



## Russian UAV Organization and Developments

**OE Watch Commentary:** The accompanying excerpted article from *Krasnaya Zvezda*, the official newspaper of the Russian Ministry of Defense, features an interview with Denis Fedutinov, the editor-in-chief of *Unmanned Aviation* magazine. Fedutinov discusses the changing character of warfare, UAV use in the Russian Armed Forces, and mentions that Russia is developing strike UAVs, and prototypes have been field tested in Syria. The accompanying excerpted article from *Nezavisimoye Voyennoye Obozreniye*, a weekly military newspaper published by *Nezavisimaya Gazeta* a large-circulation daily centrist newspaper that is occasionally critical of the Russian government, explains how UAVs are organized in the various branches of service that comprise the Russian Armed Forces.

Of particular interest, *Nezavisimoye Voyennoye Obozreniye* states that the UAV company in a combined-arms brigade or division consists of two platoons. The first is the short-range platoon, equipped with Orlan-10 and/or Takhion-4 UAVs. The second platoon is a close-range [близнего действия] platoon, equipped with Granat-1, 2, 3, and 4, Zastava, Takhion, and/or Eleron UAVs. The accompanying excerpted article from *Izvestiya*, a pro-Kremlin daily newspaper, states that although Russia has tested the Lancet loitering munition UAV, or ‘kamikaze UAV’ as usually referred in the Russian mass media, in Syria; and strike UAVs are in development, Russia is having production difficulties due to a lack of suitable domestically produced motors and engines. **End OE Watch Commentary (Bartles)**



Screen shot from defense manufacturer's promotional film of Lancet loitering munition UAV.

Source: <https://www.youtube.com/watch?v=i9ftPRP6stc>

***“[Strike UAVs] such as “Altius”, “Orion”, “Forpost”, and others are being developed in Russia. A portion of them have already completed certain phases of tests, which have confirmed the embedded characteristics. What is more, some of the previously mentioned UAVs were successfully employed in the operations of the Russian Armed Forces contingent on the territory of the Syrian Arab Republic...”***

***- Denis Fedutinov, Editor-in-Chief of “Unmanned Aviation” Magazine***



Lancet loitering munition UAV.

Source: Vitaly Kuzmin, <https://photos.smugmug.com/Military/ARMY-2019-Exhibition-pavilions/i-HwGLLZC/0/3a7de479/X2/Army2019Pavilions-071-X2.jpg>, Attribution: CC BY 4.0



## Continued: Russian UAV Organization and Developments

**Source:** Alexander Tikhonov, “Беспилотники набирают высоту. И вес (Unmanned Aerial Vehicles Are Gaining Altitude. And Weight),” *Krasnaya Zvezda* Online (official newspaper of the Russian Ministry of Defense), 12 February 2021. <http://redstar.ru/bespilotniki-nabirayut-vysotu-i-ves/>

*Deliveries of complexes with reconnaissance-strike UAVs to the Russian Armed Forces - are a new step in the development of domestic unmanned aviation. The fragmentary employment of complexes with unmanned aerial vehicles is receding into the past. Already today UAVs, besides reconnaissance and surveillance in real time, are accomplishing EW missions and are capable of employing various aircraft weapons. There is a reason why the RF Ministry of Defense leadership is paying careful attention to the development of unmanned aviation and deliveries of new complexes with UAVs to the troops (forces). Today our interlocutor is Denis Fedutinov - a leading Russian expert in the unmanned aerial vehicle sphere and the Editor-in-Chief of “Unmanned Aviation” Magazine. Our conversation is about the present and near future of a number of domestic and foreign complexes with unmanned aerial vehicles...*

***Recent military conflicts are characterized by the increasingly frequent employment of unmanned aerial vehicles. They have already become an integral element of combat operations. Denis Vyacheslavovich, list the missions, which UAVs are accomplishing on the battlefield, more precisely above it.***

*The role of unmanned aviation systems in the achievement of victory over the enemy is increasing at the present time. The product list of the systems that are being used, and also their functional capabilities - they are supporting not only the conduct of reconnaissance, including in real time, but also the guidance of precision-guided weapons, and the accomplishment of signals intelligence and electronic warfare missions...The use of unmanned aerial vehicle complexes in conjunction with traditional weapon systems and military equipment that are controlled by man increases the troops' combat capabilities and simultaneously reduces personnel losses. The listed facts determine the high interest, which is being displayed by the armed forces of many of the world's countries, to equip them with similar equipment. There is reason to believe that the trend will be maintained in the future and unmanned aircraft will occupy a more substantial percentage among the total amount of weapons and equipment that are being employed.*

