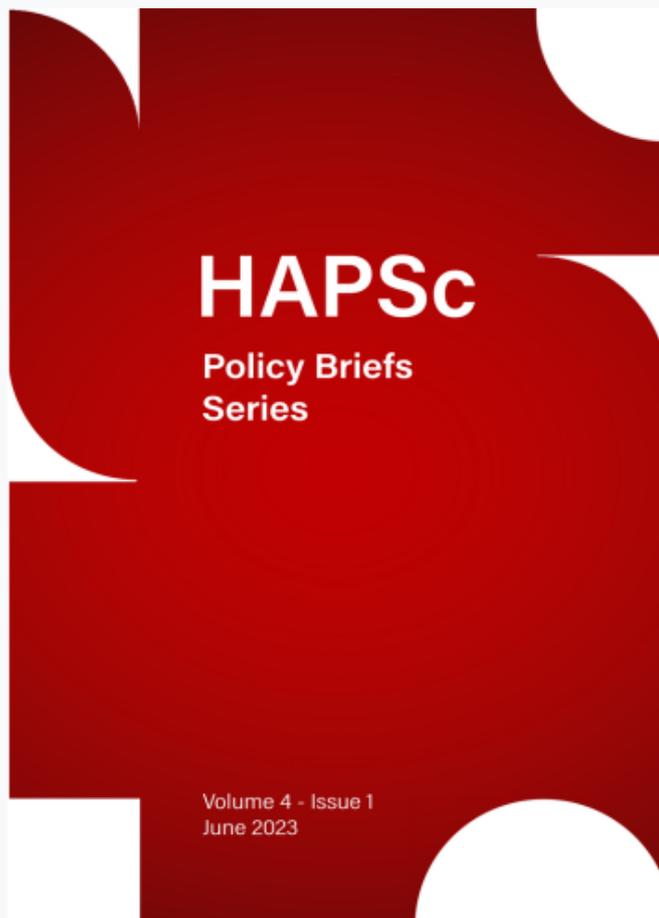


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### The New Space Race: Between the Great Powers of our Era

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# The New Space Race: Between the Great Powers of our Era<sup>1</sup>

Themistoklis Zanidis<sup>2</sup>

## Abstract

This paper focuses on Space as the relatively new domain of the strategic rivalry between the two greatest powers of modern era, the United States and China. The rise of China during the last decades has had compelling consequences in the international system/order, which is led by the United States, especially since the collapse of the USSR and the end of the Cold War. China's ambitions know no limits, and the country competes with the US in every domain including trade, politics, economic, military, and especially technology. The paper highlights the fact that the New Space Race (NSR) is primarily a technological competition which eventually can and will affect everyone on this planet. In this regard, the NSR has two main facets: space exploration and the weaponization of Space. The former refers to deep space exploration mainly to a manned mission on Mars, as the red planet is the ultimate prize, and the return of humans to the Moon. The latter refers to the development of sophisticated weapon systems and respectively defensive systems which can either threaten or protect the great powers from competitors. In this NSR, each side has its comparative advantages, China cooperates with Russia; however, the US is leading the way because it has the advanced private space industry and more years of experience in space exploration than China, which is struggling to catch up. Undoubtedly, the NSR has already begun but it will take more years to be fully develop, leading the great powers, and their allies, to the edge of technology as they try to dominate in the last frontier for mankind.

**Keywords:** US, China, Space, strategic competition, great powers, new space race, technology, global affairs, power politics.

## Introduction

The Cold War era was characterized by the intense competition between the US and the Soviet Union, specifically in space exploration. The USSR launched in 1957 the first human made object in space, Sputnik satellite, which marked the start of this race, which shocked the Americans. Back then, a manned Moon landing was the ultimate prize of this technological competition. The story of this intense competition is well known. Eventually, the US won the first Space race by successfully completing the first manned mission (Apollo 11) on the Moon's surface in 1969.

The world has changed tremendously since then. The USSR collapsed and the US left as the sole superpower. However, the Pax Americana era has ended due to the rise of a new power in the East which openly challenges the US dominance: China. The United States has been the dominant power in space since the collapse of the Soviet Union, but Russia and China, with their own history and presence in space, are trying to surpass the US technologically. In this regard, the new Space Race is

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first and foremost a technological competition between the most powerful nations of the international system. This strategic clash has already begun and will affect everyone on this planet in the long term.

### **The New Space Race**

Today, the international system is characterized by the retreat of the US power and the Chinese expansion. As a result, the two greatest powers of our time compete in numerous domains of our globalized world, including of course Space. More detailed, the New Space Race can be divided into two main spheres, deep space exploration, and the militarization of it. As we mentioned earlier, the new space race, as primarily a technological competition, is of great concern to the world powers also because it can influence the lives of billions of people in the years to come. American dominance in Space is challenged directly when China recently launched a satellite (Singer & Lee, 2021), completing the Beidou tracking system (Goswami, 2021) which rivals the famous American GPS and the European Galileo. Additionally, the two powers had recently both launched exploratory vessels to Mars, as the red planet is the ultimate prize of the New Space Race (Griffiths, 2020), which had landed on the surface of Mars successfully. The Chinese success specifically had been a huge step forward for the Chinese technology while the CCP has set the goal of landing the first manned mission on Mars until 2030 transforming China in a space superpower (Time, 2019). It's easy to understand how this potential success for the Chinese will boost their reputation across the globe as the new technological superpower. However, Beijing must catch the United States which has been more years in space exploration and thus hold the edge as the most advance nation in economic, military, and technological terms. The competition of the great powers in space is first and foremost a technological competition but we cannot exclude the parameter of soft power. Not to mention that the second aspect of the space race is the militarization of it. This development is a reality even though international treaties forbid the militarization of the Space<sup>3</sup>. The latter will pose a credible threat to the national security of the great powers.

