

At First Sight: Russian Armor/Mechanized Battalion Tactical Groups in Ukraine War

by MAJ Gonzalo Báez

The Russian battalion tactical group (BTG) was born of the “New Look” military reforms that began in 2007. The Russian army’s transition undoubtedly reflected its experience in the Chechnya War (1994-2000).

In that asymmetric war in the Caucasus region, brigades and divisions proved to be oversized, slow-reacting units with obsolete equipment, antiquated tactics and an inability to combine their weapons with the speed that modern combat demands.¹ Those large organizations were conceived by the previous Soviet army system at the beginning of the Cold War to fight against the armored and mechanized forces of the North Atlantic Treaty Organization (NATO).

During the Battle of Grozny (December 1994-March 1995), with their doctrine outmoded and rusty, Russian armored and mechanized forces were initially repulsed in that capital city. They suffered heavy casualties and were forced into an operational pause. Among other things, Russian troops lacked combat readiness, and they were surprised by the unexpected resistance of the Chechens, who forced two long months of heavy fighting.

Only after suffering heavy losses, the Russian army decided to change its tactics to oppose the Chechen special groups that combined anti-tank weapons, boobytraps, snipers and machinegun crews from almost every building. At that time, after losing around 225 armored vehicles (including 62 tanks) and more than 1,500 soldiers, the Russians unleashed the largest air and land attack since World War II in Grozny, producing 1,370 casualties among Chechen soldiers, with about 27,000 civilians killed.²

From that raw experience, according to a U.S. Army publication,³ profound doctrinal changes were made to the Russian army, including reorganization and modernization of its forces in general. In addition to conflicts in the satellite countries, the Russian army took note of the lessons-learned by the United States in Iraq and Afghanistan. Therefore, the BTG concept was created in search of a new kind of organization with more expeditionary capacities to project forces based on new technologies.

Moreover, other experts and defense Internet sites^{4, 5, 6} indicate that Russia seeks to replace the old model of massive, rigid and pure organizations the Soviet army had, explaining that regiments and battalions are ideal for maintaining the army during peace, especially in its daily tasks. However, to have real capabilities for combat, more flexible and autonomous organizations are needed to face a modern enemy in the multidomain spectrum.

The new organization was put to the test in 2008 with the first BTG deployed on the border with the Republic of Georgia, using a special formation under Russian Army Command No. 58. The direct dependency on such a command was atypical, since the normal way would have been to operate at brigade level. Soon a second type of BTG was formed with light materiel for air-assault operations and high-readiness strategic mobility to anticipate and occupy key terrain that favored Russia.⁷

The BTG represents a departure from the Soviet model, giving more importance to the quality of technology than to quantity of equipment. However, this latest concept is strongly questioned after analyzing the current 2022 campaign in Ukraine. Russia currently has more than 60 brigades or similar formations organized, mostly with two BTGs each.⁸ Russian Defense Minister Sergei Shoigu has said that by August 2021 there were 168 BTGs in the Russian armed forces, indicating that this type of organization was the standard and perhaps the main change in Russian land doctrine.⁹

Aware of their shortcomings in conventional weapon systems, the Russians sought greater independence at the tactical-unit level, covering with artillery what they didn’t get from aviation. (Aviation is more expensive, very complex to coordinate and synchronize with land maneuver.)

In short, the BTG concept was conceived as a combined-arms unit, capable of rapid deployment to deter and react quickly to crisis situations on the multidomain modern battlefield. To that end, the BTG combines the power of Russia’s armored forces with its artillery massed fires, antitank weapons

systems, reconnaissance drones, some degree of electronic-warfare (EW) capacity, engineer platoons and logistics support.

Organization, tactics during Crimean campaign

During the Crimean campaign (2014-2015), each BTG had about 700 to 800 soldiers (900 if reinforced) and about 100 vehicles in a mix of armored, mechanized and wheeled. This almost doubles the capacity of an American combined-arms battalion, although it also falls way short of the U.S. brigade combat team's firepower.

The BTG's mission during that campaign was to control key areas in the conflict zone. Toward this goal, Russian forces, acting without official recognition from their country, relied on pro-Russian militias to gain greater freedom of action within their limited means. BTGs would attack the enemy's rear guard in offensive operations while protecting their own flanks and rear area with pro-Russian militias.¹⁰

At that time, the standard BTG fought segregated from brigades of the Russian army. It was common practice to deploy only 50 percent of a BTG, while the other half of the unit remained in Russia. BTGs were comprised of one or two tank companies (preferably T-72 or T-90 tanks), one mechanized company, one mechanized-artillery battery, one anti-aircraft artillery company and another antitank formation. This structure was reinforced with an engineer team, some portable drone teams and a chemical-, biological-, radiological- and nuclear-capable reconnaissance group.

