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European Languages

زبانهای اروپایی

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15.12.2024

Russia's New Pantsir SMD-E Missile System

Russia's Special Military Operation in Ukraine has not only redefined modern warfare but also showcased the country's innovative military strategies, including the deployment of advanced defense systems like the Pantsir SMD-E.



Besides, the use of electronic and cyber warfare, the military operation has seen the use of drone and anti-drone warfare on an entirely new level. Both sides used aerial drones, first-person view drones, and importantly Russian armed forces have fielded wire-controlled ground drones to avoid jamming. In this regard, Russia has demonstrated its prowess in military innovation and has fully operationalized the learnt lessons on the actual battlefield. Likewise, Russia's new [Pantsir SMD-E](#) missile system is among those learnt lessons.

The development and deployment of the Pantsir SMD-E is a military necessity for Russia. The Pantsir is a time-tested weapon system developed during the late 1980s. The basic purpose behind its development was to beef-up airfield defence against aerial threats,

including low-flying cruise missiles and ground attack aircraft. In other words, Pantsir was designed as a point defence system.

Pantsir designated by the West as SA-22 *Greyhound* is a self-propelled and versatile anti-air system. It was designed by the [Russian KBP Instrument Design Bureau](#) and manufactured at the Ulanov Mechanical Plant. It has evolved since its inception with several versions. The average unit cost of Pantsir is around 15 million USD. It is a highly mobile system capable of operating in all terrains and all kinds of weather conditions.

Pantsir SMD-E

The Pantsir SMD-E is the newest edition of the Pantsir family and is being developed in the backdrop of the Russian Special Military Operation in Ukraine. The original Pantsir systems had a combination of a 30mm gun and missile to counter incoming aerial threats. However, the Pantsir SMD-E [features](#) a combination of small and medium interceptor missiles. The [TKB-1055 missiles](#) are designed as small interceptors having a range of 8 km, while the medium range 57E6 missiles could reach up to 18 km of range. One complete system comprises a launcher, radar, and command vehicle.

A total of [48 TKB-1055 missiles](#) could be loaded to a single launcher, which is apparently enough to countering small aerial drones, precision-guided munitions (PGM), and cruise missiles.

Why Pantsir SMD-E?

Many videos are being circulating on the internet regarding the recent deployment of Pantsir SMD-E systems in highly [fortified](#) positions, especially in the capital Moscow. The videos show the newly built towers and rooftop deployments of such systems. However, it is very important to understand the military-strategic rationale behind such deployments.

The Ukrainian armed forces have been generously supplied advanced aerial drones by their Western allies. And, besides such military support, the Ukrainians are being constantly given actionable intelligence by the West to hit and destroy strategic targets within Russia. It is also known that there are numerous Western military personnel and specialists which are actively selecting targets by acting as Ukrainians.

In the backdrop of such a determination of the West to inflict maximum damage on the Russian civil as well as military infrastructure, the Russian policymakers are left with little choice, but to beef-up their defences against [aerial drones](#). The deployment of Pantsir SMD-E at thickly populated areas and at strategic locations is a military necessity.

Russia's Strategic History

Russia's strategic history is a witness that Russians improvise and adapt to the evolving situation on the battlefield. They operationalise the learnt lessons and this is exactly how they defeated the mighty armies of French Napoleon Bonaparte in the early nineteenth century, and the German Adolf Hitler during the Second World War.

Analysis and Conclusions

As an observer of international relations, I fully understand Russia's conviction of heavily investing in systems like the Pantsir SMD-E and deploying at key strategic locations. In fact, the development and deployment of the Pantsir SMD-E is a military necessity for Russia. Since, the beginning of the Special Military Operation, Russia has suffered in terms of men and material, and most importantly, the Ukrainian swarms of aerial drones have caused Russia symbolic damage. It is noticeable that unlike the previous versions of the Pantsir, the newest SMD-E version has [dropped](#) the 30mm dual guns in favour of TKB-1055 small interceptor missiles which are more agile, lethal, and have more kill probability.

We often argue and observe the changing character of warfare and war, and we assume that warfare and war are dynamic in nature. However, [Russia's Special Military Operation](#) in Ukraine has attested the dynamism of warfare and war, and we may continue to witness other transformations in the foreseeable future. Moreover, these developments clearly indicate that Russian policymakers are fully cognizant of the Ukrainian aerial drone threat and are fully prepared for a long and lengthy military operation.

Undoubtedly, the [Pantsir SMD-E](#), though, appear a relatively moderate addition to the already existing Russian arms and armaments; nevertheless, these rather subtle military developments retain the potential of turning the tide of any military operation. The military strategists and historians continue to praise and commemorate the Soviet/Russian T-34 tank, that was perhaps relatively not much superior to its German counterparts. However, the T-34 was pivotal in defeating German Tiger and Leopard tanks during the Second World War and did offset the German Blitzkrieg.

[Muhammad Ali Baig](#), December 14, 2024

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