

## RUSSIA-DPRK SPACE COOPERATION: IT'S POLITICS, NOT SCIENCE

*Frida Lampinen*



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*The recent Vostochny summit between North Korean leader Kim Jong Un and Russian President Vladimir Putin has attracted much international attention. The fact that both leaders pledged to strengthen bilateral ties but did not release a joint statement invites speculation about the nature of their agreement. One area that did emerge as a clear priority in Moscow's and Pyongyang's future engagement is space and satellite technology. This issue brief looks at the motives behind Putin's offer to help North Korea build satellites. It argues that Russia perceives its offer as a "win-win-situation" that capitalizes on the opportunity to both offer Pyongyang something of key strategic interest while also reasserting its own self-understanding as a global space power. Still, providing technical assistance to the regime in Pyongyang is a low-hanging fruit, and will not serve to strengthen Moscow's space capacity or international perception thereof.*

Building on the past year's upswing in North Korea-Russia relations, Kim Jong Un's nine-day visit to Russia in mid-September reaffirmed mutual understandings. During Kim's summit meeting with President Vladimir Putin at the Vostochny Cosmodrome spaceport on September 13, space and satellite capabilities emerged as key agenda items. The choice of the location reflects Russia's acknowledgment of the DPRK's (Democratic People's Republic of Korea, or North Korea) struggling space ambitions, and President Putin pledged to help Pyongyang launch a recon-

naissance satellite, which is a major goal for the North Korean regime.<sup>1</sup> The two leaders agreed to "deepen ties and expand strategic cooperation", but no official statement to concretize the content of the Vostochny agreement was released from either side.<sup>2</sup>

International observers have tended to describe Russia's recent diplomatic efforts as a means to butter up to Pyongyang to secure desperately needed weapons transfers.<sup>3</sup> Russia needs deployable assets to fuel the prolonged invasion of

Ukraine, and North Korea is the only remaining producer of Soviet-standard weaponry.<sup>4</sup> Coupled with Pyongyang's active support for the Russian invasion and disregard for international norms, North Korea appears to find itself in a unique position being the sole nation at present with both the inventory and political will to partner with Moscow, which gives Kim Jong Un the leverage to ask for technical assistance to its space and missile programs. Still, Putin's offer of space assistance should not be understood as caving into North Korean demands. To Russia, bolstered space cooperation with North Korea is a "win-win-situation" that both reaffirms the DPRK's support for the Russian invasion and diverts attention away from Russia's own space failures amid burgeoning global initiatives to reach the Moon, Mars, and beyond.

### **The Return of Grand Space Ambitions**

To understand Russia's motivations in offering space assistance to North Korea, it is essential to grasp the greater picture of the return of grand space ambitions among global powers. More than fifty years after humans last walked the moon, the outer space industry is hotter than ever, and Russia is one of multiple countries seeking to get a slice of the pie. The scramble for astropolitical authority (the "space race") began during the mid-20th century, as outer space emerged as an arena for the arms race and hegemonic competition between the United States and the Soviet Union.<sup>5</sup> Aside from the geographical definition of outer space as the physical universe beyond the earth's atmosphere, it is a political space in which international actors stage global competition and plays of power.

Since the early 2000s, private aerospace companies (like Elon Musk's SpaceX<sup>6</sup> and Jeff Bezos' Blue Origin<sup>7</sup>) with competitive economic interests have joined public administrations in the U.S., China, Japan, and South Korea in the quest for space exploration, contributing to increased commercialization of space and satellite technology. Greater affordability enables more international actors

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to participate in outer space activities, thereby stepping up the competition to reach the Moon, Mars, and beyond. With the return of great power competition between the U.S. and China, space is regaining significance as an arena to show off economic, political, and technological capabilities, and several countries are making considerable investments in advancing their capacity for space flight, exploration, and exploitation.

The most recent lap of the space race began in January 2019, when China became the first country to land a lunar rover on the dark side of the Moon.<sup>8</sup> The event marked the first successful landing on the Moon since 1976, thereby breaking Russia's 43-year streak of having carried out the most recent successful moon mission.<sup>9</sup> For the past 30 or so years, the consensus among U.S. stakeholders was that the Moon was old news.<sup>10</sup> The Apollo mission had been there, done that. Yet, China's rover landing in 2019 caused global interest in the moon to skyrocket. By using the moon as a stepping stone between the Earth and the rest of the universe, space agencies can amass

critical experience and get a leg up in technology development needed to pursue long-term and far-reaching space interests, for example, venturing to Mars.

