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Missile Defence and ROK-Poland Security Cooperation

What do Poland and the Republic of Korea (ROK) have in common? Despite the distance between the two and the fact that they are representative of and stand as the most successful nations economically, politically and militarily in their respective regions of the world, despite the two nations being the products of two entirely different cultures, the answer to that question of what they have in common is "a great deal."

Both nations find themselves in very similar circumstances despite being located so far from one another. Both find themselves with an enemy with which they have a long history of conflict on their border. Both are regarded as one of the strongest allies of the US in their respective regions of the world. And both are to differing degrees increasingly threatened by the cooperation of the Democratic People's Republic of Korea (DPRK) with Russian Federation. Not surprisingly, the cause for the growing threat to both Poland and the ROK is the war being waged by Russia in Warsaw's neighbour, Ukraine. It has originated with Russia making use of the Ukraine war as a live-fire test and development program for improving DPRK ballistic missile designs.

Specifically, Russian missile system engineers and designers have made significant improvements to the guidance systems for the KN-23 ballistic missiles that the DPRK has shipped to the Ukraine theatre. Both DPRK troops in theatre and the Russians as well have used these missiles in this conflict. The several orders of magnitude improvements made in the accuracy of these missiles are also a threat to more than just the Ukrainians and its immediate neighbours like Poland. Once the modifications made to these missiles were tested out and proven in combat, working variants were then shipped back to the DPRK. There is also evidence of this fact that the North Koreans have now incorporated these modifications into its own arsenal of these missile types. It is confirmed by the

frequency of missile tests that have been conducted in-country since prototypes of these modified missiles were shipped back to the original manufacturer's facility.[1] In May 2026 it was reported that Pyongyang had already tested more ballistic missiles in 2026 than it tested in all of 2025. At least one of those recently tested missiles was a model previously provided to Russia, put through a series of various improvements. It was also sent back to the DPRK for those improvements to be incorporated into existing missiles in inventory as well as the production line for new-built missiles.

This is how cooperation between Poland's traditional enemy, Russia, and Seoul's primary threat, the DPRK, are putting Polish, NATO member state and other allied service members' – such as the ROK - lives at increasing risk.[2] These upgraded designs will now be used as prototypes for newly-improved models of these missiles to be built on DPRK production lines. The operation of these missiles will also not be limited to the Ukraine war or units of the (North) Korean People's Army (KPA). These improved missiles will also be shipped to customers like Iran and the Houthi rebels in Yemen among others. The missiles are not only performing far more effectively, but the upgraded designs are adding to the profile of missions they can perform. It is this fact that prompted Ukraine President Volodymyr Zelenskiy's warning about the danger these new DPRK models and their ability to now threaten a significantly expanded target set presents.[3]

Security Cooperation of the Undesirable Kind

In an essay released in May 2026 by the Foundation for Defense of Democracies (FDD) the authors detail how since Moscow's 2022 invasion of Ukraine, security cooperation between North Korea and Russia has grown – as they describe it - "exponentially."

"This is one of the most underappreciated elements of security cooperation among China, Russia, Iran, and North Korea," write the authors of the essay who also reference the recently released book, "Axis of Aggressors" by FDD staff experts Bradley Bowman, Elaine Dezenski, and Rear Adm. (ret) Mark Montgomery.[4]

Beijing has at the same time taken steps to improve its own ties with the DPRK to keep pace with the rapidly strengthening alliance that Pyongyang is building with Moscow. Having both Russia and the People's Republic of China (PRC) essentially striving to carry

favours with them has the DPRK now not just augmenting its military capabilities. The DPRK is improving well beyond its one-time "basket case" economic status and is increasing its options in foreign affairs. This has also produced sets of policies being pursued by the DPRK that show it is increasingly elevating its hostility towards the ROK, Japan, and the United States.[5]

This situation is producing a rather dire of predictions from Zelenskiy - implications for all of the nations that are involved in any of the conflict zones that are or could be affected by these modernised DPRK ballistic missiles. "All of this [security cooperation] poses a threat to every country in Asia that lies within range of North Korean missiles," he said.[6] This is the outcome of all the lessons learned from the conflict. Those lessons learned by the Russians are now turning into design improvements of these DPRK missiles. It is what has those familiar with the modifications calling the cooperation between Moscow and Pyongyang in the field "a ballistic missile lab."

