

Digital Domination: How Technology is Reshaping the Geopolitical Landscape

Fatima Binte Zahid¹



Source: Reimagining the Future

Introduction:

We live in a time of rapid technological innovation and an unsettled geopolitical landscape. Technology has changed the rules of conventional geopolitics. It has become an important influence in how states practice, improve or lose power. A new relationship between technology and geopolitics emerged after the COVID-19 pandemic and the flourishing Fourth Industrial Revolution. Global cooperation and competition are now directed by ‘Frontier’ technologies,

¹ Fatima Binte Zahid is a Research Assistant at the Bangladesh Institute of Peace and Security Studies (BIPSS). Previously, she was a Teaching Assistant at the Bangladesh University of Professionals (BUP). She completed her MSS and BSS (honors) in International Relations from BUP.

which are technologies standing at the intersection of revolutionary scientific breakthroughs and real world applications, such as, Artificial Intelligence (AI), blockchain and 5G capabilities.^{2,3}

Frontier technologies are transformational for states.⁴ Data has turned into the most valuable asset. States are competing to gain the latest technologies first. Technology is not only increasing competition among states but is also facilitating cooperation among them. Former adversaries in the Middle East are partnering up to forge green technology. Former UK Prime Minister Boris Johnson proposed the ‘D-10’ to create a supply chain of 5G and other emerging technologies among ten democratic countries. Technology is strengthening cross-border coordination. The fast advancement of technology has also created the urgency for global norms and protocols to mitigate the risks of these new emerging technologies and increase their benefits.

This commentary will focus on how technology is reshaping the global geopolitics in the modern world and the challenges that come with it.

How Technology is Reshaping Geopolitics:

Technology is at the heart of modern geopolitics, as it has transformed how nations interact and changed the balance of power among states. From the internet to artificial intelligence and beyond, technological advancements have altered the dynamics of international relations, making them more complex and interconnected than ever before.

Competition for Leadership in Tech-driven Revolution: Technological innovation can contribute to economic and military power, contributing to increased geopolitical power. As a result, states have become involved in an intense competition for leadership in the technology sector for economic and security payoffs.⁵ They are heavily investing in innovation, production and scaling

