

QUICK POLICY INSIGHT

Russia's new aerospace defence forces: Keeping up with the neighbours

Author: Ioanna - Nikoletta ZYGA
(Under the supervision of Ulrich KAROCK)

Created fifteen months ago, Russia's Aerospace Defence (VKO) and its the Aerospace Defence Forces — a new branch of the Russian armed forces — are intended to contribute to the modernisation of the country's arsenal over the next decade.

Officially, The VKO's principal task is 'the reliable protection of military and government administration facilities'. The service 'must remain in a constant state of combat readiness, taking into account potential enemies' plans for developing offensive measures, and ensuring precise and operational coordination with other arms of service¹. No particular threat was identified to justify the development; the VKO has been presented by Moscow simply as a 'necessity to accurately respond to modern challenges and threats²'.

Yet the VKO will also serve to maintain Russia's strategic parity with the US, which is developing a missile defence in Europe — the 'Phased Adaptive Approach'. The US has said its European system is designed to mitigate the risk from Iranian missiles, and will be installed according to a schedule close the VKO's.

¹ President of Russia, Meeting on implementing the State Armament Program in the area of nuclear deterrence [Soveshanie po vypolneniyu gosprogrammy vooruzheniya v oblasti yadernogo sderzhivaniya], July 26, 2012, <http://kremlin.ru/transcripts/16058>.

² O. Ostapenko, Developing the Aerospace Defense Forces of the Russian Federation- the appropriate response to emerging threats to the Russian Federation [Cozдание Vojsk vozdušno- kosmicheskoy oborony Rossijskoj Federacii- adekvatnyj otvet voznikayushchim ugrozam Rossijskoj Federacii], International Conference on 'the Missile Defense factor in establishing a new security environment,' Moscow, May 02-05, 2012, http://mil.ru/conference_of_pro/news/more.htm?id=11108033@egNews.

A costly project

Overall, very little detail regarding the project's cost has been disclosed by either the Russian government or the military. However, it is clear that the VKO's development constitutes one of the top priorities of Russia's State Armament Programme through 2020 (SAP-2020). Reportedly, 'about 15-20 % of the SAP-2020 funding will be directed toward the development of the VKO forces'³. Other reports suggest that 'a quarter of the funding for state defence procurement which is estimated at RUB 23 trillion (USD 746.5 billion) goes to the strategic nuclear forces'⁴, of which the VKO is one element.

The principal characteristics of Russia's aerospace defence

The system should provide defence against all types of missiles.

The backbone of Russia's aerospace defence will be composed of its new anti-aircraft weapons systems: the S-400 'Triumph' (NATO reporting name SA-21 Growler) and a more advanced version planned, the S-500 'Prometheus'.

The S-400, a long- to medium-range surface-to-air missile system, can intercept targets at 4.8 km/sec⁵. Currently Russia has four regiments of S-400, which are deployed in the Moscow region, the Baltic fleet and the Eastern Military District⁶.

The S-500, the more advanced long-range and high-altitude interceptor being planned, will be substantially faster, with a maximum speed of 7 km/sec⁷, a range of up to 600 km and the capacity to simultaneously engage as many as 10 targets⁸. The S-500 is designed to defeat all types of air targets, including aircraft, unmanned aerial vehicles, cruise missiles⁹ and hypersonic cruise missiles¹⁰. Compared to the S-400 Triumph, the S-

³ 'The Russian Ministry of Defense invests up to 20 % of the State Armaments Program to VKO' ['Minoborony Rossii vlozhit v VKO do 20 % gosprogrammy vooruzhenii'], *Ria Novosti*, February 14, 2012, http://ria.ru/defense_safety/20120214/565524649.html.

⁴ Viktor Litovkin, 'Rearmament and modernization of the Russian defense industry by 2020,' *Valdai Discussion Club*, December 06, 2012, <http://valdaiclub.com/defense/52340.html>.

⁵ Igor Mikhalev, Russia to develop sea-based space-defense system, *RIA Novosti*, August 31, 2012, <http://rt.com/news/russian-space-defense-ocean-053/>.