The American response to the new playing field followed in May 2019, as NASA launched the Artemis mission to put astronauts on the Moon by 2025 and Mars by the 2030s.<sup>11</sup> Other actors soon followed. South Korea has announced plans to land on Mars by 2045, with a pit stop on the Moon by 2032 and a Korean moon base sometime in the 2040s.<sup>12</sup> Although Moscow put the space agenda on the back burner following the collapse of the Soviet Union, the Russian space agency Roscosmos has announced renewed ambitions to take the lead, ambitiously claiming that it will launch its own space station by 2030 despite having lost its technological and strategic edge due to a lack of funding.<sup>13</sup>

Following a four-year-long break during the COVID-19 pandemic, the space race has picked up pace once more. Beginning with the launch of a moon rover by a Japanese space enterprise in April 2023, three more lunar vessels have since

followed in rapid succession—one by Russia, one by India, and a second one by Japan (which is still in transit). Although the Japanese launch in April was unsuccessful, the event set competitive interests into motion. In May, Beijing announced plans for a long-term exploration project that involves a permanent settlement on the Moon in the 2030s.<sup>14</sup>

Over the summer, India and Russia launched spacecraft (on July 14 and August 10, respectively) aimed at gathering data and surveying resources on the Moon.<sup>15</sup> Both vessels were scheduled for touchdown in the designated landing zone, the Moon's south pole, on August 23.<sup>16</sup> Due to the area's permanently shadowed craters and sub-zero temperatures, the south pole of the Moon has big potential for hosting ice, a key asset to sustain long-term settlements. On August 20, the race seemed like it had been won, as the Russian vessel Luna-25 (which was launched from the Vostochny Cosmodrome) approached for landing. In a turn of events, the craft lost contact with Earth and crashed into the Moon's surface.<sup>17</sup> Three days later, on August 23, the Indian Chandrayaan-3 rover landed successfully.<sup>18</sup>

### Those Were the Days

Given the historical significance of space and its associations with heroism and national pride in Soviet-era foreign policy and nation building, the failure of the Luna-25 likely came as a big blow to the Russian self-understanding of being an “acknowledged leader” in the space industry.<sup>19</sup> Russia has self-identified as a great power in space for a long time, and also takes pride in being acknowledged by others as such.<sup>20</sup> Despite the lack of new achievements for several decades, contemporary Russian identity discourse continuously references the remarkable success of the USSR's space program, which achieved a slew of historic “firsts”: putting the first satellite into orbit (Sputnik I in 1957);<sup>21</sup> launching the first spacecraft to reach the Moon (Luna I in 1959);<sup>22</sup> achieving the first manned spaceflight (Yuri Gagarin in 1961);<sup>23</sup> and,

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operating the first manned space station (Salyut I in 1971).<sup>24</sup>

Although Moscow has “lost out” on an important milestone before (when the Apollo mission achieved the first moon landing in 1969), the experience of losing to India this time has likely been jarring. In being Russia’s first space endeavor in almost fifty years, the mission was one of prestige that would demonstrate that Roscosmos is still going strong. That Russian space capacity should have degraded after decades of minimal investment might seem evident but may have come as a rude awakening for the Kremlin. The Luna-25’s crash landing may be understood as undermining the glorious Soviet space heritage, and to compensate for the humiliation, Russia may now feel a need to reassert its capacity and identity to realign understandings of self and to regain what it perceives as a loss of international esteem.

To this end, Moscow’s offer to assist North Korea’s space program serves dual purposes. Not only does it divert attention away from the recent failures, but it implicitly compares the capabilities of the two countries, where Russia emerges as superior. By taking on an apprentice, the man becomes a master. Moreover, the details regarding the Vostochny agreement are yet unknown, and it is possible that the deal secures Russian access to data and information from the North Korean satellite, which could prove useful if Moscow’s satellites are rendered inoperable in a conflict situation.

### **A North Korean Sputnik?**

Regardless of the motives under which President Putin made his offer, it was likely received with great appreciation by Kim Jong Un, who in January 2021 announced the development of a military reconnaissance satellite as one of the “five major goals” for strengthening national defense capabilities.<sup>25</sup> Although North Korea has expressed intent to “plant the flag on the moon” within the next few years,<sup>26</sup> the regime is more immediately

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concerned with acquiring satellite and launch technology, meaning any ambitions of outer space exploration remain far ahead in the future. Military power has always been an essential motive driving advancements in space tech, giving rise to the invention of technologies like GPS.<sup>27</sup> Today, satellite technologies provide a range of critical services including internet, navigation, and communication. Satellite capacity would significantly enhance North Korea’s situational awareness of the activities of U.S. and ROK troops and boost the target accuracy of its drones and missiles, translating into more effective nuclear pre-emption and retaliatory capabilities. In addition, satellites grant access to secure, reliable, and timely communication, which is of critical importance in a conflict situation.