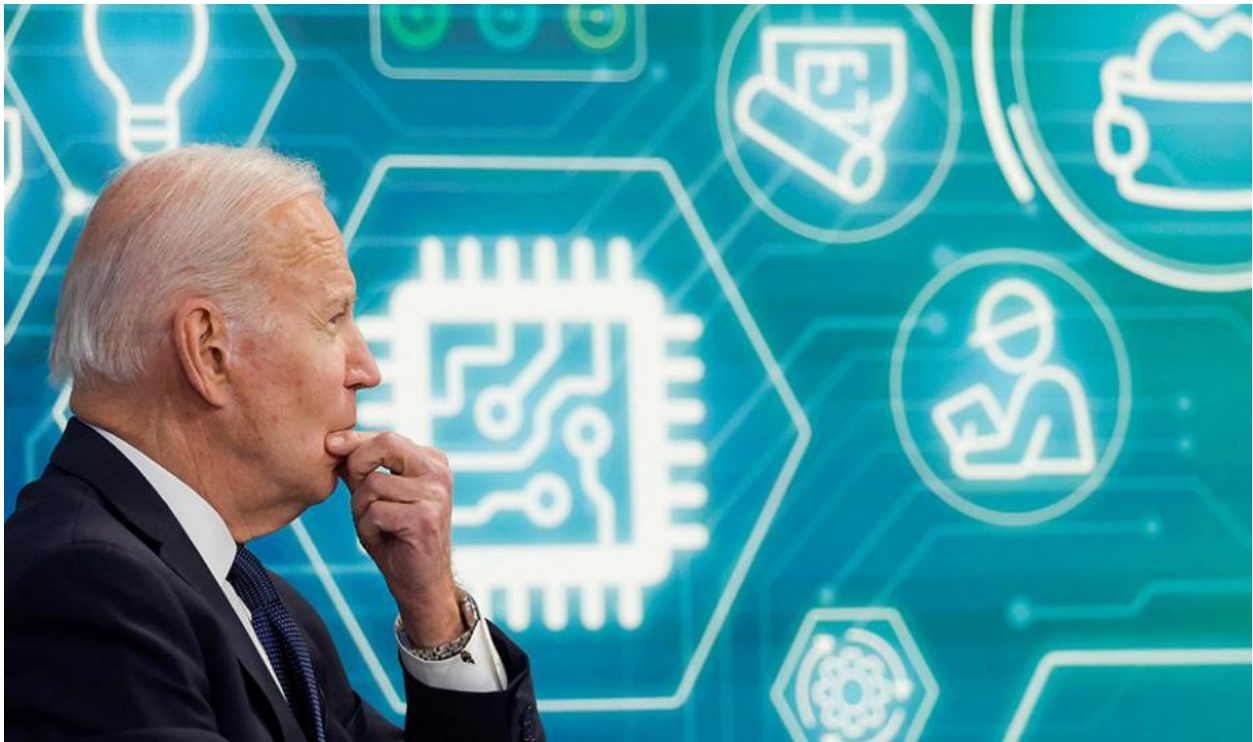
² Ariel Kastner, “7 views on how technology will shape geopolitics”, World Economic Forum, April 07, 2021, https://www.weforum.org/agenda/2021/04/seven-business-leaders-on-how-technology-will-shape-geopolitics/?DAG=3&gclid=Cj0KCQjwlmhBhCLARIsABO6p-wNe3j7rVLATY1-tpW2IYs3INuav8GzWwgzVjAdwNVKuhj3B7ss5mYaAub3EALw_wcB.

³ World Intellectual Property Organization, https://www.wipo.int/export/sites/www/about-ip/en/frontier_technologies/pdf/frontier-tech-6th-factsheet.pdf

⁴ Sameer Patil and Vivek Mishra, “Democracy, Technology, Geopolitics”, Observer Research Foundation, April 28, 2022, <https://www.orfonline.org/expert-speak/democracy-technology-geopolitics/>.

⁵ Peter Engelke, “Three ways the Fourth Industrial Revolution is shaping geopolitics”, World Economic Forum, August 24, 2018, <https://www.weforum.org/agenda/2018/08/three-ways-the-fourth-industrial-revolution-is-shaping-geopolitics/>.

of breakthrough technologies.⁶ Investing in modern technology is viewed as a way to ensure security and power in an insecure world. Tech-driven revolution also provides a competitive advantage in warfare. Biotechnology, nanotechnology and artificial intelligence will be highly incorporated into future weapons. The first to gain and use these new technologies will gain geopolitical advantage.



Source: Internationale Politik Quarterly

Facilitating Great Power Rivalry: Great powers are heavily investing in emerging technologies due to the security dilemma. The United States and China have already declared or are considering large investments in frontier technologies like 5G and AI, which is a clear indication of the geostrategic significance of these latest technologies in the near future. The value of these frontier technologies is already high. 5G technology is projected to generate \$13 trillion in global economic value by 2035.⁷ AI is projected to add over \$15 trillion by 2030 to the global economy.⁸ Under the Biden administration, the US is committed to boosting technological innovation to outcompete

⁶ Engelke, “Three ways the Fourth Industrial Revolution is shaping geopolitics”.

⁷ Kastner, “7 views on how technology will shape geopolitics”.

⁸ Kastner, “7 views on how technology will shape geopolitics”.

China.⁹ The rise of China as a technological player is seen as a threat to the US-led Western liberal order. US and China are striving for digital supremacy through the development of AI technology.

