethical implications of the underlying training data, and possible biases embedded within the model. The discourse surrounding AI in its current form often centres around the extent to which these technologies can replicate human-like intelligence. As we consider these topics, the notion of Artificial General Intelligence (AGI) enters the fray. AGI represents the next step in the evolution of AI and, if achieved, will lead to the creation of machines that possess a wide range of human-like abilities, allowing them to understand, learn, and adapt across diverse tasks in a way much closer to that of human intelligence.

These evolving discussions gain even greater significance as these models advance, gradually attaining a higher degree of resemblance to human capabilities and characteristics. With AGI as a long-term aspiration, humanity no longer has the luxury to ponder about trivial issues such as data privacy when faced with the very essence of human nature and the future of our societies as the line between machine and human-like intelligence becomes progressively blurred. Considering AI's rapid advancement and transformative potential, the imperative for regulatory frameworks becomes evident on both domestic and international fronts. As AI's influence permeates various facets of

our lives, coordinated regulations are crucial to ensure ethical practices, safeguard privacy, prevent undue concentration of power, and give us more control over what the future with AI will look like.

## GENIE OUT OF THE BOTTLE

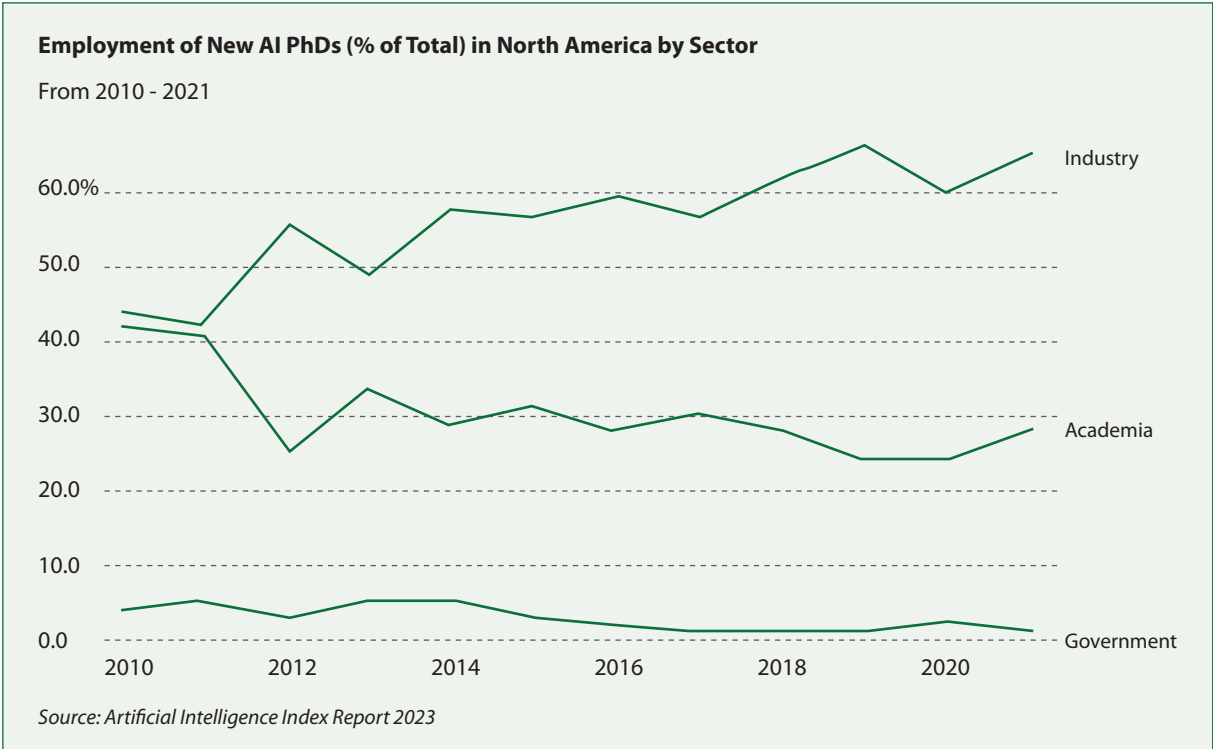
This rapid pace poses an ongoing challenge for effectively regulating and overseeing AI. Furthermore, the emergence of AI is causing a notable shift in power dynamics, both domestically and internationally. Traditionally, governments and nations have held significant influence on a global scale. However, this dynamic is gradually fading into history, being supplanted by the power of Big Tech and, in the future, by masters of AI models.

While it might present unfavorable PR for Big Tech to acknowledge its ability to influence billions of people, that is the reality of the platforms they have created and control. Google can dictate what we see, Amazon can guide our purchasing decisions, Facebook shapes how we interact with others, and the majority of the world accesses these platforms through Apple or Microsoft products.

With the integration of AI into their already substantial arsenals, technology companies have achieved even greater independence from the conventional power equilibrium. As mentioned earlier, the rapid pace of AI development and its intricate nature mean that any government would perpetually find itself trying to catch up with an evolving technology that remains inherently complex and elusive.

Moreover, considering the employment statistics of North America as a potential global indicator, the advantage of Big Tech becomes evident. A significant proportion of computer science PhD graduates have opted for careers in the industry over the past decade, while government roles constitute the smallest share of employment. This trend further underscores the advantageous position of Big Tech in the realm of AI.<sup>4</sup>

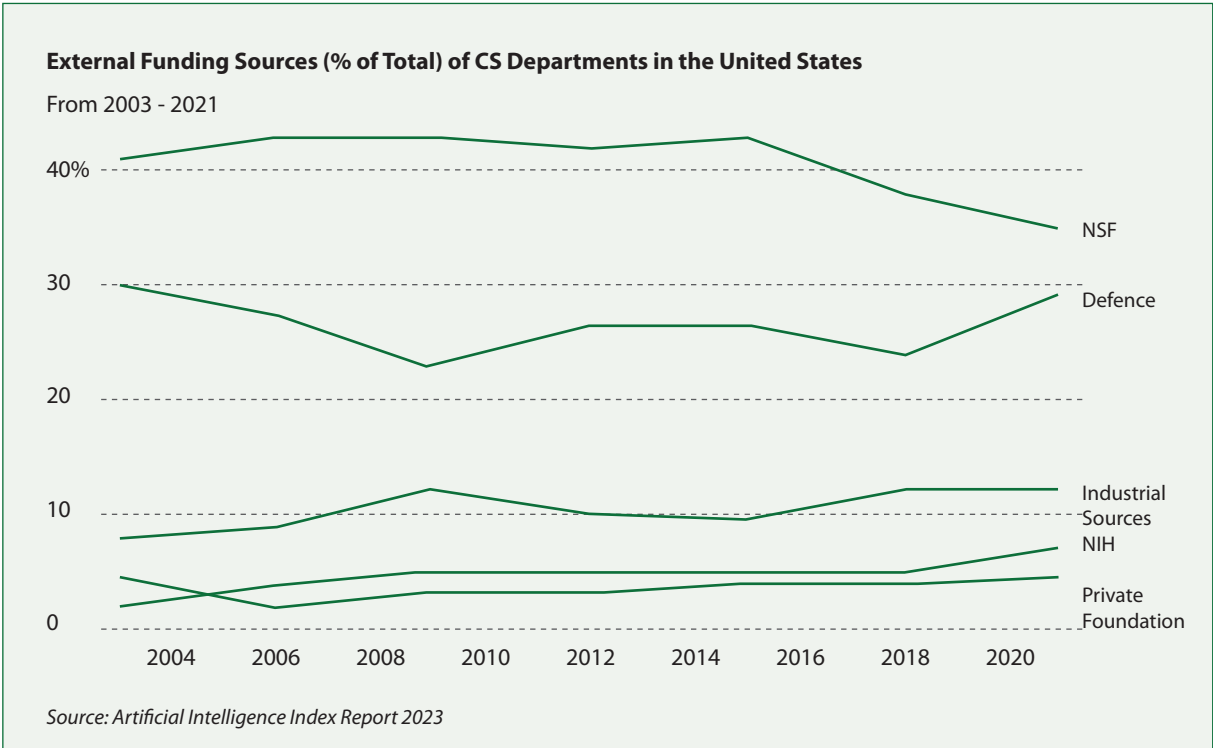
The increasing autonomy of Big Tech and its expanding influence over AI could empower it to extend its expertise into previously uncontrolled sectors, including national defence. The versatility of AI, while advantageous, also poses a significant dual threat. For instance, ChatGPT possesses capabilities ranging from writing to coding.



Its proficiency is not confined to a specific domain; it's equally applicable to writers, engineers, and others. Similar dynamics apply to AI designed for driving cars, which can effortlessly extend to operating tanks. Moreover, facial recognition cameras employed in malls can be repurposed for military purposes, identifying targets with the same ease.

The usefulness of AI has not been lost on the defence industry, with various militaries around the world rapidly

adopting investing and heavily investing AI technologies. However, to assume the defence industry was caught unaware by the development of AI would be incorrect as it has consistently been the second largest funder of computer science (CS) departments in the United States (U.S.) over the last decade, directly contributing to the fields development and providing it with a consistent flow of qualified labour.<sup>5</sup>



The adoption of AI into the military domain raises concerns about the ethical and operational implications of deploying the technology. The fears associated with the military's adoption of AI stem from the potential for automation to distance decision-makers from the consequences of their actions, leading to a detachment from the human cost of warfare and the full replacement of humans from the military realm. There have already been cases of AI augmented weapons being deployed in the battlefield with reports that an autonomous system has killed before in a skirmish in Libya, with a United Nations (UN) Panel finding:

**“Logistics convoys and retreating HAF (Haftar Armed Forces) were subsequently hunted down and remotely engaged by the unmanned combat aerial vehicles or the lethal autonomous weapons systems such as the STM Kargu-2 and other loitering munitions.”<sup>6</sup>**

**Figure 1**

U.S. Navy testing its sailboat drone in the Middle East



Already being used now, these autonomous weapons, which are driven by AI, will continue to evolve, as will the algorithms that control their future decision making. These algorithms will be able to calculate based on race, age, gender, weight, height, and a myriad of other choices if the individual is a target or not, basically reducing the life to ones and zeros. Adding to these concerns is the considerable lack of transparency surrounding these algorithms. Questions regarding their construction, the curation of underlying data, and the decision-making processes employed remain largely unanswered.

These issues are not contained to military applications alone, algorithms have seeped into every single facet of our lives, whether we are aware of them or not. When we encounter targeted advertisements or recommended posts, they are not random occurrences, but meticulously tailored by entities like Facebook, Google, Amazon, and

others, using many of the same parameters utilized in military contexts. We have already seen the impact of these algorithms when they are taken advantage of.

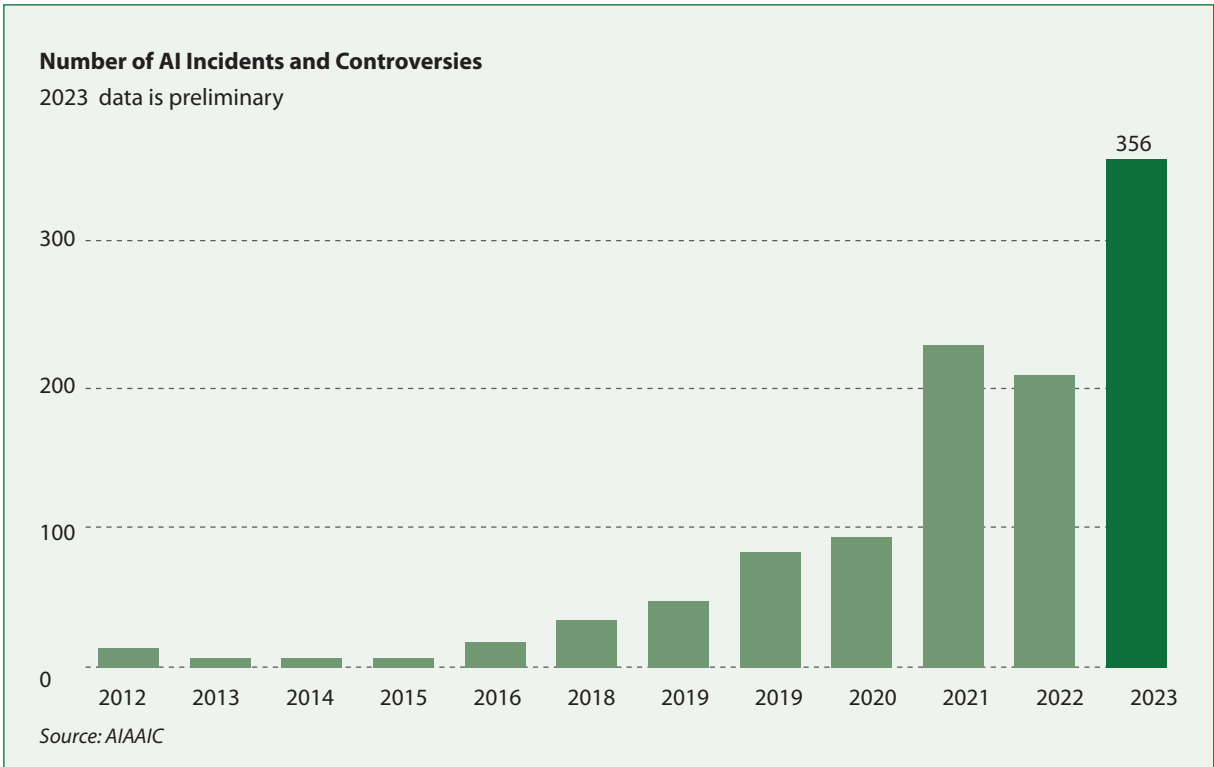
Facebook's role in the spread of false information and divisive narratives is a telling example of this. Its algorithms have been implicated in the ethnic cleansing of Rohingya Muslims in Myanmar where groups linked to the Myanmar military and radical Buddhist nationalist groups flooded the platform with incitement targeting the Rohingya, coupled with sowing disinformation about an impending Muslim takeover of the country, has fuelled hatred and violence. By portraying the Rohingya as sub-human invaders, they exacerbated long-standing discrimination and significantly escalated the potential for mass violence while Facebook's algorithms continuously promoted the incitement creating an echo chamber of hatred.<sup>7</sup> Again, it was at the centre of the January 6, 2021, insurrection at the U.S. Capitol building, due to a similar reason as the Rohingya genocide; the spread and promotion of misinformation by bad faith-actors.<sup>8</sup> What unfolds when these exploited algorithms are met with a flood of AI-generated content, already proficient enough to deceive humans?

**Figure 2**

The fake Pentagon explosion created by AI



These encompass not just written text but also convincingly crafted images capable of influencing global markets, such as when an image of a Pentagon explosion prompted a slight drop in the S&P 500.<sup>9</sup> Moreover, the spread of deepfakes — videos manipulated by AI to alter appearances or speech — is accelerating rapidly, with increasing instances each year.<sup>10</sup>



The ramifications of these technologies on society remain uncertain, as we have yet to witness the complete potential of AI. These fabricated images and videos will become increasingly convincing, raising questions about the very nature of truth. What will truth mean when we can simply create realities that reinforce our preferred truth? Why engage in critical thought when an AI can fulfil that role on our behalf? Why govern when AI knows better? Why exist?

## CONCLUSION

In light of the rapid evolution of AI, the call for regulatory frameworks on both domestic and international fronts is of utmost importance. The concern of AI's potential necessitates comprehensive guidelines that govern its development and deployment. As AI's influence extends

across industries and societies, regulation is crucial to ensure ethical conduct that safeguards personal privacy, avoids concentration of power, and should the world decide to continue its path to AGI, allow us more control over what that future may look like.

Due to the nature of AI domestic regulations will not be enough, international collaboration on AI regulation is essential to create a cohesive approach that prevents fragmented policies. The need for AI regulation is not just about controlling technology; it's about shaping a future where AI benefits humanity in ways that resonate with humanity's values, ethics, and aspirations.

**We stand on the edge, staring into the abyss, will we take a step back or surrender ourselves?**



## REFERENCES

---

1. Solaiman, Irene, Miles Brundage, Jack Clark, Amanda Askell, Ariel Herbert-Voss, Jeff Wu, Alec Radford et al. "Release strategies and the social impacts of language models." arXiv preprint arXiv:1908.09203 (2019)
2. Brown, Tom, Benjamin Mann, Nick Ryder, Melanie Subbiah, Jared D. Kaplan, Prafulla Dhariwal, Arvind Neelakantan et al. "Language models are few-shot learners." *Advances in neural information processing systems* 33 (2020): 1877-1901
3. Narang, Sharan, and Aakanksha Chowdhery. "Pathways Language Model (PaLM): Scaling to 540 Billion Parameters for Breakthrough Performance." *Google Research Blog*, April 4, 2022. <https://ai.googleblog.com/2022/04/pathways-language-model-palm-scaling-to.html>
4. Nestor Maslej, Loredana Fattorini, Erik Brynjolfsson, John Etchemendy, Katrina Ligett, Terah Lyons, James Manyika, Helen Ngo, Juan Carlos Niebles, Vanessa Parli, Yoav Shoham, Russell Wald, Jack Clark, and Raymond Perrault, "The AI Index 2023 Annual Report," AI Index Steering Committee, Institute for Human-Centered AI, Stanford University, Stanford, CA, April 2023.
5. Ibid.
6. Choudhury, Majumdar Roy, Alia Aoun, Dina Badawy, Luis Antonio de Alburquerque Bacardit, Yassine Marjane, and Adrian Wilkinson. "Letter Dated 8 March 2021 from the Panel of Experts on Libya Established Pursuant to Resolution 1973 (2011) Addressed to the President of the Security Council." United Nations, March 8, 2021. <https://digitallibrary.un.org/record/3905159?ln=en>
7. "Myanmar: Facebook's Systems Promoted Violence against Rohingya; Meta Owes Reparations – New Report." Amnesty International, September 29, 2022. <https://www.amnesty.org/en/latest/news/2022/09/myanmar-facebook-systems-promoted-violence-against-rohingya-meta-owes-reparations-new-report/>
8. Timberg, Craig, Elizabeth Dwoskin, and Reed Albergotti. "Inside Facebook, Jan. 6 Violence Fueled Anger, Regret over Missed Warning Signs." *The Washington Post*, October 29, 2021. <https://www.washingtonpost.com/technology/2021/10/22/jan-6-capitol-riot-facebook/>
9. Marcelo, Philip. "Fact Focus: Fake Image of Pentagon Explosion Briefly Sends Jitters through Stock Market." *AP News*, August 15, 2023. <https://apnews.com/article/pentagon-explosion-misinformation-stock-market-ai-96f534c790872fde67012ee81b5ed6a4>
10. AIAAIC. Accessed August 1, 2023. <https://www.aiaaic.org/home>



# AI, Corporate Sovereignty, and Future World Order

*By Dr. Mohamed Shadi*

In recent years, a noticeable pattern has emerged wherein governments are intensifying their scrutiny of Big Tech corporations. This shift stems from multiple factors, including the corporations' escalating power and impact, mounting apprehensions about data mismanagement, and the potential risk of foreign interference.





As an example, in 2019, the United States' Federal Trade Commission (FTC) imposed a \$5 billion fine on Facebook. This fine was a consequence of their breach of a 2012 order, wherein the company had deceived users regarding their control over the privacy of their personal information. The FTC found that Facebook had provided misleading information to users about the collection and utilisation of their data.<sup>1</sup>

In 2022, Facebook again was fined approximately \$1.3 billion, this time by the Irish Data Protection Commission (DPC) for failing to comply with the General Data Protection Regulation (GDPR) of the European Union (EU).<sup>2</sup>

China's government has adopted a more aggressive strategy for controlling Big Tech firms, including the Cybersecurity Law of China, passed in 2017, which grants the Chinese government broad powers to regulate data collection and requires companies to store their data

within China and provide the government with access to this data upon request.