The BTGs only had two or three combat companies, so they had to synchronize their actions with irregular forces to complete their combat power.¹¹ In the event of war, Russian law prohibits the use of conscript soldiers in combat units – such as the BTGs – from being deployed outside their homeland. For this reason, their presence in the BTGs was minimal and limited to low-risk logistics tasks.¹² In replacement, professional soldiers were used, with troop levels that did not exceed 200 men in each BTG.

BTGs can move quickly to a theater of operations via trains, using two strategies: 1) deploying with soldiers' own equipment and vehicles; or 2) deploying with just soldiers and their personal equipment. (The soldiers would fall in on their heavy equipment right in the crisis zone.¹³) The pre-positioning system has problems, such as being forced to use unfamiliar equipment. For example, a unit normally equipped with T-62 or T-72 tanks could end up using more modern models without training or time for familiarization by the soldiers who will crew the tanks.¹⁴

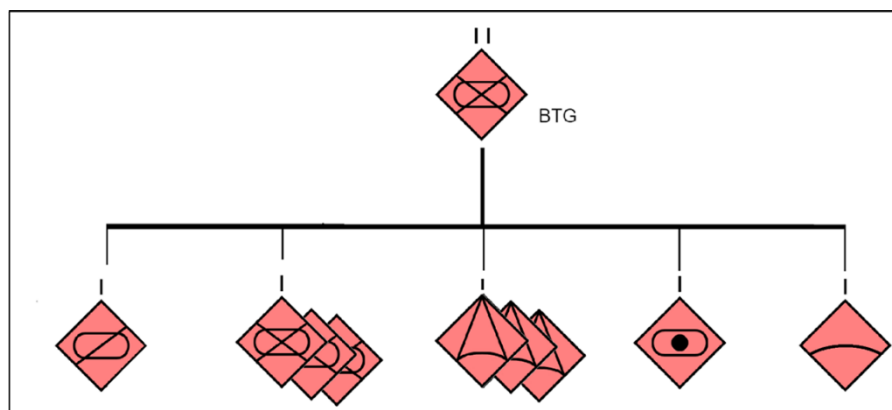


Figure 1. BTG organization. (Graphic by MAJ Amos C. Fox, originally published in *ARMOR*'s July-September 2016 edition)

BTGs were intended to be equipped with modern surveillance and information-gathering systems to give them the ability to fight in complex operational environments favorable to asymmetric enemies. BTGs employed drones because they could obtain information in real-time, thus reducing the uncertainty of war while providing a guide for artillery fire from the unit's 152mm guns. The BTGs also have equipment that will protect against standard EW, possibly with frequency hopping and encrypted communications.

However, this renovation/modernization of equipment also had its shortcomings in the 2014-2015 campaign. The most notorious was the BTGs' inability to maneuver along different axes of advance. This

vulnerability also made it difficult to practice the principle of economy-of-force since there were not enough assets.

In addition, other factors such as logistics and those linked to command, control and communications (C3)¹⁵ affected the BTGs' performance. In the case of logistics, as happens in all armies, the BTG is mobilized mostly on wheels, which limits operations on good routes. Nonetheless, since the Vietnam War, modern armies now also use helicopters and other air assets to support logistic maneuver. However, this hasn't been the case for the Russian army during the first phase of its 2022 campaign in Ukraine.

As for the C3 used by BTG commanders, it has been far from the ultra-modern battle-management systems seen in NATO forces. BTG commanders and their staffs lacked assets to quickly transmit, in near-real-time, the tactical situation and mission-type orders with digital cartography and artificial-intelligence software. In addition to that, during the 2014-2015 campaign, communications with the paramilitary forces were not easy to establish due to the lack of interoperability.¹⁶ Furthermore, cellphones and satellite phones were used to support military operations, even when these non-encrypted systems are easily affected in modern war.¹⁷

Incredibly, the same shortcomings have been observed in the current operations of 2022. Russian soldiers have been observed stealing Western-made Ukrainian cellphones to communicate more securely with other comrades or with their families in Russia.¹⁸

Aside from the logistics and C3 issues, another Russian deficiency was the lack of artillery forward observers. Despite having drones at hand, the mission fell to company commanders, overloading their tasks and causing poor precision as a result.¹⁹

