

TURKEY'S NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY WHAT TO EXPECT NEXT?

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- What is Artificial Intelligence?
- What is the role and impact of Artificial Intelligence?
- What is Turkey's National Artificial Intelligence Strategy?

INTRODUCTION

Originating in 1965 during the Dartmouth Conference, Artificial Intelligence (AI) has not only become impossible to disregard but its study and application have become a necessity. Many experts consider AI to be the 4th Industrial Revolution¹ and a power force multiplier² as it has the potential to transform every realm of the human life, i.e., economy, politics, warfare, health, trade, etc.

Many state leaders have all made important statements that bring to the fore the significance of AI, which can be summarized with what Putin stated on September 2017: "Whoever becomes the leader in AI, will rule the world." At the same time, many states have focused on developing their AI national strategy and, alongside non-state organizations and private

companies, they have taken decisive steps in AI research and development (R&D).

Within this perspective, on August 20, 2021, Turkey announced its national AI strategy, which will guide its AI policies for the next four years (2021-2025).³ This can be considered as one of the most important steps undertaken by the Turkish government in terms of an AI road map and its application. More than 50 states have already published or are working on an AI national strategy that makes it obligatory for Turkey to create a road map regarding AI and start to apply and use it in different areas.

Considering that AI may be a new concept for many readers, this perspective will bring a brief description of what AI is and what its impacts are. Furthermore, focusing specifically on Turkey's national strategy, this perspective argues that it was imperative for Turkey considering that the application of AI by other states would set technology standards, which will indisputably create dependencies. As argued by

1 Paul Scharre, *Army of None: Autonomous Weapons and the Future of War*, (W. W. Norton & Company, New York, London: 2018), p. 16; Klaus Schwab, *The Fourth Industrial Revolution*, (Davos, World Economic Forum, 2012), p. 12.

2 James Johnson, "Artificial Intelligence and Future Warfare: Implications for International Security", *Defense & Security Analysis*, Vol: 35, No: 2, pp. 1-23, p. 2

3 "Ulusal Yapay Zekâ Stratejisi (2021-2025)", Resmi Gazete, <https://www.resmigazete.gov.tr/eskiler/2021/08/20210820-22.pdf>, (Accessed on August 25, 2021).

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many experts, the technology standards that will be set will be very difficult to change later.⁴ As a result, Turkey needs to focus as much as possible on the AI R&D and become one of the leading states in this field.

WHAT IS AI?

The term “Artificial Intelligence” is a recent phenomenon and unfortunately, there is no agreed upon definition. Currently, it has a very broad meaning, and it can encompass anything from “Google search algorithms to Tesla’s self-driving technology and ultimately autonomous weapons systems.”⁵ However, generally it is argued that AI “refers to computer systems capable of performing tasks normally requiring human intelligence, such as: visual perception, speech recognition, and decision-making. These systems have the potential to solve tasks requiring human-like perception, cognition, planning, learning, communication or physical action.”⁶

Currently, we can speak about two types of AI: Narrow AI and General AI. Narrow AI refers to machine intelligence that equals or surpasses human intelligence in specific functions like playing games or image recognition. General AI is used to denote systems capable of human-level intelligence that are adequate to conduct a series of different tasks.⁷ Even though it is still too early, many scholars now talk about a third type of AI: Artificial Superintelligence. This machine intelligence would surpass human intelligence when conducting a series of different tasks. Currently, all the known AI developments fall within Narrow AI, while in terms of General AI, experts are generally skeptical, and it is believed that decades are needed until it reaches its full capability.

4 Ulrike Franke and José Ignacio Torreblanca, “Geo-Tech Politics: Why Technology Shapes European Power”, *European Council of Foreign Relations*, (July 2021), <https://ecfr.eu/wp-content/uploads/Geo-tech-politics-Why-technology-shapes-European-power.pdf>.

5 Jean Patric Clancy, “Artificial Intelligence and Modern Warfare”, (2018), https://www.academia.edu/37454857/Artificial_Intelligence_and_Modern_Warfare

6 Johnson, “Artificial Intelligence and Future Warfare: Implications for International Security”.

7 Gloria Shkurti Özdemir, “Artificial Intelligence Application in the Military: The Case of United States and China”, *SETA Analysis*, p. 9.

An important issue related to the AI is that of the autonomy, more specifically the human-machine relationship. Currently, there are three types of relationships that we can discuss: (i) human in the loop, (ii) human on the loop, and (iii) human out of the loop. When the human is in the loop, the machine is in the control of the environment; however, it is the human that makes the final decision. This is called a semi-autonomous system. In the second case, that of human on the loop, the machine can act and decide on its own. Nevertheless, the human has the possibility to observe the behavior of the machine and intervene if necessary. In this case, we have a supervised autonomous system. The last case is that of a fully autonomous system in which the machine acts and decides by itself. Here, the human does not have any control over the machine, and as a result remains out of the loop.⁸

