



## Russian Forces in the Western Military District

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## Abstract

In this CNA Occasional Paper, Konrad Muzyka provides an in-depth assessment of Russia's Western Military District, which consists of robust forces spanning regions including St. Petersburg, Moscow, Kursk, and Kaliningrad. Muzyka's analysis provides an up-to-date overview of the current force structure and posture of this military district, which underwent deep structural reforms between 2013 and 2019 to better address Western threats. These forces include the 6th and 20th Combined Arms Armies, the 1st Guards Tank Army, three airborne divisions, the 6th Air and Air Defense Army, and a self-sufficient force in the Kaliningrad exclave. Muzyka also discusses the Zapad-17 military exercise, and provides assessments of ongoing modernization in the district.

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# Executive Summary

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This paper provides an updated order of battle assessment of existing units in Russia's Western Military District (mainland Russia and the Kaliningrad Oblast), analyzes roles assigned to them, and places Russian force posturing into a context of the post-2014 security situation. It analyzes how the Russian armed forces have developed their capabilities and how they have reorganized their forces in the last six to eight years and, subsequently, how they have repositioned their presence to address threats emanating from the western operational direction. This is placed within the context of military operations in Georgia and Ukraine as well as increased NATO presence in the Baltic States. The paper also examines scenarios practiced during the Zapad-17 strategic-operational exercise and efforts needed for Russia to fully engage in high-end, high-tempo combat operations in its immediate neighborhood. Although the document lists equipment that is fielded into specific units, it does not seek to provide a detailed table of organization and equipment (TO&E).

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# Introduction

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Between 2013 and 2019, Russian forces in the Western Military District (MD) underwent deep structural and organizational reforms to ensure that they are able to respond to a range of contingencies on Russia's western borders. Yet, there is little verified information in open sources on the full structure of units deployed to guard the Russian western flank. What has driven reorganization and rearmament in the Western MD? Where are the units deployed? What missions are assigned to front-level and operational-level units? How have reforms affected the ability to conduct all-arms warfighting operations?

In 2012, the Russian ground force presence in the western parts of the country was scant. Land forces fielded the 6th and 20th Combined Arms Armies, with the latter one deployed in Mulino, 350 km (217 miles) east of Moscow. These two operational-level units generated field four motor rifle brigades (MRBs) and two tank brigades.<sup>1</sup> Even though two additional MRBs under MD's command provided supplementary firepower, maneuverability, and flexibility, it is fair to say that this part of Russia was insufficiently protected.

These deficiencies stemmed from a rather benign view on threats to the Russian military security, which did not assume any immediate threats. The expansion of military presence in the Western MD and its reorganization commenced with the departure of the deeply unpopular minister of defense, Anatoly Serdiukov, in 2012. The advent of Sergei Shoigu as Serdiukov's replacement paved the way for a gradual reintroduction of more robust forces into the district, which manifested in the reestablishment of the 1st Guards Tank Army in 2013. Since then, modernization and reorganization processes have swept across the district, also largely as a consequence of the Russian military involvement in Ukraine.

Since 1991, main organizational reforms seem to have concluded and Russian forces in the Western MD have never been more capable. This is seen through the deliveries of new equipment, increased readiness, expanded force structure, combined-arms exercises, and enlarged and improved combat support service and logistics. Although the defense of the homeland seems to be the primary mission, forces in the Western MD have a plethora of

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<sup>1</sup> Shinji Hyodo and Carolina Vendil Pallin (eds.), *Neighbourhood Watch: Japanese and Swedish perspectives on Russian security*, FOI, Oct. 2012, p. 60, <https://www.foi.se/rapportsammanfattning?reportNo=FOI-R--3519--SE>.

capabilities to engage in offensive operations in Russia's neighborhood and quickly deliver a preponderance of power to deliver a swift victory.