Pyongyang first initiated a satellite development program in the 1990s, officially motivated by civilian observation services such as weather forecasting, communication, and TV broadcasting to improve everyday life in the DPRK. After two decades in development, the Kwangmyongsong (KMS)-3-2 satellite made a successful orbital entry in December 2012, though it failed to stabilize and remained non-operational.<sup>28</sup> The KMS-4 followed in February 2016, which is believed to have transmitted at least some non-military data

until it decayed in orbit in June 2023.<sup>29</sup> Despite these previous (partial) successes, progress toward Kim Jong Un’s vision of a North Korean reconnaissance satellite has stalled. On May 30, 2023, North Korea attempted to launch the satellite Malligyong-1 into orbit, but the rocket malfunctioned and crashed into the ocean.<sup>30</sup> Three months later, on August 24, the mission failed a second time, once again due to a problem in the rocket’s engine.<sup>31</sup> Yet, Pyongyang did not appear discouraged, and the National Aerospace Development Administration (NADA) immediately announced a third follow-up attempt to take place in October.<sup>32</sup>

While Moscow’s offer could entail direct technology transfers to North Korean engineers, it more likely involves “lending” a Russian rocket to launch a North Korean satellite payload. This option would be more attractive to Moscow, as it allows them to stay in control of technology that North Korea may otherwise peddle off to highest-bidding third parties. In addition, space launch vehicles use similar, if not the same, technology as ballistic missiles. There is a concern among international observers that know-how obtained in

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the space program will be directly transferred into missile development.<sup>33</sup> The Unha rocket, used to launch the KMS-3-2 and KMS-4, is believed to be a “space version” of the Taepodong-2 ballistic missile, and the rocket used in both launches this year, the Chollima-1, is reportedly at least partly based on technology of the ICBM Hwasong-17.<sup>34</sup> During the seven-year gap between the KMS-4 in 2016 and the latest attempts earlier this year, Pyongyang has presented several new types of ballistic missiles, and this demonstrates that North Korea’s focus remains on the military uses of rocket technology.<sup>35</sup>

Although the crash landing of Luna-25 shows that Russia is struggling to become a modern space power, the Sputnik heritage grants Roscosmos the necessary competence to build and launch satellites. Regardless of whether technology will be transferred to NADA or not, Moscow’s assistance will technically violate United Nations Security Council (UNSC) sanctions. Resolution 2321 prohibits all scientific and technical cooperation except for medical purposes with North Korea.<sup>36</sup>

### **The Next Step**

To all intents and purposes, North Korea is not an ideal partner for Russia. The partnership will only further discredit Moscow’s claim to being a global power in space and on Earth. South Korea and the U.S. among other critics have voiced strong concerns of the potential cooperation between the two countries.<sup>37</sup> The Kremlin recently expressed that Russia agreed to the existing UNSC resolutions in “a completely different geopolitical environment”<sup>38</sup> and that sanctions “cannot, should not and will not”<sup>39</sup> hinder strengthened ties between Russia and North Korea. By approaching Pyongyang, Moscow blatantly disregards the international sanctions regime that bans UN member-states from cooperating or in any way contributing to the DPRK’s military capabilities,<sup>40</sup> and in so doing, it will inevitably distance itself even further from the international community.

A space partnership with North Korea may help Moscow reassert its internal understandings of self but will neither bring any external acknowledgment nor offer scope for technical innovation. In terms of boosting its space capacity, Moscow would be better off following the American and Chinese models of working alongside privatized space companies. To give one example, NASA announced in September 2020 that it would purchase lunar samples weighing up to 500 grams collected by private companies from the surface of the Moon for up to USD 25,000.<sup>41</sup> To introduce market interests in the space equation has proven a great success for advancing the capabilities of both the U.S. and the PRC, by, for example, lowering the launch costs of spacecraft. In retaining state control over the space program and looking for partners in the wrong places, Moscow does itself a disfavor.

#### **Author –**

***Frida Lampinen** is a Junior Research Fellow at the Institute of Security and Development Policy (ISDP) working primarily with Korean Peninsula issues. She holds a BA and a MSc in Political Science from Uppsala University, Sweden.*

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