



## Heavy MLRS Being Added to Russian Division and Brigades

**OE Watch Commentary:** According to the accompanying excerpted article from *Izvestia*, Russian motorized rifle and tank brigades and divisions will be equipped with the Uragan-1M Multiple Launch Rocket System (MLRS). Previous reporting on the Uragan-1M MLRS stated that it was capable of firing 220mm and 300mm rockets. These rockets are stored in their firing canisters, so instead of using a crane to reload each rocket into the MLRS (the practice with previous version of the Uragan), the crane simply removes the empty pod, and replace it with a fully loaded pod of the desired caliber. According to *Izvestia*, the Uragan-1M is also capable firing 122mm rockets, the same rockets fired by the BM-21 Grad MLRS battalions that are found in most maneuver units. If this change is implemented, Russian maneuver units will gain an organic capability to significantly extend the brigade's range of fire (220mm and 300mm MLRSs are routinely attached to maneuver units). Currently, the MLRSs and howitzers found in maneuver units (with the best equipment) have a maximum range of approximately 60-70km, the Uragan-1M equipped with 300mm rockets has a maximum range of about 120km. The details of how this reform is to be implemented have yet to be released, it is unclear if the BM-21 Grad battalion will be replaced by the Uragan-1M, or if Uragan-1Ms will simply be added to the existing assets, or some combination thereof.

According to the accompanying article from *Svobodnaya Pressa*, the adoption of the Uragan-1M will not cause Russia to abandon development of the Tornado-S, a modernized version of the Smerch 300mm MLRS system. (Tornado-S/Smerchs are found in Russian artillery and MLRS brigades) The Russian Federation has recently combat tested the Tornado-S in Syria, and now will begin to field the Tornado-S, as Smerchs retire. Although both the Uragan-1M and Tornado-S are both capable of firing 300mm rockets, apparently the Tornado-S will also have rockets (probably better described as missiles) capable of 1 meter accuracy, and ranges of up to 200km. It was unclear if there is an equipment difference between the Uragan-1M and Tornado-S, that allows the firing of these greater ranged rockets, or if the Tornado-S only fires these rockets due to doctrinal reasons.

As described in the accompanying article from *RIA Novosti*, Russia greatly values long range, and relatively low-cost precision artillery. The article describes how artillery is still quite effective, even in the era of UAVs and Precision Guided Munitions (PGM), as these UAVs and PGMs cannot always be relied upon when the enemy is equipped with sophisticated electronic warfare and air defense systems. In sum, the Russian Federation is developing precision munitions, but is hedging her bets by still being able to conduct mass fires. **End OE Watch Commentary (Bartles)**

**Source:** Yevgeniy Andreyev, Bogdan Stepovoy, and Aleksey Ramm, “Артиллерия наращивает мощь: Армейские соединения усиливаются тяжелыми артсистемами (Artillery Is Building up its Power: Army Formations Are Being Strengthened with Heavy Artillery Systems),” *Izvestia Online*, 14 December 2017. <https://iz.ru/675176/evgenii-andreev-bogdan-stepovoi-aleksei-ramm/artilleriia-narashchivaet-moshch>

*The Ministry of Defense has begun the large-scale reform of artillery units. Uragan-M1 multiple rocket launcher systems, Msta-M2 self-propelled guns, and unmanned aerial vehicles are entering the inventory of the artillery regiments and brigades. The super-high yield artillery systems – Pion and Tulpan – are being returned. There have not been such large-scale changes in the Army for more than 30 years. The artillery units will substantially expand the range of combat missions that are being accomplished and they will increase effectiveness, kill range, and fire power. In the experts' opinion, the tactics of a contemporary engagement will be seriously changed after the conclusion of the reform.*

*Ministry of Defense personnel told Izvestia that the decision has been made to radically increase the firepower of the artillery subunits and combined-arms (motorized rifle and tank) divisions and brigades. In particular, Uragan heavy multiple rocket launcher systems will appear in them. Unmanned aerial vehicles will guide artillery to the targets...In 2013-2017, seven self-propelled artillery regiments – in the composition of five motorized rifle and two tank divisions - were formed in the Russian Army...*

*Ministry of Defense personnel reported the changes to the structure of the artillery regiments and brigades to Izvestia. Previously, there were two battalions, which were equipped with self-propelled howitzers, and one Grad multiple rocket launcher system battalion in the divisions' artillery regiments. That same quantity of artillery was in the combined-arms brigades...Since the fall of this year, Uragan 220mm MLRS have begun to appear in the artillery regiments and brigades. The 4th Tank Division's 275th Self-Propelled Artillery Regiment was the first to receive the new vehicles. A full battalion set of these systems – eight launchers - is already on the unit's books.*

*Military Expert Viktor Murakhovskiy told Izvestia that “the formations' firepower substantially increases” with the appearance of the Uragan systems. “Uragan is a universal system,” Viktor Murakhovskiy told Izvestia. “New munitions – cassette, fuel-air explosive, and enhanced range – have been developed for the Uragan systems. This multiple rocket launcher system can also use munitions from the Grad 122-millimeter system”.*

*Besides long-range howitzers and multiple rocket launcher systems, the artillery brigades and regiments will receive unmanned reconnaissance complexes with automated command and control systems (ASU). The appearance of the Orlan-10 unmanned artillery reconnaissance complex (BKAR) is seriously affecting the tactics of the conduct of an engagement... Furthermore, the Orlan-10 can determine the location of enemy counterbattery radars, including portable radars – of the American AN/TRQ-36 type, with an accuracy of up to several meters.*