This, combined with the willingness to use force in order to achieve foreign policy objectives (Georgia, Ukraine, Syria) have raised concerns in NATO as to the real goals of Russian military modernization in general, and in the Western MD in particular. This was particularly evident in the run-up to the 2017 iteration of the Zapad strategic-operational exercise.<sup>2</sup>

This study seeks to present the reader with an up-to-date assessment of the Russian force posture and structure in the Western MD. In doing so, it will present an analysis of the 1st Guards Tank Army, the 6th and 20th Combined Arms Armies, and units directly under the MD command. Next, the paper will analyze assets belonging to the 6th Air and Air Defense Army, which is tasked with air defense duties over Western Russia. Finally, the analysis will focus on the Russian forces in the Kaliningrad Oblast, which have also been subjected to reform and modernization in recent years.

## Methodology

We obtained data on locations of military bases and units from a variety of Russian sources. These included business registries, regional and city-level news outlets, Russian Orthodox Church websites, regional eparchies (in particular), and the registry of trial proceedings. To confirm unit identity and subordination, we used an analysis of badges and insignia worn on soldiers' sleeves or displayed on military events.

Information about maintenance work on power grids, water, and sewage systems also provided high-quality confirmation about the location of military units, as did tenders for planned construction works at military facilities. Another source was regional enlistment offices, which publish information about units that require contract servicemembers; they provided the unit number and the name of the city where the unit is based.

Google Street View, and its Russian equivalent, Yandex Panoramas, also provided recent views of military facilities, predominantly in urban areas, which helped pinpoint the location of military bases and facilities.

Finally, we checked every location using commercially available satellite imagery, to confirm whether there was movement within bases and thus whether the base was still "active."

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<sup>2</sup> Simon Saradzhyan, "100,000 troops will engage in Russia's Zapad-2017 war games," *Washingtonpost.com*, 13 Sept. 2017, <https://www.washingtonpost.com/news/monkey-cage/wp/2017/09/13/100000-troops-will-engage-in-russias-zapad-2017-war-games>.



All this helped confirm the existence of around 200 units in the Western Military District. This number excludes military storage facilities, Strategic Rocket Forces' bases, and units belonging to Long-Range and Military Transport Aviation, which, because of their capabilities and ranges, can conduct operations across the entire country.

# The Western Military District – An Overview

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Out of all the military districts, Russia's Western Military District (MD) fields the most robust, most numerous, and most capable fighting forces. Strengthening the western operational direction remains the priority for Moscow: it considers threats emanating from the west to be the most severe threats that can ultimately endanger the military security and thus the existence of the Russian state.<sup>3</sup> Figure 1, on the following page, shows the Western MD.

Units stationed in the district are capable of conducting military operations across the entire spectrum of warfare, from low-level peacekeeping missions to high-tempo maneuver operations supported by long-range air-launched and ground-based missile strikes. At any time, these can be supported by a (indirect) threat to employ nuclear weapons in order to showcase Russian determination and resolve. This was done in the days leading up to the Russian takeover of Crimea in early 2014.<sup>4</sup>

Since 2008 Russia has been involved in two wars in its immediate neighborhood. Although these wars occurred in different directions (southern for Georgia and western for Ukraine), they had one thing in common: to deny NATO, or the Euro-Atlantic in general, a presence in the countries that Russia considers to be in its privileged sphere of influence.

Since 1991 Russia has lost almost all of its strategic depth to NATO. With the current political turmoil in Belarus, it is plausible that in the next few years all the countries on Russia's western border will be openly hostile to Moscow. As a result, forces in the Western Military District are constantly being augmented with new or modernized equipment and organizational reforms pursued since 2012 seek to prepare the state to address various scenarios and contingencies.

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<sup>3</sup> Александр Пешков, Шойгу: западное стратегическое направление остается наиболее уязвимым для безопасности РФ, Телеканал «Звезда», May 20, 2020, [https://tvzvezda.ru/news/vstrane\\_i\\_mire/content/20205201559-UbNe3.html](https://tvzvezda.ru/news/vstrane_i_mire/content/20205201559-UbNe3.html).

<sup>4</sup> Konrad Muzyka, *When Russia Goes to War: Motives, Means and Indicators*, International Centre for Defence and Security (ICDS), Tallin, Jan. 2020, [https://icds.ee/wp-content/uploads/2020/01/ICDS\\_Analysis\\_When\\_Russia\\_Goes\\_to\\_War\\_Konrad\\_Muzyka\\_January\\_2020\\_cor.pdf](https://icds.ee/wp-content/uploads/2020/01/ICDS_Analysis_When_Russia_Goes_to_War_Konrad_Muzyka_January_2020_cor.pdf), p. 12.

