Three Seas Project (3SI) and the Belt and Road Initiative (BRI): The Security Dimension

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Abstract:

Purpose: The article uses the new AI geopolitics paradigm to analyze the Three Seas Initiative (3SI) in the Belt and Road Initiative (BRI) initiative implemented by the PRC. The 3SI area is facing rising pressure resulting from the systemic rivalry between the PRC and the US and the field of the most advanced technologies.

Design/Methodology/Approach: The authors adopt the neorealist approach, which focuses on the analysis of structural shifts in the distribution of material power among China and the US and their influence on states' behaviors. The article focuses on the consequences of changing the classical geopolitical paradigm to the artificial intelligence geopolitics paradigm because it is believed that it will play a vital role in the process of changing the international system, including transformations in the 3SI area.

Findings: the US-China systemic rivalry increasingly focuses on the area of Artificial Intelligence and related technologies. As part of the security paradox, it implies structural tensions in the international system and a dynamic transformation of its space towards shaping a new geopolitical spatial paradigm that permanently integrates it with artificial intelligence technology.

Practical implications: Given the dynamics of the processes that redefine the nature of the international rivalry and state sovereignty, it becomes imperative that 3SI countries develop a new, accurate strategic response to the danger of transforming the 3SI area as chronically unstable by transforming it into an area of tough competition between the US and the PRC.

Originality/Value: The analysis provides a concise assessment of the dynamics of changing the nature of the geopolitical and technological rivalry between the US and China, as seen from the perspective of 3SI, and giving it a new character as a result of the emergence of a new artificial intelligence paradigm, and an insight into how this process may affect regional initiatives and frameworks.

Keywords: USA, China, Poland, Belt and Road Initiative, AI geopolitics, II Generation AI Second Generation (AI2G), security, Three Seas Initiative, 5G.

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1. Introduction

Both the USA and the PRC recognize AI technologies as crucial in the economic, social, and political dimensions (Grochmalski, Lewandowski, and Paszak, 2020). They are to integrate the GNR revolution. As a result, AI is also becoming a vital element of the new geopolitical paradigm. With great diversity in the definition of geopolitics' primary research field as a scientific discipline, its classic paradigm covered the relationship between the universally understood space (including geographic) and the subjects of international relations in terms of dynamics, history, and political science. In his fundamental work "The Geographical Axis of History," H. Mackinder believed that from the beginning of the 20th century, there was a scientific possibility of making attempts to "derive a reasonably competent correlation between larger geographical and larger historical generalizations" (Mackinder, 1904, p. 422). As he added, "For the first time, we can see the real proportions of features and events taking place in the arena of the whole world and look for a formula that expresses at least some aspects of geographical causation in universal history" (Mackinder, 1904, p. 422).

Geopolitics is based on what B. Cohen describes as embedding states' political, military, and economic power in geographical space (Cohen, 2015, p. 32). For Mackinder, it is the ability to see historical and geographical coincidences in the historical process, with Cohen emphasizing that radical geopolitical restructuring is an ongoing process (Cohen, 2015, p. 33). From such a research perspective, space and time still had features of classical geography, history, political science, and sociology. They constituted the "model" or paradigm of geopolitics.

Traditionally, a paradigm is a basic set of scientific explanation patterns (Lichtenberg *et al.,* n.d.). Robert K. Merton, in the field of sociology, indicates five interrelated paradigm functions (notation, a barrier against the creation of ad hoc hypotheses, accumulation of theoretical interpretations of phenomena, systematic, cross-control of concepts, a codification of qualitative analysis) (Merton, 2002, pp. 90-91). The paradigm concept was developed by a graduate in theoretical physics, Th. S. Kuhn, according to whom the historical analysis of research fields at a specific time of their existence reveals that certain quasi-standard patterns of various theories are repeated within them, in their conceptual dimension and their practical applications (Kuhn, 2020, p. 131). In the classic geopolitical paradigm, states are described in terms of power potential and political analysis.