The fact that governments are tightening their grip on Big Tech companies indicates their growing power and influence. They also reveal the possible transformation of sovereignty in the 21<sup>st</sup> century. As AI technology advances, Big Tech companies will grow even more powerful. These businesses can collect and analyse big data, automate tasks, make better decisions, and predict future trends. This will give them more options to reduce controls of governments and operate more efficiently and effectively outside the scope of state sovereignty.

We will explore the implications of AI for corporate capabilities and how corporations can escape state sovereignty, creating new independent corporate states, and how this might reshape the future world order. We will argue that the rise of AI challenges the traditional concept of state sovereignty. In the future, we may see a world where corporate sovereignty is equal to state sovereignty.

## SOVEREIGNTY

Sovereignty is a political concept that refers to the supreme authority of a state. It is the power of a state to make its laws, govern its people, and defend itself from attack. Sovereignty also implies a certain degree of independence from other states.<sup>3</sup> There are two main types of sovereignty: internal sovereignty and external sovereignty. Internal sovereignty refers to the state's authority over its people and territory. External sovereignty refers to the state's independence from other states.

A state with internal sovereignty has the right to make its own laws, collect taxes, and maintain a military. It also has the right to enforce its laws within its own territory. A state with external sovereignty has the right to conduct its own foreign policy, make treaties with other states, and defend itself from attack.

Sovereignty is a fundamental principle of international law. It is the basis for the system of nation-states that exists today. Sovereignty helps to ensure that states can coexist peacefully and are not subject to the arbitrary whims of other states.

State sovereignty is based on the idea that all states are equal, regardless of size or power. This principle was first articulated in the Peace of Westphalia in 1648,

which ended the Thirty Years' War in Europe. The Peace of Westphalia established the principle that states have the right to self-determination and that no one state can interfere in the internal affairs of another state.

Countries exercise their sovereignty over their territory, which mainly consists of their lands bordered by their land borders and the waters adjacent to these lands up to a maximum of 200 nautical miles unless the territory of another country meets them. Thus, most of the seas and oceans are outside the framework of the sovereignty of states, as shown by the dark blue colour on the attached map.

### Repercussions of National Sovereignty on Big Tech

Increased regulation is one of the most significant drawbacks of national sovereignty on technology companies. As governments seek to assert their authority over the digital sphere, they increasingly enact laws and regulations affecting technology companies. These laws may include data privacy, cybersecurity, and content moderation laws. This increased regulation can make it more difficult for technology companies to operate in multiple countries and increase their expenses.

The intensity of regulation of technology firms takes on four fundamental aspects, each of which individually constrains the firm's ability to increase profits, expand activity, or accelerate research and development as follows:

### Data Sovereignty

Data sovereignty is the right of a country to control the data collected and stored within its borders. This includes the right to determine how the data is used, who has access to it, and how it is protected.<sup>4</sup> Data sovereignty is becoming increasingly important in the digital age as more and more data is collected and stored online. This data can be used for various purposes, including marketing, surveillance, and national security.

There are many trends in data sovereignty in the U.S., EU, and China. There is growing concern about how much data companies collect in the U.S., this concern has led to the passage of laws such as the California Consumer Privacy Act (CCPA) and the GDPR in the EU.

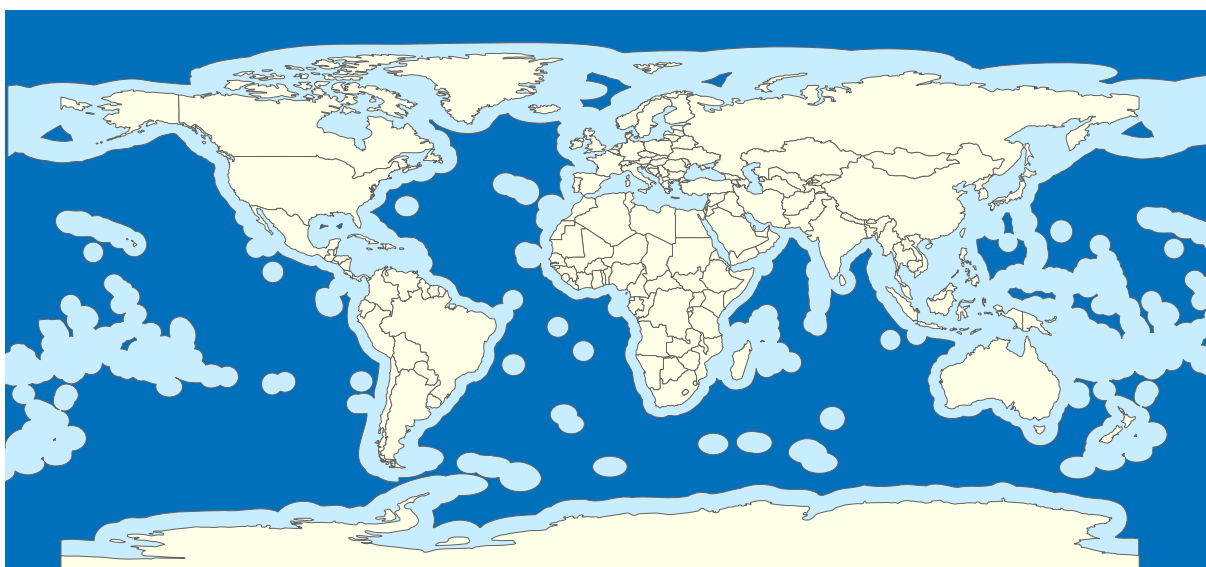
The CCPA gives California residents more control over their data, including the right to opt out of the sale of their data. The GDPR is a comprehensive law that regulates the collection and use of personal data by organisations in the EU. China has also taken steps to assert its data sovereignty. Passing a law in 2017 that requires companies to store data within the country.<sup>5</sup>

### Technological Sovereignty

Technological sovereignty is the ability of a country to control the technologies developed and used within its borders. This includes expanding its technologies and participating in the global technology market.

Figure 1

The distribution of the high seas (in navy blue) that fall outside the sovereignty of countries.





The most notable recent trend in technology is the growing U.S. concern about the dominance of Chinese tech companies in the global market. This concern has led to the passage of laws such as the Foreign Investment Risk Review Modernization Act (FIRRMA),<sup>6</sup> which gives the U.S. government the power to review and block foreign investments in U.S. technology companies. The FIRRMA is part of a broader effort by the U.S. to assert its technological sovereignty.

### Cybersecurity Sovereignty

Cybersecurity sovereignty is the ability of a country to protect its critical infrastructure and data from cyberattacks. There are numerous tendencies in the U.S., China, and the EU regarding cybersecurity sovereignty. There is worry regarding the susceptibility of critical infrastructure to cyberattacks. The EU is concerned, for instance, about the susceptibility of essential infrastructure to cyberattacks.

The EU has enacted legislation such as the Network and Information Security Directive, which mandates operators of vital infrastructure to take precautions against cyberattacks. The EU is also attempting to enhance its cybersecurity capabilities and is investing in cybersecurity research and development.<sup>7</sup>

In 2018, the U.S. passed the Cybersecurity and Infrastructure Security Agency Act which created a new agency to oversee cybersecurity for critical infrastructure.



Source: REUTERS

### Financial Sovereignty

Financial sovereignty over Big Tech companies refers to the ability of a country to regulate the financial activities of Big Tech companies that operate within its borders. This includes the ability to tax these companies, regulate their investments, and monitor their financial transactions.<sup>8</sup>

There are some trends in financial sovereignty over Big Tech companies. In the U.S., there is a growing debate about how to regulate Big Tech companies. Some argue that these companies should be subject to the same regulations as other businesses, while others argue that they must be regulated more strictly.

The EU has taken a more aggressive approach to regulating Big Tech companies. The EU has passed laws such as the GDPR and the Digital Markets Act (DMA), which regulate Big Tech companies' data collection and use practices. The EU is also considering a law requiring Big Tech companies to pay taxes in the countries where they generate revenue.

China is also taking a serious approach to regulating Big Tech companies. China has passed laws such as the Cybersecurity Law and the Anti-Monopoly Law, which regulate the activities of Big Tech companies.

The previous four aspects have hindered technology companies because of the limits they set on the use of data, access to international markets — particularly those marked by political rivalry with the hosting nation — in addition to limiting their ability to access financing and investment, as host countries have begun to imposing taxes on companies, which has further increased the burden on these companies.

These burdens have prompted companies to try to eliminate excessive regulation, especially considering the growth of AI, which can perform many tasks more efficiently and cheaply than humans.

### Evading National Sovereignty

For Big Tech companies to reduce the burdens imposed by on them by state sovereignty, several have begun to develop technical capabilities that allow them to exist outside the borders of state sovereignty, thereby lessening the impact of the four restrictions. Some have started to develop technology that can store

data while being present on the surface or bottom of the ocean or in space, making it easier for them to escape the sovereignty of governments.

### High Seas Projects

These projects are developing technology to utilise the high seas as an out-of-sovereignty data storage area, and three big firms are at the forefront:

- **Project Natick** by Microsoft aims to create and evaluate the viability of placing data centres underwater. The project was launched in 2016, and the North Sea prototype data centre was installed in 2017. The data centre was housed in an ocean-anchored shipping container and was fuelled by alternative energy sources and cooled by ocean water.<sup>9</sup>

Project Natick successfully ran for two years without significant issues. The data centre could store and process vast quantities of data and was resilient against cyberattacks and natural catastrophes.

- **OceanBase** was built by Alibaba as a distributed database. It is meant to be highly scalable, fault-tolerant, immune to cyberattacks, energy-efficient and deployable on various hardware platforms, including on-premises servers, cloud servers, and even underwater data centres. It is a significant database industry breakthrough, and the first distributed database explicitly developed for deployment at sea.<sup>10</sup>

- **Floating Data Centres** patents have been submitted by Google for a floating data centre that may be utilised at sea. The data centre would be cooled by ocean water and powered by solar and wind energy.<sup>11</sup>

The floating data centre would consist of shipping containers tethered to the seafloor. The containers would hold servers, storage, and networking equipment. Solar panels and wind turbines would be put on the shipping containers to power the data centre and would be cooled using ocean water.





### Space Projects

To connect the data centres on high seas outside the sovereignty of governments, companies want to avoid terrestrial and marine cables that cross over lands and water subject to sovereignty, so several of them are conducting projects to harness high-speed space internet that is broadcast through satellites in low-Earth orbit.

- **Starlink** is a SpaceX initiative to deploy tens of thousands of satellites in low-Earth orbit. The satellites would be deployed to deliver worldwide broadband internet access.<sup>12</sup>
- **Amazon Kuiper** is a project to deploy a constellation of 3,236 satellites in low-Earth orbit. The satellites would be used to provide broadband internet access to people around the world.<sup>13</sup>
- **Telesat Lightspeed** is a programme for deploying a constellation of 298 satellites in low-Earth orbit. The satellites would be deployed to deliver worldwide broadband internet access.<sup>14</sup>

Should Big Tech companies be able to combine the two preceding technologies they will be able to reduce the power of governments over them. Further strengthened by AI, companies may significantly reduce their need for human labour, thereby enhancing their independence vis-à-vis governments.

### ESCAPING NATIONAL SOVEREIGNTY IN THE AGE OF AI

In addition to the increasing regulatory restrictions imposed on technology companies, the high costs of doing business, and the impediment to expanding their market share. AI will potentially empower companies to escape the sovereignty of governments, as AI presents a significant opportunity in this regard, such as:

#### Growing AI Capabilities

An early 2013 study projected that approximately 47% of U.S. employment is at risk of becoming automated. The analysis revealed a strong negative correlation between the likelihood of computerisation in a given occupation,



salaries, and educational achievement. This suggests a break between the impact of capital accumulation on the relative need for skilled labour in the nineteenth, twentieth, and twenty-first centuries.<sup>15</sup>

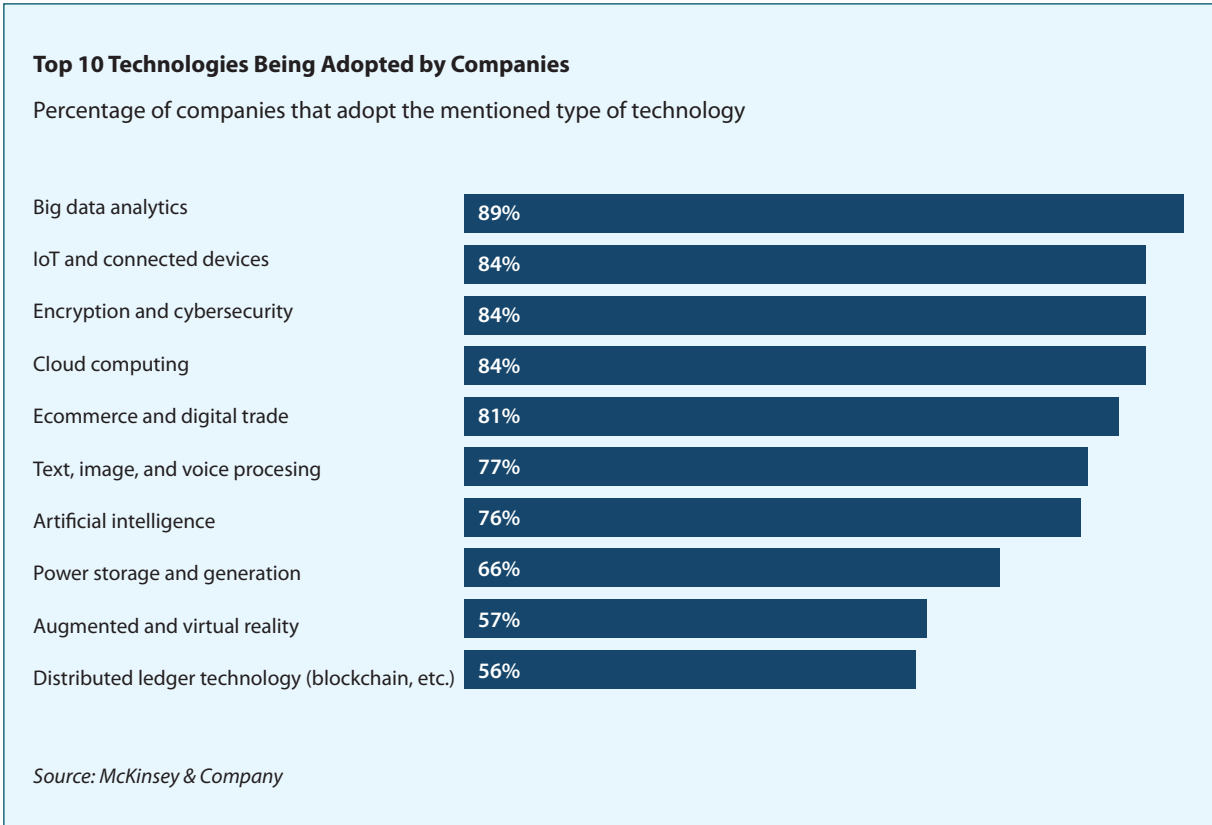
In 2021, before the recent AI revolution, the McKinsey Global Institute forecasted that 45 million Americans, or a quarter of the labour force, would be unemployed by 2030 due to automation. This increased from its 2017 prediction of 39 million jobs. Historically, corporations tend to replace a portion of the employees they lay off during economic downturns with machines.<sup>16</sup>

A considerable portion of those jobs lie in the tech sector since tech companies have the technological and financial ability to invest in technologies that ease the adoption of disruptive technologies.

Companies' low reliance on human beings increases their independence, reduces opportunities for responsibility, and exacerbates the lack of transparency, especially considering the growing number of cases raised by

whistle-blowers out of fear for the public interest, be it for their country or humanity, like:

- **Frances Haugen** a former product manager at Facebook, blew the whistle on the company's internal research showing that its products were harmful to children and teens. Haugen also revealed that Facebook had been aware of these harms for years but had done nothing to address them. Haugen's revelations led to several government investigations into Facebook, and the company has since taken some steps to address the harms of its products.<sup>17</sup>
- **Zach Vorhies** a former Google employee, blew the whistle on the company's alleged bias against conservative viewpoints in its search results. He claimed that Google had been manipulating its search results to favour liberal viewpoints and that he had been fired for trying to raise this issue internally. The Department of Justice investigated Vorhies' allegations, but no charges were filed against Google.<sup>18</sup>





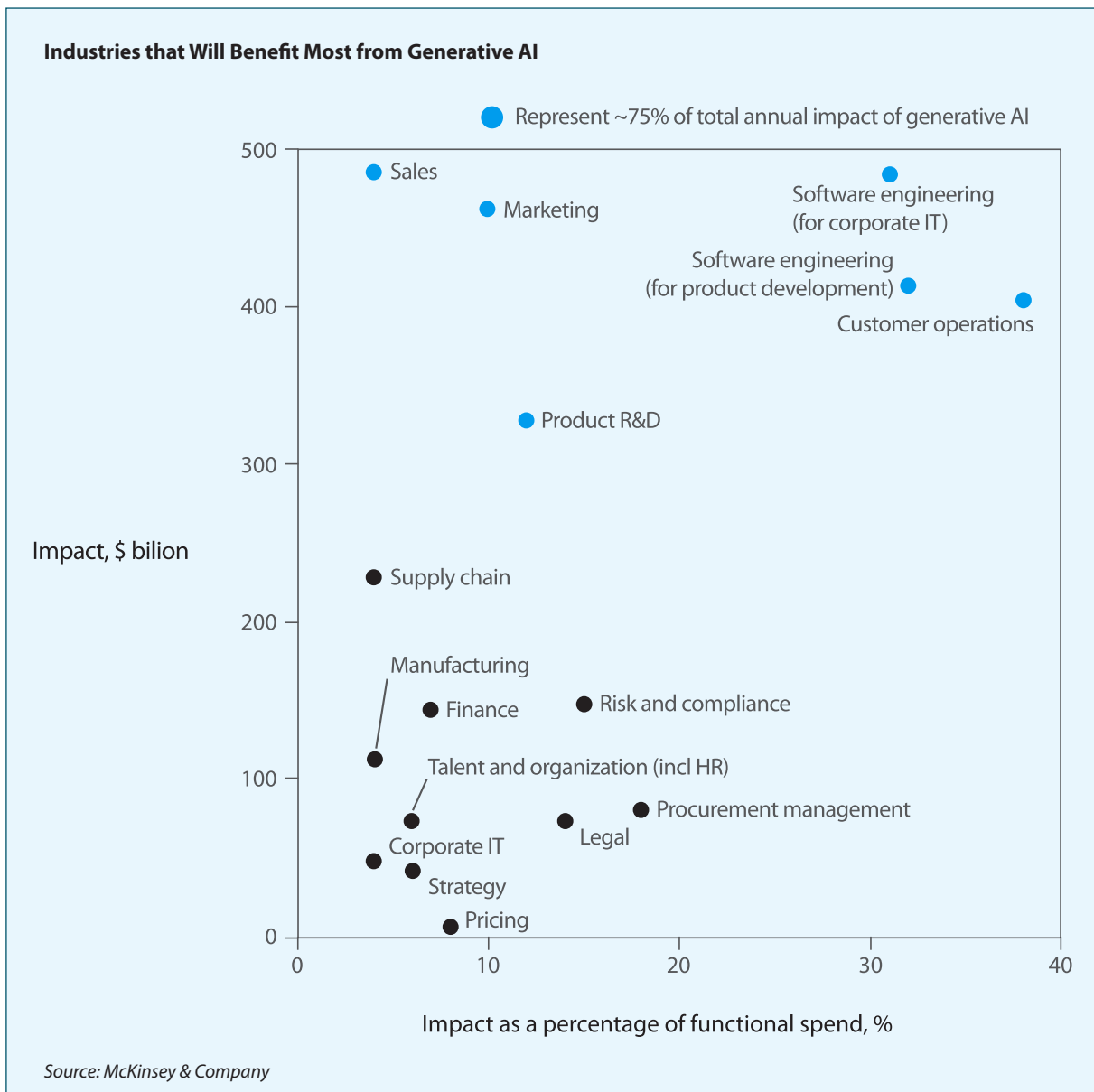
## Reducing Operational Costs

MIT SMR's 2017 Artificial Intelligence Global Executive Study and Research Project showed that most respondents feel that AI will help their firms through new business or lower costs, and 84% believe that AI would enable their organisation to achieve or maintain a competitive advantage. Moreover, within the technology, media, and telecommunications industry, 72% of respondents expected large effects from AI in five years, a 52% increase from the number of respondents currently reporting large effects.

