



Descriptions of Russian Military Modernization in 2021

OE Watch Commentary: At the end of the year, the Russian mass media often runs stories about the military modernization accomplishments of the past year and plans for the future year. The following articles from Russian media are in line with this theme. They describe different aspects of military modernization planned for 2021 and beyond. The accompanying excerpted article from the government-run *Rossiyskaya Gazeta* describes the modernization of Russia's nuclear triad (Strategic Rocket Forces (RVSN), ballistic missile submarines, and long-range aviation. According to *Rossiyskaya Gazeta*, the percentage of the nuclear triad's modern equipment will increase from 86 to 88 percent. (In Russian military parlance, the term 'modern' typically means equipment procured after the collapse of the Soviet Union.) The accompanying excerpted article from *Krasnaya Zvezda*, the official newspaper of the Russian Ministry of Defense, features an interview of Russian Federation Deputy Defense Minister, Colonel General Aleksey Krivoruchko. General Krivoruchko explains the growing role of UAVs in the Russian Armed Forces and how Russia is now planning to test its first large strike UAVs in 2021. The accompanying excerpted article from *RIA Novosti Online*, another state-owned domestic news outlet, outlines some of Russia's more ambitious, long-term modernization efforts. These efforts include the advanced long-range interception aviation system (PAK DP) [перспективный авиационный комплекс дальнего перехвата ПАК ДП] aimed to replace the MiG-31 high-speed intercept aircraft and the advanced long-range aviation system (PAK DA) [перспективный авиационный комплекс дальней авиации (ПАК ДА)], which is designed to replace the Tu-95, Tu-160, and Tu-22M3 strategic bombers. More details regarding these aspects of Russian military modernization are in the excerpts below and help paint some of the picture of Russia's intent in competition. **End OE Watch Commentary (Bartles)**



Russian Federation Deputy Defense Minister,
Colonel General Aleksey Krivoruchko, Russian
Ministry of Defense.

Source: <https://structure.mil.ru/download/images/upload/2019/Krivoruchko-2-2.jpg>, Attribution: CC BY 4.0

“The rapid rate at which Russia’s army is rearming to new and advanced combat hardware must be maintained in 2021 and in the future. The country’s President has identified this as a key goal and it applies first and foremost to renewing our nuclear triad, where modern weaponry currently accounts for 86 percent of the total. This enables it to guarantee Russia’s security. The plan is to raise that number to 88.3 percent by 12 months from now...”

Source: Yuriy Gavrilov, “Оружие особого назначения (Special-Purpose Weapons),” *Rossiyskaya Gazeta Online* (government-run news outlet), 28 December 2020. <https://rg.ru/2020/12/28/kak-budet-razvivatsia-v-2021-godu-rossijskaia-iadernaia-triada.html>

The rapid rate at which Russia’s army is rearming to new and advanced combat hardware must be maintained in 2021 and in the future. The country’s President has identified this as a key goal and it applies first and foremost to renewing our nuclear triad, where modern weaponry currently accounts for 86 percent of the total. This enables it to guarantee Russia’s security. The plan is to raise that number to 88.3 percent by 12 months from now...

Thirteen launchers with Yars and Avangard ICBMs will commence combat alert duty with the Strategic Missile Troops. Construction of the infrastructure for these systems will be completed at the missile divisions in Kozel’sk, Yasnyy, Uzhur, Novosibirsk, and Yoshkar-Ola. And a special training ground will be fitted out near the settlement of Severo-Yeniseyskiy in Krasnoyarskiy Kray for flight tests of the brand-new Sarmat missile system. This heavy ICBM is known to be the replacement for the world’s most powerful strategic missile, the RS-20V Voevoda, which the West dubbed the “Satan” back in Soviet times. The Strategic Missile Troops commander, Sergey Karakayev, recently said that work is in hand to prepare the Uzhur division as the lead regiment to rearm to the Sarmat. This strategic system is expected to be delivered for combat alert duty in 2022.

No less ambitious seem the plans to develop Russia’s Pacific aviation and strategic submarine fleet. Here are just two facts supplied by Sergey Shoygu. The first is that the modernized Tu-160 aircraft will begin state tests next year. This is our principal carrier of air-launched nuclear weapons, which is why the military have repeatedly spoken of the need to modernize all the “White Swans” in service with Russia’s Aerospace Forces... The extent to which this has been delivered in the modernized Tu-160 is for the fliers to judge. But what is crystal clear is that they will receive an absolutely new missile platform, in terms of flight performance and effectiveness in combat. As regards the aircraft’s weaponry, it is already able to take part in achieving strategic goals. For example, the Kh-101 cruise missile in its nonnuclear variant proved its exceptional accuracy and firepower in Syria.

The second fact is that in 2021 the Navy will receive two Borey-A class nuclear submarines—the Knyaz Oleg and Generalissimus Suvorov, with Bulava ballistic missiles... They are quieter, more maneuverable, with enhanced capabilities for remaining at depth, and have more modern weapon control systems. Apart from six 533-mm torpedo tubes, these boats are armed with missile torpedoes and an anti-aircraft missile system. But their main strike weapon is the Bulava, of which each boat carries 16. This three-stage solid-fuel missile carries six individually homing warheads, and it can hit the target with a likely deviation of just 120-350 meters from a range of 10,000 kilometers. Considering that this naval missile carries a nuclear warhead, that is not much at all.