*In the opinion of Military Commentator Vladislav Shurygin, the RF Ministry of Defense has accomplished a revolution in military affairs. “In recent years, the significance of artillery has declined and precision-guided weapons have taken its place: guided bombs and missiles”, the expert said. “Artillery was considered to be ineffective. By way of illustration, approximately 3,000 projectiles are expended for the guaranteed destruction of one concrete blockhouse based upon the standards. But right now Russian artillery has received unique capabilities. One can actually accomplish that combat mission with one shot. The commanders of units and subunits have received a universal tool, which permits them to detect and destroy any targets on the battlefield in real time”...*

(continued)



## Continued: Heavy MLRS Being Added to Russian Division and Brigades

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**Source:** Vladimir Tuchkov, “Опыт боёв в Сирии: На смену «Смерчу» приходит «Торнадо» (Experience of Battles in Syria: The Tornado-S is Replacing the Smerch),” *Svobodnaya Pressa Online*, 1 January 2018. <https://svpressa.ru/war21/article/189816/>

*The Tornado-S new-generation multiple rocket launcher (MLRS) has been successfully tested in Syria...The Tornado-S is a thorough upgrade to the Smerch MLRS... A barrage from six Smerch vehicles can halt the advance of a motorized rifle division...*

*In the Tornado-S the developers have achieved even tighter clustering, with salvo dispersal of no more than 0.3 percent of the firing range. The range has been increased to 200 km, at which point dispersal is within 600 meters -- which, basically, is the diameter of the circle (more accurately -- an ellipse) within which all 12 projectiles land. More precise guidance to a target is available using a UAV also sent up from the launch vehicle... The projectiles are stabilized by being rotated in the launch tubes. Autonomous adjustment of heading and pitch while in flight is provided by gas-dynamic fins operated from a high-pressure gas generator.*

*The system can take a broad variety of projectiles, to perform a broad variety of combat tasks. In addition to the armor-piercing rounds mentioned earlier, this includes cluster, high-explosive, and shaped-charge loads comprising 588 destructive elements capable of piercing 160-mm armor. Also available are antitank mines. A single salvo can lay 300 mines in the path of enemy armor about to attack. There are also thermobaric rounds, which function as vacuum bombs. The projectile warhead payload is about 280 kg, with minor variations depending on type of munition.*

*Yet another type of munition has appeared in the new MLRS's arsenal, one that is fully equivalent to the operational-tactical class of precision missiles [such as the Tochka-U or Iskander missile systems]. It uses GLONASS for guidance to the target...Deviation from the target is no more than one meter...the range is several hundred kilometers. Moreover, it can be fired either singly or in barrages in which the number of rounds can be varied.*

*The loading procedure has changed significantly change. With the Smerch the transport and loading vehicle inserts an 800-kg rocket projectile into each launch tube in sequence, which can take 20 minutes or more. With the Tornado-S the entire pod of launch tubes with projectiles already in place is installed onto the vehicle by crane in a single move...*

**Source:** Andrey Stanavov, “Выстрел в стратосферу: почему Россия делает ставку на дальнобойные пушки (A Shot into the Stratosphere: Why Russia is Prioritizing Long-Range Guns),” *RIA Novosti Online*, 14 December 2017. [https://ria.ru/defense\\_safety/20171214/1510867314.html](https://ria.ru/defense_safety/20171214/1510867314.html)

*Cheap, reliable, and aimed - thanks to these qualities, artillery is not only not lagging behind the positions of tactical missile systems, but are also even outperforming them at certain points. By way of illustration, it is practically impossible to detect in a timely manner and shoot down a flying projectile. However, the war of technologies is proceeding even here – the designers of guns and munitions are fighting for each centimeter of accuracy and range...*

### *Long Range*

*...It is noteworthy that if the firing range of the Pion 2S7 203-millimeter self-propelled artillery gun reaches 47 kilometers and the advanced Koalitsiya-SV 152-millimeter self-propelled howitzer shot an experimental projectile to a range... of 70 kilometers... The American M109 Paladin self-propelled gun reaches targets using rocket-propelled projectiles at distances, which do not exceed 30 kilometers.*

### *A Favorable Solution*

*According to the experts' assessments, no adequate replacement for classic tube artillery is expected for the time being or in the near future. Despite the high accuracy and effectiveness, state-of-the-art operational-tactical missile complexes, such as the Tochka-U and Iskander, are too complex to manufacture and are expensive in order to directly compete with guns under conditions of the unleashing of a large-scale war. And their missions are different...*

*...sophisticated munitions and unmanned aerial vehicles are only good when the enemy doesn't have powerful electronic warfare and air defense systems. “But if you will clash with a technically well-equipped enemy, he will rapidly knock out all radio ranges and GPS-GLONASS signals,”... Once again, we will have to rely upon topographic maps, firing tables, and meteorological data...*

### *Tube Precision-Guided*

*However, Russian weapons manufacturers are not standing in place and are continuously working on increasing the accuracy of the guns and munitions. A large number of types, including advanced munitions, which are in the experimental design work stage at the time being, are being developed for their artillery pieces. Guided projectiles based upon the Krasnopol are known, which were developed for the destruction of hardened facilities from a single shot. The classic laser guidance mechanism requires the illumination of the target by an artillery spotter, who is located at line of sight...*

*Furthermore, they plan to introduce guided projectiles with miniature extendable aerodynamic rudders and a fuse, which contains a GLONASS chip, into the new howitzers' basic load of ammunitions. The guidance principle is very interesting: the shot is conducted with the enhancement of the range and deviation to the side, after which the projectile begins “to steer” toward the target, the coordinates of which have been loaded into the chip. What is important is that that fuse practically does not affect the cost of the munition...*