Figure 1. The Western Military District



Source: Author's findings. (All maps were designed and created by Piotr Wawrzkiwicz.)

In the Western MD, Russia fields two combined arms armies (CAAs) that can conduct self-sustaining combat operations in their areas of responsibility. In terms of echelonment, an army group is an intermediate organizational structure between the Joint Strategic Command (JSC)/military district command, on the one end, and brigades/regiments on the other.

Because those CAAs differ significantly in terms of size and capability, the roles assigned to them indicate the areas that the Russian General Staff considers to be most threatened. A Russian CAA does not seem to have a fixed maneuver composition, and its structure depends on the roles and missions the army is tasked with, as well as the theater to which the army is deployed.<sup>5</sup>

The 6th CAA is located opposite the Baltic States and is the least developed army in the Western MD. It is mostly composed of brigades; its armor capability is limited to just two tank battalions, which indicates the low priority given to this particular theater. Despite this, the unit is tasked with protecting the ground approaches to Saint Petersburg and, farther east, the northern approaches to Moscow. During a period of increased tension, and if Russia believes that war is likely to break out, this unit will need to be significantly strengthened, both numerically and qualitatively, to ensure that it can undertake those missions.

Farther south, the 20th CAA is headquartered in Voronezh. The unit's core composition is starkly different from that of the 6th CAA. Instead of motor rifle brigades, it features two motor rifle divisions; this indicates the prime focus given to Ukraine, and the need to have a heavy motorized and tank force present near the border with Ukraine that can immediately deliver a preponderance of power against opposing forces. Current force repositioning within the 20<sup>th</sup> CAA also makes it suitable to undertake combat operations in Belarus.

A lot of attention is paid to the 1st Guards Tank Army (GTA), which is predominantly deployed on the outskirts of Moscow. It has a tank division and a motor rifle division, augmented by a motor rifle brigade, a tank brigade, and other combat support units. The present location of the 1st GTA makes it suitable only for defense of Moscow. Substantial logistics efforts would be needed to move the entire GTA to Russia's western borders; such a move would be visible to NATO planners and likely to the open-source intelligence (OSINT) community as well. The current defensive positioning of the tank army does not mean that it will not conduct offensive operations. Indeed, during the 2017 iteration of the Zapad strategic-operational exercise, its elements were engaged in both defense and offense.

A further breakdown of those armies and divisions shows different compositions. These compositions, again, indicate threat levels and areas where significant, conventional

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<sup>5</sup> Note, however, that each combined-arms army now fields an Iskander-equipped brigade to provide long-range strike options against high-value targets. Other fixed elements include artillery, logistics, air defense, NCB (nuclear, chemical, biological), and engineer-sapper brigades/regiments.

capabilities will be needed. Although some brigades have been converted into larger divisions in recent years, Russia will maintain a mixed force structure. This diverse force application has its own advantages and drawbacks, but Russia employs the brigades and regiments/divisions in different roles to ensure that it can respond to different scenarios in its neighborhood.

Also directly reporting to the MD commander are those units that provide supplementary support at selected axes. Specifically, the MD commander orders two Spetsnaz and two electronic warfare brigades that back front-level operations. That said, most of the units directly subordinated to the MD are those that logistically support combat operations. These include repair and evacuation regiments, railway troops, and engineer forces. Interestingly, the Western MD also has a unit dedicated solely to concealment and *maskirovka* (military deception) operations.

Out of the four airborne divisions in the Russian armed forces, three (one air assault, two parachute) are based in the Western MD, confirming the priority of maintaining a heavy presence of airborne forces (*Vozdushno-Desantnye Voyska: VDV*) in the western operational direction. These forces have high readiness levels; they are the best trained and best equipped forces in the entire ground component of the Russian armed forces. Their role, however, is not limited to airborne operations behind a line of contact. In Ukraine, they were utilized in infantry roles, and the addition of tank battalions to each division can place them directly on the front line. This, coupled with increased readiness, means that the General Staff will continue to rely on VDV units for quick-alert operations, both as a standalone force and as an additional component that can tip the balance in Russia's favor in direct combat engagements.

