



## The Development of the Forpost UAV

**OE Watch Commentary:** Russian UAV development began in Soviet times and there have been assessments that the Soviet UAV program stood on an equal footing as its Western counterparts. The financial turmoil after the collapse of the Soviet Union resulted in little or no Russian UAV development throughout the 1990s and most of the 2000s. As a result, by the time of the 2008 Russo-Georgian War, the Russian Armed Forces were still using systems initially developed in the 1970s and 1980s. The “Strizh” and “Reys” were built in the seventies by the Tupolev Design Bureau, while the Stroy-P system with the “Pchela” UAV was created by the Kulon Scientific Research Institute and the Yakovlev Design Bureau at the end of the 1980s. It became apparent that a serious upgrade of the Russian UAV program was required after gaps in Russian capabilities were found during the 2008 Russo-Georgian War.

Russia’s first action to further this line of effort was to purchase a consignment of BirdEye 400 and Searcher Mk II UAVs from one of the world’s leading UAV developers, the Israeli IAI company. Licensing agreements were then concluded so production could be done domestically under the names Zastava and Forpost at the UZGA plant in Yekaterinburg. In parallel, the Russian Army began procuring purely domestic systems including: the Orlan-10 developed by the STTs company in Saint Petersburg; the Eleron-3SV developed by the Eniks firm in Kazan; and the Granat family of UAVs, produced by Izhmash Unmanned Systems. In addition, the Russian Defense Ministry is financing a series of R&D projects aimed at creating the next generation of domestic UAVs. This includes: a tactical UAV project developed by the Luch Design Bureau in Rybinsk; two different long-duration and medium-altitude UAV projects being developed by the Kronshtadt Company in Saint Petersburg; a reconnaissance-strike UAV project being developed by the Simonov Design Bureau in Kazan; and a large UAV project being developed by the aircraft manufacturer Sukhoi.

The accompanying articles discuss the most common UAV in the Russian Aerospace Forces (VKS), the Forpost. A typical Forpost UAV system consists of a ground control station and three UAVs, costing an estimated \$6 million per airframe. The Forpost UAV has a take-off weight of 454 kg and can carry up to 100 kg payload. It is capable of conducting surveillance for up to 17.5 hours, at altitudes of up to 5,700 meters, and at a range of up to 250 km. Due to these characteristics, in Russian parlance, the Forpost is classified as a medium-sized UAV. The Forpost is primarily an aerial reconnaissance platform that can be used for target acquisition and for artillery spotting. Currently, reconnaissance duties are accomplished by video and infrared electro-optical sensors, but as the accompanying 25 January 2018 edition of *Izvestiya* explains, Russia is now developing a radar capability for the Forpost. A radar capability would significantly improve the Forpost’s ability to collect information in nighttime and poor weather conditions. As can be seen in the accompanying excerpted articles from the *Ministry of Defense of the Russian Federation* and the 17 January 2018 edition of *Izvestiya*, the Forpost has performed well in Syria, and there are plans for its further development. Russia has also decided to establish a special department in the Gagarin Air Force Academy to train pilots of medium and large UAVs, in order to more fully exploit these platforms’ capabilities. **End OE Watch Commentary (Bartles)**

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*“In Syria, the Forpost proved itself in the best possible way. We are therefore making plans for using these systems for the next decade. Naturally, they will undergo modernization...”*

*-Deputy Defense Minister Yuriy Borisov*







## Continued: The Development of the Forpost UAV

**Source:** Sergey Valchenko and Aleksey Ramm: “Дрон-разведчик заглянет под облака: «Форпост» оснастят всевидящим радаром [A Drone Will Peer Beneath the Clouds: The Forpost Will Get All-Seeing Radar],” *Izvestiya Online*, 25 January 2018. <https://iz.ru/695715/sergei-valchenko-aleksei-ramm/dron-razvedchik-zaglianet-pod-oblaka>

*Russia's reconnaissance drones are to receive the ability to operate day and night in any weather. Forpost UAVs will be fitted with miniature precision radars, which experts say will greatly enhance their capabilities. Forposts currently carry powerful optoelectronic stations that are not always effective in fog or sandstorms...The military are drawing up the tactical and technical requirements for a UAV radar station, Izvestiya was told at the Defense Ministry. The decision to develop a radar for the Forpost was made on the basis of experience of using unmanned aviation in combat in the Syria operation. The plan is that the radar will become part of the onboard equipment for existing Forposts, with the prospect of it also being fitted to the upgraded Forpost-M.*

*According to Izvestiya's information, the radar being created for the drone will to a large extent be similar to the radars fitted to “proper” aircraft. Although it will differ by being smaller, because of the UAVs' weight and dimensions. For ease of use the radar drone will be contained in a small pod, which can be installed beneath the wing or fuselage...The Forpost tactical UAV is the main “workhorse” of the UAV subunits in Russia's Aerospace Forces and Navy. Active use has been made of drones during the operation in Syria.*