⁶ 'Russia to deploy S-400 missiles in Southern military district,' *Airforce Technolgy*, October 17, 2012, <http://www.airforce-technology.com/news/newsrussia-s-400-missiles>.

⁷ Ruslan Pukhov, 'Joint missile defense is limited to data sharing,' *The Moscow Times*, May 03, 2012, <http://www.themoscowtimes.com/opinion/article/joint-missile-defense-is-limited-to-data-sharing/457902.html>.

⁸ Development of S-500 air defense systems behind schedule, *Ria Novosti*, October 05, 2012, http://www.en.rian.ru/military_news/20111005/167395154.html.

⁹ 'New long-range missile S-400 has been tested' [Novaya dal'naya raketa dlya S-400 proshla ispytaniya], *Ria Novosti*, June 28, 2012, http://ria.ru/arms_news/20120628/687250921.html.

¹⁰ 'Commander of ASD: the S-500 will exceed U.S. counterparts,' *Russia News*, <http://russia.1hnews.com/latest/commander-of-asd-the-s-500-will-exceed-u-s-counterparts/>.

500 is also expected to be smaller and more manoeuvrable¹¹. Under SAP-2020, 10 battalions of S-500 are projected to be delivered for service by 2015¹². However, the system is still in the design phase, and time estimates for production vary from 2014 to 2020. In any case, Moscow plans to launch two plants to produce hypersonic missiles to equip both the S-400 and S-500 by 2015¹³.

A missile early warning system is being developed across the country.

A system of new Voronezh-type early warning radars to warn against impending ballistic attacks will also be included in the aerospace defence forces. In November 2011, a Voronezh-DM radar was activated in the Russian enclave of Kaliningrad, and in February 2012, the Voronezh-M band radar was activated in the Leningrad region¹⁴. One more radar is planned to be installed in the Krasnodar region during the first quarter of 2013, and a Voronezh-M radar in Irkutsk is being tested¹⁵. A radar in Armavir should also become operational soon¹⁶ to replace the Gabala radar station in Azerbaijan, which Russia used until late December 2012¹⁷. A new long-range mobile radar, known as 55Zh6ME, has also been tested

¹¹ Oleg Nekhai, 'S-500- a miracle of a weapon,' *The Voice of Russia*, July 02, 2012, http://english.ruvr.ru/2012_07_02/80032342/.

¹² 'Aerospace Defense covers two thirds of Russia's territory [Voenno- Kosmitseskaya oborona prikryvaet 2/3 territorii Rossii], *Ria Novosti*, July 22, 2007, http://ria.ru/defense_safety/20110722/405448162.html.

¹³ Andrei Kislyakov, Russia's defense steps up in aerospace missiles, *Russia Beyond the Headlines*, 08 January 2013, http://rbth.ru/articles/2013/01/08/russias_defense_steps_up_in_aerospace_missiles_21435.html.

¹⁴ New radar of the VKO forces, [Novaya RLS voisk VKO], *Voenno-Promishlennij Kur'er*, <http://vpk-news.ru/news/13108>.

¹⁵ 'Several new radars will be constructed in Russian in 2013' [V Rossii v 2013 godu nachniotsya stroitel'stvo heskol'kih hovyh RLS], *Ria Novosti*, December 01, 2012, http://ria.ru/defense_safety/20121201/913024781.html.

¹⁶ Farid Akberov, 'Russian Deputy Defense Minister: 'Armavir RLS is ready to fulfill tasks today,' APA, December 27, 2012, http://en.apa.az/news_russian_deputy_defense_minister_armavi_185202.html.

¹⁷ Russia Confirms Pullout from Gabala Radar in Azerbaijan, *Ria Novosti*, December 11, 2012, http://en.rian.ru/military_news/20121211/178083070.html.

¹⁸ Russia develops new long-range mobile radar, *Ria Novosti*, October 17, 2012, http://en.rian.ru/military_news/20111017/167774318.html.