***What is the state of affairs in domestic unmanned aviation?***

*Domestically-manufactured unmanned aerial vehicles have already long since become an integral part of any Russian Federation Armed Forces combat training events and also of the accomplishment of combat and peacekeeping operations. Over the course of the last decade, the Russian Military Department has systematically purchased in substantial numbers the UAVs that have been developed by Russian companies to equip the Armed Forces with them. We are primarily talking about close and short operating range UAV systems. But, of course, not only about them.*

***How do matters stand with the development of strike UAV systems?***

*Such complexes such as “Altius”, “Orion”, “Forpost”, and others are being developed in Russia. A portion of them have already completed certain phases of tests, which have confirmed the embedded characteristics. What is more, some of the previously mentioned UAVs were successfully employed in the operations of the Russian Armed Forces contingent on the territory of the Syrian Arab Republic...*

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***-Military Expert Viktor Murakhovskiy***



## Continued: Russian UAV Organization and Developments

**Source:** Aleksey Ramm, “Куда летит беспилотная авиация (Where Unmanned Aviation is Flying: The Armed Forces are Increasingly Interested in UAVs), *Nezavisimoye Voyennoye Obozreniye* Online (weekly military newspaper, sometimes critical of Russian government policies) 21 January 2021. [https://nvo.ng.ru/armament/2021-01-21/1\\_1125\\_aviation.html](https://nvo.ng.ru/armament/2021-01-21/1_1125_aviation.html)

*...All the branches of Russia's armed forces currently have UAV aviation, the most numerous fleet being with the Ground Troops. The precise number is not disclosed, but one can assume it is more than 1,500. The Orlan-10 family of UAVs, and also the Granat, Eleron, and Takhion, form the backbone of the Ground Troops' fleet. Motorized rifle and tank brigades and divisions have UAV companies as part of their standard establishments, and similar subunits are being formed within the recently created separate reconnaissance brigades.*

*The UAV company in a combined-arms brigade or division consists of two platoons. The first is the short-range platoon, armed with the Orlan-10 and Takhion-4. The second platoon is a close-range [близнего действия] platoon, and its main weapons are the Granat-1, 2, 3, and 4, Zastava, Takhion, and Eleron. Note that UAV companies in Airborne Troops divisions and brigades and also naval infantry units are organized along similar lines. Although the UAV subunits are now generally established in the Airborne Troops, in the black beret brigades and regiments the companies and platoons are still in the formative stage. For example, UAVs are already part of the 61st (Northern Fleet) and 40th (Pacific Fleet, Kamchatka) Naval Infantry Brigades.*

*Artillery, engineer-sapper, missile, reconnaissance, and even railway brigades also have UAV subunits, which are primarily nearby-operations separate platoons. For example, engineers use UAVs to survey mine fields and enemy fortifications, railway troops to assess the condition of the track and also the extent of damage to bridges and other infrastructure. While missile brigades use UAVs to select suitable positions for Iskander systems, and also to guard them. UAV subunits in artillery brigades have a fairly interesting organizational structure. Apart from Orlan-10 platoons, they have teams with the latest Orlan-30 UAVs and also platoons for artillery UAV reconnaissance. The UAV subunits in the newly formed Airborne Troops artillery brigade are expected to be organized in the same way...*

*Several UAV squadrons, both separate and as part of aviation regiments, have been formed within the Aerospace Forces. Until recently the UAV units and subunits in the Aerospace Forces only operated the Forpost family of UAVs, but the fleet is now being augmented by the Orlan-10. As announced in the fall of last year by the Defense Ministry, a separate aviation squadron has been formed to support operations at the Plesetsk airfield and alongside its helicopters and aircraft are Orlan-10 UAVs. The UAVs' mission is to ensure the security of rocket launches from Plesetsk.*

