

## **ПИТАННЯ РОЗВИТКУ ПЕРСПЕКТИВНИХ ЗАСОБІВ ПОВІТРЯНОГО НАПАДУ**

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### **RUSSIA AND CHINA'S NEW ALLIANCE FOR OUTER SPACE COOPERATION: STRATEGIC SECURITY ANALYSIS**

#### **Introduction**

At the beginning of the third decade of the 21<sup>st</sup> century, it is clear that a new space race is a fact. Along with the rapid development of space technologies and their democratization, the militarization and weaponization of space, especially Low Earth Orbit (LEO), seem inevitable [1] – [3]. The two above concepts, although they may appear similar in meaning, should not be confused. The former refers to the use of space equipment for defense and military purposes, while the latter – to placing in outer space any device which purpose is to attack human-made targets, both in space and on the surface of the planet [4]. The growing potential for the LEO to become a theater and a place of confrontation is not limited solely to traditionally strong actors, like the US, Russia, or China, but can also be used by more minor actors, e.g., the so-called rogue states or terrorist groups [5].

The leading international legal document regulating the use of outer space – “The Outer Space Treaty” [6], signed in 1967, for decades successfully played a role of a shield, and the two mega-powers of the second half of the 21<sup>st</sup> century mutually deterred themselves from the weaponization of outer space. Nowadays, however, in a new geopolitical situation, where the People's Republic of China entered the race, also in space exploration, Russia's long-lasting alliance with the west in space seems to be coming to an end.

#### **Russian shift of space policy and redefinition of the space program**

There are, roughly speaking, two sets of reasons why the Kremlin has changed its space policy.

The first one comes down to the fact that the position of Roscosmos in the global space sector has significantly diminished. When confronted with state-of-the-art space systems developed by American private companies, like SpaceX or Blue Origin, lack of innovation and relying on good but obsolete launching technologies must necessarily lead to a competitive defeat. Russian well-proven but designed in the 1960ies launch systems – Soyuz and Proton rocket families cannot compete with SpaceX's semi-reusable Falcon 9 rocket in terms of price and launch-readiness [7]. The Angara rocket system that was supposed to replace the

old systems has been in development since 2004 and, so far, it has been launched just three times for testing [8].

Apart from technological lagging, Russian Federation had to deal with many financial, political, and social problems in the last several years. International sanctions imposed after the occupation of Crimea in 2014, relatively low global oil and natural gas prices, and the Covid-19 pandemic have all strongly contributed to the country's financial capabilities. Roscosmos' budget has been on the decrease as well. In 2016, the budget for 2016-2026 was established at the level of 2.3 trillion rubles annually, although year by year, it was reduced and in 2020 reached 1.4 trillion rubles until 2025 [9]. However, in December 2021, another cut was announced – Russia's space activities program was reduced by 16% [10]. Moreover, recent financial results point at substantial losses. Roscosmos' net profit plummeted 42 times last year. In 2019 it earned 12. billion rubles, while in 2020, only 291.6 million rubles [11]. Many reasons contributed to that state of affairs, including a significantly lower number of internationally commissioned satellite launch missions due to cheaper competition (recently, the UK government has terminated the contract with Roscosmos for launching OneWeb satellite constellation – since 2022, it will use Indian services and its GSLV MK III launching system [12]), and overwhelming corruption, especially manifesting at the construction of the Vostochny Cosmodrome [13].

Despite the above-listed problems, one should remember that Roscosmos is still a key player in the global space market. Its budget still comes as third in the world, it is still one of few contractors able to launch satellites to Earth's orbits, and it continues to participate in many international space programs, including International Space Station (ISS), ExoMars mission jointly with the European Space Agency.

However, a progressively tighter budget has made Kremlin and Roscosmos reevaluate and redefine Russia's space program, also from the strategic point of view. Dmitry Rogozin, the Director-General of Roscosmos, announced in October 2020 that the agency's involvement in the lunar international

Gateway project would be very limited and said that “, lunar Gateway, in its current form, is too U.S.-centric” [14]. Russia's position regarding continuing cooperation on the ISS has been changing in the last couple of years, although there were withdrawal announcements. In June 2021, Rogozin said that the decision would be based on whether Americans lift the sanctions on Russia – “Either we are working together and then sanctions should be lifted immediately, or we won't work together and then national systems will be deployed” [15].

The reasons for the redefinition of the space program are not only political. International projects have become too expensive for Roscosmos, which is especially the case with the low-value ruble. The technological gap between Russia and two other key players – the US and China- seems to be growing. Once the leader of the space race, it has now become one of many second-row participants, next to Europe, Japan, and India.

The successes of space exploration have always been a source of pride for the Russian people and, at the same time, a great propaganda tool for the government. It is crucial in times of financial crisis. In order to stay relevant, Russia had to change the objectives of its space program. That change can be summarized by the will and declarations of loosening the cooperation with the west, carrying out space projects independently, and finally seeking closer cooperation with China.

### Russian turn to China for space cooperation

The Chinese space program has been developed in isolation. The main reason for that was discovering China's cover operations in the 1980-is and 1990ies and stealing many secret weapon designs, including space technology. The results of the internal US investigation were published in the so-called Cox report in 1998 [16]. In the overview of the report, there are, i.a., the following claims: “The People's Republic of China (PRC) has stolen design information on the United States' most advanced thermonuclear weapons” [16, p. ii]; and further on: “The PRC has stolen or otherwise illegally obtained US missile and space technology that improves PRC military and intelligence capabilities” [16, p. xii].

Despite the international isolation and late start, the Chinese space program has been very successful. Among its most significant achievements there were sending a man into space in 2003, the first EVA in 2007, the completion of the global navigation satellite constellation Beidou in 2020, the soft landing of a rover on Mars in 2021, and successful placing a crewed space station Tiangong on the Earth's orbit. China's space budget comes as second in the world – in 2019, the Chinese government spent \$9.596 billion, US \$47,169 billion, and Russia came as fourth (behind ESA) with \$3.978 billion [17, p. 9].

From the Russian perspective, China seems to be a great partner for carrying out future joint space programs. In the undertaken Russian-Chinese cooperation, Russia's position is strong despite a smaller budget due to its decades of experience. As

both parties believe, the alliance will generate a synergy that will strengthen their position in the race against the US. It will be a qualitative leap for Russia in terms of the internal and international perception of its role in space exploration. There is no doubt that it will be a co-leader of the future Russian-Chinese programs, unlike today, occupying the second row. For China, on the other hand, it is a unique opportunity to finally and definitely close the international isolation period. There is probably hope for Russian technology transfer, as well.

The cooperation is already in the works. In June 2021, at the Global Space Exploration Conference (GLEXP), Rogozin announced that “We are planning to send our astronauts to the Chinese station” [18], which, as it seems, may have a lot of to do with the Russian plans to withdraw from the ISS in 2025. Moreover, in March 2021, China and Russia signed the memorandum of understanding on building a joint International Lunar Research Station [19], which is a follow-up of an agreement of joint exploration of the Moon from September 2019 [20].

### Conclusions

It is evident that Russia is on the course of changing alliance and cooperation partners in space programs. It does not mean, however, a total termination of whatever form of collaboration with western institutions. The latter will be substantially reduced, especially if the Russian-Chinese cooperation further develops and flourishes. The decision of Russia to side with China in the current geopolitical situation and internal financial problems seems rational. International projects carried out with the countries from the west, especially the US, which leading role is unquestioned, is a "hard sell" from the propaganda point of view.

From the perspective of geopolitics and geostrategy, this Russia's shift away from the west and towards China may bear significant consequences for the future.

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