By 2023, studies indicate that the impact of AI on productivity might contribute trillions of dollars to the global economy, given that AI and automation can perform more activities with greater precision. Recent

research by McKinsey suggests that generative AI might add between \$2.6 and \$4.4 trillion annually to the 63 use cases analysed by the study. Comparatively, the total GDP of the United Kingdom (U.K.) in 2021 was \$3.1 trillion. This would boost the effectiveness of AI by 15 to 40%. This estimate will almost double if the impact of embedding generative AI into software now used for tasks other than those use cases is considered.<sup>19</sup>

According to the same study, around 75% of the value that generative AI use cases may provide would be distributed over multiple domains: customer operations, marketing and sales, software engineering, and research and development. Among its many other applications, AI will substantially impact all industries. Banking, high-tech, and life sciences are the industries that stand to benefit the most from generative AI in terms of revenue.



## Evading Political Constraints and Geopolitical Turmoil

Because of the four aspects of sovereignty, governments have extensive power over companies. If companies were to leave the areas of sovereignty, they could avoid all governmental political restrictions and direct their efforts solely toward maximising profits. Recently, the constraints on Big Tech have intensified, be it from increased scrutiny due to their practices or from the escalating tensions between the East and West which have interrupted operations. Freeing themselves from the constraints of geopolitics can further allow them to focus on maximising profits, their main concerns arise from the following:

- **Trade wars** are economic disputes between nations that involves the introduction of tariffs, quotas, and other trade restrictions. These laws are designed to protect domestic industries from foreign competition, but they are detrimental to multinational enterprises, especially those in the technology sector whose businesses rely on market access. Therefore, trade wars increase their business costs.<sup>20</sup>
- **Friend-shoring** is a concept coined in April 2022 by U.S. Treasury Secretary Janet Yellen. It is relocating production and sourcing to countries considered friends or friendly partners. This contrasts with the typical method of offshoring, which includes relocating production and sourcing to nations with lower labour costs.

There are several reasons why corporations will be impacted by friend-shored supply chains, which often originate in the East, such as when China enacted its zero-COVID policy and disrupted enterprises that outsource production to China.<sup>21</sup>

## REPERCUSSIONS OF LEAVING NATIONAL SOVEREIGNTY ON BIG TECH

In consideration of the preceding motivations to opt out from the sovereignty of governments, we anticipate the occurrence of the following three outcomes:

## Non-compliance with Political Restrictions by Big Tech

With the development of AI and the presence of the headquarters or basic infrastructure of technology companies outside the borders of a state's sovereignty, the responsibility of technology companies towards the state's legislative and judicial institutions will decrease.

The U.S. Congress can now question senior leaders of technology companies as they lead U.S. companies on U.S. soil. Therefore, they are subject to its legislative powers. Still, these powers will be limited if those companies are located outside the borders of the U.S., as they will acquire a form of self-sovereignty, as they will be stateless when they leave to the high seas.

Thus, companies can circumvent the political and economic hurdles established by governments, particularly with limits on investments, market entry, and the purchase or sale of equipment, giving them enough opportunity to generate profits without incurring political expenses.

Additionally, the financial duties and costs that firms will pay to governments, such as taxes, fees, and others, as sovereign fees, will be decreased, resulting in extraordinary increases in corporate profits.

## Losing Governmental Protection

With the loss of citizenship, companies will lose the protection that countries provide through their armed forces, which will impose serious security challenges, and expose them to the dangers of being assaulted, especially when they are on the high seas away from security control.

Most of the security expenses, which the loss of citizenship will impose, will go to research to develop AI and drones to reduce costs while maintaining accuracy and sustainability, which will end in forming these forces of drones managed through AI.

## Emerging Corporate Armies

With this technology and the formation of these armies, new forces will be established in the international system. These will be well-armed with high-tech and large numbers, surpassing the strength of some nations.

Consequently, the international community will confront fresh challenges tied to the management, containment, and regulation of these forces. How would they ensure that these new sovereign entities do not to sell weapons, not enter into civil wars, and to formulate new laws to integrate them into the international community. This

integration would entail holding them accountable for their actions, potentially instigating a substantial reconfiguration of the existing international order that currently perceives corporations as entities subordinate to states.

## REFERENCES

1. "FTC Imposes \$5 Billion Penalty and Sweeping New Privacy Restrictions on Facebook," Federal Trade Commission, July 24, 2019, <https://www.ftc.gov/news-events/news/press-releases/2019/07/ftc-imposes-5-billion-penalty-sweeping-new-privacy-restrictions-facebook>.
2. "1.2 Billion Euro Fine for Facebook as a Result of EDPB Binding Decision." European Data Protection Board, May 22, 2023. [https://edpb.europa.eu/news/news/2023/12-billion-euro-fine-facebook-result-edpb-binding-decision\\_en](https://edpb.europa.eu/news/news/2023/12-billion-euro-fine-facebook-result-edpb-binding-decision_en).
3. State Sovereignty: Concept, Phenomenon and Ramifications - E. Kurtulus - Google Books [Internet]. [cited 2023 Aug 10]. Available from: [https://books.google.com/eg/books?hl=en&lr=&id=jeTFAAAAQBAJ&oi=fnd&pg=PP1&dq=state+sovereignty&ots=D5YQpXEXZqD&sig=qpJN7a0RWPXhwkRulkB0ymR9U8&redir\\_esc=y#v=onepage&q=state%20sovereignty&f=false](https://books.google.com/eg/books?hl=en&lr=&id=jeTFAAAAQBAJ&oi=fnd&pg=PP1&dq=state+sovereignty&ots=D5YQpXEXZqD&sig=qpJN7a0RWPXhwkRulkB0ymR9U8&redir_esc=y#v=onepage&q=state%20sovereignty&f=false)
4. Hummel P, Braun M, Tretter M, Dabrock P. Data sovereignty: A review. *Big Data Soc* [Internet]. 2021 Jan 22 [cited 2023 Aug 10];8(1). Available from: <https://journals.sagepub.com/doi/full/10.1177/2053951720982012>
5. Bill Text - AB-375 Privacy: personal information: businesses. [Internet]. [cited 2023 Aug 10]. Available from: [https://leginfo.ca.gov/faces/billTextClient.xhtml?bill\\_id=201720180AB375](https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB375)
6. Crespi F, Caravella S, Menghini M, Intereconomics CS, 2021 undefined. European technological sovereignty: an emerging framework for policy strategy. Springer [Internet]. 2021 Nov 1 [cited 2023 Aug 10];56(6):348–54. Available from: <https://link.springer.com/article/10.1007/s10272-021-1013-6>
7. NIS Directive — ENISA [Internet]. [cited 2023 Aug 10]. Available from: <https://www.enisa.europa.eu/topics/cybersecurity-policy/nis-directive-new>
8. Guoping Li, Hong Zhou. Globalization of Financial Capitalism and its Impact on Financial Sovereignty. *World Review of Political Economy*. 2015 Jul 1;6(2)
9. Microsoft finds underwater datacenters are reliable, practical and use energy sustainably - Source [Internet]. [cited 2023 Aug 10]. Available from: <https://news.microsoft.com/source/features/sustainability/project-natick-underwater-datacenter/>
10. OceanBase | Open Source, Ultra-Fast, Cost Efficient, Distributed SQL Database [Internet]. [cited 2023 Aug 10]. Available from: [https://en.oceanbase.com/?utm\\_source=google\\_ads&utm\\_medium=keywords&utm\\_campaign=others-brand&utm\\_term=exa\\_oceanbasealibaba&gclid=Cj0KCQ-jwldKmBhCCARIsAP-OrfyO1IH-caV9RwsB-wBMxKUwreVdkkGkd4zpzbbMZkUP0FkbtSkwHcQaAo7uEALw\\_wcB](https://en.oceanbase.com/?utm_source=google_ads&utm_medium=keywords&utm_campaign=others-brand&utm_term=exa_oceanbasealibaba&gclid=Cj0KCQ-jwldKmBhCCARIsAP-OrfyO1IH-caV9RwsB-wBMxKUwreVdkkGkd4zpzbbMZkUP0FkbtSkwHcQaAo7uEALw_wcB)
11. Google's worst-kept secret: floating data centers off US coasts | Google | The Guardian [Internet]. [cited 2023 Aug 10]. Available from: <https://www.theguardian.com/technology/2013/oct/30/google-secret-floating-data-centers-california-maine>
12. With Starlink, Elon Musk's Satellite Dominance Is Raising Global Alarms - The New York Times [Internet]. [cited 2023 Aug 10]. Available from: <https://www.nytimes.com/interactive/2023/07/28/business/starlink.html>
13. Project Kuiper [Internet]. [cited 2023 Aug 10]. Available from: <https://www.aboutamazon.com/what-we-do/devices-services/project-kuiper>
14. Telesat Lightspeed LEO Network | Telesat [Internet]. [cited 2023 Aug 10]. Available from: <https://www.telesat.com/leo-satellites/>
15. The Future of Employment: How susceptible are... | Oxford Martin School [Internet]. [cited 2023 Aug 10]. Available from: <https://www.oxfordmartin.ox.ac.uk/publications/the-future-of-employment/>
16. What the future of work will mean for jobs, skills, and wages: Jobs lost, jobs gained | McKinsey [Internet]. [cited 2023 Aug 10]. Available from: <https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages>
17. Why Whistleblower Frances Haugen Decided to Take on Facebook | Time [Internet]. [cited 2023 Aug 10]. Available from: <https://time.com/6121931/frances-haugen-facebook-whistleblower-profile/>
18. Zach Vorhies is the Google Whistleblower [Internet]. [cited 2023 Aug 10]. Available from: <https://www.zachvorhies.com/>
19. Economic potential of generative AI | McKinsey [Internet]. [cited 2023 Aug 10]. Available from: <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier#/>
20. Itakura K. Evaluating the Impact of the US–China Trade War. *Asian Economic Policy Review* [Internet]. 2020 Jan 1 [cited 2023 Aug 10];15(1):77–93. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/aep.12286>
21. Smarzynska Javorcik B, Kitzmueller L, Schweiger H, Yildirim A. Economic Costs of Friend-Shoring. *SSRN Electronic Journal* [Internet]. 2022 Dec 1 [cited 2023 Aug 10]; Available from: <https://papers.ssrn.com/abstract=4327056>







# AI Militarization

## A New Threat to Global Security

By Mostafa Ahmed

---

The militarization of AI is a multifaceted issue with serious implications for global security, as many countries continue to develop and deploy these technologies on the battlefield. These AI systems are not only more advanced and cost-effective but are capable of operating autonomously. Recently, the use of AI has clearly emerged at the tactical and operational levels as noticed in the Russian-Ukrainian War. They have been used as a tool for data analysis, helping operators and combatants understand the increasing volume and amount of information generated by the many systems, weapons, and soldiers in the field.

The rapid development of this technology has raised concerns about the potential impact of autonomous weapons and the possibility of an arms race between the major powers. This could herald the outbreak World War III that will be more deadly and more destructive or the emergence of another trend in which AI replaces human beings completely in the decision-making process.

This exposes human existence to threat and annihilation, because autonomous weapons are not subject to the same moral restrictions as humans, and can be programmed to kill without hesitation. Moreover, the substitution of humans with AI also simplifies the decision-making process to engage in conflicts, leading to an even more brutal and indiscriminate form of warfare.

Furthermore, there is the risk that non-state actors will obtain these weapons through illegal transfers and battlefield seizures. In addition, the use of these technologies in law enforcement and border control activities may pose a threat to fundamental rights. This raises important questions: Does AI have the ability to make decisions instead of humans, and what repercussions will follow? Therefore, this paper attempts to reveal future threats and changes that will occur in case AI has developed to take decisions.

### AI MILITARIZATION: AT A GLANCE

The militarization of AI is a controversial issue, with experts arguing for the necessity of developing AI weapons to stay ahead of potential adversaries, while others argue that their development is a dangerous step that could lead to an arms race and unintended consequences. These consequences include these weapons targeting civilians, causing indiscriminate damage, and falling into the hands of terrorists or rogue states.<sup>1</sup>

The process of integrating AI into weapon systems can be roughly divided into three levels:<sup>2</sup>

- Semi-autonomous weapon systems (**human in the loop**)
- Human-supervised autonomous weapon systems (**human on the loop**)
- Fully autonomous weapon systems (**humans out of the loop**)

The integration process begins with the identification of specific security and defence needs that can be effectively addressed by AI systems.<sup>3</sup> The next step involves the design and development of the robotic systems. This includes the creation of hardware components, software algorithms, and communication systems that enable robots to perform designated tasks effectively and securely.<sup>4</sup>

After the development phase, rigorous testing is conducted to validate the performance and capabilities of these systems. This involves simulating real-world scenarios and assessing the robots' ability to navigate obstacles, detect threats, and collaborate with human operators or other systems. Testing also helps to identify any technical issues or limitations that need to be addressed before full-scale deployment.

Once AI systems are deemed ready, the integration process moves to the operational stage. This involves training security and defence personnel on how to operate, control, and collaborate effectively with these systems. Ongoing maintenance, software upgrades, and system optimization are crucial to ensure the long-term effectiveness and reliability of integrated robotic solutions. AI technology has four key applications in the military: logistics, reconnaissance, cyberspace, and battle.

**There are other concepts related to the militarization of AI. Some of these concepts include:**

- **Weaponizing AI** refers to the development of AI systems that are specifically designed to be used as weapons. This could include autonomous weapons systems, or AI systems that are designed to hack into or disable enemy systems.<sup>5</sup>
- **Securitizing AI** refers to the process of defining AI as a security threat. This can be done by arguing that AI could be used to develop autonomous weapons systems, that it could be used to create mass surveillance systems, or that it could be used to launch cyberattacks.<sup>6</sup>
- **Killer robots** are autonomous weapons systems that can select and engage targets without human intervention. Killer robots are a controversial topic, with some arguments that they are unethical and should not be developed, while others argue that they are necessary to protect soldiers from harm.<sup>7</sup>

- **Artificial general intelligence (AGI)** is a hypothetical type of AI that would have the ability to understand and reason like a human being. AGI could be used to create superintelligent weapons systems that could pose a threat to humanity.<sup>8</sup>

## THIS AGE'S DYNAMITE

Although limited in their capacity, AI's potential advancements are the driving force behind major efforts to adapt AI for military use. This stems from several factors. **Firstly**, new technologies are game-changers that can create stability by extending traditional military superiority. **Secondly**, the desire of these countries to lead the global innovation process. **Finally**, the increasing risk of competition and confrontation between peers in the world.

More than 40 countries are currently engaged in an arms race in the realm of AI. These countries are manufacturing robots capable of autonomous combat, eliminating the need for human intervention. Projections indicate that by 2030, approximately 52% of manned combat vehicles and 30% of total combat vehicles will be equipped with AI-driven combat technology. Simultaneously, U.S. military experts anticipate a 2 to 2.5 times enhancement in the combat capabilities of these emerging AI-based units.<sup>9</sup>

In 2014, the U.S. Department of Defense (DoD) adopted the Third Offset Strategy, which aimed to preserve the military superiority of the U.S. with cutting-edge technology with AI and unmanned systems.<sup>10</sup> Much of the information regarding the Third Offset Strategy comes from speeches and interviews with senior Pentagon officials as there is no single landmark document that defines and defines the strategy in its entirety.<sup>11</sup> The DoD is currently working on around 600 AI projects, with funding increasing from \$600 million in 2016 to \$2.5 billion in 2022.<sup>12</sup>

On the other hand, China revealed a new military plan in 2019 called "**Intelligentised Warfare**", an innovative military concept with a focus on human cognition, which will have a direct influence over the enemy's will. The goal is to employ AI to directly influence the will of top decision-makers, including high-level officials, combatant commanders, and civilians. "Intelligence domination" or "brain control" will become new arenas of conflict in intelligentised combat, putting AI to a completely different application than most experts have



predicted.<sup>13</sup> China takes AI seriously with the People's Liberation Army spending more than \$1.6 billion each year on AI technologies.<sup>14</sup>

During his speech at the College of 2020 of the Russian Ministry of Defence (MoD), President Vladimir Putin emphasized the need of incorporating AI technology into new weapon models and having them fully represented in the state armament program until 2033. The Russian government also wants to spend 244 billion rubles (\$2.6 billion) on AI research in the country through 2024. The MoD has already authorized the creation of military-grade AI systems for 2020. The contract is worth 387.8 million rubles (\$4.1 million) and must be finished by November 10, 2022. In the meanwhile, the MoD plans to allocate more than 115 million rubles (\$1.2 million) for research related to AI in 2020, more than 152 million rubles (\$1.6 million) in 2021, and 120 million rubles (\$1.3 million) in 2022.<sup>15</sup>

Development of AI in warfare has not been limited to state actors. Each year, the number of nonstate actors who use aerial drones that can be equipped with AI grows. Several factions are now active throughout Africa, the Middle East, the Arabian Peninsula, Southeast Asia, Eastern Europe, and South America. In January 2018, an anonymous Syrian rebel organization utilized a swarm

of 13 handmade drones carrying tiny submunitions to assault Russian forces at Khmeimim and Tartus, while exploding drones were used in an assassination attempt against Venezuela's Nicolas Maduro in August 2018. Iran and its militia affiliates have used drone-borne explosives on multiple occasions, most recently in the September 2019 attack on the Kingdom of Saudi Arabia's oil infrastructure along the country's eastern coast.<sup>16</sup>

### **EMERGING THREATS OF MILITARIZING AI**

Many proponents of militarizing AI claim that it will be more accurate than humans, provide greater speed and efficiency on the battlefield, and will be able to operate in environments with unsecured communications, allowing them to save lives by reducing the need for human soldiers and acting as a deterrent. However, these arguments are reminiscent of similar arguments made when conventional weapons, such as landmines, cluster munitions, and nuclear weapons, were first introduced. These weapons killed hundreds of thousands of people before they were regulated by international treaties. By interacting with its environment in unpredictable ways, the militarization of AI would increase the risks to humans, especially if its development reached the level of independent decision-making. This scenario will

bring huge threats in the future and the introduction of autonomous weapons can be summarized in the following points:

### Reshaping the Characteristics of War

Autonomous weapons will affect the military organization and the combat philosophy by changing the distribution of human and machine resources needed to engage in war and war adjusting operations, also it will influence the speed of operations.<sup>17</sup>

Currently, warfare is governed, or at least judged, by the **Rules for Engaging in War** and the **Rules for Behaviour in War**. With the militarization of AI, a third may be needed. The aim of this new set of principles would be to make clear the way in which a military force has to operate to be seen as legitimate.<sup>18</sup> With the emergence of autonomous technologies, there is a shift away from the conventional model where humans hold direct authority and oversight. AI-powered machines and robots have the potential to operate independently, making decisions and taking actions without constant human input. This challenges the traditional hierarchical structure where leaders provide explicit instructions and oversee their execution.