Shifting Balance of Power: The pace of recovery in the post-pandemic period will determine the future balance of global economic and political power. Countries with advanced technologies could recover faster and restart their economic engines without falling behind. For instance, during the pandemic, China has developed its technological and economic prowess.¹⁰ Furthermore, technology has changed the balance of power among nations. The rise of new technologies such as artificial intelligence and quantum computing has given some countries a significant advantage in areas such as military strategy and intelligence gathering. As a result, nations that fail to keep up with these technological advancements may find themselves at a disadvantage in the geopolitical landscape.

Altering Global Economy: One of the most significant impacts of technology on geopolitics is the way it has altered the global economy. With the rise of digital technologies, nations can trade more easily and efficiently than ever. It has created new opportunities for economic growth and development. Moreover, the internet has enabled new forms of economic activity, such as e-commerce and the gig economy, which have transformed how people work and earn a living. Platform economy and AI are changing economic structures and procedures.¹¹ Modern economies are powered by high-tech industries.

The Big Players: Tech Companies: The battleground for geopolitical influence in the modern world is the tech companies. Big techs provide the spaces for communication. Their role in geopolitics is unprecedented, and they have become important geopolitical stakeholders. The creation of a modern worldview, economic value, and innovation drive are all controlled and concentrated among a few big tech companies.¹² The owner and governance of the tech companies, along with their supply chains, are now important. The content produced from these platforms is also a field of rivalry. There have been efforts by many states worldwide to rein in the big tech

⁹ Mathew Burrows, Julian Mueller-Kaler, Kaisa Oksanen and Ossi Piironen, “Unpacking The Geopolitics Of Technology: How Second- and Third-Order Implications of Emerging Tech are Changing the World”, Atlantic Council, <https://www.atlanticcouncil.org/in-depth-research-reports/report/unpacking-the-geopolitics-of-technology/>.

¹⁰ Kastner, “7 views on how technology will shape geopolitics”.

¹¹ Burrows, Mueller-Kaler, Oksanen and Piironen, “Unpacking The Geopolitics of Technology: How Second- and Third-Order Implications of Emerging Tech Are Changing the World”.

¹² Kastner, “7 views on how technology will shape geopolitics”.

companies as their influence and interest continue to increase. The big tech companies are not only mere players in the global geopolitics game; they have become the arena of this game.¹³

Control of Data: Data has become the most valuable asset of modern times. The collection and application of data can help influence individual decision-making, group action, human rights and social cohesion.¹⁴ Control of data will be a significant factor in future economies. Data is an issue of individual, community, common good, big business and state sovereignty.¹⁵

Communication and Data Sharing: Technology has transformed how people communicate and share information. Social media platforms have enabled people from all over the world to connect and share ideas, creating new opportunities for collaboration and innovation. States have also proposed cooperation through technological information sharing.

New Challenges:



Source: AsiaGlobal Online Journal

¹³ Klon Kitchen, “Technology companies as geopolitical actors”, Geopolitical Intelligence Services, <https://www.gisreportsonline.com/r/technology-geopolitics/>.

¹⁴ Kastner, “7 views on how technology will shape geopolitics”.

¹⁵ Kastner, “7 views on how technology will shape geopolitics”.

Technology has given rise to new security challenges in the geopolitical landscape. The new technological spaces are filled with contestations and conflicts. Technology has enabled new forms of conflict, such as cyber warfare and drone strikes, which can target enemies without risking soldiers' lives. Cyber-attacks and other forms of digital sabotage have become increasingly common as nations seek to gain an advantage over one another through the use of technology. Moreover, technological advancements have enabled new forms of surveillance and espionage, which can be used to gather intelligence and undermine the security of other nations.