However, M. Castels already introduced the concept of the network society and the global network to the historical-sociological-political discourse due to technology's interaction at the current stage of civilization development (Castels, 2010). He expanded the technical paradigm concept by Carlotta Perez (Perez, 1983) to the form of the information technology paradigm (Castels, 2008, p. 70). In his view, these are information-driven technologies; they are ubiquitous, based on network logic, characterized by flexibility and, simultaneously, by the progressive merging of individual technologies into a highly integrated system (Castels, 2010, pp. 70-71).

Because of this process - according to Castels - the network becomes the subject in the economic, social, and political dimensions (Castels, 2010, p. 214). The nature and features of space (Castels, 2010, pp. 407-423) and time are changing (Castels, 2010, pp. 460-464). The American National Information Infrastructure program, initiated by the High-Performance Computing and Communication Act of 1991, created a new spatial, technological, and legal framework for the extensive digitization of space, the world's dominant economy. However, it was only the revolution of AI technologies, using the existing global framework of digital infrastructure and the introduction of AI to the strategies of most international relations entities, that resulted in the emergence of interactive cyberspace that has new, unique features, irreducible to the concept of classical geographical space.

2. The New AI Geopolitics Paradigm

The new paradigm of AI geopolitics is a consequence of the ongoing GNR revolution (genetics, nanotechnology, and robotics), which was technologically clamped by the first wave of AI technologies. As early as 2000, Bill Joy, a leading computer scientist, sparked widespread discussion about the global implications of these technologies in his article "Why the Future Does Not Need Us." As he noted, "Combinations of these technologies make it possible to completely redesign the world, for better or for worse" (Joy, 2000). GNR technologies, equipped with Artificial Intelligence algorithms in the political, social, and technological dimensions, cause qualitative changes that have consequences in the security of the citizen, state, and international environment. As a result of the broad expansion of AI technology, linking and strengthening the GNR revolution, the security paradigm is also changing (Grochmalski, 2018).

The change of perception in the social and personal dimension of time and space causes Cyberspace and real geographic space, and space to become an integrally connected and permeating space of GNR expansion. As H. Kissinger notes, "Cyberspace challenges all historical experiences. (…) Internet technology has outdone strategy and doctrine - at least for now. Lately, there are opportunities for which there is yet no common interpretation - or even understanding" (Kissinger, 2016).

Reil Kurzweil points out that we are entering a phase of the exponential growth of the GNR revolution. As he predicts, *"in the twenty-first century we will witness not a hundred years of technological progress, but the progress of 20 thousand years (of course concerning today's speed of progress) or a thousand times greater than that achieved in the 20th century"* (Kurzweil, 2013, p. 26). Abishur Prakash (Prakash, 2016; 2017) made a partial functional analysis of these changes' impact on international relations in the geopolitical dimension. Qualitatively different from the current one. It will also change the balance of power (Prakash, 2018). In turn, Nicolas Miailhe points to the possibility of returning to the model of empire rivalry (Miailhe, 2018). In turn, Jayshree Pandya narrows the field of geopolitical analysis to cybersecurity (Pandya, 2020), and Shoshana Zuboff, introducing the concept of

Surveillance Capitalism, defines the socio-economic field of cyber-competition for domination (Zuboff, 2019).

One of the critical frameworks in AI geopolitics is edge computing, an integrating element that drives AI 2nd Generation (AI 2G) technologies. Increasingly, data processing and storage are to take place at the edges of the network, which will allow for faster development and new forms of using the Internet of Things. Most of the information will be aggregated and evaluated at the edges of network systems, and the data that requires the reaction of central systems will be provided for further analysis in data centers. Processing data near the place where quasi-intelligent IoT sensors record it will reduce the demand for network bandwidth, and at the same time, allows for data analysis almost in real-time. This will disperse AI in space-time and increase autonomous devices' functional efficiency dependent on rapid information analysis, such as autonomous vehicles. It will also disperse energy sources and affect the logistics of economic processes and the socio-political infrastructure. Computing Edge is something like a harpoon process. Michel Polanyi introduced this concept to chemistry. Computing Edge will accelerate the harpoon process that expands the cyberspace environment and connects it with complex architectures of space saturated with artificial neural networks integrated algorithmically.