Continued: Russian Military Modernization in 2021

Source: Roman Biryulin, “Оружие России опережает время (Russia’s Weapons Are Ahead of Time),” *Krasnaya Zvezda Online* (official newspaper of the Russian Ministry of Defense), 30 December 2020. <http://redstar.ru/oruzhie-rossii-operezhaet-vremya/>

The Army and Navy are being rearmed at rapid rates. Developments of new types of weapons are being conducted and advanced models are being tested. Deputy Defense Minister Aleksey Krivoruchko discusses new Strategic Rocket Forces systems, ships, aircraft, air defense systems, missile and artillery systems, armored combat vehicles, and unmanned aerial vehicles of various designations... About this, and also about other successes in the spheres of the improvement of the domestic weapon system in the year that is coming to an end and the plans for the future.

The development of robot complexes and equipping the troops with them, including complexes with unmanned aerial vehicles, is a priority task of the Russian Federation Armed Forces force structure and development. To what extent has the functionality of UAVs been expanded?

We are completing the development of complexes with multifunction unmanned aerial vehicles of various classes, which are capable of accomplishing missions in the composition of groups or “swarms” in coordination with manned aircraft, and also jointly with ground and naval robot complexes, to increase our troops’ capabilities to accomplish their assigned missions.

This first and foremost concerns the use of small manned aerial vehicles. The employment of those UAVs has firmly become customary and has been transformed into an everyday event today. Military formations in all of the Russian Army’s branches and types of troops and also troops, which are not part of the branches and types of troops, from the tactical to the strategic level, are being equipped with complexes with UAVs of various types and designations. The corresponding subunits and services have been created, the special training of personnel has been organized, and the repair and servicing of the aircraft is being conducted.

The first models of complexes with medium-range reconnaissance-strike unmanned aerial vehicles and with loitering munitions, which are successfully completing testing in combat conditions, have already been supplied to the troops. The unmanned aerial vehicles that are being developed to equip our Army are capable of accomplishing missions in conditions of the countermeasures of enemy electronic systems and air defense weapons. Furthermore, they are equipped not only with systems, which ensure the accomplishment of reconnaissance and strike missions, but also with equipment to accomplish special missions, including in support of the employment of air-launched, sea-launched, and ground-based precision-guided weapons.

The missions, which are being accomplished by UAVs, are constantly being expanded. If small UAVs were employed for optical-electronic reconnaissance in the initial phase, they are accomplishing EW missions, communications relay, cargo delivery, providing target designation to guided weapons, and even strike missions at the present time. The extensive employment of small UAVs permits a massive reduction of the expenditure of munitions to destroy targets and the increase of the flexibility and efficiency of the employment of artillery. In so doing, they are being integrated into the single reconnaissance-information space, which supports the dissemination of information to the command and control agencies in real time on the ground, naval surface, and air situation, which is needed to make effective decisions on troop command and control and the employment of weapons...High importance is being assigned to the development of large strike UAVs at the present time...which are equipped with weapons and satellite communications, based upon them at the present time. These aircraft will emerge at flight tests already in 2021 with their subsequent massive series production and delivery to the troops...

Source: Nikolay Protopopov, “‘Мир изменится’: чем армия России будет воевать в ближайшие годы (‘World Changes’: Russian Army’s Combat Arsenal for Coming Years),” *RIA Novosti Online* (state-owned domestic news media outlet), 05 Jan 2021. <https://ria.ru/amp/20210105/vooruzheniya-1591565765.html>

The Defense Ministry annually orders thousands units of modern combat equipment while the development and improvement of armaments continues constantly. In the near future, the military will receive a unique weapon based on other physical principles—at times, it seems that these things are straight from Sci-Fi movies. The RIA Novosti reports on the most interesting and anticipated of these novelties...

The advanced long-range interception aviation system (PAK DP) will replace the MiG-31 supersonic interceptor. Work on this project began in 2017. The designers are offering several PAK DP variations. But it is already clear now that the aircraft will be faster, more maneuverable, and will possess more powerful strike capabilities... The advanced long-range aviation system (PAK DA) is another future aircraft, designed to replace the Tu-95 and Tu-160 strategic bombers, as well as the Tu-22M3 long-range aircraft... The PAK DA has a “Flying Wing” layout, with integration of stealth technologies. It is known that this strategic bomber will be able to stay airborne for up to 30 hours and to travel tens of thousands of kilometers. It has not been decided yet whether the missile-carrier should be supersonic or subsonic, but it will definitely be equipped with the most advanced avionics and automatic equipment...

The Poseidon underwater vehicle is one of the most anticipated developments for the Russian Navy. The project is of great concern to the United States, since their powerful missile defense may prove to be absolutely worthless with the adoption of this unmanned underwater vehicle. After being delivered to a certain area of the world ocean, the drone leaves the submarine and switches to autonomous navigation. It has a nuclear propulsion system and therefore it has an unlimited range of operation. It may opt for the most unpredictable routes. When submerged, the Poseidon travels much faster than the submarines and can dive to a depth of more than a kilometer. It can be armed with both conventional and nuclear warheads. The unmanned underwater vehicle can operate against both enemy large ships and coastal targets. The warhead, the capacity of which reaches 100 kilotons, according to experts estimates, may cause irreparable damage to any coastal nation... Another major project being implemented in the interests of the Navy is the fifth-generation Khaski-class multirole nuclear submarine. Their main purpose is countering Ohio and Columbia class American strategic submarines, as well as aircraft carrier groupings. There are two variants of this type of submarine—armed with Kalibr antisubmarine cruise missiles and Tsirkon hypersonic antiship missiles...