

Papagiannis, C. (2025). Polycrisis, defense expenditures, the U.S.–China rivalry and artificial intelligence. In P. Ioannidis (Ed.), *The World in 2035* (pp. 181–193). Athens, Greece: Pedio Editions.

Title: Polycrisis, Defense Spending, USA-China and Artificial Intelligence in the Background (Book Chapter)

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Introduction

"How do you envision Artificial Intelligence in the world in ten years from now?" On the occasion of the completion of ten years of AboutPeople's presence in the field of polling, the above demanding and at the same time exciting question was formulated by the company's Research Director, Petros Ioannidis. This challenge - namely to provide an answer to the above question - is certainly difficult, precarious, but at the same time adventurous; especially for a young researcher. Nevertheless, if we do not attempt to imaginatively compose the future, we are certainly not in a position to implement even a rudimentary plan. In this process it is critical to take into account the environment in which we are called to respond. Hence the title of the text, which attempts to position Artificial Intelligence horizontally within a framework of multiple challenges for the entire planet.

Therefore, it is critical to understand that the development of Artificial Intelligence is unfolding in a period of polycrisis. "Polycrisis" (Morin & Kern, 1999) concerns the interaction between problems and crises, to the extent that their combination does not simply constitute their sum, but, much more, expresses a reactive, multiplicative relationship (Tooze, 2022), which becomes difficult to address. In this case, the European Union in particular is called upon to address the productivity and competitiveness deficit, which is prominently described through the reports of Draghi (2024) and Letta (2024), in an environment where investment in the defense industry appears to be a strategic priority for the "Old Continent". At the same time, the US-China trade war produces consequences whose imprint remains on the global economy and therefore, an environment of geopolitical instability, climate change, disputes and international reshuffling is being formed.

It becomes clear from the above that Europe in particular, in the immediate future, will be called upon to cover lost ground regarding the race for Artificial Intelligence (see Graph 1), in a complex and demanding environment. At the same time, the competition between the USA and China is expected to peak, leading the planet into unknown paths. Any attempt to imagine the complex of developments of the coming ten years evolves into a difficult mission, precisely because we are in the prelude of a new world. What today seem like the constants that defined the past decades are being called into question, while the "avalanche" that goes by the term "polycrisis" shapes a foggy landscape. Nevertheless, this text identifies six challenges and two opportunities in the field of Artificial Intelligence, which it is not unlikely we will find before us by the end of the next ten years.

The "Solow Paradox" or otherwise "Productivity Paradox"

"You can see the computer age everywhere but in the productivity statistics." With the above phrase, Nobel laureate economist Robert Solow attempted - already from the late 1980s - to address the following contradiction: although there were very large investments in the information technology (IT) sector, no corresponding increase in productivity and economic benefit was observed (Solow, 1987). Already since 2018, we read from McKinsey whether "Has the Solow paradox returned?" and it analyzes how far we are from the initial predictions regarding the percentage of sales of highly automated products (Krishnan et. al., 2018). To make the above even clearer, it is worth referring to the calculations of Nobel laureate economist Daron Acemoglu (2025), who estimated that during the coming decade, even with intensive use of Artificial Intelligence, the impact on US GDP is likely to reach a meager - relative to expectations - 2%, while, regarding the welfare state, he predicts a decline of 0.72%. Of course, the above calculations do not take into account activities that become feasible through new Artificial Intelligence technologies. However, the distance that international expectations for the economic impact of Artificial Intelligence may have from reality is highlighted.

If, in ten years from now, the economic impact of Artificial Intelligence is significantly distant from the expectations being cultivated, then governments and businesses will find themselves facing significant perplexity. This perplexity may well constitute a new obstacle to the development of Artificial Intelligence, as, as Toon Van Overbeke (2024) notes, "the ability of Artificial Intelligence to fulfill these promises depends in part on the willingness of businesses to adopt it and of ordinary citizens to trust it and develop the skills required for its use". Therefore, a possible disappointment of the expectations being developed in a framework of techno-utopianism and its consequent effects constitutes a realistic scenario that requires preparedness.

Artificial General Intelligence (AGI - Artificial General Intelligence)

In the coming years, one of the expectations but also challenges that the international community awaits is Artificial General Intelligence, which equals or exceeds human intelligence in a wide range of fields, in contrast to today's AI systems, which use reinforcement learning with human feedback (RLHF) and solve a limited set of tasks (Everitt et. al., 2018· Zhao et. al., 2023). Therefore, the possibility lurks that with its emergence significant trials may arise, such as manipulation and the emergence of new forms of warfare (Sotala, 2018). Consequently, it is a priority to ensure that the design of Artificial General Intelligence will be done in a way that will respond to human values (Rayhan, 2023), in a series of critical fields, such as justice and impartiality in decision-making, transparency and inclusion. At the same time, a series of stakes emerge anew, such as the need for digital infrastructures, investment in the programming aspect and, of course, the preparation of businesses and users for its integration.