AI2G is based on unsupervised learning and is active in all info reality - AI begins to be extended to areas corresponding to human cognition - is to perform autonomous adaptation. This is crucial to overcoming the so-called "fragility" of AI solutions. The solutions adopted are based on neuromorphic processors - capable of calculations in the sensor itself without the need to send data to a central processor (to give researchers functional systems for implementing the so-called "quilting neural networks" (SNN), Intel Labs created the Loihi processor. It is a self-learning meromorphic chip. Test of the fifth generation).

The new paradigm of AI geopolitics indicates that (based on offensive realism analyses), to implement domination - and as part of the security dilemma – great powers will use new instruments of power accumulation - i.e., AI instruments - which will shorten time and space - will densify the area of influence. In this dimension, the Three Seas region will become a natural area for geopolitical competition between the US and China. They will try to master the space by controlling leading technologies, social media platforms, and e-services. Technologies of the second wave of AI, including edge computing, transfer AI's potential into the space of real competition. Due to the unique "value" of the Three Seas Initiative for the political stability of Europe, as well as the guarantee of the USA a safety belt between Russia and Germany, the Three Seas in Poland is a meeting point for initiatives stemming from the policies of Germany, Russia, China, and the USA.

The consequence of AI2G is giving a new dynamic to the competition for domination over space. The signing of a Comprehensive Agreement on Investment (CAI) by the PRC and the EU on December 30, 2020, strengthens the probability that the 3SI area will become incredibly dynamic competition within edge computing and AI2G

(Commentary, 2021). Still, many issues related to this agreement are not exact, but it shows the German and French determination to direct the EU to be more open to the PRC. As A. Bachulska notes *"In its current form, CAI seems to be working mainly to the benefit of Germany and France and their economic interests in relations with China. This has been highlighted in both the official documents summarizing the key issues negotiated by the EC (e.g., China agreeing to open sectors that are especially important for German and French businesses) and the exceptional level of commitment of Paris and Berlin to finalize the agreement just before the end of the German presidency in the EU (i.e., before the end of December 2020)"* (Bachulska, 2021). This necessitates a strategic response from the countries of the 3SI region, including Poland.

However, the Polish approach to the issue of AI focuses mainly on its economic and social dimensions. The analysis of the "Policy for the development of artificial intelligence in Poland," a document adopted in September 2020 by the Committee of the Council of Ministers, indicates that the intended activities do not have the nature of an integrated development strategy and do not see geopolitical potential in it (Draft Resolution of the Council of Ministers, 2020). In the perspective of the growing conflict between the PRC and the US and the weakening of the EU's potential, it is essential to develop a strategic response on the part of 3SI and an adaptation strategy to the new realities resulting from AI geopolitics.

3. AI Geopolitics in the 3SI Area: On the Way to Autonomy or Submission

3SI is a geopolitical project (Lewandowski, 2019) that assumes minimizing the interests of world powers while maximizing own sectors, especially in the cyber field, including AI. States are convinced that the Initiative *"will help effectively defend the current geopolitical interests while opposing the interests that are not favorable"* (Orzelska-Stączek and Ukielski, 2020). It is worth asking at this point the question to what extent 3SI has the potential for the development of the AI sector in the form of an independent sector of goods and services in the region, and what role can it play in the geopolitics of the region's countries and world powers?

The Three Seas countries' potential is noticeable among international powers (mainly China, the US, and Russia) (Grochmalski, 2020). We are talking about geographical potential, which gives transit, economic potential (constant and fast economic growth), and investment potential. It is estimated that the value of investments in digital technologies in the 3SI area will amount to EUR 160 billion by 2030 (Perspektywy, 2019). In 2014-2020, EUR 80 billion was spent on digital and energy projects (Popławski and Jakóbowski, 2020).