*But it is the Navy that can boast of the most original way of organizing its UAV aviation, for only it has separate UAV regiments. These are armed with the Forpost family of UAVs and the ubiquitous Orlan-10. Note that the latter operate not only from land. Orlan teams have been based on board Russian Navy corvettes and frigates since 2018. The first naval UAV regiment was formed at the Northern Fleet and another such unit is now expected to appear in Crimea (according to other reports, it is already in existence). Separate Forpost UAV squadrons also make up part of several Naval Aviation regiments, in particular the 689th Fighter Regiment in Kaliningrad and the 318th (Crimea) and 71st (Kamchatka) Composite Aviation Regiments. The Navy's UAV regiments and squadrons work not only to benefit surface ships and submarines. They also support hostilities by separate artillery and coastal missile and artillery brigades, and also coastal defense units...*

***“Our key problem is the lack of our own domestically produced engines. Both electric engines, for small vehicles, as well as internal combustion engines -- for the large ones. We need units with five to 150 horsepower capacity...There are experimental models, but none in serial production. The second problem is the creation of small munitions...As for the loitering munition UAVs, they are already being used in Syria, although these are individual models. It is necessary to determine which models exactly should be put into serial production.”***

***-Military Expert Viktor Murakhovskiy***





## Continued: Russian UAV Organization and Developments

**Source:** Anton Lavrov, “Небесное дело: на какие беспилотники делает ставку Минобороны (Celestial Affair: The UAVs the Defense Ministry Relies Upon), *Izvestiya* Online (pro-Kremlin daily newspaper) 13 December 2020. <https://iz.ru/1098861/anton-lavrov/nebesnoe-delo-na-kakie-bespilotniki-delaet-stavku-minoborony>

...In three different conflicts this year, it was precisely the attack UAVs that played the key role, military expert Vladislav Shurygin told *Izvestiya*. “With their help, Turkey managed to slow down the Syrian government’s offensive in Idlib,” the specialist reported. “In Libya, they helped to reverse the situation and to push Haftar’s troops away from Tripoli. And just recently we observed their employment in the battles for Nagorno-Karabakh. The experience of this conflict will be studied especially actively both abroad and in Russia, the expert believes. This is the first-time kamikaze UAVs were employed in such numbers. They demonstrated their high effectiveness even against a standing army, equipped not only with armored vehicles and artillery, but also with full-fledged low- and medium-range air defense systems,” Vladislav Shurygin concluded.

This week, Sergey Chemezov, the head of Rostec, told the media that the Lancet light loitering kamikaze UAVs, created by the Kalashnikov Concern, had been tested in Syria. The head of the state corporation also announced that the 200 kg Korsar medium-size UAV, which is currently at the test phase, will have a strike function as well... “Our key problem is the lack of our own domestically produced engines. Both electric engines, for small vehicles, as well as internal combustion engines -- for the large ones. We need units with five to 150 horsepower capacity,” military expert Viktor Murakhovskiy told *Izvestiya*. “There are experimental models, but none in serial production. The second problem is the creation of small munitions. For a long time, the matter was not attended as there was no demand for it, but a number of enterprises have been working in this direction in recent years. Something has already been manufactured, and is being used in Syria. However, in other areas, we still have to wait. As for the loitering munition UAVs, they are already being used in Syria, although these are individual models. It is necessary to determine which models exactly should be put into serial production.

...We do not have a high altitude and lengthy flight duration strategic long-range unmanned aerial vehicle, the likes of the American Global Hawk. So far, we do not know of any research and development projects in this area either. Maybe it is no longer considered to be important, the expert said... “As far as the employment of tactical-class unmanned aerial vehicles and their availability in the troops are concerned, things are in order,” Viktor Murakhovskiy believes. “There is a company of unmanned aerial vehicles in each of the Ground Troops brigades, and they are also present in the naval infantry and coastal troops of the fleet. In Syria, we are able to deploy 50 to 70 UAVs in various regions of the country simultaneously...

According to the Defense Ministry data, Russia has over 2,000 small reconnaissance UAVs in its inventory with advanced capabilities. A family of complex and heavy unmanned aerial vehicles weighing over a ton is being developed. Yet the niche of medium-size vehicles, weighing from 100 to 1,000 kg, remains nearly unoccupied. It is the very area, which offers the possibility to develop new attack and multipurpose vehicles with great combat potential more quickly and cheaper...

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