In this regard, today several states, including Russia, India, the UK, the European Union, Japan, South Korea, Brazil, Argentina, Iran and the United Arab Emirates, are involved in one way or another in Space business. This means that the new space race is significantly different from its predecessor because more powers, even with less capabilities, have established their presence in Space. Consequently, the US policy makers have to consider the fact that their main competitors are China

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<sup>3</sup> Any militarization of Space is forbidden from the UN's commitment for its peaceful uses for the shake of humankind (Committee on the Peaceful Uses of Outer Space, UNOOSA). Additionally, the UN Office for Outer Space Affairs (UNOOSA) is the secretariat of the UNOOSA and is responsible for implementing the responsibilities of the UN/SG under International Space Law (Stasko, 2021).

and in a less degree Russia but also medium sized powers like Iran. China on its behalf should consider the fact that America and its European allies are more advanced in space exploration and mainly have the private sector deep involved in Space (Council on Foreign Relations, 2021). The latter poses a huge comparative advantage for the United States as the collaboration between the state (NASA) and the private sector (private space companies like SpaceX, Blue Origin, Virgin Galactic, etc) can redirect valuable resources for the American state's towards deep space exploration and the R&D of sophisticated anti-space weapons (in this regard the private sector has been involved in low-orbit operations (NASA, 2023), like the astronaut transportation to the ISS while they have been developing space tourism -commercial use of Space) (NASA, 2019).

It is true that the development of new weapon/missile systems in orbit could make it extremely complicated for every power in the world, including the US, to effectively intercept those weapons/missiles due to their trajectory. Thus, this development could pose a direct threat to the national security of the United States (US Department of Defense, 2021), China, and other powers. There are three possible future scenarios regarding the new space race: The first scenario, where the US wins the new Space Race and eliminates all the potential threats coming from space, securing its dominant position in the international system for the years to come. The second scenario is where China eventually dominates, and the US loses its technological advantage. In this scenario the US rivals manage to establish a credible threat to the American national security with their sophisticated weapons in orbit given the fact that the Americans will still have the upper hand in the military field on Earth (army, navy, air force, marines) against all their potential opponents. In this scenario, the US also loses the prestige of the world's most advanced nation, a huge blow to the American soft power. The third scenario is the most realistic because it focuses on the process of the space race and not on its potential outcomes. That said, we should expect a long-term competition between the US/allies, including their closest intelligence allies like the Five Eyes Australia, the UK, Canada, and New Zealand (Lawton, 2021) and China/allies in Space.

Analyzing further the realistic scenario, nowadays, many factors are in place for a long-time space race between the US and China. As we mentioned earlier, the *pax americana*, the unipolar moment of the US, has ended due to the rapid growth of the Chinese power. Beijing has been challenging the American dominance in every aspect as it transforms rapidly its economic power to military and political influence (Pacific Council on International Policy, 2021). The Chinese strategists have analyzed the US power and spotted a weak link of it which is the Space. Currently, it is hard for the Chinese military to challenge the superior armed forces even in the Chinese Sea. Probably this is the reason why the Chinese are waiting to invade Taiwan while they are strengthening their military

capabilities. To make matters worse for Beijing, the country still lacks in terms of soft power in comparison with the US because of its limited political/cultural influence. That's why the Chinese policy makers have focused on space where they have better odds to challenge the US power. A possible positive outcome in the new space race could be a significant achievement and thus boost the Chinese soft power (the Communist Party (CCP) and of course the People's Liberation Armed Forces), not to mention the positive impact of space dominance in terms of economic, trade, communications, intelligence, and military.

However, the rapid rise of China and its offensive rhetoric has alarmed the US strategists and policy makers and its allies. Additionally, the western public opinion in general is concerned regarding the Chinese ambitions. The West has already experienced several cyberspace attacks on critical infrastructure tracking back to China and Russia. However, the advantages from cyberattacks are relatively limited while both the Chinese and Russian government continuously deny their involvement.

In contrast, space is a vital domain of the Great Power's competition, and a possible prevalence in the new Space Race could lead to global dominance at least in the long term. The Chinese interest in space and the US capabilities in it is not new. Recently, Xi Jinping, the Chinese President, has announced China's Space strategy to transform the country into the dominant power in space in the next decade. The country is developing/launching its Chinese-made space station Tiangong, which is expected to be fully functional until 2025, making breakthroughs in the long-term survival of humans in space, sending astronauts to Mars, as well as to the Moon. Furthermore, Beijing is rapidly extending its nuclear arsenal and conducting launching tests on new-generation supersonic missiles capable of bearing nuclear warheads.