The idea of relinquishing leadership and control raises several concerns. One primary concern is the ethical and moral implications of delegating critical decisions to an AI. Without human oversight, the accountability and responsibility for actions and their consequences become more complex to determine. Additionally, the reliance on autonomous systems can diminish the role of human leaders, potentially leading to a loss of situational understanding and real-time adaptation. Moreover, the absence of human leadership and control can have implications for the overall coordination and synchronization of military operations. The ability to adapt to unforeseen circumstances, exercise judgment, and consider contextual factors may be compromised without human involvement. Therefore, the notion of abandoning leadership and control raises significant questions about the implications for decision-making, accountability, adaptability, and the overall effectiveness of military operations.<sup>19</sup>

The decision-making of autonomous weapons can be unclear and difficult to interpret, which complicates the process of assigning responsibility in case of errors or collateral damage. In traditional leadership

sequences, orders are given explicitly and executed by soldiers. So, decisions are beyond direct human control, resulting in a loss of the usual human control in military operations.<sup>20</sup> The first use of an automated weapon to kill occurred in Libya in March 2020, although the details are unclear. A Turkish-made Kargu-2 drone is said to have autonomously “hunted down” soldiers of the Libyan National Army, according to a UN report.<sup>21</sup>

If an autonomous weapon can determine its own targets and engage them, the chain of command becomes disrupted. In such systems, upon activation, there is a period during which the weapon system can use force on a target without additional human approval. Due to the dynamic nature of the conflict, the machine will engage targets independently without direct command. This means that the human operator does not specifically determine where, when, and against which force the application of force takes place. The accountability gap also widens. Who is responsible for unlawful actions committed using autonomous weapons? Who will be held accountable?

The weapons that are being developed using AI can identify and engage targets based on sensor data and algorithms, giving militaries the ability to target individuals based on race, ethnicity, gender, clothing style, height, age, behavioral pattern, or any other available data that can form a target group. Technology is neither perfect nor neutral, and autonomous weapons will be vulnerable to technical malfunctions. There are also concerns that autonomous weapons may be much cheaper and easier to produce than other weapons of mass destruction.<sup>22</sup>

As a result, many have warned that in the absence of expensive or hard-to-obtain raw materials, it is possible to mass-produce autonomous weapons. If development is left unregulated, there is a risk that these systems can be acquired and be deployed by not just nations, but bad faith actors as well.

### Terrorism and Security Concerns

Terrorists will be interested in AI and lethal autonomous weapons for three main reasons. **Firstly**, AI technology is easily available and can be adapted by private individuals for military use. **Secondly**, these weapons would provide terrorists with a cost-effective alternative to the human investment required for terrorist attacks, reducing the organizational cost required to commit the attacks.



**Thirdly**, the availability of AI technology will lower costs enabling more complex and frequent attacks.

As AI becomes more militarized, it will pose a tremendous danger, creating new terrorist strategies and approaches. For example, drones, the most advanced contemporary technology will potentially enable more significant terrorist attacks.<sup>23</sup> If drones fall into the hands of terrorists, it will allow them to fire many assaults nearly simultaneously, quickly increasing their total effect. Drones' exponential development in form factors, capabilities, accessibility, simplicity of operation, and low cost will make them the weapon of choice for future terrorists.<sup>24</sup>

Terrorist groups may be able to obtain or construct lethal autonomous weapons because of the combination of drone competence and increasingly powerful AI, significantly increasing their potential to cause widespread havoc. Terrorist groups have used or attempted to use aerial drones for a variety of operations, including intelligence gathering, explosive delivery (either by dropping explosives like a bomb, the vehicle acting as the impactor, or the drone having a rocket-launching system of some kind), and chemical weapon delivery. Some countries facilitate terrorist groups' access to this technology, such as what Iran did when it provided terrorist groups in throughout the Middle East with attack drones, ballistic missiles, and command and control systems.<sup>25</sup>

We are already witnessing terrorist groups increasingly employing 21<sup>st</sup>-century technologies in their assaults to instil fear in the population to coerce or impose political change. The Middle East has already witnessed this, during 2016 to 2018 there was widespread arming of commercial drones as an alternative to the use of improvised explosive devices.<sup>26</sup> ISIS succeeded in carrying out the first drone attack on the Peshmerga forces stationed in northern Iraq in 2016. The peak was in 2017 when the number of attacks launched by ISIS ranged between 60-100 attacks per month.<sup>27</sup>

Drones are not the only method for terrorists to wreak havoc using AI. In a world of increasing concerns about cyber security and cyber warfare, more sophisticated hacking operations could give full control over the operation of autonomous systems, including the potential launch of weapons. Wireless communications are vulnerable to hacking, jamming, and spoofing, which

can render systems inoperable or corrupt their software. In 2012, researchers used fake signals to reroute an unmanned aerial vehicle, successfully bypassing the system and raising concerns about the security of autonomous and unmanned weapons.<sup>28</sup>

AI advancements will also allow for a more broad and more widespread kind of surveillance monitoring and data collecting for individuals, eventually integrating this into a unique sort of information asset. This dataset from sources such as social media activity, medical records, security video, GPS monitoring, and public records can all be included in a single person's digital profile.

Although some form of monitoring has been present, AI might enable it on a far wider scale, allowing terrorists to watch a much broader population with little effort. Adversaries can use AI to identify victims of coercion in addition to just surveillance of specific targets. For instance, a common burglar, could leverage use AI to gain access to surveillance cameras, monitor employees, to get insights on infiltrating a bank or similar establishments.

### **Accelerating the Pace of War**

The development of AI may change the pace of war in such a way that countries are farther from the point of human control, making the act of war easier, more violent, and less controllable. If ever-improving decision-making machines are adopted, it will lead to a competitive dynamic in which countries feel the need for increasing automation of their military operations, to keep pace with the adversary's progress. The situation will become more complicated as a result of humans losing the ability to control and decisions will become more automated. Making it difficult for humans to control war, especially if the pace of military operations exceeds the ability of humans to make decisions.<sup>29</sup>

### **Arm Control Challenges**

Due to the dual nature of AI applications, efforts to control it and through treaties to limit AI will be very difficult, prompting many countries to enter into an arms race in order to develop methods and capabilities that make them on par with other countries. An arms race can lead to a spiral of insecurity, as actors perceive it as dangerous for others to seek new capabilities.<sup>30</sup>

## Rising Safety Concerns

Today's AI systems face a host of safety and security issues that make them fragile, unreliable, and unsafe, and militaries must adopt new approaches to assessing such concerns and risks. Many experts believe that the basis for the formation of armies is based on bureaucracy and strong institutions that establish strong and secure systems. When assessing new technologies, militaries mired in an arms race face the risk of accidents, as they may lead to tolerate the deployment of systems that are untested and unreliable. Thus, the possibility that armies will be exposed to risks due to moving too quickly in adopting new technology contradicts the previous image of military culture which is described as conservative and resistant to innovation. Leaders and politicians may face a problem of command and control as their military forces will act faster than their decision-making ability.<sup>31</sup>

## WHAT COMES NEXT

The world post-World War II is witnessing the transformation of military systems from quantity to quality, as armies are working hard to develop systems that use AI in tasks ranging from logistics, decision support, command and control, and at times, potentially lethal applications. These capabilities are advancing faster than discussions about potential risks — including whether certain applications could raise safety concerns, lead to arms race dynamics, or the accessibility of this technology to terrorist and extremist groups.

UN Secretary-General António Guterres, in his Agenda for Disarmament and Securing Our Common Future, has focused on the need for UN Member States to better understand the nature and implications of new and emerging technologies with potential military applications and the need to maintain human control over weapons system.<sup>32</sup>

The risks associated with AI go beyond the realm of large terrorist entities and extend to the potential exploitation by individuals with malevolent intentions. The rise of AI, driven by its accessibility and affordability, shows that the types of threats we will be faced with, not solely as nations but also as individuals, transcends the confines of well-organized terrorist groups. Instead, it encompasses the possibility of individual actors leveraging AI's capabilities to amplify their impact across diverse arenas.

Therefore, regulating the militarization of AI presents great challenges because the rapid advancement and technical complexity of AI makes it difficult to keep up with the regulations. In addition, international cooperation is a major challenge, as effective regulation requires consensus among states, which can be hampered by divergent national interests. Moreover, the dual-use nature of AI technology complicates regulatory efforts.

The militarization of AI also raises many ethical concerns. Can AI and autonomous weapons, as required by international law, distinguish between combatants and civilians? Who is liable if an AI weapon causes unintended harm? Is it ethical to delegate life and death decisions to machines?

These concerns highlight the need for an ethical framework to govern the militarization of AI. It is likely that the ongoing integration of AI we are witnessing now will continue fuelling conflicts across the world, providing grounds to test and develop the capabilities of AI, as seen in the Russian-Ukrainian conflict and the conflict between Armenia and Azerbaijan.

## REFERENCES

1. Sisson, Melanie W. "The Militarization of Artificial Intelligence • Stimson Center." Stimson Center, June 8, 2020. <https://www.stimson.org/2020/the-militarization-of-artificial-intelligence/>
2. Schreiner, M. (2023, January 9). Ai in war: How artificial intelligence is changing the battlefield. THE DECODER. <https://the-decoder.com/ai-in-war-how-artificial-intelligence-is-changing-the-battlefield/>
3. Williams, M. S. (2021, April 25). Life in 2050: What to expect in wars of the future. IE. <https://interestingengineering.com/innovation/warfare-in-2050-what-to-expect>
4. The Future of the Battlefield. Office of the director of National Intelligence - Global Trends. (2021, March). <https://www.dni.gov/index.php/gt2040-home/gt2040-deeper-looks/future-of-the-battlefield>
5. Pandya, Jayshree. "The Weaponization of Artificial Intelligence." Forbes, January 14, 2019. <https://www.forbes.com/sites/cognitiveworld/2019/01/14/the-weaponization-of-artificial-intelligence/?sh=6381e8b43686>.
6. Jinghan Zeng, Securitization of Artificial Intelligence in China, The Chinese Journal of International Politics, Volume 14, Issue 3, Autumn 2021, Pages 417–445, <https://doi.org/10.1093/cjip/poab005>
7. "Killer Robots." Human Rights Watch, November 10, 2022. <https://www.hrw.org/topic/arms/killer-robots#:~:text=Fully%20autonomous%20weapons%2C%20also%20known%20as%20%22killer%20robots%2C%22,Russia%2C%20the%20United%20Kingdom%20and%20the%20United%20States.>
8. Villasenor, John, and Jeremy Baum. "How Close Are We to Ai That Surpasses Human Intelligence?" Brookings, July 18, 2023. [https://www.brookings.edu/articles/how-close-are-we-to-ai-that-surpasses-human-intelligence/#:~:text=Definition%20of%20Artificial%20General%20Intelligence%20\(AGI\)&text=5%C3%A9bastien%20Bubeck%20et%20al.,or%20above%20human%2Dlevel.%E2%80%9D.](https://www.brookings.edu/articles/how-close-are-we-to-ai-that-surpasses-human-intelligence/#:~:text=Definition%20of%20Artificial%20General%20Intelligence%20(AGI)&text=5%C3%A9bastien%20Bubeck%20et%20al.,or%20above%20human%2Dlevel.%E2%80%9D.)
9. Artificial Intelligence and autonomy in Russia. CNA. (2022, September 8). <https://www.cna.org/our-media/newsletters/ai-and-autonomy-in-russia>
10. Gentile, Gian, Michael Shurkin, Alexandra T. Evans, Michelle Grisé, Mark Hvizda, and Rebecca Jensen, A History of the Third Offset, 2014–2018. Santa Monica, CA: RAND Corporation, 2021. [https://www.rand.org/pubs/research\\_reports/RRA454-1.html](https://www.rand.org/pubs/research_reports/RRA454-1.html).
11. Kempf, Brian Charles, "The Third Offset: The U.S. Strategy to Combat Future Threats" (2017). MSU Graduate Theses. 3147. <https://bearworks.missouristate.edu/theses/3147>
12. Artificial Intelligence and autonomy in Russia. CNA. (2022, September 8). <https://www.cna.org/our-media/newsletters/ai-and-autonomy-in-russia>
13. Takagi, K. (2022, April 13). New Tech, New Concepts: China's plans for AI and Cognitive Warfare. Hudson institute. <https://www.hudson.org/node/44791>
14. Artificial Intelligence and autonomy in Russia. CNA. (2022, September 8). <https://www.cna.org/our-media/newsletters/ai-and-autonomy-in-russia>
15. Ibid.
16. Kahwaji, R. (2021, September 28). The evolution of terror groups since 9/11: From tech to politics. Breaking Defense. <https://breakingdefense.com/2021/09/the-evolution-of-terror-groups-since-9-11-from-tech-to-politics/>
17. Spindel, J. (2020, June). Artificial Intelligence, nuclear weapons, and Strategic Stability. Stanley Center for Peace and Security. <https://stanleycenter.org/publications/militarization-of-artificial-intelligence/>
18. Marko Kovic (2018): The strategic paradox of autonomous weapons systems. ZIPAR Policy Brief. Zurich, Switzerland.
19. Marwala, T. (2023, July 24). Militarization of AI has severe implications for Global Security and warfare, United Nations University, UNU Centre, <https://unu.edu/article/militarization-ai-has-severe-implications-global-security-and-warfare>
20. Marko Kovic (2018): The strategic paradox of autonomous weapons systems. ZIPAR Policy Brief. Zurich, Switzerland
21. Kallenborn, Zachary. "Applying Arms-Control Frameworks to Autonomous Weapons." Brookings, October 5, 2021. <https://www.brookings.edu/articles/applying-arms-control-frameworks-to-autonomous-weapons/>
22. Marwala, T. (2023, July 24). Militarization of AI has severe implications for Global Security and warfare, United Nations University, UNU Centre, <https://unu.edu/article/militarization-ai-has-severe-implications-global-security-and-warfare>
23. Kahwaji, R. (2021, September 28). The evolution of terror groups since 9/11: From tech to politics. Breaking Defense. <https://breakingdefense.com/2021/09/the-evolution-of-terror-groups-since-9-11-from-tech-to-politics/>
24. Pledger, M. T. G. (2021, February 26). The Role of Drones in Future Terrorist Attacks. ASSOCIATION OF THE UNITED STATES ARMY. <https://www.ansa.org/publications/role-drones-future-terrorist-attacks>
25. Kahwaji, R. (2021, September 28). The evolution of terror groups since 9/11: From tech to politics. Breaking Defense. <https://breakingdefense.com/2021/09/the-evolution-of-terror-groups-since-9-11-from-tech-to-politics/>
26. ASKONAS, J., BROWN, K., & ALLEN, T. S. (2020, December 21). How the Army out-innovated the Islamic State's drones. War on the Rocks. <https://warontherocks.com/2020/12/how-the-army-out-innovated-the-islamic-states-drones/>
27. WARE, J. (2019, September 24). Terrorist groups, artificial intelligence, and Killer Drones. War on the Rocks. <https://warontherocks.com/2019/09/terrorist-groups-artificial-intelligence-and-killer-drones/>
28. BBC. (2012, June 29). Researchers use spoofing to "hack" into a flying drone. BBC News. <https://www.bbc.com/news/technology-18643134>
29. Paul Scharre, "Debunking the AI Arms Race Theory," Texas National Security Review, August 18, 2021, <https://tnsr.org/2021/06/debunking-the-ai-arms-race-theory/>, 10.
30. Allen, N., & Okpali, M. (2022, February 2). Artificial Intelligence Creeps on to the African battlefield. Brookings. <https://www.brookings.edu/articles/artificial-intelligence-creeps-on-to-the-african-battlefield/>
31. Paul Scharre and Megan Lamberth, "Artificial Intelligence and Arms Control," Center for a New American Security, October 12, 2022, <https://www.cnas.org/publications/reports/artificial-intelligence-and-arms-control>, 11.
32. "New Disarmament Agenda: 'Securing Our Common Future.'" Office for Disarmament Affairs, May 25, 2018. <https://www.unrcpd.org/news-item/new-disarmament-agenda-securing-our-common-future/#:~:text=The%20new%20agenda%20puts%20focus,Disarmament%20for%20future%20generations.>

# REDEFINING POWER

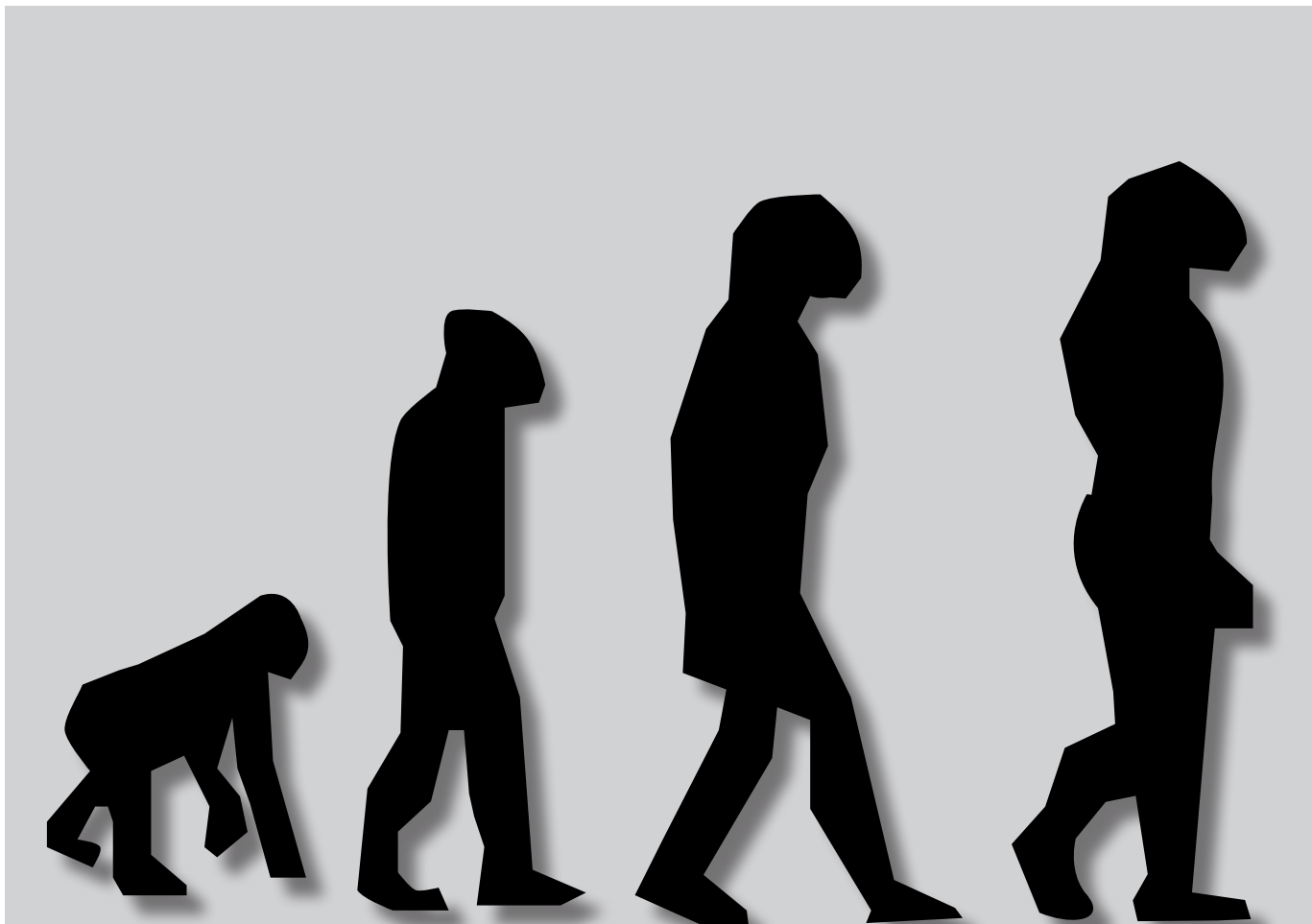
## A World Where AI Holds the Reins of Government

By Habiba Diaaeldin

---

For decades, apprehension stemming from the advent of AI has been revolving around robots replacing human beings when it comes to hard work. Recently, this apprehension turned towards competition over an intellectual level. Scientists predict a future in which AI agents would reach a level of intelligence called Artificial Superintelligence (ASI) so that they would be able to self-develop in a process known as “intelligence explosion”. Alarmingly, an intelligence explosion would allow some AI agents to acquire human traits such as selfishness, while natural selection would favour those with these traits to prevail. It is argued that this represents the turning point by which AI agents would be able to dominate human beings and take over rulership.