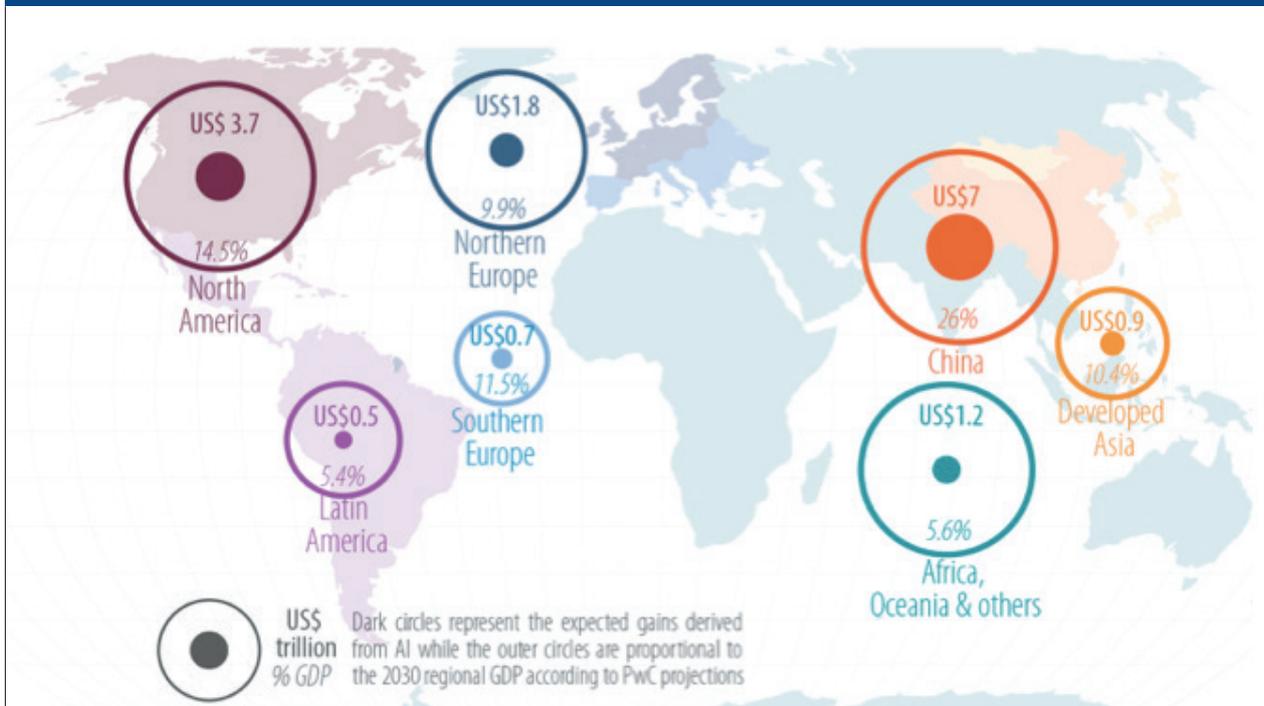
THE ROLE AND IMPACT OF AI ON INTERNATIONAL POLITICS

It is already known that revolutionary developments and new technologies greatly impact the restructuring of the global power and shape the international relations in general. Within this regard, AI – which is also considered the 4th Industrial Revolution and a game-changer technology – is believed to be a major redistributor of power. More specifically, AI will accord substantial economic and strategic advantage to those states and non-state actors that adopt it first. Without any doubt these advantages will be translated into global influence.

Based on much research related to AI, it is strongly asserted that AI will have a significant economic impact as it will lead to a significant increase in the global GDP by 2030. This will be done in three principal ways: (i) strong increase in labour productivity, (ii) creation of a new virtual workforce capable of solving problems and self-learning, (iii) diffusion of

8 Shkurti Özdemir, “Artificial Intelligence Application in the Military: The Case of United States and China”, p. 9.

FIGURE 1: EXPECTED GAINS FROM AI IN DIFFERENT REGIONS OF THE WORLD BY 2030



Source: The macroeconomic impact of artificial intelligence, PwC, 2018.

innovation.⁹ As seen in Figure 1, the global economy is expected to increase; however, North America and China will benefit the most from AI technology; a result highly associated with the fact that both the U.S. and China for many years now have been considering AI R&D a top priority in their national agenda.

In terms of strategic advantage, this will be more visible in terms of military capabilities. The application of AI in the military will give the states the upper hand in the battlefield, as the machines will be more accurate and faster than humans in logistics, on the battlefield and in decision making. Furthermore, with the help of AI, the military, at a low cost, can perform high risk missions for a long period of time, something that cannot be done by humans.

Lastly, as mentioned above these advantages will be translated into global influence as the development and application of AI will result in specific countries

leading or maybe even having a monopoly on some technologies.¹⁰ This can result in the dependency of the other states in need of that technology and as a result giving the chance to the leading states to use these dependencies and force the other states/actors to change their foreign policy.

All these developments have resulted in a global competitiveness that has already started to take shape between the U.S., China and to some extent, Russia. So, it would not be wrong to assert that AI will change how the states manage their international affairs, thus making AI R&D a must for all states.