The most talked-about and concerning "successful experiment" from this missile lab is what the Russian and DPRK militaries were able to achieve in improving the accuracy of the North Korean KN-23 short-range ballistic missile. This weapon initially entered the Ukraine war in December 2023 with a dismal Circular Error Probable (CEP) margin of error. Its performance was so deplorable that it was almost of no positive effect to make use of it.[1] The original variants of these DPRK designs had almost no ability to hit anything that they were aimed at. The missile's original error margin had the weapon landing 0.6 to 1.9 miles off target. Ukrainian troops treated it as a more of a joke than a weapon to be taken seriously. [7]

At this point a group of Russian missile design engineers got involved to try and fix the problem with the KN-23. Russians analysed the telemetry and explored possible methods for improving the missile's guidance system. The enhancements were then provided to the DPRK manufacturer, who began inserting them into the production line. By June 2026, Ukrainian military sources reported that the formerly abysmal CEP had been reduced to a comparatively miniscule 3.3 to 16.4 feet. In mathematical terms this change in the CEP numbers amounts to between a 300 to 3,000-times improvement in performance – and

[1] CEP is defined as the radius of a circle that half of a large number of identical missiles operating without malfunction would land within.

it was all accomplished in a period of only 18 months. Moreover, this dramatic enhancement was not achieved by a domestic DPRK test program, but instead was made possible from analysis by Russian specialists of live combat launches against real Ukrainian targets. This now high level of precision effectively makes this Russian re-designed version of the KN-23 one of the most accurate short-range ballistic missiles (SRBM) in the world.

The missile being already transferred back to the DPRK along with the necessary technical documentation required to dial these modifications into this and other DPRK missile programs is a potential game changer. As the FDD's Long War Journal essay confirmed, Russia's improved accuracy for the KN-23 was inserted into "at least one recently improved missile type" that was then transferred back to the DPRK to be used as a working prototype. It means that the DPRK will now have a capability to hit targets in the ROK, Japan and elsewhere in the region. This is a capability that the DPRK has sought to develop for years, but up until now had been unable to achieve. "That detail," reads the FDD's analysis, "makes the Ukraine war something it has rarely been called: the most productive ballistic missile development program in the world — run by Russia, for Pyongyang's benefit, at the cost of Ukrainian civilian and military lives." And this is just the beginning.



It is a fact of modern conflicts that nations will find more effective and innovative methods for waging war more rapidly when they are in active combat than they will in peacetime. Some of history's most effective and legendary weapon systems were produced under the pressures created by the need for a more effective combat system in the middle of a war and that is needed as soon as possible. One of the most prevalent examples is the P-51 Mustang fighter aircraft that made such a huge impact in the Second World War. It was designed and a prototype assembled in just 102 days – a record time cycle for a major combat weapons platform. The Korean missile is now a new threat to any of the nations in the region near the DPRK, near Russia, near Iran or any other nation who has been a customer for Pyongyang's missile systems. It is a development many of those watching the Ukraine war develop for years now had warned would eventually come to pass.

Effector Shortage and the ACE Programme

Unfortunately for the ROK and Poland – two of the nations that will be most sharply affected by this geometric increase in the accuracy of these DPRK missile systems – this could not be happening at a worse time. The increased effectiveness of these DPRK missiles creates a whole new uptick in the demand for more interceptor missiles for the Patriot batteries operated by both countries.