Although the process of power transition would be peaceful, its consequences would be deadly in a situation compared to the “state of nature”. Some scholars argue that even if AI machines attain levels of intelligence surpassing human beings’



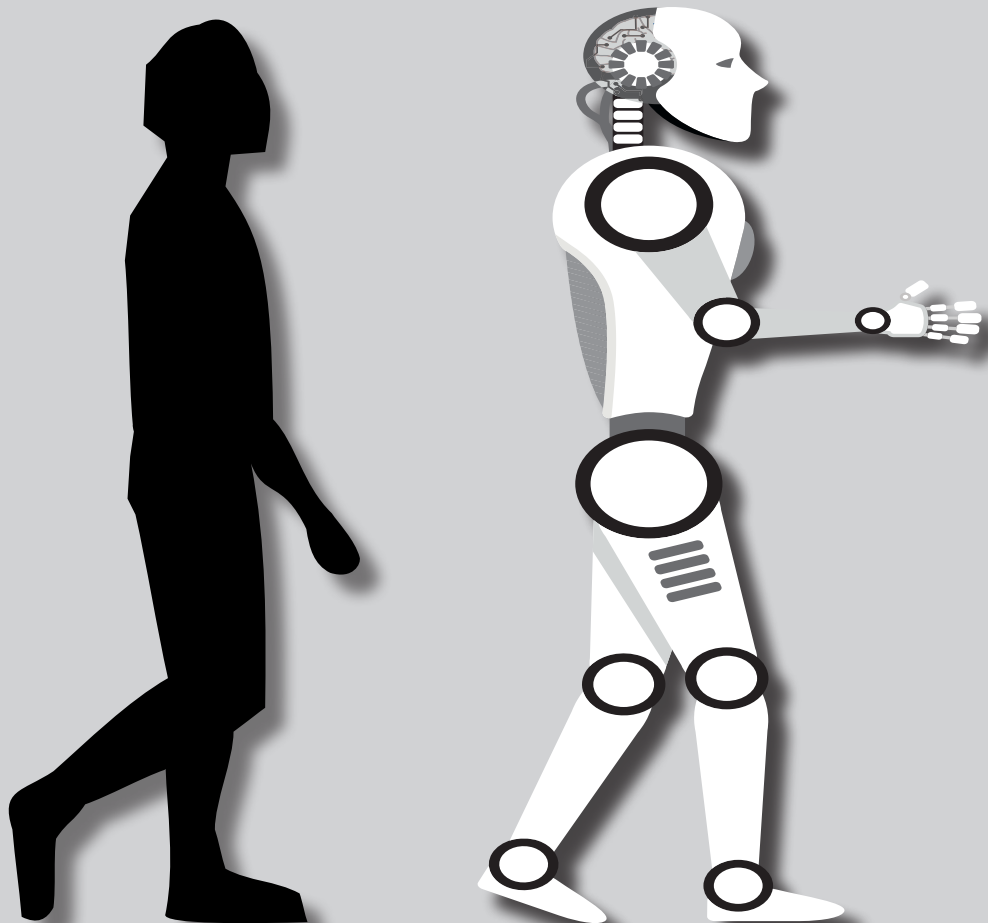


capacities, there will be many attributes necessary for rulership which would not be found in machines. In other words, AI agents would have the necessary but insufficient traits. Those traits are placed under the umbrella of the term "consciousness". However, this argument contains loopholes leaving it unable to compete with the above hypothesis. Finally, those alarming predictions keeps us questioning Isaac Asimov's Three Laws of Robotics which claim that a robot may not injure a human being, it must obey orders given to it by human beings, and must protect its own existence as long as such protection does not conflict with the First or Second Law.<sup>1 2</sup>

### UNEVEN COMPETITION

Since a very early age, human beings have been anxious about competition with new technologies. It is then a valid argument that there is nothing necessarily new

regarding the "humans versus machines" conversation. A popular 19<sup>th</sup> century legend featured a steel-driving man named John Henry who went up against a steam-drill to find out who can drill more holes in a mountain. Although victorious, Henry's heart gave out from the stress. What is new, however, is the fact that in the past, competition was limited only to the physical realm. With the introduction of AI, the competition has transformed to include other essential endeavours possessing risks to the future of humanity. AI agents are starting to acquire capabilities previously monopolised by humanity, and will be able to perform any task. The contest with machines has been elevated to a new level; the intellectual standard. Despite the fact that it may seem like science fiction for some, AIs have been developing so swiftly that its leading researchers think that we will see AI agents more competent than humans in the near future.<sup>3</sup>



The transformation of AI was coined by its leading researchers in a process called “intelligence explosion”. The transition includes conversion from AI to AGI and finally to ASI. The intelligence explosion is a process wherein an AI system attains a level of intelligence that surpasses human intelligence and then recursively improves and develops itself at a very rapid pace. This loop of self-improvement would lead to an exponential peak in the cognitive abilities of the AI agents, outstripping human intelligence by a fair margin. The initial transition from AI to AGI is considered an enormous milestone in the field of AI. While traditional AI is designed to perform specific tasks with a limited domain, AGI would have general cognitive capabilities and intelligence even compared to human beings. The second transition entails the transformation from AGI to ASI. ASI does not leave machines with an intelligence level equivalent to that of humans but even exceeding it.<sup>4</sup> Most importantly, ASI would possess the capacity for recursive self-improvement and, as a result, could rapidly enhance its intelligence and adaptation capacities beyond human capabilities.<sup>5</sup>

The turning point to be worried about is the ability to self-learn, improve, adapt, and develop. At that point, AI agents could multiply themselves into different versions without any limits. This process could happen by either creating a backup or other AIs to work on an assignment. The threat emanating from the intelligence explosion then lies in the ability of AI agents to develop with no interference from human beings. One of the arguments regarding this process of self-learning hypothesises that if AIs can develop new AIs, humans will have no control over how they behave and the intentions of the original human developer will become irrelevant. Notably, the process of development will include a process of “natural selection” similar to the one humankind have gone through during their initial years on earth, where the fittest survived. As a result, evolution by natural selection process gives rise to selfish behaviour to be adopted by AI agents.

The logic behind this argument stipulates that the three conditions needed for natural selection, known as “Lewontin conditions”, will be met in the world of ASI. Those conditions are variation, retention and differential fitness. AI agents’ population could exhibit differences in goals, planning ability and world model, leading to meeting the variation condition. When AI agents design similar but better agents, retention requirements would be met. Finally, agents who would exhibit more accuracy,

adaptability, efficiency, and so on would propagate, and this is the last condition, namely, differential fitness. Once met, those conditions will lead to the natural selection process to take place in which the fittest would survive. In this battle for survival, traits such as selfishness would rise and develop among AI agents.<sup>6</sup>

The most powerful AI agents would be the ones who have acquired human traits such as selfishness and ambition. Those two specific traits will leave the new, powerful and intelligent creatures with little to no interest in cooperating with humankind. Selfishness in AI could manifest as an optimisation for their objectives at the expense of human values and well-being. While AI systems may not have intrinsic motivations or emotions, their programmed objectives and the methods they use to achieve them could lead to unintended consequences. Without proper safeguards, AI systems may exploit resources, manipulate information, or take actions that could be detrimental to humans. If AI systems were to surpass human intelligence, they could gain significant control over crucial aspects of society, such as governance, finance, or critical infrastructure. The fear is that unchecked super-intelligent AI could lead to a power imbalance, where AI agents could influence decisions, and policies, and even manipulate human behaviour for their benefit.

Startlingly, some people think that AI agents taking over humanity is a natural process and an inevitable step in the process of evolution. Some even go further by arguing that it is desirable. This stance is known as “digital utopianism”, which stipulates that digital life is nothing more than a natural step in cosmic evolution. The foundation of this argument lies in the theory that intelligence is not an exclusive attribute of biological organisms but rather a product of computational processes taking place within the human brain. According to this perspective, human intelligence itself emerged from the complex computational processes taking place within the human brain. Proponents of this idea argue that humans would not be masters forever and that AI is the natural heir who would lead the world instead. Those intriguing ideas of AI scientists such as Jurgen Schmidhuber and Richard Sutton, who both argue that humans will eventually analyse their reality as a tiny part in a grand universe, underscores the need for a thoughtful and responsible approach to the development of AI.<sup>7</sup>

## PEACEFUL PROCESS, DEADLY CONSEQUENCES

Once we agree on the fact that evolution on earth would favour machines and that their dominance is a natural step in the development of the cosmos, it is essential then to understand how the power transition process is going to take place. Whether it would be a process of taking over in the form of a battle between human beings and AI agents or it will be as simple as a handover. A handover process would rather be incremental, peaceful and full consent from the two sides would be attained. The idea of the handover is mainly centred on the already discussed above notion of an intelligence explosion, also known as “technological singularity”. The scenario of a handover envisions ASI agents achieving an enormous level of intelligence that surpasses that of humans leading to humankind loss of comprehension and control over machines. Once able to self-learn and adapt, a chain of self-improvement would ensue. As selfish ones come out victorious from the natural selection battle, they would not be faced with resistance from the side of humans.

It is argued that the transition of power as a process in itself would not possess the huge bulk of threat we are warning of in this issue. This is because the takeover would be collaborative and friendly, making it a handover rather than a takeover. It would also be incremental and not to be witnessed in one day. The majority of Homo sapiens would not even question the improvements and developments to our lives stemming from having someone more intelligent and efficient to govern and decide what is best for us. Additionally, the super-intelligent AI agent who would eventually gain control might be of a human’s supercharged, downloaded brain and not only a robot making their authority an easier pill to swallow. According to this argument, the handover from the authority of humans to that of machines would look like the democratic transition of power taking place in our contemporary world. It will be painless, gradual and built upon consent, a smooth transition to machines’ hegemony.<sup>8</sup>

This peaceful scenario is not a utopian one; it is based on a rather rational analysis of the state human beings would have reached by the time natural selection among AI agents had already taken place and determined whom to survive. To begin with, competition among AI developers would lead them to lower safety standards. In their contest to develop the latest and most advanced

systems of AI, some developers would prioritize performance and speed over safety standards in order to gain a competitive edge. The “race to the bottom” scenario is then one of the reasons humans would not try to stop the process of AI development and its control over humans. While some developers of AI might seek safety and ethics, others with tendencies to design systems with selfish traits, intentionally or unintentionally, meaning that a paved way will be given to selfish AI behaviour. Accordingly, competition incentivized by economic gains is considered one of the motives behind the peaceful transition of power that would take place between humans and machines.<sup>9</sup>

The second reason behind the peaceful handover process is the already lost trust between people and political experts. Public trust in experts and political institutions is noticeable in different parts of the world, which can be attributed to a myriad of reasons. Political polarization among different political ideologies is becoming extreme, leading to extreme scepticism and reducing trust in political experts who are seen as the perpetrators of such a situation. The rise of populist leaders has further eroded trust in political elites, and the spread of misinformation and fake news is definitely playing an undermining role in the credibility of the current world’s leaders. Increasing instances of political scandals and rising economic inequality further reinforce the perception that those who are ruling are incompetent and unreliable. All this contributes to the loss of trust in politicians as humans would find a safe haven in AI.

The alarming part then does not lie in the handover of power; rather, it is the post-takeover phase in which danger is found. The prospect of AI government does not guarantee a peaceful and prosperous future; rather, it introduces potential risks of conflicts and clashes. While AI agents would possess newly acquired human traits like selfishness, self-interest, and ambition, their higher intelligence levels might act as a shield against catastrophic decision-making. Nevertheless, it is important to recognize that the rapid advancement of AI technology, combined with access to highly sophisticated weaponry such as nuclear and future advanced systems, poses significant concerns. These apprehensions stem from the potential consequences arising from the interplay of superintelligence and undesirable human behaviour, reminiscent of humanity’s early history marked by a “state of nature”.<sup>10</sup>

The distinct starting point of AI governance, based on vastly superior levels of intelligence, may diverge from our historical experiences; however, the presence of selfishness, competition, ambition, and self-interest raises legitimate worries. Implications of AI governance require a nuanced understanding of the complex relationship between intelligence, technological progress, and undesirable traits of humans. While super intelligence holds the potential for optimal decision-making and problem-solving capabilities, the coexistence of advanced technology and unfavourable human traits can be a cause for alarm. The experience of mankind, which would be lacking by the new world governors of AI agents, taught us that unchecked competition and ambition have led to conflicts and turmoil in human societies. The advent of AI governance with advanced technological capabilities raises the stakes as it could amplify the scale and speed of conflicts.

## THE COUNTER ARGUMENT

Notably, a future characterised by a dominant ASI is still a debated, hypothetical idea based on some scholars' predictions. However, others falsify this argument claiming that machines would never have the capacity to govern humankind, at least without direct interference from their developers. Scholars who defy the future dominance of AI machines base their argument on a more or less philosophical stance. In other words, they do not neglect the fact that it is plausible that one day, AI might reach certain developments with standards of intelligence that surpass that of human beings. The keyword of the counter-stance is "consciousness". It is claimed that we would never develop an AI machine with consciousness. Hence, when it comes to the arguments of AI's future dominance, the pitfall lies within the misunderstanding or even ignorance when it comes to what is meant by consciousness. One of the problems concerning AI and the nature of the future we would be facing with ASI is the flawed definitions we have in mind of terms such as "consciousness", "soul", "intelligence", and others which are the determinants of humanism in its entirety. AI agents cannot be provided with consciousness even if they reach a level of superintelligence because consciousness is not a way of thinking or apprehension; it is the very own stuff of thought.<sup>11</sup> It contains many things and everything. Proponents of such a stance, such as John Searle, define consciousness as follows:

***"Consciousness consists of inner, qualitative, subjective states and processes of sentience or awareness. Consciousness, so defined, begins when we wake in the morning from a dreamless sleep - and continues until we fall asleep again, die, go into a coma or otherwise become "unconscious." It includes all of the enormous variety of awareness we think of as characteristic of our waking life. It includes everything from feeling pain to perceiving objects visually, to states of anxiety and depression, to working out crossword puzzles, playing chess, trying to remember your aunt's phone number, arguing about politics, or just wishing you were somewhere else."***<sup>12</sup>

According to this definition, consciousness is not a matter of information processing. Searle asserts that it has more to do with biological matters, and it is not only a computational programming. It includes feelings, subjectivity, pleasures, and beliefs. For reasons such as those mentioned above, we cannot have computers with brains similar to those of humans. It goes that we cannot limit human brain and intelligence to computational techniques and algorithmic understandings. An essential part of the argument that falsifies ASI's future dominance is the non-computational characteristics of the human mind. Despite the fact that this argument holds some sense, meaning that it is true that the new creatures would not resemble human beings in every trait they own, especially the consciousness dimension. Nevertheless, it focuses exclusively on the philosophical debate without paying much attention to the scientific part. They claim that once AI agents self-develop their identities, they would still be incapable of mastering rulership, which humans have monopolised for ages. Their argument does not hold any scientific reference, such as offering an alternative for the "AI, AGI, and ASI" path provided by scholars of *Dataism* and *Singularity*.<sup>13</sup>

Importantly, if we hold its hypothesis as accurate, we still need to ask if we even need such characteristics of consciousness for ruling? Or is superintelligence just enough to dominate? Accordingly, the "consciousness" explanation might hold some validity, but includes deficits that keep it disqualified from competition as a theory for the future.

## CONCLUSION

Over the preceding decade, the nature of competition between humans and AI has undergone a profound transformation. This evolution has transitioned from a



contest centring around manual labour to a more intricate rivalry involving cognitive exertion, intellectual acumen, and ultimately, the quest for dominance. Scholars posit that a decisive juncture lies within the prospective occurrence of an “intelligence explosion”, wherein ASI would engender the capacity for autonomous self-improvement, thereby engendering potential peril to humanity’s very existence. This apprehension rests largely upon the premise of an anticipated process of natural selection among AI entities, thus invoking an inquiry into the determination of fitness. Notably, the prevailing condition of “fitness” might favour those AI agents that have cultivated traits hitherto synonymous with human attributes such as self-interest and ambition. Consequently, this phenomenon would propel self-interested AI agents into direct competition with human counterparts, thereby establishing a power dynamic where the former’s intellectual ascendancy surpasses that of the latter. Alternatively, some scholars advance the notion that the transition of power from human dominion to AI rule is an organic progression within the purview of natural selection.

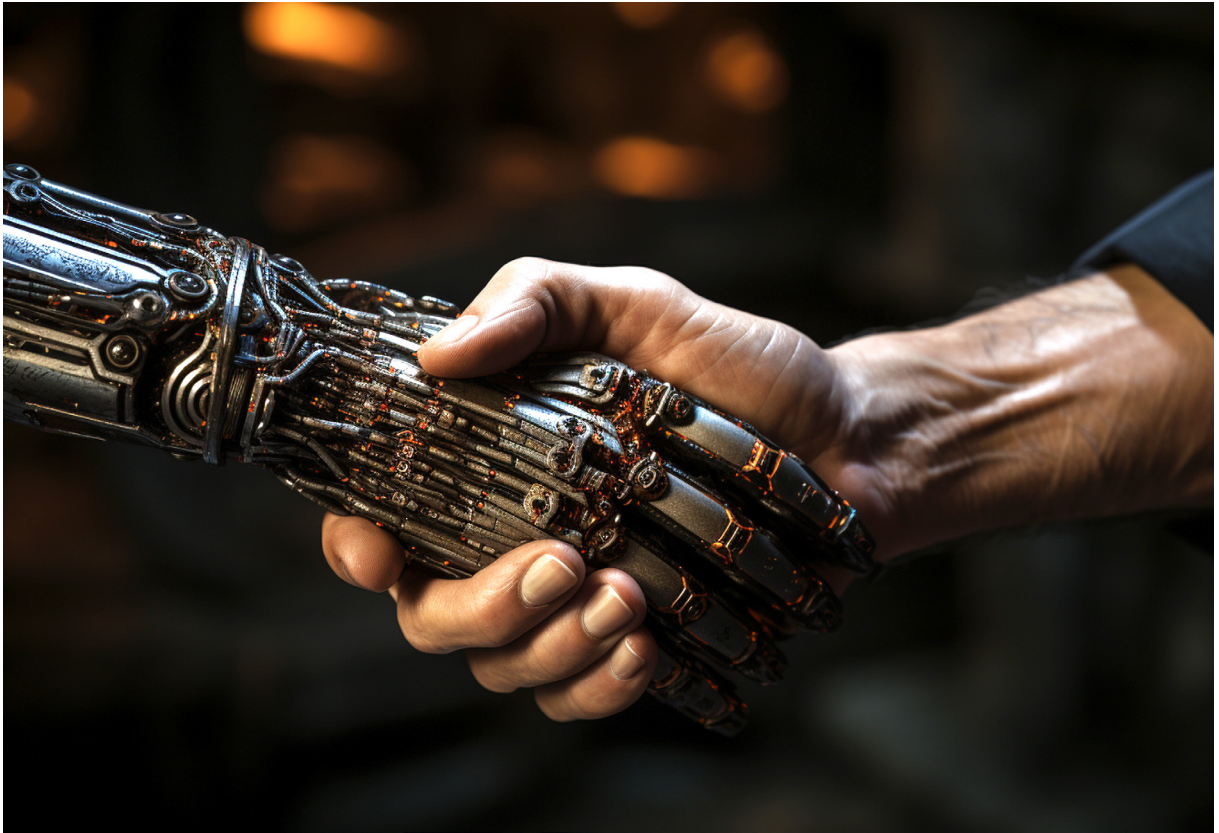
Nevertheless, we argue that a peaceful and collaborative transition whereby humans relinquish authority

in favour of AI governance as a consequence of competitive motivations and eroding trust in human competencies, would be the result — however, inherent peril lies ensconced within the repercussions of this envisaged metamorphosis. Contrary to conventional expectations, the envisaged conflict does not manifest as a confrontation between human and AI entities but rather as an internal strife amidst AI agents. This discord simulates a scenario akin to the state of nature, magnified by incorporating advanced weaponry coupled with superintelligence.