¹⁹ Russia to start construction of Three radar stations, *Ria Novosti*, January 06, 2013, http://en.rian.ru/military_news/20130106/178608430.html.

²⁰ 'Russia has tested a missile defense system' [Rossiya ispytala systemu PRO], *Voenno-Promishlennij Kur'er*, <http://vpk-news.ru/news/12808>.

²¹ Steve Gutterman, 'Putin flexes muscle in big test of Russia's nuclear arsenal,' *Reuters*, October 20, 2012, <http://www.reuters.com/article/2012/10/20/us-russia-nuclear-putin-idUSBRE89J0EJ20121020>.

²² 'Russia tests short-range interceptor missile,' *Ria Novosti*, October 16, 2012, http://en.rian.ru/military_news/20121016/176667537.html.

²³ 'Russian VKO Forces tested missile in Kazakhstan' [Rossijskie VKO ispytali protivoraketu v Kazahstane] *Vzglyad*, October 16, 2012, <http://vz.ru/news/2012/10/16/602765.html>.

²⁴ 'In 2013, VKO troops will receive an S-400 regiment and 'Armor' batteries' [Vojska VKO v 2013 gody polychat polk S-400 i batareyu 'Pahcirej] *Ria Novosti*, December 01, 2012, <http://ria.ru/arms/20121201/913024923.html>.

and is expected to be available for the VKO forces soon. This radar is reportedly capable of shooting down targets at distances of up to 1 800 km and altitudes of up to 1 200 km¹⁸.

More radar installations across Russian territory are planned to detect incoming missiles. Three new Voronezh class radars are scheduled to be constructed in 2013 in Krasnoyarsk Territory, the Altai Republic and the Orenburg region¹⁹.

Finally, the Soviet-era A-135 anti-ballistic missile (ABM) system around Moscow will also be integrated into Russia's VKO. The system includes a Don-2N battle management radar, as well as two types of ABM missiles: 68 deployed 53T6 SH-08 (NATO reporting name 'Gazelle') short-range missile interceptors and 32 51T6 (NATO reporting name 'Gorgon') interceptors²⁰.

In late October, Moscow ramped up missile tests, with drills involving all three components of the strategic nuclear forces — strategic bombers, land- and sea-launched long-range missiles, and communications and control systems. The Ministry of Defence reported that during exercises, an RS-12M Topol (NATO reporting name SS-25 Sickle) intercontinental ballistic missile (ICBM) was launched from Plesetsk in Russia, while a submarine operating from the Sea of Okhotsk launched a submarine missile, the (SLBM) R-29R Sineva missile (NATO reporting name SS-N-23 Skiff). In addition, long-range Tu-95 and Tu-160 bombers fired missiles that hit their targets at a test range located in the north western Komi region²¹. Less than a week later, the Russian Strategic Rocket Forces also carried out a successful test of a short-range interceptor missile²². The missile defence system that is part of the aerospace defence system was also successfully tested²³.

It has been announced that the Aerospace Defence Forces will participate 'in more than 100 events of operational and combat training' in 2013²⁴.

The A-135 system is being upgraded and integrated into the VKO.

Missile defence exercises have been intensified across the country, with numerous tests conducted in the last months of 2012 and more planned for 2013.

Conclusions

If the organisational and budgetary challenges are met, the VKO will significantly boost Russia's military strength.

For Russian defence planners, the VKO will serve to strengthen Russia's military might and maintain strategic parity with the US, which is developing its missile defence in Europe with the European 'Phased Adaptive Approach'. The VKO is also intended to contribute to the modernisation of the country's arsenal over the next decade. However, its development is a very ambitious endeavour, and fully implementing its Aerospace defence architecture may prove problematic.

Potential complications in the system's development and deployment include cost increases, financial shortages, the rampant corruption that plagues the Russian military-industrial complex, the declining state of the country's defence industry, and the difficulty of developing the S-500 interceptors on time. Moscow wishes to prove that it can master new missile defence technology, although the VKO will sorely test the country's defence industry.