The Korea Herald

N. Korea claims it tests 'hypersonic missile.' Why does it matter?

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North Korea on Thursday claimed that it test-fired another type of "hypersonic missile," around 100 days after the test launch of the Hwasong-8 "hypersonic missile," although South Korean authorities did not confirm the validity of the announcement.

The test-launch on Wednesdasy "reconfirmed the flight control and stability of the missile in the active-flight stage and assessed the performance of the new lateral movement technique applied to the detached hypersonic gliding warhead," Korean Central News Agency reported.

The missile also made a "120 km lateral movement in the flight distance of the hypersonic gliding warhead from the initial launch azimuth to the target azimuth and precisely hit a set target 700 km away."

KCNA reported the latest test-firing also confirmed the "reliability of the fuel ampoule system under the winter weather conditions."

Notably, Seoul has pointed out discrepancies between the joint analysis of South Korea and US intelligence authorities and North Korea's media report on missile specifications including apogee and travel distances.

"Calling it 'hypersonic' is a matter of marketing, I guess. Virtually any ballistic missile could bear that label," Joshua Pollack, a senior research associate at the James Martin Center for Nonproliferation Studies told The Korea Herald.

Performs better than Hwasong-8

A photo released by state media suggested that North Korea test-launched a liquid-fueled ballistic missile with a Maneuverable Reentry Vehicle first unveiled at a first defense exhibition last October, missile experts said

This is not the first time that North Korea test-launched a MaRV payload, but a state media report suggested that the new-type ballistic missile with a MaRV would perform better compared to the Hwasong-8 "hypersonic missile" test-fired last September, missile experts pointed out.

“It’s not a long-range glider in the same sense as the type they tested last year. Rather, it enters the atmosphere like any other RV (reentry vehicle) on a ballistic missile would, but then uses control surfaces to perform limited maneuvers,” Pollack said. “This permits greater accuracy and provides some advantages against missile defense.”

If the state media report is accurate, North Korea tested another ballistic missile equipped with a detachable hypersonic glide vehicle, which is an advanced MaRV.

North Korea, therefore, has now tested two separate types of HGVs, including the “Hwasong-8 hypersonic missile” launched in September last year.

This combined file photo, taken by North Korea's official Korean Central News Agency on Jan. 6, 2022, shows what the North claims to be a new hypersonic missile (L) being launched the previous day and the "hypersonic" missile Hwasong-8 the North test-fired in September last year. (Yonhap)

Advantages? Speed, maneuverability

North Korea’s series of testing hypersonic boost-glide vehicles matters in light of their accuracy, speed, maneuverability and unpredictable trajectory. The tests appear to aim to seek ways to penetrate the US, South Korean, and regional missile defenses.

The speed is not the key difference between HGVs and ballistic reentry vehicles. But missile-launched HGVs can carry out evasive maneuvers and change course after they are detached from their rocket booster so as to reach their target by penetrating missile defenses.

Notably, North Korean state media Thursday said the test launch verified the "control and stability of the hypersonic gliding warhead which combined the multi-stage gliding jump flight and the strong lateral movement."

Eric Gomez, director of defense policy studies at the Cato Institute, noted the strong lateral movement means the "missile can have an unpredictable trajectory."

Gomez pointed out the state media suggested the reentry vehicle performs maneuvers within the Earth's atmosphere as it approaches and glides to its target while traveling at hypersonic speed, which is at least five times the speed of sound.

"Given the speeds of both the attacking and defending missiles, the sooner the defense can get a sense of a missile's flight path the sooner it can send up an interceptor," Gomez said. "However, if the reentry vehicle can maneuver then it becomes much harder to predict where it will land."

Aim at penetrating missile defenses

Against such a backdrop, the new kind of hypersonic or boost glide vehicle "has a few advantages for the attacker" in view of its maneuverability and stealth features, said Melissa Hanham, an affiliate of the Center for International Security and Cooperation at Stanford University.

"First, it can stay below the visibility of long-range ground-based radar for a longer period of time. Second, it can move laterally and longitudinally in a way that is hard to intercept," Hanham told The Korea Herald.

"This becomes attractive to a country like North Korea that has a small nuclear arsenal and wants to increase the chances of its low number of nuclear warheads penetrating ballistic missile defense."

Given that some analysts view that hypersonic boost-glide weapons could be a game changer for future warfare, North Korea's plans to continue pushing forward the development of the weapons as the key national project are worrying.

The KCNA highlighted that a series of hypersonic missile tests have "strategic significance in pushing ahead with the modernization of strategic armed forces," which Kim Jong-un suggested as an important task at the Eighth Party Congress.

Another importance of the "successful test launches" was to complete the "most important core task among the five top priority tasks in the strategic arms sector of the five-year plan," KCNA added.

When to deploy?

While there are mixed views on North Korea's missile technical capabilities and actual deployment time, missile experts see more tests to come.

“They’ve tested two separate hypersonic glider designs now. My read of this statement suggests that this glider performed better overall than the Hwasong-8,” said Ankit Panda, a senior fellow at the Carnegie Endowment for International Peace.

“I wouldn’t think North Korea is close to deploying these systems; I would expect additional testing throughout 2022 and perhaps 2023 before they near a decision to operationally field these capabilities.”

But Gomez said North Korea could deploy the HGVs “soon” in view of multifaceted factors including North Korea’s priority on the project, different testing requirements and limited resources.

“This is likely due to a mix of resource constraints and the idea that it is better for deterrence to deploy fast rather than wait for the system to be perfected,“ Gomez said.

“Even if that assumption is wrong, it is safer to be wrong in that way than the other way around where we assume the weapons don’t work/exist but they are real.”