*Denis Fedutinov, chief editor of the Unmanned Aviation [UAV.ru] website, told Izvestiya that the decision to fit reconnaissance drones with radar is entirely sound. “Installing a radar station on a UAV in addition to the traditionally used optoelectronic surveillance devices will improve target detection and identification,” he explained...*

*Russian UAVs in Syria have flown 16,000 sorties, Defense Minister Sergey Shoygu reported earlier. Their total time in the air amounts to 96,000 hours. The intensity of reconnaissance drone use substantially increased in the course of the operation. UAVs flew about 400 sorties in 2015 but by late 2017 this was more than 1,000 sorties every month. As the Minister commented, UAVs ensure round-the-clock monitoring of the situation on practically the entire territory of Syria. According to the military, using UAVs in this country significantly increased the ability of aviation, missile forces, and artillery to destroy guerrilla targets.*

**Source:** Nikolay Surkov and Aleksey Ramm, “Командиры «пилотов беспилотников» пополнят ВКС в 2018 году [Officers Commanding ‘Drone Pilots’ Will Replenish the VKS in 2018],” *Izvestiya Online*, 17 January 2018. <https://iz.ru/687961/nikolai-surkov-aleksei-ramm/komandiry-pilotov-bespilotnikov-popolniat-vks-v-2018-godu>

*Izvestiya was told in the Aerospace Forces Main Command that as of 2018 drone elements will be commanded by specially trained officers. They are very familiar with the specifics of the employment of UAV and know how to organize with the maximum efficiency the field operations of the squadrons, how many vehicles are needed to monitor a designated area, how to establish interaction with headquarters, and so forth. Officers for drone detachments will be trained by the 4th Department of the N.Ye. Zhukovskiy and Yu.A. Gagarin Air Force Academy. Graduates of the department are capable of operating modern systems for the collection and processing of aerospace intelligence data as part of the integrated system of automated command and control of the armed forces. They will serve in UAV detachments in officer billets.*

*There are several separate drone squadrons in the Aerospace Forces at this time. One is permanently in Syria, where it is tackling reconnaissance assignments. In addition, two UAV regiments have been organized in the Navy...Denis Fedutinov, expert in the field of drone aircraft, told Izvestiya that the presence in the units of trained UAV specialists will ensure the better-skilled maintenance of the systems and raise the efficiency of their employment. “The decision to entrust drone systems to specialist officers is very timely,” Denis Fedutinov observed. “They know all the possibilities and technical features of the products in service, this is why they are capable of supporting long operating timeframes. This is particularly pertinent at this time, when the number of UAV in the field is growing by the year. It is hard to ensure the proper level of use of the purchased systems without special know-how.”*

*The expert says that training is particularly pertinent in the use of medium and heavy UAV...“portable systems that are intended for operation at the tactical level may be controlled by relatively low-skilled users. In the case of heavier and costlier vehicles, command and control must be exercised by specially trained officers,” Denis Fedutinov added. The main UAV in service with these elements is the medium-range (up to 250 km) Forpost vehicle...Forpost UAV operators are taught by the Russian Defense Ministry State Unmanned Aviation Center near Kolomna. The training of such a specialist takes approximately four months.*

**Source:** ““Заместитель Министра обороны Юрий Борисов посетил Уральский завод гражданской авиации [Deputy Defense Minister Yuriy Borisov Has Visited the Ural Civil Aviation Plant in Yekaterinburg],” *Ministry of Defense of the Russian Federation Online*, 25 December 2017. [https://function.mil.ru/news\\_page/country/more.htm?id=12156214@egNews](https://function.mil.ru/news_page/country/more.htm?id=12156214@egNews)

*Deputy Defense Minister Yuriy Borisov has made a working visit to the Ural Civil Aviation Plant in Yekaterinburg. Speaking at a conference involving the enterprise's collective, he stated that the Russian Defense Ministry was planning, from 2019, further purchases of Forpost UAVs, which have been improved taking combat experience in Syria into account and assembled entirely from Russian components...“In Syria, the Forpost proved itself in the best possible way. We are therefore making plans for using these systems for the next decade. Naturally, they will undergo modernization,” Yuriy Borisov explained.*

*He thanked the plant's employees, who had been constantly present at the Humaymim airbase in Syria, where they had conducted the UAVs' technical servicing...“The plant has delivered around 30 Forpost systems to the troops, but they had still been assembled from imported components. By order of the Industry and Trade Ministry, the plant has carried out import substitution work and we are discussing plans for ordering a new contract from 2019 with 100-percent local sourcing. Thus, the Forpost will already be wholly Russian,” Yuriy Borisov stressed.*