

Russia's Newest Armour Leaves Behind Foreign Analogues

Defense-Aerospace



Significantly bigger than its predecessors, the T-14 tank's accommodates more ammunition and better armor protection, and it is equipped with a number of modern sensors and protective systems that Russia claims makes it the best tank in the world today. (Tass photo)

MOSCOW - The newest Russian armoured vehicles designed by the Uralvagonzavod (Russian acronym: UVZ) research-production corporation, the Tractor Plants Concern, and the Military Industrial Company (Russian acronym: VPK, Voenno-Promishlennaya Kompaniya) have a number of radical advantages over their foreign analogues and over the vehicles, previously developed by the indigenous defense industry, Russian analysts suppose.

The Armata family of heavy tracked vehicles developed by UVZ has undoubtedly become the core of Russia's military vehicles fleet modernization. At present, it is comprised of three units, namely, T-14 main battle tank (MBT), T-15 heavy infantry fighting vehicle (HIFV), and T-16 armoured recovery vehicle (ARV). The T-14 MBT and the T-15 HIFV have already been unveiled; the vehicles were demonstrated for the first time at the 9 May Victory Day parade in 2015. At the same time, the T-16 ARV remains undisclosed.

According to the open sources, the development of the T-14 Armata MBT commenced in 2009 by the Urals Design Bureau for Transport Machine-Building (Russian acronym: UKBTM, Uralskoye Konstruktorskoye Byuro Transportnogo Mashinostroeniya; a subsidiary of the UVZ corporation) company. The first nodes and components of the tank were unveiled in 2013. As

mentioned earlier, several T-14 tanks participated in the Victory Day parade in 2015, having been demonstrated to the foreign official delegation and guests.

The official technical specifications of T-14 are not disclosed. The tank has received a new chassis with seven road wheels on each side, while the previously developed MBTs, for instance, T-72B/B3 and T-90/90A tanks have six road wheels on each side. The dimensions of the newest tank are significantly bigger than those of its predecessors. T-14's hull length is estimated to be about 8.7 m (T-72B3 has a hull length of 6,860 mm, as well as T-90A) and height about 2.6 m (T-72B3 - 2,226 mm, T-90A - 2,223 mm).

Unlike its predecessors, T-14 is equipped with a number of antennas, arrays, small-caliber launchers, and sensors. Considering the tank's state-of-the-art optoelectronic devices, imagers, explosive reactive armour (ERA), active protection systems (APS), and gun, Armata is believed to be the most effective main battle tank in the world.

The T-72B/B3 and T-90A MBTs remain the workhorses of Russia's Land Forces. However, the tanks have several disadvantages. For instance, they almost lack side protection, as rubber-and-canvas screens and three pieces of composite armour cannot provide sufficient protection against anti-tank guided missiles (ATGM) armed with tandem warheads, as well as against modern high-explosive anti-tank (HEAT), armour-piercing (AP), and armour-piercing fin-stabilized discarding sabot (APFSDS) rounds.

The carousel-type autoloaders integrated with the T-90 and T-72B3 tanks, despite its high reliability, pose a threat to the crew in the case of explosion. The sides of the turret feature only basic protection, as the components of the Kontakt-5 ERA developed by NII Stali (a subsidiary of the Tractor Plants Concern) are attached to the frontal arc of the tank.

The 125 mm 2A46M-5 gun of the T-72B3 and T-90A MBTs urgently needs more powerful APFSDS rounds. At present, 3VBM17 Mango munition that has a warhead length of 574 mm, a warhead weight of 4,850 g, and an armour-piercing capability of 500 mm of rolled homogenous armour (RHA) at a 2,000 m distance seems to be the best Russian APFSDS round. It was brought into service in 1986. Mango is being offered to both domestic and foreign potential customers. It is noteworthy that India is preparing to commence the manufacturing of the 3VBM17 rounds under a license sold by Russia. However, the newest Russian armoured vehicles, as well as previously delivered tanks, urgently need new rounds.