Nationalization and Weaponization of Technology: Nationalization and weaponization of technology is the biggest challenge. In the modern world, national strength is no longer defined by geography or control over territory or ocean. Control and exploitation of the connections technology created through the flow of data, goods and money are the new key factors in the new map of power.¹⁶ States are prepared to exploit the dependence of other states on technology and use it as leverage for geopolitical competition. The weaponization of technology has direct implications for democracies.¹⁷

Fragmenting Globalization and Interconnection: Advancement of critical technologies has led to a widening gap in the transnational nature of communication. Communication is key for globalization. Competition for access to critical technologies has led states to use subsidies, export controls, regulations, localization, and entity list to gain a competitive advantage.¹⁸ This is fragmenting globalization. Again the main tools of communication are controlled by 'big tech' companies who are barely accountable to the states they work in and also have national roots.¹⁹ These national roots can be pathways of external influence in states. As a result, the more sophisticated the technologies become, the more suspicious the governments become of each other. Increased vulnerability will only lead to tighter control leading to further erosion of interconnection among states. Even when it comes to governance, states have diverging visions of the global digital order. This threatens the integrity of the globalized world.

Threat to Global Security: Technological competition might escalate out of control and threaten global security. Increased competition between US and China will increase bipolarity, and the

¹⁶ Kastner, "7 views on how technology will shape geopolitics".

¹⁷ Patil and Mishra, "'Democracy, Technology, Geopolitics'".

¹⁸ Kastner, "7 views on how technology will shape geopolitics".

¹⁹ Kastner, "7 views on how technology will shape geopolitics".

other states might find themselves in a threatened position. Rapid technological advancement also includes legal, social and ethical questions in terms of individual freedom and human rights, market competition, public health etc.

Threat to Democracy: There are numerous direct and indirect reasons behind the decline of democracy worldwide, and technological advancement has been linked with a democratic decline by some scholars.²⁰ Increased automation and digitalization have transformed the job sectors and have increased the threat of job loss for many. This has threatened democracy by fueling the rise of populism.²¹ Populist leaders capitalize on the economic grievances created by technological advancement. Internet and social media work as a double-edged sword. On the one hand, they provide people with the platforms to express their opinions and access to diverse information. On the other hand, they create information bubbles and scope for increased misinformation and disinformation, which are threats to democracy. New technologies provide new opportunities for democratic participation but also for increased surveillance and manipulation by state and non-state actors.²² Authoritarian regimes are using these technologies to maintain their hold on power.

Spread of misinformation and propaganda: A large number of social media platforms have enabled the spread of misinformation and propaganda, which can be used to manipulate public opinion and undermine democratic institutions. Big techs have been complicit in disseminating misinformation. Authoritarian regimes are using disinformation to promote their propaganda. Fake news, hate speech and conspiracy theories spread on social media platforms rupture civic trust and increase polarization.

Conclusion & Recommendations:

Technology has transformed the geopolitical landscape in numerous ways, creating new opportunities and challenges for nations around the world. From the economy to security, from communication to conflict, technology has changed the way nations interact with one another, making the world a more complex and interconnected place than ever before. As new technologies

²⁰ Burrows, Mueller-Kaler, Oksanen and Piironen, “Unpacking The Geopolitics Of Technology: How Second- and Third-Order Implications of Emerging Tech are Changing the World”.

²¹ Burrows, Mueller-Kaler, Oksanen and Piironen, “Unpacking The Geopolitics Of Technology: How Second- and Third-Order Implications of Emerging Tech are Changing the World”.

²² Burrows, Mueller-Kaler, Oksanen and Piironen, “Unpacking The Geopolitics Of Technology: How Second- and Third-Order Implications of Emerging Tech are Changing the World”.

continue to emerge, the role of technology in geopolitics will only become more significant, shaping the future of international relations for years to come.

Based on the analysis, the following recommendations should be considered:

- An international tech-governance regime should be established. Common norms and regulations should be made to lessen the threat of technology as a geopolitical tool.
- Bilateral and multilateral negotiations should be conducted among states, especially the major powers, on tech-related issues.
- Data sharing among democracies is essential for future prosperity and security.
- Global agreements should be made to ensure data equity for all.