Finally, a *Jane's Defence* analyst noted an important difference between U.S. and Russian doctrine. U.S. combat units' maneuver was backed by artillery support, while Russian units maneuver to support artillery movements in search of better positions where they can be more lethal. This method is debatable and can be recognized as valid in some situations. However, such an approach further reinforces the need of a good target-acquisition system. It is almost certain that in their 2022 operations, BTGs improved this shortcoming by incorporating specific teams for this mission.²⁰

Regarding the Russian tactics used in 2014-15, which were framed in a low-intensity conflict, BTGs were used mostly to isolate targets in urban areas. This was preferred instead of direct decisive confrontations, which could expose the BTGs to easy destruction by antitank platoons aware of the Russian lack of close security for their vehicles.²¹

The Battle of Debaltseve (July 2014-February 2015) is an example. On that occasion, Russian President Vladimir Putin wanted to liberate this city and use victory to negotiate better terms. A single reinforced mechanized brigade of the Ukrainian army was defending a road junction in the town of Debaltseve, which is the gateway to Ukraine from the east. In opposition, the pro-Russian forces concentrated large volumes of artillery which supported the assault forces of T-90 tanks and other mechanized vehicles. This forced the Ukrainian forces to retreat in disorder. Despite the success, the pro-Russian armored forces were unable to exploit their local victory, possibly due to their reliance on dismounted militias for close security.²²

First analysis of BTGs in 2022 campaign

Helene Cooper, Eric Schmitt and Julian E. Barnes point out in their *New York Times* article that European militaries no longer fear Russian land forces as they did in the past because the (partial) results of the Russian operations launched Feb. 24, 2022, did not go as expected.²³ The idea is shared by many analysts, such as David Petraeus (former director of the Central Intelligence Agency), who questioned Russia's real capacity to confront NATO.²⁴

Unlike the 2014-15 campaign, Russia's current one has turned out to be a large-scale conflict that presents its forces framed in robust organizations such as combined-arms armies built with divisions made up of brigades, which at the same time are organized as BTGs.

That being the case, Mark Cancian, adviser to the Center for Strategic and International Studies in Washington, DC, notes that a typical BTG might have three motorized-infantry companies totaling 30 infantry fighting vehicles, either *boyeva mashina pekhoty* (BMP)-2 or BMP-3. The BTG completes its maneuver force with one or two tank companies of 10 tanks each (T-72, T-80 or T-90). In addition, the

unit's fire support is ensured by a half dozen mortars, self-propelled howitzers, flamethrowers, multiple-rocket launchers and even up to six medium-range Pantsir S-1 air-defense systems, which NATO would not normally deploy in a battalion. Days before the invasion, Cancian claimed that BTGs could fight in any type of terrain and sustain a maneuver 155 miles deep.²⁵

This current organization is undoubtedly more robust than those observed during the 2014-15 campaign. However, it is still too early to make a detailed analysis of the 2022 campaign due to the lack of historical information. It is possible to identify some shortcomings in the current operations by observing the whole picture of the conflict. These shortcomings are being well exploited as vulnerabilities by the Ukrainian resistance.

Logistical shortcomings in 2022 campaign

The first consideration is logistics, specifically in terms of standardization. The *NATO Logistics Handbook* establishes, among its policies and principles, that the standardization of equipment and services has a direct impact on sustainability of operations. Thus, it also has a straight-line effect on combat efficiency. Standardization favors the interoperability of the main equipment among different branches, making interchangeability and common procedures possible.²⁶

Apparently, as it's been seen, Russian forces don't always meet these parameters for the following reasons:

- BTGs are formed to fulfill specific missions or to participate as combined-arms units throughout the entire campaign, already organized and trained. Consequently, the commander must configure the force during planning to make the mission feasible. From what has been observed of the Russian BTG organization, at first sight we can say that it has a very ambitious mix of equipment unsupported by any organic logistics capability. Instead, it depends on its brigade's logistics battalion.
- On the other hand, BTGs combine many artillery pieces and a variety of very different vehicles, whether wheeled or tracked, which may be armor, infantry or artillery combat vehicles. BTGs also include anti-aircraft systems as particular as the Pantsir-S1 or land radars. In short, so much diversity can transform the concept of combined arms into one of combined problems.
- Finally, logistics maintenance is overloaded, affected by the low standardization of the equipment and a lack of personnel to sustain the mission. The biggest logistical load for a BTG is undoubtedly its artillery and tank shells. This represents a problem of volume, weight and security (to move it). Logistical diversity instead of standardization adds to this challenge for the BTGs.