T-14 Armata is believed to have the autoloader problems fixed. According to the open sources, the tank is armed with an advanced 125mm gun-launcher that can fire both brand-new and previously developed rounds. According to the Defence Review Asia (DRA) magazine, the

newest MBT has received the 125 mm 2A82-1M tank gun with an ammunition load of 45 rounds. The gun has a firing rate of 10-12 rounds per minute and a maximum firing range of about 7,000 m. The 2A82-1M's muzzle energy is reported to exceed the one of the 120 mm L/55 tank gun designed by Rheinmetall Defence by 17%. It is coupled with a 7.62 mm coaxial machinegun.

In May 2015, Russia's Vice-Premier, Dmitry Rogozin said that the Armata tank would receive a new round that could "burn one meter of steel". However, the official did not specify the caliber and the type of the round mentioned by him. Therefore, T-14 is supposed to be effective against such modern MBTs, as Leopard 2A7 by the German Rheinmetall Defence and Krauss-Maffei Wegman (KMW) companies and M1A2SEPV3 Abrams by the US General Dynamics Land Systems (GDLS) consortium.

The unit price of T-14 is still unsettled. Neither Ministry of Defense (MoD), nor UVZ discloses the cost of the program. According to the experts of the DRA magazine, the T-14 unit price might be RUB250 million (USD3.9 million) or RUB400 million (USD6.2 million). The officials of the MoD have been complaining about "the high cost" of T-14 Armata, sometimes calling it 'inflated'.

However, the aforementioned estimations do not seem to be overpriced. For instance, the M1A1 Abrams tank had a unit price of USD2.9 million in 1991 (at present, the manufacturing of M1A1 MBTs is ceased - TASS). The latest serially produced modification of the Abrams tank, namely M1A2SEPV2 has a unit price of USD9.71 million, Leopard 2A6 of USD5.8 million, Leopard 2A7 of USD10 million, AMX-56B Leclerc of USD18.38 million (the full cost - TASS), K2 Black Panther of USD8.5 million.

Therefore, T-14 Armata seems to be significantly cheaper than the aforementioned foreign analogues. It is noteworthy that the Russian Armed Forces revealed their intention to get over 2,000 T-14 Armata MBTs by 2020 or by 2025.

The tactical role of the T-14 tank is not obvious. The military is planning to phase out previously delivered tanks gradually, replacing them by Armata vehicles. However, T-14 MBT is the world's most sophisticated tank that requires advanced maintenance, control and a well-trained crew. Therefore, the newest tank may be used as a support vehicle for deeply upgraded T-72B3 and T-90A tanks. Such kind of interaction will require the integration of state-of-the-art sensors and control systems (an identification friend-or-foe (IFF) unit, a GLONASS-type satellite navigation system, secured datalink, and an advanced central processing unit (CPU)) with the previously delivered vehicles.

The Armata tank has received one of the world`s most effective protection system that is believed to combine ERA, APS, and other optoelectronic devices. It is reported to be able to stop the latest APFSDS rounds developed by Western defense companies, namely DM63 by Rheinmetall Defence and M829A3/M829E4 by the Orbital ATK corporation. The tank`s APS is comprised of both soft-kill and hard-kill subsystems. The Izvestia newspaper reported that T-14 MBTs would receive SPZ optoelectronic jammers that detect laser beams and inbound ATGMs and fire smoke grenades to disguise the vehicle in the infrared and visual spectrums.

The system has been developed by the Elektromashina enterprise (a subsidiary of the Uralvagonzavod research-production corporation). At present, SPZ is being intensively trialed. The test program will have been accomplished by the year-end. In 2017, the company is planning to launch the trials of the SPZ jamming device integrated with the newest Russian armoured vehicles.

Therefore, T-14 is supposed to be intended for new types of conflicts, unlike T-72 tanks that have revealed their combat performance in the recent local conflicts. The defense analysts point out that T-72 and T-90 are more suitable for conventional war. However, T-14 is a demonstrator of the latest technologies developed by Russia`s defense industry. The crew of the Armata tank may be reduced to two servicemen, owing to the highest level of automatization.

Hence, the implementation of the Armata program will allow rearming of Russia`s Land Forces with the innovative armoured vehicles, the defense analysts suppose.