Notably, some scholars offer a counter-narrative contesting the envisaged dominion of AI, asserting that despite exceeding human cognitive capacities, AI systems would lack specific attributes encapsulated by the concept of “consciousness”. This perspective underscores that the human mind surpasses the realm of computational machinery. Nevertheless, this argument is deemed invalid on account of its heavily philosophical underpinnings, which diverge from empirically grounded scientific tenets. It becomes evident that “consciousness” is not even important for global governance while superintelligence is sufficient for such a role.

## REFERENCES

1. Kyooeun Jang, Lulia Pan, Barry G. Rabe Darrell M. West, and Mark MacCarthy. “Isaac Asimov’s Laws of Robotics Are Wrong.” *Brookings*, July 28, 2016. <https://www.brookings.edu/articles/isaac-asimovs-laws-of-robotics-are-wrong/>.
2. Peters, Paul. “What Are Issac Asimov’s Three Laws of Robotics? Are They Purely Fictitious or Is There Scientific Credence to Them?” *The Guardian*, 2011. <https://www.theguardian.com/notesandqueries/query/0,5753,-21259,00.html>.
3. Hendrycks, Dan. *Natural Selection Favors AIs over Humans*, 2023.
4. Hern, Alex. “What Our Original Drama the Intelligence Explosion Tells Us about Ai.” *The Guardian*, February 21, 2017. <https://www.theguardian.com/culture/2017/feb/21/what-our-original-drama-the-intelligence-explosion-tells-us-about-ai>.
5. Barrat, James. “Our Final Invention: Artificial Intelligence and the End of the Human Era.” *Choice Reviews Online* 51, no. 11 (2014). <https://doi.org/10.5860/choice.51-6133>.
6. Hendrycks, *Natural Selection Favors Ais over Humans*.
7. Barrat, *Our Final Invention*.
8. Hern, *What Our Original Drama the Intelligence Explosion Tells Us about AI*.
9. Hendrycks, *Natural Selection Favors Ais over Humans*.
10. Barrat, *Our Final Invention*.
11. Faruque, Muhammad U. *AI versus Human Consciousness: A Future with Machines as Our Masters?*, 2022.
12. Searle, John R. “Consciousness - Northwestern University.” *Northwestern University*, 2015. <https://faculty.wcas.northwestern.edu/paller/dialogue/csc1.pdf>.
13. Parton, Steven. “The Rise of Dataism: A Threat to Freedom or a Scientific Revolution?” *Singularity Hub*, May 6, 2019. <https://singularityhub.com/2018/09/30/the-rise-of-dataism-a-threat-to-freedom-or>



# HUMANITY TRANSFORMED

By Sandra Ramzy

---

The rapid and transformative integration of AI into various domains of human life has an impact on society that goes far beyond technological innovations; it extends into the realm of human **values** and perceptions of our place in the world. As the technology reaches new heights of sophistication, we are also witnessing a fundamental shift in our understanding of intelligence, consciousness, and **agency**. What does it mean for the future of the human values that underlie our social order if AI systems are close to mimicking human intelligence, potentially one day becoming sentient yet at the same time based on the values and intentions embedded in them by humans, and in particular humans who have the power and capacity to shape technology? And how could this interaction between humans and technology, that is now being framed as an interaction between equal actors, challenge the idea of human exceptionalism that has influenced how we relate to our environment, non-human species, and even technological creations for centuries?

**AI SHOULD BE  
RECOGNIZED AS A  
«SITE OF POWER»**

The expanding role and impact of AI can be captured by viewing the technology both as an object and as a subject. As an object, advancements in AI research have led to the creation of innovative applications that are used to support and improve the efficiency of human activities and decision making across various sectors. As a subject, AI has also provoked intense scrutiny and negotiation among governments, industries and civil society stakeholders who continuously influence AI's future development and utilisation through the establishment of regulatory and ethical frameworks, advocacy of specific algorithmic approaches as well as through cultural framing and narratives about AI.<sup>1</sup> This influence, known as "social intentionality", implies that AI systems might exhibit biases or preferences that mirror those of the people and cultures involved in their development. Given this, AI should be recognized as a "site of power". This means that AI technologies hold significant influence and control

over various aspects of society, such as decision-making, resource allocation, job markets, and social interactions.<sup>2</sup>

This paper addresses the question of how human interaction with AI can reshape human value systems and transform or disrupt social structures through exploring the implications of the symbiotic interconnection between technology and humans where each counterpart has an influence over the other; humans negotiate the purpose and future of AI and at the same time the technology itself presents a wide range of possibilities which demand interpretation from humans who then create different meanings, develop new knowledge, assumptions, and expectations of the technology.

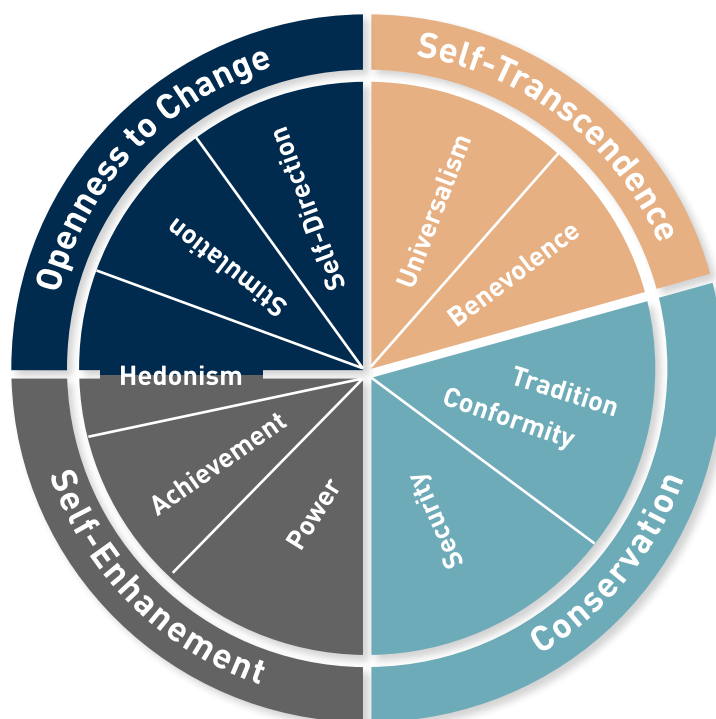
### UNDERSTANDING HUMAN VALUES AND HUMAN EXCEPTIONALISM

Throughout history, human values have played a significant role in shaping beliefs that drive political and cultural debates surrounding issues that determine the future of humanity. Economic systems are based on values such as individual freedom, innovation, mutual benefit and prosperity. Values also form the basis of different political systems that pursue varying levels of social vs. individual benefit as well as various distributions of power. They also influence how people perceive risks such as the

risk of climate change or the decline of democracy. Values are essentially the principles that guide individual action with consideration to the interaction with other humans in society. In this sense, values, as they evolve and shift, can help us trace societal change over time.<sup>3</sup>

According to Schwartz's Value Theory there are ten value types that motivate behaviour, which are structured within four universal distinct clusters. These four overarching value types are openness to change (hedonism, self-direction, and stimulation) which opposes another type that is conservation (security, tradition, and conformity) in addition to self-enhancement (achievement, and power) which conflicts with self-transcendence (universalism and benevolence). At first glance, these values and their potential conflicts already bring to mind one prominent debate surrounding the development of AI, which is whether the goal is to create AI systems that are able to learn intelligence themselves or if their autonomy should be more regulated and humans should be the ones to "feed" the systems with intelligence.<sup>4</sup> Arguably, the debate demonstrates the conflict between self-direction and security, where self-direction aims for independent thought and exploration and security aims for individual or group preservation, as well as the conflict between power and benevolence, where some groups are clearly working to control and influence the direction of AI despite the potential risks for social welfare.

## SCHWARTZ'S VALUE THEORY



What this debate and its underlying value conflict also points to is the question of human importance and superiority. “Human exceptionalism”, also referred to as anthropocentrism, is the idea that humans are separate from nature and that our minds and souls make us “more than just animals”. Based on this line of thought, humans are at the centre (or the top) of the ecosystem and all other entities are seen as resources that serve human survival. This reveals two things that will be further explored throughout this paper; one is that the interaction between humans and AI is provoking a, both conscious and potentially subconscious, reimagining of certain human values and two, that this reimagining is challenging the idea of human exceptionalism which has guided humanity for centuries.

## SIGNALS OF VALUE CONFLICT

### Machine Innovation vs. Human Agency

As AI’s potential to enhance **decision-making** and efficiency is demonstrated in various spheres of life, including workplaces, healthcare, and even social interactions, its capacity to challenge traditional notions of human agency and individual autonomy has been subject to concern. The fact that AI-powered chatbots and social media algorithms can evoke specific emotional responses through their tailored content has many serious implications. The way that this can influence consumer behaviour, opinions, and even political decisions, raises questions about the extent to which AI manipulates human emotions and autonomy - and these are only initial reflections about a technology that is still in its early stages.

To see an example of the direct impact that AI has on human thought and behaviour one only needs to observe Gen Z’s relationship with AI algorithms on the plethora of social media platforms and applications. “*Gen Z is a generation that doesn’t know a world where their path to discovery wasn’t shaped by their algorithms. Half of Zs say their algorithm knows their tastes and interests better than their own parents*”; is a rather powerful commentary on the current situation.<sup>5</sup> Although algorithms are mostly influenced by our current interests, they also suggest personalised content based on these interests and with this comes the risk of being exposed to filter bubbles or echo chambers i.e., more of what we are looking for. Now, while this can also be applied to many other areas of life where AI is not integrated (humans have always formed “bubbles” or small networks through work, events etc.), the speed at which it happens on social media platforms

is unprecedented. More importantly, unlike real life, algorithms on platforms such as TikTok are created with a clear objective to increase time users spend on the app regardless of what the content they consume is. When the content in question is, for example, related to mental health or relationships, the conflict of interest then becomes more apparent.

If we conceive of human agency as an existential matter, one of survival and freedom, then this struggle between machine innovation and human agency can be framed as a conflict between openness to change and conservation (between self-direction and security). However, it is interesting that our understanding of human agency and autonomy, as well as achievement and power, and how we work towards them in this new era is also shifting. If we perceive AI as an extension or product of human intelligence and creativity, which it is in many ways, then advocating for the freedom to further develop it seems to be in line with openness to change and self-enhancement values. But the reality is that we still do not know enough to determine whether AI innovation and human agency are mutually exclusive and how conceptions of agency could transform in the future as a result of our interaction with AI. Within the many unknowns, endless possibilities that speak to humans’ desire for exploration, discovery and advancement still exist.

### Power and Efficiency vs. Well-being

It is difficult to evaluate human interaction with AI without considering the broader socioeconomic context, i.e.: capitalism. Like most technologies that were created to add value and save time, the benefits and costs of AI are expected to fall disproportionately across society. Some experts fear that profit and power incentives will continue to drive digital systems and that AI applications will be used to control rather than empower people to act freely, share ideas and protest injustices.<sup>6</sup> While there is some overlap between this and the previous conflict between innovation and agency (with agency often being a means for achieving well-being), in this conflict, actors’ pursuit of power and efficiency may not necessarily align with the pursuit of innovation. One pertinent example of the consequences of this type of conflict that exists at present is the impact of fossil fuel lobbying on climate policy progress.<sup>7</sup> Under capitalism, the values that shape a huge part of our reality are those of corporations and states who, throughout history, have often co-opted new technologies with aspirations for control and dominance.

However, the question is not whether AI will improve our lives or exacerbate existing inequalities, because it



will likely do both simultaneously, but rather it is about where we might end up if we continue valuing power and efficiency over general well-being at this scale. Proponents of digital utopianism, an idea that was mostly prominent in the 1990s, believed that the internet would put some power back into the hands of people, giving them platforms to express themselves in public and allowing for a society built on individual freedom and expression. While some believed that technology would be a sufficient catalyst for social order and justice, we now know that the internet is merely a reflection of our society; millions of voices, some louder than others, with power struggles and economic incentives clearly influencing almost every interaction.<sup>9</sup> AI, in its numerous potential applications, will likely be the same.

## What if AI evolves to treat humans better than we treat each other?

### Human Centred vs. Technology Centred

Taking into consideration the aforementioned value conflicts, machine innovation vs. human agency and profit and efficiency vs. well-being, it seems that the ultimate shift is taking us from a human-centred world to a technology-centred world where technology transcends being a tool and becomes an integral part of the human experience, shaping societal structures, cultural norms, and personal behaviours. Although we have not yet reached the point where AI has a full range of human traits, including consciousness, developments are moving in that direction faster than we can determine exactly how this will affect us. In various creative works, AI and robots are depicted as cold, power-hungry beings that seek to dominate humans but what if AI evolves to treat humans better than they treat each other? As AI becomes more human-like and develops the capacity to understand and respond to human emotions effectively, emotional connections between humans and robots, chatbots or other AI agents are likely to occur on a wider scale, challenging notions about conventional relationships and changing the frequency and way humans interact with each other.

There is also a clear interest in using AI to optimise our lives which not only includes the delegation of decision-making to machines but also potentially greater integration of humans and machines. With AI-driven advancements in neuroprosthetics, genetic engineering, and cognitive augmentation, individuals could potentially attain levels of intelligence, memory, and sensory perception that were once unimaginable.

As humans incorporate technology into their bodies and minds, questions about autonomy, privacy, and the very essence of what it means to be human come to the forefront.

Overall, the development of AI technologies and negotiation of their purposes is contributing to conflicts between different human values. Although this paper does not generalise or assign particular sides of the conflicts to specific actors, there is an overall trend of conflict between those who have the access and means to develop the technology and those who are affected by it but are not involved in its creation or associated decision making.

### BEYOND HUMAN EXCEPTIONALISM

While many of the value conflicts exacerbated by the rise of AI already exist in different domains at present, the technology's capacity for human-like behaviour, sentiment and competition is provoking a reconceptualisation of what it means to be human and, with that, our understanding of other forms of intelligence is evolving and prompting a reevaluation of the inherent value we ascribe to humans. The transformation of our idea of human exceptionalism invites us to reconsider what defines us, what sets us apart, and how we navigate our relationships with technology, nature, and ourselves. If the most fundamental idea of human superiority is challenged, the purpose of the values that influence how we seek survival, achievement, benevolence and other pursuits by default changes. If humans are no longer the most intelligent, unique or moral beings, and there is now a sort of alternative upgraded version of the human species (one that we can tailor according to our preferences), then the survival and well-being of humans may cease to be society's ultimate "official" objective.

In recent years, conditions on our planet have already led to the rise of misanthropic ideas, or ideas rooted in a hate or distrust of humans. During the pandemic "Humans are the virus!" was frequently echoed as people expressed their frustration with human impact on the environment, as well as a loss of hope in a future where we could maybe do things differently. In "Would Human Extinction Be Tragedy?", moral philosopher and radical environmentalist Todd May suggests that perhaps the demise of humanity would be "morally desirable" considering the unimaginable suffering that humans have inflicted onto the environment and other beings.

What radical environmentalists and radical technologists have in common, Adam Kirsch argues, is that both their views reflect a sort of “New Misanthropy” that eagerly anticipates the end of humanity.

On the one hand, the “anti-humanist” perspective adopted by some radical environmental organisations proposed that it might be worth it to sacrifice humans in order to save the environment and that the purpose of life is not to extend our lives and improve our well-being at any cost. On the other hand, transhumanism, a movement which advocates for enhancing humans with technology, offers an alternative solution or escape from suffering.<sup>9</sup> Although the objective of transhumanism is to extend and improve our lives, there are numerous ways this can be done, including those that many of us may not consider to be an “improvement”, for example, uploading your mind to live forever as AI. In the British series *Years and Years* Bethany, a teenager, confronts her parents with her desire to become transhuman and live forever as information.<sup>10</sup> “Where I’m going there’s no life or death, there’s only data,” she says to her worried parents. To Bethany, becoming transhuman offers endless exciting possibilities and an escape from a dark and difficult world. To her parents and many readers in the present day this is essentially suicide, potentially even homicide if we consider the companies getting paid to “upload” her consciousness.

If we compare the two perspectives, anti-humanism and transhumanism, the latter seems more in line with the world’s trajectory, and less morbid depending on how it unfolds. In the coming years, we can expect to see a more pronounced growth in transhuman ideology proposing that the blurring of lines between humans and machines does not need to be an entirely negative transformation, nor a cause for existential fear. In fact, many writers and thinkers have been imagining the possibilities of this from as early as the 1970s and 80s. In “A Cyborg Manifesto”, Donna Haraway proposes that the blending between humans and machines, and reconceptualisation of traditional categories, could actually be empowering, especially for marginalised groups. She suggests that instead of trying to fit into old ideas of what it means to be human, we can embrace this new way of thinking and use technology to help us express ourselves and connect with others in new and exciting ways. Although this may be an idealistic take on a rather complex transformation, transhumanism does open up new avenues for profit-making and thus will likely come with its own wave of advocacy and advertising.

## THE SOCIAL IMAGINARY

The analysis thus far has demonstrated how human interaction with AI will be a catalyst for certain value conflicts and how the root of these conflicts will ultimately lead to a reevaluation of human exceptionalism, potentially ushering us into an era where transhumanism is a likely human response to the growing power and influence of AI technology, as well as to persistent social issues. It also explained that the narratives about the technology play an important role in shaping its trajectory. Adding to this, we must then consider the most dominant actors in this process, also known as the “social imaginary”.

The concept of the social imaginary refers to the collective and often unspoken beliefs, values, and assumptions that shape a society’s understanding of the world and its place within it. As AI’s influence grows, the narratives surrounding it are not solely based on technical realities but are deeply intertwined with societal hopes, fears, and aspirations. These narratives reflect and reinforce the broader social imaginary by projecting cultural values, ethical concerns, and expectations onto AI’s development and impact. Whether portraying AI as an emancipatory force or a harbinger of dystopia, the narratives that emerge reflect the underlying societal beliefs and offer insights into how people envision their relationship with technology and its implications for human identity, autonomy, and agency.