On their behalf the US is aware of the challenges posed by China's rise in the new domain of space. The US is also investing heavily in space exploration, developing cutting-edge technologies to maintain their dominance and protect their national security from possible threats. In this regard, the US, as many other world powers, has established the US Space Force, an independent military branch, to protect the American interests in this domain. Additionally, the Americans have launched various initiatives to explore Mars and the Moon and enhance its space exploration capabilities.

### **Why the New Space Race is so significant to us**

Consider the fact that technological competition is not something new in international relations. Even though only a bunch of countries have actually the capability to establish their presence in Space, space technology plays a critical role in the globalized world and affects many aspects of everyday

life such as economy, trade, news, communications, weather forecasting, animal migration, and climate monitoring (Paikowsky & Baram, 2021). In addition, Space is of great importance to militaries around the world, especially the technologically advanced US Armed Forces which rely on it for their global operations, including tracking, monitoring, surveilling, striking, and intelligence gathering (Paikowsky & Baram, 2021). Nowadays, we have witnessed the extremely critical presence of satellite internet for the Ukrainian forces who are fighting the Russians who have destroyed the communication network of the country (Foreign Policy, 2022). More interesting is the fact the satellite internet has been developed from the American private sector.

Space competition (technological) probably gave the final blow to the Soviet Union to collapse as Moscow failed to keep up the military/technology competition with the US. (The U.S. President Reagan's Strategic Defense Initiative (SDI), commonly known as "Star Wars," neutralized the Soviet Union's strategic advantage by making the US immune to any Soviet nuclear weapon). The collapse of the Soviet empire and the entire Communist block reshaped the international system in extended way.

Today, in a different geopolitical context, China's Belt and Road Initiative (BRI), poses an extended investment program that unites Asia, Africa, South America and Europe for the benefit of China. Beijing now is a far more capable competitor than the USSR used to be and competes with the US in terms of technology, including military technology, as it has acquired the know-how to do so in a myriad of areas, such as advanced 5G networks. Also is worth mentioning that China is autonomous in terms of satellite positioning due to its global geospatial satellite system which offers significant military and political capabilities as it can be used in transport, agriculture, fisheries, and trade even in anticipation of impending natural disasters. The Chinese authorities offer the capabilities of this system free of charge to anyone who wishes, specifically addressed to the countries of Africa, Asia, and South America in the regions where the Chinese penetration is most intense. This initiative is placed within the Belt and Road Initiative (BRI) as the Chinese Information Silk Road (which includes the 5G networks) (Goswami, 2021). Beijing is becoming independent at a critical military juncture as it will now have its own autonomous missile, aircraft, and submarine navigation system.

Undoubtedly, the Sino-American rivalry in domains like the economy-trade and technology has led the two powers inevitably to space, in which the possibilities for development and experimentation are unlimited. Many researchers and officials at the global level have recognized space as the new domain of power politics, the competition between the world's powers which is extremely dynamic and rapidly growing (Paulauskas, 2020). As space becomes increasingly important for global security,

the US and China, along with other major powers, will continue to struggle for the upper hand in this critical domain which affects the lives of billions of people in the hyper globalized era.

## Conclusions

In conclusion, the modern hyper-globalized world we are living in is heavily dependent on technology in various aspects such as transportation, trade, intelligence, and communications. As this paper indicated, the New Space race is primarily a technological competition among the most significant powers. While this new race shares similarities with the Cold War era, it is also different in several ways. Firstly, it involves multiple stakeholders, including private space companies and other nations with advanced space programs. Secondly, the global order is characterized by multilateralism rather than bipolarism, with the United States defending its dominance against revisionist China and Russia.

The competition in space is expected to take years to fully developed as China is becoming progressively more ambitious regarding space exploration and the development of state-of-the-art weapon systems capable of penetrating any American defenses. The United States, on the other hand, has recognized the emerging threat and, since the pivot to Asia, has been using all its competitive advantages to neutralize the Sino-Russian space threat to its security and global interests.

In addition, the commercial use of space by the private sector is a crucial aspect that sets the new space race as a unique chapter in global history, apart from the Cold War era. The United States leads space exploration and technology and has a leadership coalition with other important space powers. Moreover, the private space industry can provide innovative solutions to the US government, which may be necessary to outpace China and Russia.

Finally, this paper has outlined three possible scenarios for the future of space competition, with the third scenario being the most realistic as it focuses mostly on the procedure of the competition rather than the outcome. Space competition will take years to be fully developed, and the economic impact of space will continue to increase as human presence in space expands (along with the dangers of space debris). Given the crucial importance of space for US interests and national security, it is inevitable for strategists across the globe to prioritize space in the years to come. Space is the final frontier for humankind, with endless possibilities for development, and our lives in the globalized era heavily depend on it. Therefore, it is important for the great powers of the international system to seek the upper hand in space technology to ensure their interests and protect their national security.

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