Digital technologies (including 5G, AI, IoT) are the most critical investment factor of the Three Seas and infrastructure and energy projects. That is why the Three Seas countries are trying to develop an autonomous technological idea in digital solutions. This is to be achieved through activities such as the establishment of the CEE Digital Coalition in 2020. This institution acts as an advisory base for governments in

creating regulations and strategies for cooperation on digital issues. The Polish side initiated the project (Związek, Cyfrowa, and Polska), inviting companies from the technology sector from the CEE area. The organization consists of 14 companies dealing with digital and creative technologies from 11 countries of the region (Poland, Bulgaria, Croatia, Czech Republic, Estonia, Lithuania, Latvia, Romania, Slovakia, Slovenia, and Hungary). An example of sovereign solutions for the region should be the Polish National Cloud (Roguski, 2020).

CEE Digital Coalition is to act as a think tank for the signatory states. Its task is to work out coherent strategies of global action to develop the countries' technological potentials in the region. The establishment and goals of the CEE Digital Coalition indicate that the Three Seas region countries want to develop digital and technological autonomy for themselves and promote their ideas and solutions. Therefore, the CEE Digital Coalition's task is to develop the convergence of 3SI countries' interests in digital infrastructure, including 5G, development of scientific and research potential with particular emphasis on research on artificial intelligence and robotics. 3SI wants to develop its offer for global solutions, realizing that only appropriate cooperation in the new technology sector allows these countries to play a significant role in the international arena (Koch, 2020).

Another example of developing cyber autonomy in the 3SI area is cyber diplomacy, understood as building a strategy, defining a regional policy regarding cyberspace. Currently, only Poland and Estonia have representatives in the field of cyber diplomacy. However, it seems that cyber-diplomacy will soon become an element of support for geopolitical activities in the 3SI region. This is related to the desire to build the global position of 3SI countries in the context of technological changes. Cyberspace is becoming a new field of international competition; therefore, "all countries in the Three Seas region should, among other things, appoint a special position of a coordinator/ambassador responsible for cyber diplomacy supported by the department for cyber diplomacy" (Stockfisz, 2020). There is also talk of the need to expand e-diplomacy or TechPlomacy (Siudak, 2020).

An important example of activities for the autonomy of 3SI in artificial intelligence and cybersecurity is the AI Challengers. It is an example of action to shape the digital world's future in terms of supra-national activities. Nineteen entities from the AI industry established AI Challengers to create joint strategies and solutions and recommendations for the government in the field of cooperation on artificial intelligence. This platform is designed to maintain the unity of the European market, as well as to work for cooperation, exchange of knowledge and opinions, combining public (political) and private (business, technological, social) interests, considering the diversity of 3SI countries' markets (Siudak, 2020).

Nevertheless, it seems that cybersecurity and AI sovereignty in 3SI will have to be shared. Therefore, CEE countries develop their strategies for cooperation in the development of AI technology. The technological potential of this area is increasingly growing on the international market. This phenomenon will help 3SI countries

develop a higher position in the international system and global value chains. The strengths of the technological involvement of 3SI countries are their industrial security systems; security of programming codes; advanced biometrics (Świątkowska, 2020). Individual 3SI countries also have an established position in sectoral AI solutions (Grochmalski, Lewandowski, and Paszak, 2020). Added to this are the achievements in programming and IT skills. The region's IT specialists rank high in the skill and advancement rankings; almost half of the world's ten countries educating the most talented young programmers are the Three Seas countries (Brzecka, 2020).

AI sovereignty is one of the EU's security strategies. In this respect, half of the 3SI countries, according to the European Commission's report, have developed an IS development strategy, while the rest are in the process of preparing a relevant document. Analyzes of these strategies show that the CEE countries focus mainly on developing education, implementation, and automation of the work environment. The autonomy of the Three Seas Initiative seems impossible without cooperation with the EU. It is indicated that the success of the Three Seas Initiative will largely depend on whether the countries of the region will be able to develop their potential on their own and whether, being EU members, they will contribute to the development of the potential of the entire community. The EU and its members will compete with giants such as the US or China (Świątkowska, 2020). In 2020, the European Commission adopted the White paper On Artificial Intelligence - A European approach to excellence and trust, a proposal of actions, strategies, and ethics that indicate the European-centric axiological aspect of AI by cutting off Chinese centralist solutions (European Commission, 2020).