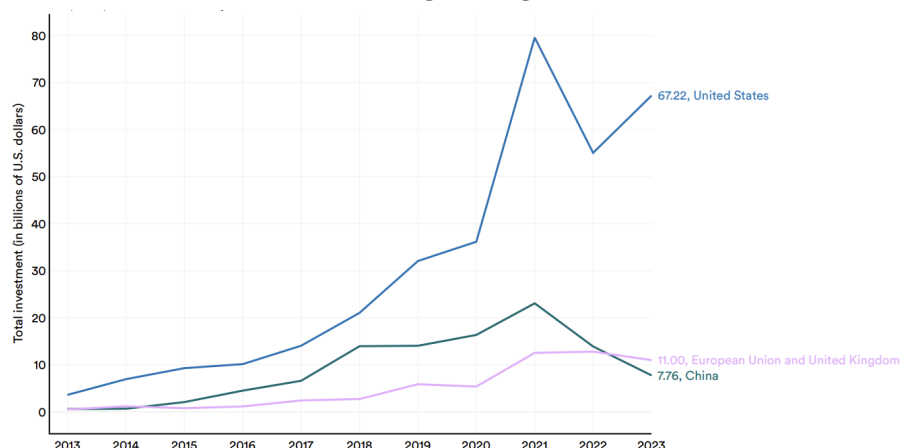
Polarization of labor and sharpening of inequalities

Along with great opportunities regarding productivity, Artificial Intelligence will change the labor landscape internationally, with new "winners" and "losers" (Johnson & Acemoglu, 2023) emerging from this technological revolution as well. The further spread of automation and Artificial Intelligence is likely to cause the phenomenon of polarization of jobs, exerting pressure on occupations with medium specialization, which are expected to decline. Indicatively, McKinsey predicts that by 2030, only in the USA, approximately 11.8 million workers may need to change professions, while 30% of current working hours are expected to have been automated (Ellingrud et. al., 2023). The preparation of workers for this new reality is not an individual responsibility, but, much more, a field that requires state care and prevention, as, as Autor (2015) observes, the real challenge lies in training the workforce for the constantly changing work landscape. The retraining of employees in every sector touched by AI, as well as taking measures to strengthen the welfare state, with the aim of protecting the most vulnerable from this technological change, will contribute decisively to maintaining social cohesion and achieving collective progress.

The structural weaknesses of the EU as an obstacle in the AI race

The European Union, through the "AI Champions" and "Invest AI" initiatives, is attempting to cover the distance from the USA and China, through investments reaching 200 billion euros. This is a move which comes at a period where the low rate of private investment in Artificial Intelligence in Europe is a source of concern (see Graph 1). This concern is intensified in relation to the rapid development of the USA and China in this particular field - and especially in Generative Artificial Intelligence - with the battle between the American OpenAI and the Chinese DeepSeek monopolizing attention (Sallam et al., 2025). It becomes apparent, therefore, that a "winter in AI" for the European Union (Pagoulatos, 2025) constitutes one of the possible - negative - scenarios for the future. To avert such a possibility, the European Union will be called, much more in the coming decade, to address its endogenous inadequacies, if it wishes to participate with claims in the AI race.

Graph 1: Private investment in Artificial Intelligence by geographic region (2013–2023).



Source: Data compiled from Stanford University, NetBase Quid, and Statista (2024).

What are these endogenous inadequacies? Views diverge and, therefore, their brief recording is necessary, even if some do not necessarily express the views of the author. A frequent refrain in business and political circles is the correlation of the emphasis placed on a strong regulatory framework with low performance in the fields of innovation and economic development (Bertschek & Wambach, 2024). It is worth noting, however, that a comprehensive regulatory framework enhances trust and addresses the feeling of insecurity, contributing positively to addressing market failures and integrating new technologies. For this reason, the balance between regulation and trust (Tamò-Larrieux et. al., 2024) is a by no means negligible desideratum. At the same time, the European Union is called upon to address the fragmented regulatory and political environment, which, on the one hand, prevents the horizontal implementation of public policies, as happens in a unitary state and on the other hand deprives members of the margin to develop with full freedom their own autonomous strategy in the field of AI. Finally, the external dependence of the E.U. for necessary elements of the supply chain is significant, such as, for example, semiconductors.