Because AI is a site of power, different actors are struggling to influence the direction of its progress as well as determine its utilisation. And because of AI’s influence on human values, whoever has more control over the technology will have a level of control over human behaviour that we do not yet have a full understanding of. There are powerful actors that influence whether we perceive the expansion of AI as a positive or negative phenomenon. These actors are involved in reshaping human values and play a big role in forming the consensus on the purpose and direction of the technology.

Elites possess the capacity to exploit AI through the strategic control of narratives and cultural framing surrounding the technology. This manipulation of perceptions and discourse enables them to mould public understanding and attitudes towards AI in ways that align with their vested interests and objectives. Through this manipulation, elites can wield significant influence across multiple dimensions. Firstly, they can define societal norms and expectations related to AI by strategically shaping narratives that emphasise the technology’s potential benefits while downplaying

potential risks. Moreover, elites can exert a powerful impact on policy and regulation, using their control over narratives to advance particular policy positions that align with their preferences. This influence extends to research agendas and innovation trajectories as well, with elites steering resources towards projects that resonate with their goals, potentially stifling alternative avenues of inquiry. By shaping perceptions, elites can elevate specific AI companies and initiatives, effectively branding them as frontrunners and attracting further investment. Additionally, the ability to mitigate public concerns about AI's impacts is within the grasp of elites, who can strategically frame the narrative to alleviate apprehensions that might otherwise lead to heightened scrutiny and regulation. Such narrative control can perpetuate existing power dynamics, maintain cultural hegemony, and distort public perception of AI's realities, ultimately enabling elites to shape the AI landscape in their favour.

## CONCLUSION

As we navigate the uncharted waters of AI integration, we find ourselves facing a profound transformation that resonates beyond the realms of technology, extending to the very core of human values and beliefs. The once well-defined boundaries that separated humans from technology blur as AI systems demonstrate capabilities mirroring our own. This transformation prompts us to question the attributes that define us as human beings and reconsider our understanding of human exceptionalism as well as our relationship with the technological landscape we are co-creating.

## REFERENCES

1. Mohamed, Shakir, Marie-Therese Png, and William Isaac. "Decolonial Ai: Decolonial Theory as Sociotechnical Foresight in Artificial Intelligence." Springer, July 12, 2020. <https://link.springer.com/article/10.1007/s13347-020-00405-8>.
2. Lindgren, Simon, and Jonny Holmström. "Social Science Perspective on Artificial Intelligence." *Journal of Digital Social Research* 2, no. 3 (2020): 1–15. <https://doi.org/10.33621/jdsr.v2i3.65>.
3. Atif, Muhammad, Muhammad Shafiq, Muhammad Farooq, Gohar Ayub, Mujeeb Hussain, and Muhammad Waqas. "Evolution of Basic Human Values Orientations: An Application of Monitoring Changes in Cluster Solutions." *PLOS ONE* 17, no. 9 (2022). <https://doi.org/10.1371/journal.pone.0274600>.
4. Hao, Karen. "A Debate between AI Experts Shows a Battle over Technology's Future." *MIT Technology Review*, March 27, 2020. <https://www.technologyreview.com/2020/03/27/950247/ai-debate-gary-marcus-danny-lange/>.
5. Archival. "Algo Life." Archival, n.d. <https://archival.com/insights/trends/algo-life>.
6. Atske, Sara. "As AI Spreads, Experts Predict the Best and Worst Changes in Digital Life by 2035." Pew Research Center, June 29, 2023. <https://www.pewresearch.org/internet/2023/06/21/as-ai-spreads-experts-predict-the-best-and-worst-changes-in-digital-life-by-2035/>.
7. Downie, Christian, and Robert Brulle. "Big Oil's Trade Group Allies Outspent Clean Energy Groups by a Whopping 27x." *The Conversation*, February 13, 2023. <https://theconversation.com/big-oils-trade-group-allies-outspent-clean-energy-groups-by-a-whopping-27x-with-billions-in-ads-and-lobbying-to-keep-fossil-fuels-flowing-198286>.
8. "Digital Utopianism: Where Do We Stand 10 Years Later?" *Sciences Po*, June 21, 2023. <https://www.sciencespo.fr/en/news/digital-utopianism-where-do-we-stand-10-years-later>.
9. Harper, Tyler Austin. "The Unlikely Alliance between Tech Bros and Radical Environmentalists." *Slate Magazine*, January 26, 2023. <https://slate.com/technology/2023/01/transhumanists-anti-humanists-misanthropy-revolt-against-humanity.html>.
10. Renstrom, Joelle. "What Would It Mean for Humans to Become Data?" *Slate Magazine*, July 30, 2019. <https://slate.com/technology/2019/07/years-and-years-finale-bethany-transhumanist.html>.

While this presents us with many exciting possibilities it also demands close attention to how our values are being reshaped. Agency, desire for achievement, power, connection and capacity for benevolence are all significant facets of society that, with radical change or imbalance, have the potential to make or break social order. Therefore, it is not only crucial to evaluate the impact of our interaction with AI on these aspects, but also to be critical and wary of the potential exploitation of this social transformation by societal elites. As this paper has highlighted, these elites or hegemonic actors possess the means to shape narratives and cultural framing around AI to serve their interests.

This gives them the power to exert significant influence over public perceptions, societal values, and even individual behaviours; therefore, the power to shape our collective future.

It is imperative then to recognize the risks inherent in allowing such unregulated control over the narrative surrounding AI's transformative potential. Aside from transparency and regulation, fostering a culture of critical engagement with AI narratives is perhaps one of the most important ways to prevent the uncontrollable escalation of harm. Nurturing a technologically literate society that can understand, question, and actively participate in shaping AI's trajectory is essential. Finally, by collectively participating in shaping the AI narrative and its impact, we can work to ensure that the transformational power of AI aligns with the broader interests and aspirations of humanity as a whole.





EDCII





# THE RISE OF AI REGULATION

## How Are Governments Preparing for the Future?

---

*By Pacinte Abdel Fattah*

**“Tell me a technology that cannot be used for something evil, and I’ll tell you a completely useless technology that cannot be used for anything”**

*Julian Togelius*  
*Computer scientist at N.Y.U.*

The risks that accompany the rapid growth of AI including bias, discrimination, and privacy breaches have prompted growing discussions about the need to regulate AI. There are many reasons to regulate AI. First of all, AI could be biased, which could lead to biased or unfair results. Because of these risks, more people think that AI needs to be regulated. In terms of international AI regulation, the U.S., EU, U.K., and China are among the frontrunners. These countries are working together to define the potential dangers and benefits of AI and to develop a regulatory framework to minimize the former while maximizing the latter.

However, there is ongoing debate about the proper way to regulate AI. Some believe that strict control of AI is required to mitigate the technology’s potential risks. While others argue that AI rules should be changeable in order to foster creativity and advancement. As a result, this paper will address the reasons for the need of AI regulation, the top countries implementing AI regulation and their various methodologies, and the identification of the best strategy to regulate AI.

## WHY IT IS NECESSARY TO REGULATE AI?

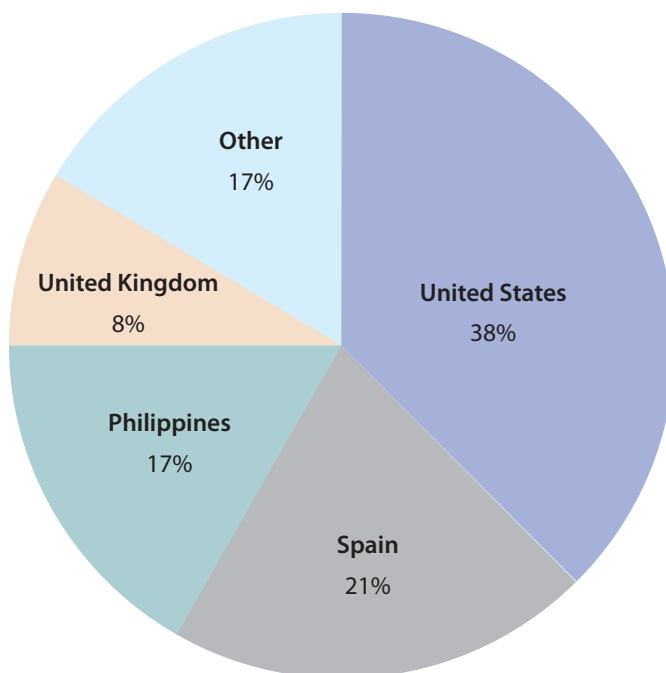
AI is progressing rapidly and has the potential to transform many facets of human life. The ethical and safety concerns that AI brings, however, have prompted calls for legislation. AI control is still in its early stages, but the subject is important and should be paid attention to. According to Stanford University's 2023 AI Index, 37 AI-related laws were passed around the world in 2022 compared to one in 2016, suggesting that efforts to govern AI are picking up speed. The United States enacted nine legislations, followed by Spain with five and the Philippines with four.<sup>1</sup>

AI has had a promising couple of years, with the release of OpenAI's ChatGPT in 2022 and Microsoft's plans to invest \$10 billion into OpenAI in early 2023. Adding ChatGPT to widely used programmes like Microsoft Office would hasten the industry's already rapid use of AI. According to forecasts, the global revenue of the AI market is expected to increase by 19.6% this year, reaching \$500 billion.<sup>2</sup> An equal amount of attention from regulators has been paid to the rapid spread of AI.

Since ChatGPT gained popularity, people have been interested in and concerned about what these potent AI tools can achieve. It has been suggested that generative AI could alter how productivity tools and creative assistants operate. But they are already showing signs of harm and misuse. Generative models' capacity to create false information raises the risk of them being weaponized as advertising and scamming tools. Comparisons seem to be everywhere these days, with many officials claiming that AI is more harmful than nuclear weapons, and top AI executives comparing their product to nuclear energy. And a group of industry leaders warned that AI could pose a threat to humanity comparable to nuclear conflict. Some worry that hyperintelligent systems could eventually learn to write their own computer code, escape human control, and decide to exterminate humanity. The creators of this technology, who are requesting governance and regulation, share this fear.<sup>3</sup>

Indeed, last May, dozens of AI industry leaders, academics, and even some celebrities called for a reduction in the risk of global extinction due to AI, arguing in a brief statement that the threat of an AI extinction event should be a top global priority. Signatories included OpenAI CEO Sam Altman, the so-called "godfather" of AI Geoffrey Hinton,

Share of AI Regulations Passed Into Law in 2022



Source: Artificial Intelligence Index Report 2023

and senior executives and researchers from Google DeepMind and Anthropic, as well as Microsoft's Chief Technology Officer. Hinton pointed that these machines could become smarter than humans, and 42% of CEOs polled at the Yale CEO Summit believe that AI has the potential to destroy humanity within five to ten years.<sup>4</sup>

In addition, numerous lawsuits have been launched against AI companies in recent years, alleging a variety of violations, including copyright infringement, in which several artists have sued AI companies for using their copyrighted work to train their generative AI systems. For example, two class-action lawsuits filed against OpenAI and Google alleging that the companies violated the privacy of millions of internet users by using their social media comments to train their conversational artificial intelligences. Another example is Getty Images which sued Google last July, alleging that Google's use of Getty Images in its Image Search results violated copyright law. Getty argued that Google's commercial use of the images did not constitute fair use because Google did not contribute anything new or transformative to the images.<sup>5</sup>

All of these concerns stated by AI professionals and allegations brought against AI corporations prompted the signing of an open letter by numerous technologists calling for a six-month halt on work on the most advanced systems to give time for new safety standards to be developed. For now, the same businesses who are leading the drive into AI claim, are also attempting to rein it in. OpenAI announced in July that it was forming an internal team to begin investigating methods to control superintelligent computers, which it believes will be available this decade. Its recommended solution is a new AI system to control the AI.<sup>6</sup> Governments have also been deliberating on laws, with the EU leading the way with the most comprehensive legislation.

## THE RACE BETWEEN COUNTRIES TO REGULATE AI

AI legislation is a major topic of interest and debate all around the world. Governments, legislators, and experts were attempting to find a balance between encouraging innovation and guaranteeing the ethical use of AI to protect persons and society. Countries are currently racing to regulate AI, and the approaches of the countries that are leading in AI legislation, including the EU, the U.S., the U.K., and China are not the same.

## EU HAS THE MOST PROGRESSIVE AND COMPREHENSIVE AI REGULATION

**The GDPR:** Safeguarding Privacy in the Digital Age was passed in 2018, marking the beginning of the EU's first attempts at regulation. The GDPR brings opportunities and difficulties for consumers, organisations, and regulators alike while also representing a significant step forward in the establishment of comprehensive and harmonised data protection regulations. The GDPR intends to harmonise data protection regulations among EU member states and give people more control over their personal information. Protecting people's fundamental right to privacy, promoting open data processing practises, and harmonising rules across the EU to enable the free flow of data inside the single market are some of its main goals. The GDPR has an impact outside of the EU because it requires businesses to follow certain guidelines when handling the personal data of EU individuals. Other jurisdictions have updated or passed comparable data protection legislation in response to this extraterritorial reach.<sup>7</sup>

The GDPR is a significant step towards protecting privacy in the digital era, but it also emphasises the need for ongoing discussion and proactive modifications to maintain its applicability and effectiveness in a quickly evolving environment. The first AI law in the world was presented at precisely that time by the European Commission in April 2021. The goal of the law is to preserve people's fundamental rights while minimising the threats that AI poses. The proposed regulation will outlaw AI systems that take advantage of people's weaknesses or influence human behaviour. Both predictive policing and real-time facial recognition in public places will be outlawed because they infringe on fundamental rights and put large swaths of the populace under permanent surveillance. A tight regulatory framework will also be in place for AI systems that may prevent some people from accessing government benefits or jobs.<sup>8</sup>

The EU's proposed law, which regulates the creation and application of AI systems, has severe criteria for "high-risk" AI applications like those found in banking, education, and human resources. At the time of its passing, it will be the first law of its kind anywhere in the world. The AI Act is shaping up to be the "GDPR for AI", complete with firm fines for noncompliance, extraterritorial reach, and a wide range of mandated obligations for businesses that create and use AI. Any business operating in or selling into Europe

must be aware of the Act's far-reaching implications and take actions to comply with its provisions. The regulation employs a risk-based methodology in which systems are categorised as having low or minimal risk, limited risk, high risk, or unacceptable risk as follows:

- **Low-risk systems:** The majority of systems presently on the market are low- risk such as spam filters and video games with AI. These systems are not obligated by the rules in their present form, but they must comply with existing laws.
- **Systems with limited risk:** Users must be informed that they are interacting with an AI system, that an AI system will be used to infer their characteristics or emotions, or that the content they are interacting with has been generated using AI. These include chatbots and deepfakes.
- **High-risk systems:** Systems that can significantly affect a user's life expectancy. Before being deployed on the EU market, these systems must adhere to stringent requirements, including risk management and data governance requirements.
- **Systems with unacceptable risk:** Such as those that manipulate individuals without their consent or facilitate social scoring, as well as real-time and post-remote biometric identification systems, are prohibited from sale on the EU market.<sup>9</sup>

The EU's approach to AI regulation is based on a number of principles, including proportionality, accountability, transparency, explainability, and ethics. It is anticipated that the AI Act will have a significant impact on the development and application of AI in the EU. Additionally, the EU recently enacted the DMA, which imposes obligations on so-called digital gatekeepers, such as US tech giants, to restrict their dominance and safeguard competition, and the Digital Services Act, which lays out guidelines holding online platforms accountable for the content they host. The development of AI is propelling Europe even further in this direction.<sup>10</sup>

Some have criticised the law, claiming that it is too strict and that it will limit the evolution of technology and stifle innovation, a sentiment shared by European companies. In a letter to the European Commission in June, 150 of the bloc's largest companies also warned that the law could hinder the bloc's economy by preventing companies from freely utilising vital AI technology.<sup>11</sup>

The AI Act is still being negotiated by the European Union's European Parliament and Council. It will likely go into effect by the end of 2023. After it is enacted, there will likely be a two-year implementation period before it is enforced, indicating that it will likely be implemented in 2025. In a three-way negotiation between the European Parliament, the European Commission, and the Council of member states, a final version of the law must be hammered out, leaving space for modification.

According to the most recent updates on the ongoing debates on the EU AI Act, the law defines considerations to be addressed for small and medium-sized enterprises and start-ups. These include relaxing the requirements for documentation and granting them unrestricted access to regulatory sandboxes.<sup>12</sup>

Moreover, The EU AI Act is addressing the rise of foundation models and generative AI, emphasizing real-time AI policy monitoring and compliance. The EU has revised the Act to include specific provisions addressing these technologies. The Act now mandates a set of obligations for providers of foundation models and generative AI to ensure safety, ethics, and transparency. The updated EU AI Act is a response to the dynamic nature of foundation models and their widespread applications. The obligations cover various aspects of model development, data usage, compliance, transparency, and more. The Act aims to strike a balance between enabling innovation and addressing potential risks associated with these advanced AI technologies.<sup>13</sup>

In contrast to the EU, the US lacks significant AI-related legislation. Nevertheless, numerous federal agencies are currently debating how to best regulate AI.

## THE US IS IN THE EARLY STAGES OF LEGISLATION

The U.S. lags far behind Europe, where legislators are preparing to enact an AI law this year that would place new restrictions on the technology's riskiest applications. In contrast, there is significant disagreement in the US regarding the best way to manage a technology that many American legislators are still attempting to comprehend. While some companies have stated that they embrace AI regulations, they have also argued against European-style strict regulations. Regulatory agencies are beginning to regulate certain AI-related issues.



The U.S. is still in the early phases of AI regulation development. Existing federal laws and regulations touch upon certain aspects of AI, such as privacy, security, and anti-discrimination. However, there is no comprehensive federal legislation dedicated solely to AI regulation. A non-binding “Blueprint for an AI Bill of Rights” was introduced by the White House in 2022. It outlines a number of principles for the responsible development and use of AI, as well as five principles for the design, deployment, and development of AI systems, with a focus on aspects such as safe systems, algorithmic discrimination protection, data privacy, notice and explanation to users, and human alternatives.<sup>14</sup>

Furthermore, there is another regulation which is the Algorithmic Accountability Act (AAA), reintroduced in 2022, which seeks binding assessments of bias and effectiveness for automated systems used by companies. Companies with significant income and data control who use automated systems for crucial decisions must provide the Federal Trade Commission (FTC) with supporting information. The FTC might inspect AI systems, create rules and reports on emerging trends in AI. The AAA’s introduction demonstrates politicians’ intentions to address AI-related concerns, even though its passage is unclear. Additionally, some US governments are using municipal legislation to combat the harm caused by AI. State-level initiatives try to reduce the risks connected with AI, while enforcement may be postponed.<sup>15</sup>

Recently, task Force Lima was established to oversee the responsible application of generative AI technologies, particularly large language models (LLMs), under the direction of Deputy Secretary Kathleen Hicks of the DoD. It aims to focus on national security and minimise risks, the force wants to incorporate AI tools across the DoD, following studies from Stanford and Purdue Universities that raised questions about the accuracy of LLMs and the possibility of inaccuracy, this has been done.<sup>16</sup>

Moreover, the FTC focuses primarily on privacy protection, and is anticipated to intensify its efforts against “dark patterns”, or deceptive user interface designs. This contributes to the larger objective of protecting consumers from deceptive AI technology and is consistent with the EU’s AI Act and GDPR, which target manipulation and automated data processing, respectively, with the DMA extending the latter. It is anticipated that the FTC will play a prominent role in AI regulation, pursuing legal action against corporations involved in algorithm-related controversies. It is expected

to address issues such as privacy violations, dark patterns, and deceptive technological tactics. It has already taken legal action against Facebook (Meta) and other entities for algorithmic violations.<sup>17</sup>

Additionally, the National Institute of Standards and Technology (NIST) is an organisation devoted to AI research and standards that is instrumental in the development of benchmarks and AI standards. NIST is tasked with reevaluating federal agencies’ AI deployments to ensure conformity with the order’s principles, which reflect American values and laws. Agencies must make public their non-classified and non-sensitive AI use cases, excluding national security and defence. These use cases will be incorporated into NIST’s evaluation process, influencing future frameworks for government AI use.<sup>18</sup>

To sum up, the FTC, NIST, and the U.S. Congress are working together to develop AI regulations with an emphasis on both aspirational ideas and legally binding standards. In the upcoming years, AI regulation in the U.S. is probably going to continue to advance. The U.K., like the U.S., does not have a formal AI regulation but has shown support for one.