TURKEY'S NATIONAL AI STRATEGY

It is widely accepted that developing and publishing a national strategy on AI has become obligatory for those states who aim to play an active role in world affairs as it is necessary to be prepared for the impact that AI is

⁹ "Economic Impacts of Artificial Intelligence (AI)", European Parliament, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/637967/EPRS_BRI\(2019\)637967_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/637967/EPRS_BRI(2019)637967_EN.pdf), (Access Date: August 25, 2021).

¹⁰ Franke and Torreblanca, "Geo-Tech Politics: Why Technology Shapes European Power", p. 5.

Turkey's AI National Strategy has been published within the framework of the "Digital Turkey" vision and Turkey's "National Technology Move" – both important initiatives that were undertaken in recent years and aim for the digital transformation of Turkey. In this context, Turkey has stated that taking into consideration the latest global economic and structural conjuncture the indigenization of critical technologies has become an important political priority in order to increase the social welfare and at the same time strengthen its national security. Furthermore, it is stated that under the "National Technology Move," Turkey objects to the monopolization of scientific and technological developments and aims to increase its global competitiveness, strengthen its economic and technological independence, and undertake policies and practices that will lead to breakthroughs in critical technologies.¹⁵

WHAT NEXT?

The publication of the national AI strategy by the Turkish government is of fundamental importance for the future of Turkey in the international arena. Many states had already published their strategies and it was imperative for Turkey to do so as soon as possible. As mentioned previously, AI – if adapted and used correctly – has the capacity to boost the economy of the state and at the same time provide strategic advantages resulting in more global influence. These expectations are also visible in Turkey's national AI strategy. As President Erdoğan wrote in the preface of the strategy, AI technologies are expected to have a major impact on the global economy, exceeding even that of the Internet. This would bring Turkey closer to its 2023 objectives, making it possible to become one of the top economies in the world.

However, the publication of such a strategy is only the first step, and the most important part is to follow. Turkey needs to be strong-willed in pursuing its AI national strategy. It is undeniable now that technology, and artificial intelligence specifically, will be a crucial determinant of power in international politics.

¹⁵ "Ulusal Yapay Zeka Stratejisi (2021-2025)", p. 13.

Lagging on the implementation of these policies will have a direct impact on Turkey's role in global affairs. Furthermore, funding plays a critical role. The budget given to AI R&D in other states (such as the U.S., China and Russia) has been increasing constantly and as stated in the National Strategy, the global funding is expected to double in the next four years. The budget allocated by the Turkish government for the AI R&D should be increased in accordance with that.

Another important point that should be touched upon is related to the fact that Turkey's National AI Strategy is mainly focused on the application and impact of AI in Turkey's social and economic fields. However, leading states in the technology and AI have placed their focus on the application of AI in the military by bringing to the fore what is called as dual-use of the AI in the sense that it can be used for both civilian and military applications. In the light of this, Turkey needs to make use of AI in terms of strategic advantage and more specifically in the military application. Turkey has been a leading actor in terms of unmanned aerial vehicles (UAV) in the last year.¹⁶ This has given Turkey the upper hand in different conflicts and has made it possible to conduct effective military operations, such as in Syria. However, in order to maintain the upper hand, it is necessary and obligatory for Turkey to incorporate AI into its military strategy as soon as possible. Within this context, Turkey is aiming to become among the first countries to have an entirely AI-controlled unmanned warplane, which is expected to become operational in 2023.¹⁷ Application of AI in the military will be both cost and time effective for Turkey. However, most importantly, it will decrease the dependence on foreign states. For example, instead of being dependent on U.S. military technology – as in the case of the F35, by focusing on the application of AI in its UAV Tur-

¹⁶ "Turkey Becomes One of World's Leading Manufacturers of Armed Drones: Le Monde", *Anadolu Agency*, <https://www.aa.com.tr/en/science-technology/turkey-becomes-one-of-worlds-leading-manufacturers-of-armed-drones-le-monde/2300004>, (Accessed Date: August 25, 2020).

¹⁷ "Turkey to Be among Pioneers of AI-controlled Warplane: Erdoğan", *Daily Sabah*, <https://www.dailysabah.com/business/defense/turkey-to-be-among-pioneers-of-ai-controlled-warplane-erdogan>, (Accessed Date: August 25, 2020).

key will be able to gain more power both in the region and the world. This indeed would not be an unfeasible objective considering the success of Baykar's Bayraktar TB2 UCAVs. Lastly, it goes without saying that the application of AI in the Turkish military would increase national security, especially at a time when Turkey is surrounded by threats such as the PKK/YPG.

All in all, the announcement of the national AI strategy for Turkey is only the first step towards a long

path that in the following years will be determinant in terms of global power. Now Turkey needs to take further and visible steps regarding the application of AI. By also taking into consideration the American and Chinese cases, special attention should be given to the AI application in the military as it would be a game changer for Turkey. That would increase Turkey's role in the region and place Turkey among leading powers in the world.



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