But those additional missiles are not available nor are they going to be soon and the cause is very simple. Despite four and a half years of war in Ukraine plus the conflicts in the Middle East, production output for the PAC-3 Missile Segment Enhancement (MSE) missile for the Patriot system has remained at a build rate of just 600 missiles per year. At this tempo it would require three years of production to replace what was fired off in slightly more than a month of the conflict with Iran.

The US War Department has finally let a contract to the producer of the MSE, Lockheed Martin (LM), that calls for tripling production. But there is not likely to be an increase in the numbers available in combat theatres for at least two years. The build-up to higher production runs is not a "just add water" type of a process. It takes considerable time and effort and the surge into a higher level of production output is both slow and incremental.

In the category of "each cloud you see has a silver lining" there could be an answer, and it could be an effort that is practically made for another field of cooperation between the ROK and Poland. At the Farnborough International Air Show in July, LM unveiled a new missile for the Patriot air and missile defense system. The missile is officially known as the Advanced Capability Effector (ACE) missile. The new design has been dubbed the "baby Patriot" by some commentators and is supposed to cost substantially less than the MSE to build. Conversations with the contractors involved in the programme reveal that the concept for this missile is for it to be built in Europe by European partners and other export customers of the Patriot system.

The new ACE missile will use the standard PAC-3 fire control system and will remain compatible with the MIM-104 Patriot configuration. It will connect to the Integrated Battle Command System (IBCS) as well. Therefore, the ACE can be fired from units already equipped with current Patriot launchers, radars and target engagement control systems. Engaging in the manufacturing of this missile would expand defense industrial cooperation between Poland and the ROK beyond its current areas of armoured vehicles, fighter aircraft and artillery systems. It would also ease the problems for both nations associated with the worldwide shortage of the upper-tier interceptors for their Patriot batteries.

Of course, the ACE missile will not be a magic remedy to interceptors' shortage. The questions remain about its effectiveness. Not equipped with altitude control systems, lethality enhancers, having shorter range and altitude, it retains roughly two-thirds of original "high-end" PAC – MSE defender designed for more complex threats. As such it may be a useful but complementary add-on to existing Patriot MSE systems rather than their stand-alone substitute.[2]

The US Donald Trump Administration refers to the ROK as a "model ally" in that its spending well above the levels on defence of the European nations that the US President is always criticizing. Of course, that does not stop the POTUS from playing the card of US military presence in the peninsula in context of Korean investment in US or expected

[2] Not mentioning the questions being raised about limitations of original Patriot batteries noted during the US-Iranian war. *U.S. Patriot Missiles Are Already Failing Badly*, "Military Watch Magazine", https://militarywatchmagazine.com/article/us-patriot-failing-new-cheaper-useless, August 17, 2026.

support in Iranian conflict.[8] The ROK becoming involved in the ACE project would not only add the credit that the country would be earning with Washington policy makers, but it would avoid some of the crisis-type atmosphere that had existed on the Korean peninsula earlier this year. When the US war with Iran began, Washington shifted dozens of missile interceptors and missile defence assets from South Korea to the Middle East. This re-deployment was needed to increase US missile defence capabilities in the region. The ROK is more likely than not to need those Patriot batteries back in their position with the US forces on the peninsula before Washington is prepared to move them back. Even if the batteries themselves are returned to the ROK, they will probably be in a near-empty status as their missiles would be fired off in the coming weeks against Iranian threats that show no signs of slowing down.

The nations to participate in the production of this new weapon will be policy decisions that will have to be made at high levels of the ROK, Polish and US Governments. The ACE missile is also a brand-new concept and even on its advertised accelerated timeline it will not be ready to go tomorrow. To reach production and deployment a minimum of two years or even more would be necessary for the ROK and Poland to set up a cooperative set of activities to support its eventual introduction into service.

What is certain is that the Russian war against Ukraine being responsible for a newly improved DPRK missile design has now created another threat to the populations of both Poland and the ROK. Getting on board the ACE effort could be one of the solution and would create additional areas for cooperation between the two nations.

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