Techno-authoritarianism, deregulation and regression

In this environment of polycrisis and complex, often interconnected, stakes, the advance of techno-authoritarianism (or otherwise digital authoritarianism) is not a concern for the future, but a threat to the present. This concerns the trend observed in recent years to justify the restriction of individual freedoms as a necessary sacrifice for achieving economic, technological or even environmental goals (Roberts & Oosterom, 2024). In this context, there is no single, commonly accepted definition; however, some fundamental characteristics of techno-authoritarianism are: (a) State surveillance and control through the use of new technologies. (b) Adaptation or even dictation of the regulatory framework for the use of new technologies by technological giants. (c) The portrayal of individual freedoms and rights as an obstacle to technological and economic progress. (d) Emergence of new governance models, with democratic institutions remaining in formal force, while technology is utilized to acquire de facto control in various aspects of everyday life.

The dangers arising from the prevalence of a techno-authoritarian governance model do not only concern the status of citizen, the quality of democracy and individual freedoms. Much more, the prosperity and prospect of the Western world is called into question, as there is no solid empirical evidence proving causal connection in the correlation attempted by the current of techno-authoritarianism. On the contrary, the macro-historical study of corresponding currents of the past rather depicts something diametrically opposite. This is a regression, which threatens to return humanity to eras that until now seemed distant and forever outdated, with the differentiating element being advanced technology.

The geopolitical "clashing rocks" of a new Cold War

An additional challenge arising from all the above concerns regional fragmentation: a condition under which the global landscape of Artificial Intelligence will be divided into distinct

regional blocs (Roehrl, 2022). The generating cause of such a development is geopolitical antagonisms, as evidenced by the trade conflict of the USA with China. In such a landscape, states are encouraged to develop their own technological ecosystems, in order to maintain their autonomy (through strategies focusing on "digital sovereignty" and "data localization"). At the same time, in this environment protectionism thrives, limiting the pace of economic and technological development, while the dissemination of good practices is hindered. Thus, the regulatory and cultural gap between different states is sharpened, the work of addressing inequalities is made more difficult and the culture of isolationism is cultivated.

The vision for the reboot of industrial policy

On the opposite side of the above threats and challenges - from which, of course, opportunities also arise - an important possibility emerges for Europe: the reboot of industrial policy with the simultaneous strengthening of the role of the state. After decades of decline of Greek industry (Kyrkilis & Simeon, 2015) and the consequences of the economic crisis, Artificial Intelligence opens a window of opportunity for the restoration of industrial policy and the reorganization of the country's productive fabric. The example of China is characteristic, which invested from 2010 in emerging sectors and today is one of the strongest players (Wang et. al., 2022), with the E.U. studying its industrial policy. Correspondingly, of course, other countries too - such as Japan, S. Korea, Singapore and the USA - (Chang et. al., 2013) implemented a coherent and innovative industrial policy, achieving significant progress.

Artificial Intelligence in addressing climate change

The negative impact of Artificial Intelligence on the environment is by no means negligible and it is worth mentioning, indicatively, that, according to calculations made by Strubell et. al. (2019), the training of a single transformer model can emit 284 tons of CO₂ - that is, as much as five cars emit on average in total. Beyond, however, the resources that AI models require to operate - something for which a separate edition would be worth dedicating - certain opportunities also emerge in the field of protection policy and addressing the climate crisis. According to a report by Digital Europe (2020), by 2030 the development of technology in this field provides the possibility for reducing CO₂ emissions by 20%. At the same time, Artificial Intelligence upgrades the capabilities of prediction and timely forecasting of risks, such as natural disasters, fires or even the spread of diseases (Kohler & Scharte, 2020). Therefore, Artificial Intelligence has the prospect of becoming an increasingly crucial ally in addressing the above challenges, without, however, being a panacea, especially regarding the battle against climate change.

Conclusion

Artificial Intelligence brings many promises, expectations, but also threats to humanity. The next decade can constitute the critical crossroads between progress and regression. On this journey, a series of dilemmas will emerge, in a particularly demanding environment. The answer to these dilemmas will not be given either by a supercomputer, nor by metaphysical forces. "It

was not God who made man in his image and likeness, as the Bible says. On the contrary, man made him in his image and likeness", wrote Feuerbach (1841/1957), while Dostoevsky (1879/2003), for his part, emphasized: "If man is the one who invented the devil, then he imagined him in his image and likeness". Paraphrasing the great German philosopher and the Russian writer, we rather conclude the following: man made Artificial Intelligence in his image and likeness, so it is in his hands whether it will be God or devil. It may be something in between, as indeed often happens with human creation. However, governments, businesspeople and, above all, citizens in the coming historical period will find ourselves before pressing and, sometimes, existential questions regarding the development of Artificial Intelligence. Nothing will be definitive; however nothing will be insignificant either. For this reason vigilance, lifelong learning, realism and vision are needed, alongside an inclusive, democratic and humanistic culture.

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