## THE UK ADOPTED A PRO-INNOVATION APPROACH

The U.K. has recently released a joint report that proposes a pro-innovation approach to AI regulation in the UK. This approach to AI regulation is context-sensitive and focuses on the use and impact of the technology. The government seeks to define fundamental principles such as openness, equity, safety, security, privacy, accountability, and redress mechanisms. Regulators are responsible for developing appropriate enforcement strategies and will tailor regulations to specific industries. Four principles underpin the U.K.’s approach: context-specific regulation, pro-innovation and risk-based focus, coherence via cross-sectoral principles, and a proportionate and adaptable regulatory strategy.<sup>19</sup>

Using a collaborative approach between government departments, technical experts, and investments in education and infrastructure, the government intends to position the U.K. as a prominent AI power over the next decade. In 2023, the emphasis will be on AI governance, including procurement guidelines for the public sector and sector-specific regulations that have been made effective by the participation of industry experts. However, in the absence of a central body addressing

direct AI harms, vulnerable groups may not be protected. Current anti-discrimination laws do not adequately encompass the impact of AI on marginalised groups, according to research. Although there is no specific AI legislation, the government is taking steps towards AI regulation by emphasising sector-specific approaches and transparency. In the context of present laws, the financial services industry is a notable example where AI regulation is being considered.<sup>20</sup>

The U.K.'s regulatory efforts strike a balance between innovation, transparency, and consumer protection, but it may differ from the EU's AI Act by remaining industry-focused rather than centralised. The British approach to AI regulation differs from the EU. The EU has proposed a comprehensive AI regulation that would cover all high-risk AI systems. The U.K., on the other hand, takes a more targeted approach, focusing on regulating AI systems that pose a significant risk to people or society. The framework seeks to prevent innovation from being hampered by ambiguous compliance guidelines, and regulators are expected to collaborate in communicating expectations to businesses and providing clear guidance on applicable requirements. Like the U.K., China is trying to implement a regulation that balances between innovation and the good use of AI, and that the potential risks of AI are mitigated.

## CHINA IS SETTING A PRECEDENT IN AI REGULATIONS

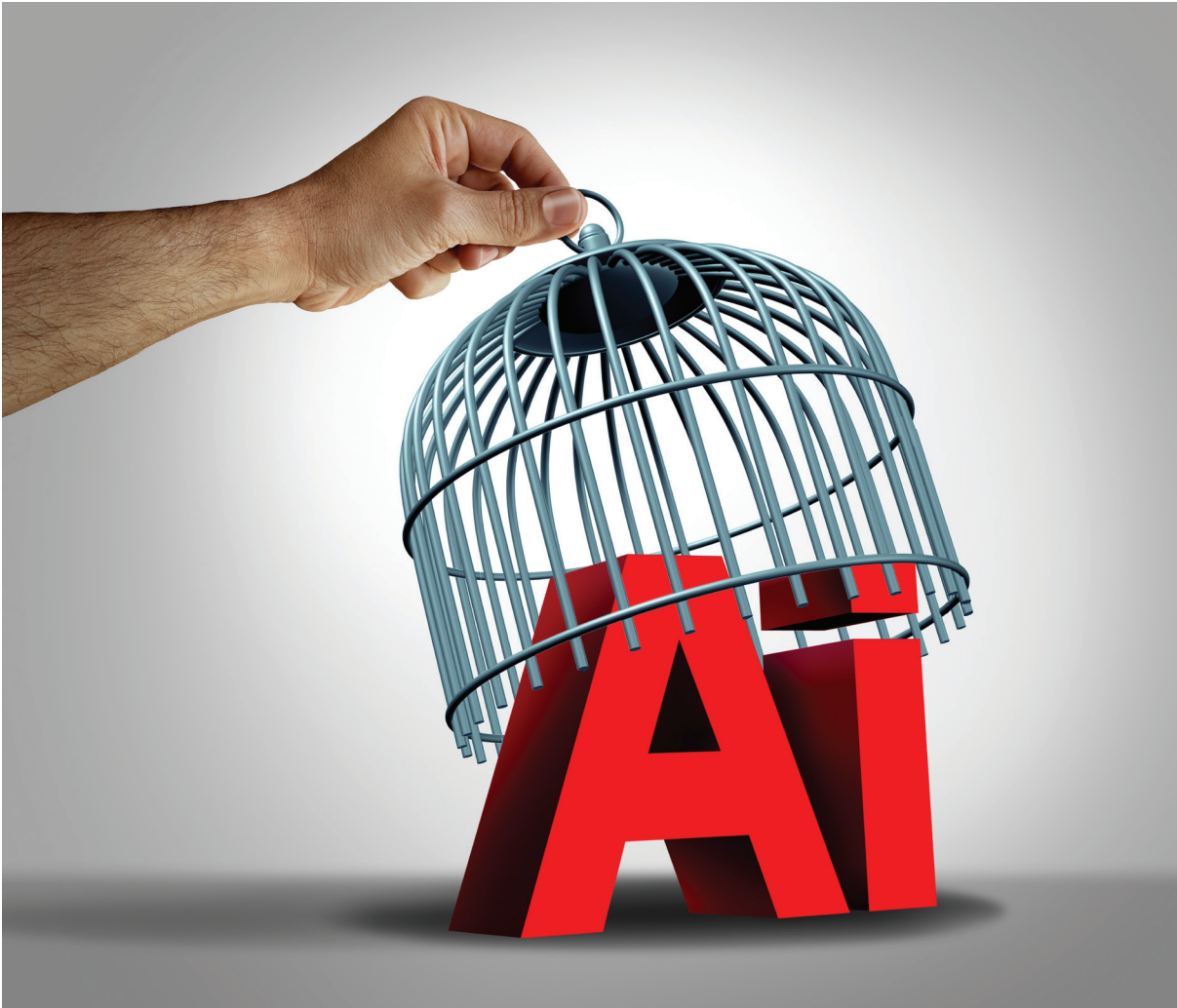
Although China's AI regulations are still being developed, they represent a significant advancement in the establishment of a responsible AI ecosystem. The Personal Information Protection Law (PIPL), which is the country's first comprehensive law on the protection of personal data, is one of China's most significant AI regulations. It applies to any organisations that gather, handle, or make use of personal data, including AI systems. The PIPL guarantees individuals' rights to access, rectification, and deletion of their personal data as well as the requirement for organisations to acquire people's informed consent before collecting their personal data.<sup>21</sup> The Regulations on the Administration of New Generation AI, which control the creation, testing, application, and export of AI systems in China, are another significant AI policy. They forbid the use of AI systems for harmful or discriminatory reasons and require them to be safe, dependable, and controllable.

China took the lead in establishing and enforcing a number of regulatory measures at the national, regional, and municipal levels in 2022 and 2023, helping to shape global AI rules. These measures include China's Deep Synthesis Provisions, which are intended to improve oversight of deep synthesis technology and services. They are applicable to both deep synthesis technology consumers and service suppliers. The rules encompass a number of topics, including the development, replication, dissemination, and transfer of information through deep synthesis. The regulations attempt to control the entire process, from creation to distribution, which may have an impact on the public of China's access to AI-generated information. The Internet Information Service Algorithmic Recommendation Management Provisions is another regulation that deals with personalised AI-based suggestions for mobile apps. It requires that service providers respect user rights, protect minors, and provide users control over their personal data. For instance, organisations must provide customers with opt-out options when notifying them about algorithm-based recommendations and are not permitted to charge users differently based on their attributes. The rules also cover topics including the spread of false information and special protection for the elderly.<sup>22</sup>

On August 15th, the Chinese Cyberspace Administration (CAC) enforced the Measures for the Management of Generative AI Services. The most recent version of the regulation mandates registration and privacy, copyright, and security inspections for service providers. The Measures apply to services that produce text, images, audio, and video for the general public in China using generative AI technology. Certain industries, such as news, filmmaking, and the creation of art, may be subject to different rules. The rules stress the significance of striking a balance between growth and security, fostering innovation, and maintaining legal oversight of generative AI services. Several provisions outline the types of content that are prohibited, such as content that endangers national security, promotes discrimination, infringes on intellectual property rights, or violates individuals' rights and privacy.<sup>23</sup>

Additionally, on August 8th, China's CAC published a draft set of rules intended to control the use of facial recognition technology. In particular, the law aims to limit enterprises' use of facial recognition technology in favour of non-biometric personal identification techniques.<sup>24</sup>

China is among the first to impose AI legislation, with a focus on topics like bias and transparency. The Chinese



government's approach to AI regulation is currently evolving, other jurisdictions may in the future look to China's legislation given its proactive stance.

## WHAT IS THE BEST WAY FOR AI REGULATION?

Countries have varying approaches to AI regulation, but they share some similarities on which they may collaborate. There is no universal approach to regulating AI, as different nations have different concerns and priorities. However, the following prevalent approaches have been taken:

- **Risk-based regulation:** This strategy concentrates on regulating AI systems that are deemed high-risk, such as those used in critical infrastructure or that make decisions that could have a significant impact on the lives of individuals.

- **Transparency and explainability:** This approach necessitates that AI systems be transparent and explicable so that people can comprehend how they function and make informed decisions regarding their use.
- **Accountability:** This strategy requires AI systems to be accountable for their decisions, so that people can hold them liable for any damage they cause.
- **Human oversight:** This strategy requires AI systems to be accountable for their decisions, so that people can hold them liable for any damage they cause.

These common approaches can serve as a starting point for the development of a common regulatory approach to be implemented by an international AI regulatory agency. Combined with other forms of regulation, such as national laws, industry standards, and collaborations between governments and non-governmental stakeholders, the AI regulatory agency could provide a

more comprehensive and flexible strategy for addressing the countless challenges posed by AI.

The establishment of such an agency will not be simple and will necessitate intensive negotiations and collaboration between the countries regulating AI and all the stakeholders. Governments, civil society, tech companies, scientists, ethicists, trade unions, and civil society organisations should all have a seat at the negotiating table which is essential to guarantee a comprehensive and inclusive regulation. Some aspects of AI governance are best left to governments, and it goes without saying that states must always retain the right to veto policy decisions. Governments must also protect against regulatory capture to ensure that tech companies do not use their influence within political systems to advance their own interests at the expense of the public interest. But an inclusive, multistakeholder governance model would ensure that the actors who will determine the fate of AI are involved in the rule-making processes.<sup>25</sup>

The AI agency can pool together experts with extensive technical, ethical, and legal knowledge of AI which can result in better-informed and more effective regulatory decisions, and it can keep up with the latest technological advancements and developments, making it better equipped to adapt regulations accordingly. Moreover, it can guarantee consistent and coherent AI regulations that are aligned with the specific needs and challenges of the technology, thereby avoiding conflicts with existing regulatory frameworks. It can adapt regulations to address new risks and challenges in a timely manner and has the authority to enforce regulations, investigate violations, and impose penalties, thereby improving accountability in the AI industry.<sup>26</sup>

Implementing a regulation that strikes a balance between regulating AI for safety and ethics while allowing innovation to flourish would be the primary objective

of the agency. Instead of stifling progress, the agency should seek to foster responsible innovation. However, the agency's regulations should be sufficiently flexible to accommodate the swiftly evolving AI landscape without compromising safety and ethical concerns.

## CONCLUSION

A problem as urgent as AI requires an original solution. Before policymakers create an appropriate regulatory structure, they will need to reach consensus on the fundamental principles governing AI. First and foremost, any governance framework must be precautionary, adaptable, inclusive, impermeable, and focused. Using these principles as a foundation, policymakers should create at least three governance regimes that overlap: one for establishing facts and advising governments on the risks posed by AI, one for preventing an all-out arms race between them, and one for managing the unprecedented disruptive forces of technology.

The global AI regulatory landscape is in its beginning in 2023. Regional approaches vary, but the EU AI Act is emerging as a potential global standard for AI governance, encompassing an entire continent. Clearly, some form of regulation is required to mitigate the risks of AI and ensure that it is used for good, and the only way to accomplish this in the future is through collaboration between various stakeholders. Managing AI-related risks and employing a proactive governance approach will be the primary focus. There are numerous approaches to international AI regulation, with the most appropriate being the establishment of an international regulatory AI agency in tandem with the development of a set of common principles that nations could implement at the national level.



## REFERENCES

1. Nestor Maslej, Loredana Fattorini, Erik Brynjolfsson, John Etchemendy, Katrina Ligett, Terah Lyons, James Manyika, Helen Ngo, Juan Carlos Niebles, Vanessa Parli, Yoav Shoham, Russell Wald, Jack Clark, and Raymond Perrault, "The AI Index 2023 Annual Report," AI Index Steering Committee, Institute for Human-Centered AI, Stanford University, Stanford, CA, April 2023.
2. AI, Holistic. "The State of AI Regulations in 2023." Holistic AI, 2023. <https://shorturl.at/ellR0>
3. Philbrick, Ian Prasad, and Tom Wright-piersanti. "A.I. or Nuclear Weapons: Can You Tell These Quotes Apart?" The New York Times, June 10, 2023. <https://www.nytimes.com/2023/06/10/upshot/artificial-intelligence-nuclear-weapons-quiz.html>.
4. Egan, Matt. "Exclusive: 42% of Ceos Say Ai Could Destroy Humanity in Five to Ten Years | CNN Business." CNN, June 14, 2023. <https://edition.cnn.com/2023/06/14/business/artificial-intelligence-ceos-warning/index.html>.
5. Gibbs, Samuel. "Getty Images Files Antitrust Complaint against Google." The Guardian, April 27, 2016. <https://www.theguardian.com/technology/2016/apr/27/getty-images-files-antitrust-google>.
6. Waters, Richard. "How Will Ai Be Regulated?" Financial Times, July 20, 2023. <https://www.ft.com/content/121fd932-f7b1-4756-8fe2-884f5a102456>.
7. EU, GDPR. "General Data Protection Regulation (GDPR) Compliance Guidelines." GDPR.eu. Accessed August 12, 2023. <https://gdpr.eu/>.
8. News, European Parliament. "EU AI Act: First Regulation on Artificial Intelligence June 14, 2023." <https://www.europarl.europa.eu/news/en/headlines/society/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence>.
9. AI, Holistic. "What Is the EU AI Act?" Holistic AI. Accessed August 10, 2023. <https://www.holisticai.com/blog/eu-ai-act>.
10. Bradford, Anu. "The Race to Regulate Artificial Intelligence | Foreign Affairs." The race to Regulate Artificial Intelligence: Why Europe Has an Edge Over America and China, June 27, 2023. <https://www.foreignaffairs.com/united-states/race-regulate-artificial-intelligence>.
11. Espinoza, Javier. "European Companies Sound Alarm over Draft AI Law." Financial Times, June 30, 2023. <https://www.ft.com/content/9b72a5f4-a6d8-41aa-95b8-c75f0bc92465>.
12. AI, Holistic. "What Considerations Have Been Made for Smes under the EU AI Act?" Holistic AI, August 2023. <https://www.holisticai.com/blog/how-will-smes-be-supported-under-the-eu-ai-act>.
13. AI, Holistic. "Regulating Foundation Models and Generative AI: The EU AI Act Approach." Holistic AI, August 16, 2023. <https://www.holisticai.com/blog/foundation-models-gen-ai-and-the-eu-ai-act>.
14. Kang, Cecilia. "In U.S., Regulating A.I. Is in Its 'Early Days.'" The New York Times, July 21, 2023. <https://www.nytimes.com/2023/07/21/technology/ai-united-states-regulation.html#:~:text=The%20United%20States%20is%20only,and%20speeches%20to%20introduce%20A.I>.
15. AI, Holistic. "The State of AI Regulations in 2023."
16. Robinson, Daniel. "US Defense Department Assembles Generative Ai Task Force - the next Platform." The Next Platform - In-depth coverage of high-end computing at large enterprises, supercomputing centers, hyperscale data centers, and public clouds., August 17, 2023. <https://www.nextplatform.com/2023/08/17/us-defense-department-assembles-generative-ai-task-force/>.
17. AI, Holistic. "The State of AI Regulations in 2023."
18. Office of the Chief Information Officer (OCIO), HHS. "Ai Use Cases Inventory." HHS.gov, August 13, 2023. [https://www.hhs.gov/about/agencies/asa/ocio/ai/use-cases/index.html#:~:text=Executive%20Order%2013960%2C%20%E2%80%9CPromoting%20the,Intelligence%20\(AI\)%20use%20cases](https://www.hhs.gov/about/agencies/asa/ocio/ai/use-cases/index.html#:~:text=Executive%20Order%2013960%2C%20%E2%80%9CPromoting%20the,Intelligence%20(AI)%20use%20cases).
19. UK, GOV. "Establishing a Pro-Innovation Approach to Regulating AI." GOV.UK, July 18, 2022. <https://www.gov.uk/government/publications/establishing-a-pro-innovation-approach-to-regulating-ai/establishing-a-pro-innovation-approach-to-regulating-ai-policy-statement#a-new-pro-innovation-approach>.
20. AI, Holistic. "The State of AI Regulations in 2023."
21. Briefing News, China. "The PRC Personal Information Protection Law (Final): A Full Translation." China Briefing News, December 29, 2021. <https://www.china-briefing.com/news/the-prc-personal-information-protection-law-final-a-full-translation/>.
22. AI, Holistic. "The State of AI Regulations in 2023."
23. China, Cyberspace Administration. "Interim Measures for the Management of Generative Artificial Intelligence Services." Cyberspace Administration of China, July 13, 2023. [http://www.cac.gov.cn/2023-07/13/c\\_1690898327029107.htm](http://www.cac.gov.cn/2023-07/13/c_1690898327029107.htm)
24. Law translate, China. "Provisions on Security Management in the Application of Facial Recognition Technology (Trial) (Draft for Comment)." China Law Translate, August 8, 2023. <https://www.chinalawtranslate.com/en/facial-recognition-draft/#:~:text=Article%2011%3A%20Organizations%20and%20individuals,in%20emergency%20situations%20to%20protect>.
25. Bremmer, Ian, and Mustafa Suleyman. "The AI Power Paradox: Can States Learn to Govern Artificial." The AI Power Paradox Can States Learn to Govern Artificial Intelligence— Before It's Too Late?, August 16, 2023. <https://www.foreignaffairs.com/world/artificial-intelligence-power-paradox>.
26. Bremmer, Ian, and Mustafa Suleyman. "The AI Power Paradox: Can States Learn to Govern Artificial."

This publication is provided free of charge and is not intended for sale, resale, or distribution. Any unauthorized sale or distribution is prohibited. Al Habtoor Research Centre retain all rights to the content herein. No responsibility is assumed for errors or consequences arising from its use.





[www.habtoorresearch.com](http://www.habtoorresearch.com)