

S. Korea readies third bid to join global space club

October 22 2012, by Park Chan-kyong

South Korea hopes to launch a satellite into space on Friday in its third attempt to join an elite club that includes Asian powers China, Japan and India.

After two previous failures in 2009 and 2010, the 140-tonne Korea Space Launch Vehicle (KSLV-I) will, weather permitting, blast off from the Naro Space Center on the south coast.

Success will mean a huge boost for South Korea—a late entrant into the high-cost world of space technology and exploration that is desperate to get its commercial launch programme up and running.

Seoul's space ambitions were restricted for many years by its main military ally the United States, which feared that a robust missile or rocket programme would accelerate a regional arms race, especially with North Korea.

South Korea's space budget for 2012 is around \$200 million, according to the Science Ministry—a paltry sum compared to the billions being pumped in by the governments in Beijing, Tokyo and New Delhi.

In a recent paper for the Council on Foreign Relations, James Moltz, a professor at the US Naval Postgraduate School, said South Korea had little option but to pursue an expensive catch-up strategy.

"As a middle-sized power, Seoul has to invest a higher percent of its

resources into space activity if it hopes to develop a sustainable niche position among Asia's larger and more established space powers, which are decades ahead of it," Moltz said.

Japan and China both achieved their first satellite launches back in 1970, and India made its breakthrough in 1980. But the lack of US support contributed to South Korea, Asia's fourth largest economy, lagging behind.

However, soon after joining the Missile Technology Control Regime in 2001, South Korea made Russia its go-to space partner—a relationship that has known a number of rocky patches.

As with the two previous failed attempts, the KSLV-1 used for Friday's launch has a first stage manufactured by Russia, combined with a solid-fuelled second stage built by South Korea itself.

In 2009, the rocket achieved orbit but faulty release mechanisms on the second stage prevented proper deployment of the satellite.

The second effort in 2010 saw the rocket explode two minutes into its flight, with both Russia and South Korea pointing the finger of blame at each other.

Whatever the outcome on Friday, South Korea insists it remains committed to developing a totally indigenous three-stage, liquid-fuelled rocket capable of carrying a 1.5-tonne payload into orbit by 2021.

"Regardless of whether the third launch is a success or not, the project to develop a Korean launch vehicle will pick up greater speed and momentum," Science Minister Lee Ju-Ho told journalists this week.

"After that, we will actively develop and expand our presence in the

global market for commercial launch vehicles so that we will be able to win orders from abroad to manufacture satellites and launch them with our own rockets," Lee said.

Chae Yeon-Seok, a scientist at the Korea Aerospace Research Institute, said there was no other choice but to pursue the relevant technology alone.

"We have to develop our own space rocket and accumulate our own data as no country in the world wants to share such key data concerning navigating through space," Chae told AFP.

While the final expense might be high, Chae stressed the subsequent research would yield many technological benefits, both commercially and militarily—as well as boosting South Korea's global standing.

A successful launch will not be applauded in North Korea, which has accused the international community of operating a double standard when it comes to rocket technology.

North Korea conducted a failed rocket launch in April that Pyongyang said was aimed at putting a satellite in space.

Most other countries considered it a disguised ballistic missile test and it was condemned by the United States and the UN Security Council.

The KSLV-1 will carry a small, 100 kilogram (220-pound) Science and Technology Satellite-2C (STSAT-2C) developed by the Korea Advanced Institute of Science and Technology.

The satellite, which has a one-year operational lifespan, will mainly collect data on space radiation.

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Citation: S. Korea readies third bid to join global space club (2012, October 22) retrieved 18 April 2024 from <https://phys.org/news/2012-10-korea-rocket-friday.html>

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