In general, tanks are more complex when it comes to maintenance. In fact, the less technology they have, the more difficult it is to support them. To mitigate this issue, modern Western tanks are built in a modular way with digital computers capable of anticipating technical problems. Unfortunately, this is not the case for Russian tanks of the 1970s-80s. There is no way a T-72 crew can repair its own mechanical problems because the tank's electronic subsystems are not interconnected or governed by a main computer like the modern generation of main battle tanks (MBTs) have. Therefore many abandoned vehicles have been observed during the current Ukrainian campaign. Although difficult to generalize, the repeated appearance of videos and images of broken-down or abandoned tanks casts doubt on the Russian logistics system.

It's worth it to say that these shortcomings are being well-exploited as vulnerabilities by the Ukrainian resistance, which has high morale, knowledge of its territory and its enemy, and is resolved to push the invader back from its frontiers.

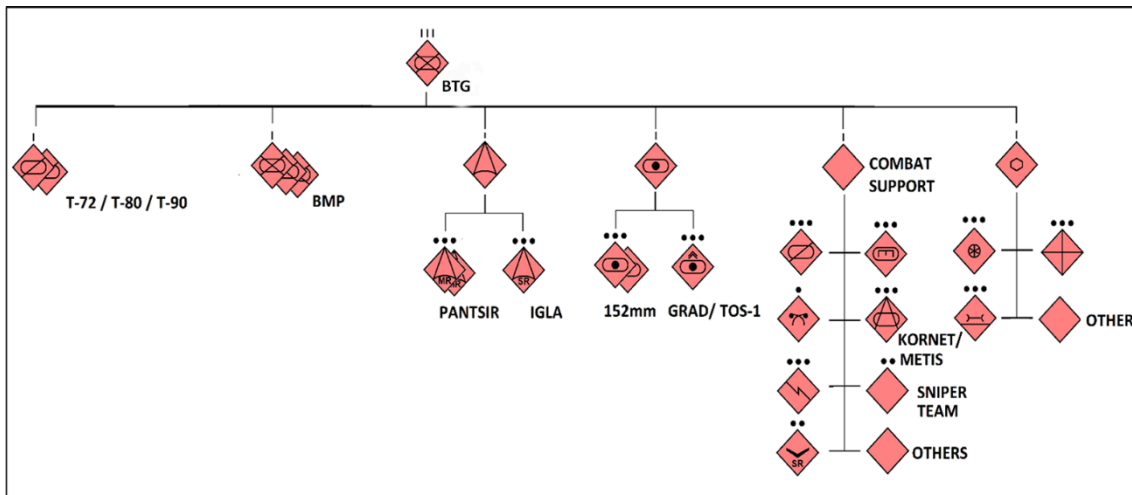


Figure 2. Possible BTG organization showing the mixture of weapons systems seen in the actual campaign. (Graphic by MAJ Gonzalo Baez)

Terrain and weather conditions

The second consideration that explains some of the vulnerabilities of the Russian forces relates to terrain and weather conditions. The region of conflict is coming out of winter and getting into spring. This causes thaws and therefore mud, which creates difficult terrain for armored and mechanized forces to maneuver in.

For this reason, BTGs must face some challenges pushing their capacities to the limit. On one hand, their tracked vehicles will be able to better overcome these conditions. However, their logistics line and combat-support wheeled vehicles will be tied to roads that are usually easily interdicted by artillery, drone attacks and all kinds of obstacles. Helicopters can help the logistics maneuver challenges, but they are not going to be the first choice for a division commander since they are always scarce.

The Ukrainian mud is well known to the Russians. It was expected that the roads would become narrow avenues of death with little room for maneuver, as Philip G. Wasielewski, Center for Strategic and International Studies, stated a few days before the massive invasion. In his article, the author said that if the operation began between January and February, it would have the advantage of frozen terrain to facilitate the cross-country movement of mechanized forces, although they would also face extreme-cold temperatures that also can kill or defeat soldiers as well. Furthermore, Wasielewski said, if the campaign extends into March (as happened), the mechanized forces would have to deal with the infamous *rasputitsa* (the name of the frozen mud when it melts), which would become a sea of mud.²⁷

Now, how does mud affect BTG operations? Of course, mud tactically limits BTGs in doing what they know best, as Cancian indicated: fix the enemy in the front and attack them from the flanks because armor mobility is severely affected by mud. Tanks and mechanized vehicles get sucked in when they fall into a swamp, but pulling them out exposes more vehicles to destruction by enemy fire. Mud can also affect gears, deteriorating joints or even cause a road wheel to become stuck, regardless of the movement of the rest of the bearings. This generates overheating of the internal parts of the wheel that can melt or break. Then, replacing a wheel can take two hours or more, and sometimes it is impossible to do in combat.