AI geopolitics in 3SI should be considered much more than just in terms of economic value. First of all, it refers to geopolitical properties understood as a property of the entire CEE region's potential. AI also has properties noticed by the military sector. Shortly, it will require strong cooperation in the field of defense policy of the 3SI countries. The critical transit location of the 3SI countries will require the application of a policy of balancing the geopolitical influence of the great powers. Russia's application of AI and other advanced technologies to armed conflicts requires the intensification of activities in the NATO defense field.

Achieving sovereignty and autonomy of the region seems impossible in the above context. The dependence of 3SI on AI on the US and the EU is inevitable for several reasons. The first is considerations of technological and financial opportunities, mainly from investors from Western technology companies. The second is to develop a defense strategy within NATO and supplement it with an AI complex, typical especially for the specific threats to the eastern flank. The third is the question of values, professed rights, and a complex of alliances that preclude China from being accepted as a strategic partner for European countries. The fourth relates to autonomy, understood as the implementation of the policy of balancing between superpowers. It seems that in this respect, all AI projects will complement the general American and European strategies (Roguski, 2020).

Concerning Belt and Road policy, it is essential to consider the geopolitical strengths of the 3SI. China's linear development in the East-West dimension requires emphasizing the necessity to cross the Gate to Europe and use this fact to implement the three-sea meridian variant. Attracting Chinese investments for AI in 3SI should be pragmatic and strengthen cooperation with the Middle East and Asia (Dylik, 2020). Also, the CEE region is continuously monitored in terms of development by Germany and Russia, which try to maintain and develop their spheres of influence, especially in the economic profits resulting from the development of AI technology and cybersecurity (Ziółkowski, 2019).

The EU and OECE countries conduct their geopolitics in the Three Seas Initiative are in the field of cooperation in the AI sector. The EU is striving to develop uniform strategies to protect the AI sector, especially against Chinese influences. It promotes cooperation under the investment dependencies of the Horizon 2020 program. It provides for an increase in expenditure on promotions and investments in the field of AI, supports research initiatives, including the "AI-on-demand" platform, has established a High-Level Working Group on AI (human rights verification, ethical aspects of AI development).

Within the OECD, 3SI countries, Poland, Slovakia, and Slovenia are actively involved in creating ethical AI operations (Mikulski, 2020). The EU also sees the development of AI and quantum technologies as an opportunity to recover from the economic crisis caused by the Covid-19 pandemic. This is also where the geopolitical interests of great powers intersect, especially in NATO, EU, and US strategies, which see the AI sector and quantum technology to save the economies of 3SI countries (Rodriguez, 2020).

The leaders in AI development in CEE are Poland, Estonia, Romania, Latvia, and Lithuania (Mikulski, 2019). However, there is a tenfold disproportion in turnover from the activities of AI sector companies between Poland (EUR 10.9 billion) and Great Britain or Germany Moreover, in Poland and the 3SI countries, the employment structure is a problem. The leading employers are large foreign concerns Intel, Nokia, Samsung, Aptiv, TomTom, Google, Roche, Capgemini, Luxoft, UBS, IBM, or Allegro - or universities (Ciesielski, 2019).

Poland has the potential of a dynamic transition from a challenger's role to a leader in the field of artificial intelligence, recognizable on international markets. This would allow it to develop the soft power potential in the 3SI region (Lewandowski, 2020). The leading companies in this area are Beit Tech and Quantumz.io.

However, it seems that despite the significant achievements and noticing the importance of AI in cyber geopolitics, the 3SI countries will be doomed to strategic cooperation. Autonomy will not be the same as technological autarky. Dependencies will be realized through the network relationship of addictions. Nevertheless, thanks to the technological advancement, 3SI will be able to develop its strategy of balancing between the east and the west in the following dimensions: NATO - Russia - AI in

security, USA, EU, 3SI - China - in terms of investment and technological development of AI.

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