

South Korea joins space race in tech drive as Russia's isolation deepens over war in Ukraine

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South Korea is preparing a domestic rocket development program as part of an ambitious drive to carve out a larger slice of the global space

economy following the implosion of its partnership with Russia.

Seoul last month revoked a contract with Moscow in favor of a European operator to launch a satellite into [space](#). Having relied on Russia for years to send its probes into orbit, the move is a tangible impact of sanctions on the Kremlin over its invasion of Ukraine.

"Our plans to launch a multipurpose satellite with Russia have entirely gone awry," Korean Vice Science Minister Oh Tae-Seog said in an interview. "From the perspective of not only space industries but also national security, owning the ability to lift a satellite we want into space when we want is important."

South Korea's breakup with Moscow will be a harsh blow to Russia's rocket program, one of the nation's strongest post-Soviet industries outside oil, and highlights the impact of international pressure. Space is also a natural next step for South Korea's sophisticated economy, led by its high-tech sector.

"Even if the war is over, it won't go back to the old times," said Lee Changjin, a professor of aerospace engineering at Konkuk University in Seoul. "I am sure Moscow will try to reenter the market once the war's over given its large space industry cannot be sustained only with domestic demand."

South Korea paid Russia about 28.7 billion won (\$22 million) of the 59.3 billion won planned under the canceled deal, according to lawmaker Park Wan-joo's office.

It will likely be too late to regain Seoul as a customer if and when Russia ends the war and sanctions are eased. South Korea launched its first indigenously built rocket in June that successfully placed a test satellite into orbit and is looking into a next-generation vehicle that could carry

heavier and more complex satellites without foreign help.

Its sense of urgency to possess a greater spectrum of space capabilities is also picking up after President Yoon Suk Yeol recently announced plans to land a craft on the moon by 2032 and Mars by 2045. That comes after a similar U.S. pledge and China's lunar plans.

There's a business goal, too: to increase South Korea's share of the global space economy to 10% by 2045 from the current estimated 1%. That would require building an ecosystem of space developers from [start-ups](#) to bigger companies with industrial clusters spread across the nation, Oh said.

But South Korea is playing catchup in the rocket business, where it's competing against the likes of programs in Russia and the U.S., which have been sending satellites into orbit for more than half a century. Neighbors China and Japan have far more experience and North Korea has sent missiles further into space than South Korea has sent its newest home-grown rocket.

South Korea has seen the number of jobs in space industries rise steadily from 6,708 in 2017 to 7,317 in 2021. The government plans to double its annual investment in research and development to 1.5 trillion won by 2027 to further boost the sector, which is currently estimated to be worth about \$2.3 billion.

In comparison, the worldwide space industry generates roughly \$350 billion in revenue and could potentially surpass \$1 trillion in 2040, according to Morgan Stanley estimates. Satellite broadband will likely account for half of the projected growth, it says.

Korea's key investment areas will include satellite data, navigation, medicine, energy and resources associated with space, according to the

science ministry.

"The path for our companies could be different from the path for global companies like SpaceX," Oh said, referring to Elon Musk's group. South Korea could differentiate itself by helping businesses find less costly ways to put high-performance satellites into low orbit, he said.

The global revival of space enthusiasm comes after the U.S. established the Artemis program in 2017 to return astronauts to the moon and eventually reach Mars. It has attracted partnerships from more than 20 nations, including South Korea.

China, with the second-largest space development funding, is also accelerating its efforts to put humans back on the moon and secure access to its resources. Both superpowers are spending billions of dollars as their rivalry moves beyond Earth. For South Korea, the U.S.—its top ally—is its key space partner.

"The U.S. is the one we're having the most important and active discussions with," Oh said. South Korea sees more concrete talks taking place between the two countries on ways to cooperate over space industries and exploration after their presidents agreed to do so last year, he said.

South Korea isn't considering collaboration with China at the moment, he said. Still, it is expanding ties with others, including Australia and the United Arab Emirates, a country that Yoon visited in January, he said.

While ruling out rocket development for military purposes, Oh said Korean launch vehicles are vital to be able to monitor threats that could come from space.

In the latest case of hazards from space, remnants of a massive Chinese

rocket fell over the Indian Ocean in July, sparking safety concerns.

"The space industry is growing at an explosive pace, so from an industrial perspective, we can't ignore it," Oh said.

"It's also important for [national security](#) as the competition for a share of the space is heating up among nations."

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