Despite this, it remains to be analyzed why abandoned or damaged vehicles were not recovered by the brigade logistics teams or simply destroyed by their crews or by the Russian artillery itself. Instead of that, vehicles were abandoned only to become trophies of war for the Ukrainian forces. In some cases, the abandoned vehicles have been used by the Ukrainians to fight back.

Outdated technology against game-changer weapons

According to Cooper and Schmitt of the *New York Times*, Russian forces had stopped their advance on almost all fronts at beginning of the third week of war. Until then, many BTGs were presumed to have lost up to 20 percent of their combat power. Others suffered combat attrition and needed to be replaced to reorganize their forces. In addition, the authors said that, in general terms, no mechanized unit had been able to advance more than 150 miles during the first phase of the campaign.²⁸

Simultaneously, Russia has reinforced from the most distant points of its geography, using long-range fires to damage as much civilian infrastructures as possible. But modern missiles like the Iskander (mobile short-range ballistic missile system) or Kalibr (Russian cruise missile) have not been used as much as unguided munitions. The unguided munitions have caused severe collateral damage.

As the multiple-axes attack progressed, it was very challenging to any outsider analyst to predict Putin's main intentions in this war. Was Kyiv the initial center of gravity? Does Putin want to cut off Ukrainian access to the Black Sea? Is he now reorienting his forces to push in the Donbass region to strike harder or just to maintain the gains done in 2015? There are many questions without answers.

When it comes to the current campaign in Ukraine, there are many facts that have yet to be fully studied. However, the current lack of technology in the Russian armored and mechanized forces is an unquestionable fact. The reality on the ground in Ukraine is far from the image Russia wanted to convey to the world May 9, 2015, when the then-new T-14 Armata MBT and its corresponding T-15 Armata heavy infantry fighting vehicle were presented. They were Russia's first 5th-generation armored vehicles designed to protect the crew by placing them in an armored bubble inside the vehicle chassis. The T-14 Armata tank featured:

- A sophisticated remotely controlled tower for high-definition vision via its sights (perhaps the first to be installed on a tank);
- A threat alert system;
- Active countermeasures coordinated by radar;
- A highly complex modular multitype armor;
- A high power-to-weight ratio in its engine; and
- A 125mm cannon that is the largest caliber operational in the world.

The T-15 debuted as a huge infantry tracked vehicle, featuring the same protection as the T-14 tank, which is not typical for vehicles of its kind.²⁹

However, the Ukraine war has revealed the harsh reality of the Russian tank and mechanized fleet, which this author previously described in an article in *Military Review*³⁰ as follows: "Since World War II and until the 1980s, the Russians had maintained a stock of thousands of tanks (it was known that the sum of all the tanks in the world did not equal that of the URSS [sic]³¹). At the time, this number was reduced to only about 4,500 units. Among them, we can highlight some 300 T-80 (about 30 years old) that are being modernized to a standard similar to NATO tanks. Also notable are some 500/600 T-90 tanks (in some cases 25 years old) and T-72s that have been upgraded with active protection systems, modern firing computers and thermal cameras (but with towers designed more than 30 years ago). The rusticity of Russian tanks allows irregular or precarious forces to operate them in hostile environments and with little logistics."

Finally, will the sheer numbers of Russian armor outweigh the technology of modern antitank weapons? Will man-portable antitank weapons like the Javelin make a difference? Who knows? But there is no doubt that if you inject thousands of them into an army, they will have an impact. Russian BTGs are currently fighting against sophisticated man-portable weapons such as the Javelin (portable antitank missile system), Next-Generation Light Antitank Weapon, AT-4 (unguided antitank weapon) and the Panzerfaust 3 (semi-disposable recoilless antitank weapon).

Some critics think the design of the main Russian tank adds to the challenge it faces against the antitank weapons the Ukrainians are using. The vulnerability with the Russian tank design relates to its automatic loader, which places the ammunition in the lower part of the turret, causing ejection/destruction if the tank is hit by enemy fire.

