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Russia and U.S.: Uneasy space partners

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The U.S. and Russia plan to continue their dance of cooperation and competition in space, judging by Vice President Mike Pence's speech to the reconstituted National Space Council and interviews I've conducted over the months with officials from Roscosmos, NASA and U.S. Air Force Space Command.

Pence in October charged the National Space Council with "bringing the full force of our national interest to bear" to brainstorm how the U.S. can send humans on missions to the moon and Mars while asserting space dominance against Russia. His opening remarks at the council meeting came a week after Russia and the U.S. issued a joint statement in Australia pledging to collaborate on deep space exploration.

In their joint statement, Roscosmos and NASA made reference to NASA's conceptual Deep Space Gateway in lunar orbit, but they did not lay out a timeline for its construction or define what roles Russia and the U.S. would play. In NASA's concept, the gateway would be launched in several pieces for assembly in lunar orbit. Crews would arrive in Orion capsules and stay for up to 42 days to hone techniques and innovations for the trip to Mars. Eventually, NASA would launch a Deep Space Transport spacecraft to dock with the gateway and pick up a crew that would travel to Mars orbit.

Roscosmos Director General Igor Komorov told me during the Paris Air Show in June that his agency had already begun discussions with NASA about developing the station together in lunar orbit. Roscosmos said in its press release announcing the collaboration with NASA that the creation of the lunar station will begin in the mid-2020s. Both agencies promised a shared goal to make international cooperation in space easier by creating spacecraft with similar technical criteria, and announced they have already agreed on a common docking standard for the future station.

Komorov told me that reusable rockets being designed by SpaceX and Blue Origin, which aspire toward their own human exploration missions, could increase the affordability and frequency of launches needed to build a space economy. The Russian space director said his agency is working to meet



NASA/GSFC/Inna Pashkova

the demands of this increasingly competitive market by addressing concerns about the reliability of its Proton and Soyuz rockets.

"For us it is a very strong request to improve the efficiency, to stabilize the quality of the launches, and a challenge for us to force us to make faster, new launchers," Komorov says.

In one view, American astronauts paying for rides into orbit on Russian rockets could amount to a partnership. Pence in his speech opening the space council termed that "capitulation." Pence said the U.S. pays Russia \$76 million to ferry each astronaut to the International Space Station and said NASA must find another way to maintain a constant human presence in low Earth orbit.

"America must be as dominant in space as we are here on Earth," he said.

Cosmonauts and astronauts work together well in space, but tensions between their nations could complicate their partnership. Intelligence reports cited by Pence warn that Russia and China are pursuing technology and military strategy that could destroy, disable or spy on U.S. satellites.

Komorov during our interview shrugged off suspicions that Russian satellites maneuvering in Earth orbit — sometimes without explanation — could be testing sabotage or spying features.

"We do not break any rules or regulations [with] our satellites in space," he said with help from a translator. ★

▲ Cosmonauts and NASA astronauts often praise cooperation in space despite political tensions. Above, Expedition 53 flight engineer Joe Acaba of NASA, left, Soyuz commander Alexander Misurkin of Roscosmos, center, and Mark Vande Hei of NASA pose in September ahead of their launch to the International Space Station on a Soyuz rocket.