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## THE NEW TECHNOLOGY REVOLUTION AND GREAT POWER COMPETITION

**Abstract.** The fourth wave science and technology revolution is quickly ushering worldwide military revolution. The major powers are accelerating their own research on new military technology. This presents significant changes to the international security system: the existing disarmament and arms control system is on the brink of collapse, strategic competition among the big powers has intensified, and the risk of global turbulence is on the rise. That's why the great powers should look at one another's strategic intents objectively and rationally. Contradictions and disputes should be settled through dialogue instead of force.

*Keywords: technology revolution, international security, international strategy, arms race, disarmament and arms control*

In recent years, with the rapid pace of the technology revolution, the major powers have made great efforts to renew their military technology and equipment, which appears to have led to a new arms race. This casts a great impact on the international security system. As a result, the competition between the big powers is intensifying and the world turbulence is growing.

The current new military revolution was brought by the fourth science and technology revolution, which presents itself principally in the fields of artificial intelligence, clean energy, quantum information, virtual reality, bio-technology and so on. The future of U.S. military competitiveness will depend upon the ability to remain a leader in innovation in these critical technologies through a national surge in science, while also building upon perhaps more enduring advantages in talent and training to advance innovation in concepts of operations.

Competition among great powers has many impacts on global security. The future of the international security system is likely to be shaped by the technology development. The new military revolution is another quantum leap after the birth of nuclear weapons, and brings with it many unprecedented possibilities. First, the country that makes decisive technological breakthroughs will secure its position as superior in the future world security system. Other countries would find it very hard to narrow the gap with traditional weapons, no matter how large their number, through strategic or tactical action. Secondly, the big powers may have more say in military decision-making, or possess military forces of their own. This is because the development of new technologies requires huge and consistent inputs. For example, the network of big artificial intelligence companies has monopolized the right of speech in AI, as many of the research achievements have been made by them. Finally, the spread of technology makes it possible for more people to possess destructive powers. The lowering of the nuclear threshold allures many countries to attempt to generate nuclear weapons of their own, and the risk of non-state terrorist groups developing nuclear weapons increases accordingly.

Current arms control systems are in very bad shape, and many security vacuums exist in the new frontiers such as network and space. Many people worry about the increasingly serious competition between the great powers in the arena of new technology. Stephen Hawking, the UK theoretical physicist, once said, "AI will be either the best or worst thing for humanity." Elon Musk, the famed technology entrepreneur, investor and engineer, worries that AI could lead to a Third World War. Peter Singer, professor of bioethics at Princeton University, warns that the competition in AI may trigger a dangerous arms race if it is not kept within limits through effective rules and regulations.

Recognizing the disruptive, even revolutionary implications of AI for national defense, the United States, China and Russia are actively seeking to advance their capabilities to employ AI for a range of military applications. In spring 2017, the Department of Defense (DoD) revealed it had established an Algorithmic Warfare Cross-Functional Team "to accelerate DoD's integration of big data and machine learning." This summer, China released the New Generation AI Development Plan, which articulated the ambition to "lead the world" in AI by 2030. This plan calls for military-civil fusion in AI to leverage dual-use advances for applications in national defense, including in support of command decision-making, military deduction, and defense equipment. Meanwhile, the Russian military has been advancing its efforts in intelligent robotics, and Russian President Vladimir Putin declared, "Whoever becomes the leader in AI will become the ruler of the world."

The building of an international security system is a shared responsibility. The major powers should join their efforts to block nuclear proliferation. Nuclear materials should be tightly controlled so that they do not fall into the hands of terrorists, and no new nuclear country should be allowed to emerge. There should be some restrictions on the updating of existing nuclear weapons by the major powers, not only quantitatively, but also qualitatively. However, the great powers appear to have not been very enthusiastic about it. Some analysts believe that it will be hard to achieve any

substantial breakthrough in the near future, and that setting some unbinding international norms would be more practical.

The major challenge to the global security system is the strategic competition between the great powers. On the one hand, great powers still constitute the top count in the international system through virtue of their size, despite the fact that the world is becoming more multivariate. On the other, competition among the great powers is likely to ignite conflicts at the edges of their sphere of influence, as shown by the Syrian war and the conflict in eastern Ukraine. As such, the future of the international security order will depend to a large degree on how the big powers see one another. In the realm of traditional security, the world needs big powers to quench regional conflicts and to set up and manage arms control system. Similarly, in the realm of new security, the big powers are also needed to establish new rules and norms. Given that arms control agreements could be reached even during the most severe time of the Cold War, this is in fact achievable. The great powers should look at one another's strategic intents objectively and rationally. They should respect each other's interests and concerns. Contradictions and disputes should be settled through dialogue instead of force. Eventually, we should build up a new great power relationship characterized by non-confrontation, mutual respect, cooperation and mutual benefit.

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### THE CONCEPT OF "IDEOSPHERE" AND ITS EVOLUTION OF THE STUDIES

**Abstract.** The article analyzed the notion of "ideosphere", its improvement over the next half century, and the descriptions of scholars who have interpreted and developed it. The article also critically compared the functions of the ideology of society and the ideologies of national and political parties that have emerged in Uzbekistan over the last quarter of a century, and draws conclusions on the development of this sphere.

*Keywords: idea, ideology, ideosphere, noosphere, socio-natural, technosphere, sociosphere, national idea, political ideologies, ideologies of political parties.*

At present there are various interpretations of the concept of "ideosphere" and its manifestation in society. Some scientists view it as part of the "noosphere". "The noosphere" is a combination of the Latin words "noos" - intelligence and "sfera" – sphere. The noosphere is a sociocultural context in which both natural and social phenomena are explored.

The concept of the noosphere, developed by the French scientist Edward Le Rue, and later developed by Teyar de Sharden, showed that "the global shift of human interactions with living and inanimate creatures around the world that has led to the emergence of the concept of the noosphere". Certainly, this concept

emerged under the influence of biosphere teachings put forward by V.I.Vernadskiy's lectures in Paris in 1926. The concept of the noosphere formed as a continuation of the science of the natural environment surrounding human beings<sup>4</sup>.

According to this concept, the noosphere has three parts:

1. Technosphere is an area that combines the tools for processing energy, substances, transport and communications created by the human mind.
2. Sociosphere is a sphere of interpersonal relations, starting with people and social structures.

<sup>4</sup>Гордина Л.С. О современном понятии "Ноосфера".// <http://noospherecity.com/о-современном-понятии-ноосфера>.