Other systems like the Stinger (a portable air-defense system that operates as an infrared homing surface-to-air missile that can be fired from a variety of infantry launchers, military ground vehicles and helicopters) or the Starstreak (portable British short-range surface-to-air missile) have been game-changers for the Ukrainians in their anti-access area denial against the Russians.³²

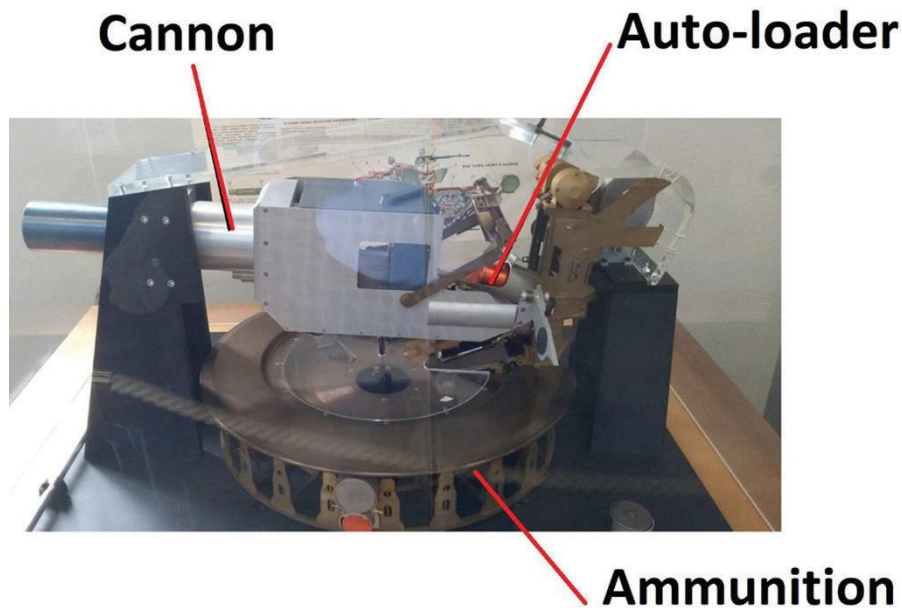


Figure 3. Mock-up of the Russian T-72 auto-loader displayed in France's Armor Museum. The ready-to-use-shells (there are 22) were severely criticized for causing the destruction and ejection of the turret when the tank is hit. However, with little storage space available in the tank, the crew is forced to place the other 17 projectiles elsewhere, like in the turret's interior wall, which make them much more dangerous than those placed in the floor. (Photo by MAJ Gonzalo Baez)

In short, with the logistical problems described preceding, a territory that makes any movement difficult during this season of the year, a highly prepared adversary army that is reinforced with thousands of high-precision weapons, have created a difficult scenario for the Russian BTGs to overcome in the current campaign.

Conclusion

The BTG model has been an improvement of the Russian land-warfare doctrine, highlighting the need to fight as combined-arms units in the modern multidomain environment. Although their structures have been modernized, deeper changes remain to be made to the heart of the Russian army's armored and mechanized force.

Until now, the new Russian doctrine tried to change the concept of quantity (preferred by the Soviets) for another of quality (imposed by the new era), but it seems the Russians have not achieved that goal.

Instead of launching thousands of third-generation vehicles, it would have been much better to operate with a new generation of armored and mechanized brigades, equipped mainly with the Armata tanks and infantry fighting vehicles. These new systems, if well-combined with artillery and aviation, could have won valuable targets and survived modern threats, whether in rural or highly urbanized areas.

In addition, the current BTG organizations represent a logistical challenge to sustain operations. It is not good to pack such varied combat power into a tactical organization as small as a task force. Instead, it would be much better to do so at the brigade level, since it will be backed by its logistics battalions or by the division level's logistics resources.

Finally, Russia needs to review the new BTG organizations or revalue the best card up its sleeve: its nuclear weapons. Even when the biggest nuclear stockpile can dissuade anyone, those weapons are not effective when it's time to gain territory.

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Notes

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³¹ *URSS* is an alternative spelling of *USSR* (Union of Soviet Socialist Republics). Within the old Soviet Union, *URSS* was the preferred abbreviation until World War II, when it was replaced with *USSR*.

³² Cooper and Schmitt.

Acronym Quick-Scan

BMP – *boyeva mashina pekhoty*

BTG – battalion tactical group (Russian army)

C3 – command, control and communications (Russian)

EW – electronic warfare

MBT – main battle tank

NATO – North Atlantic Treaty Organization