Ground operations will be supported by the 6th Air and Air Defense Army (AADA). It combines all air (fixed- and rotary-wing) assets on its territory as well as air defense regiments and divisions with their surface-to-air missiles (SAMs) and early warning systems.<sup>6</sup> Each army also fields air defense divisions that comprise air defense (SAM) and radio-technical (radar) regiments that create a unified, integrated, layered air defense network whose main task is to repel air and ballistic missile strikes on Russia. Moscow remains the most heavily guarded city in Russia. It is followed by St. Petersburg, which in recent years has seen a significant upgrade in the quantity and quality of SAM systems deployed to defend the city. The 6th AADA is headquartered there. It comprises a composite aviation division, three army aviation regiments, an army aviation brigade, and two air defense divisions. Its area of responsibility is vast: it provides air coverage from just south of Arkhangelsk down to the north of Volgograd.

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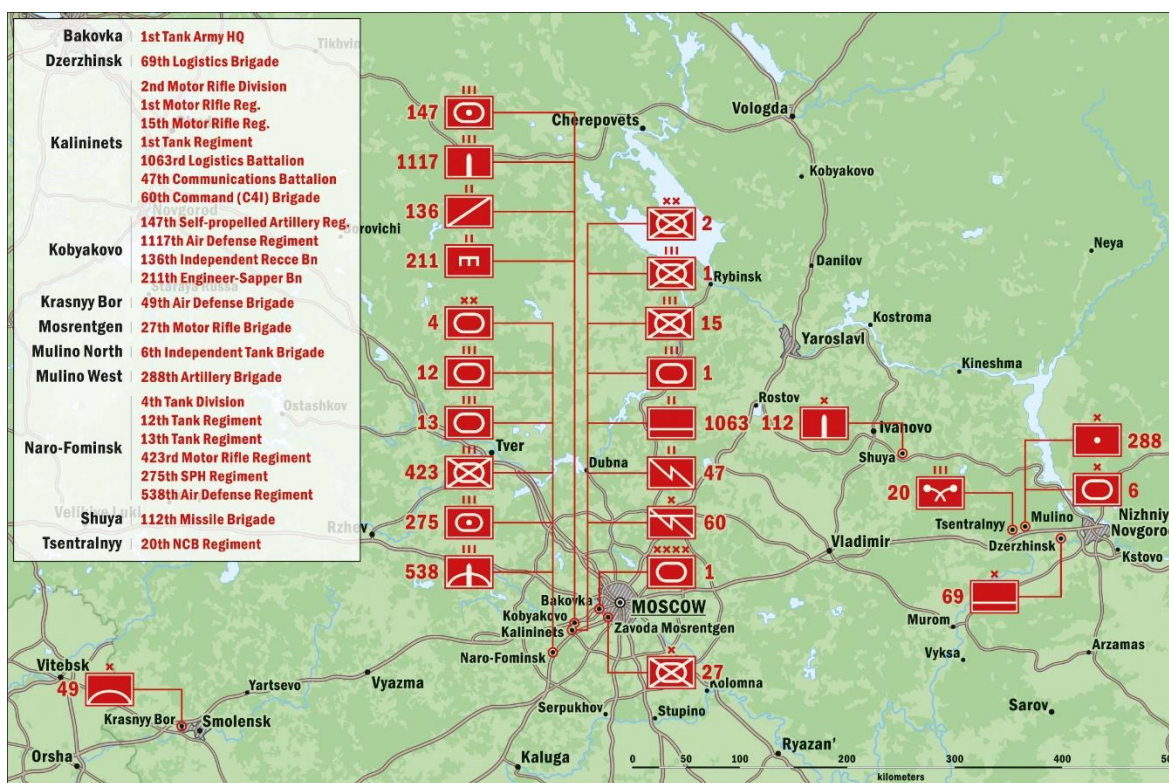
<sup>6</sup> The VKS commander manages direct reporting units. These include the Long-Range Aviation Command and Military Transport Aviation, both of which are operationally subordinated to the Supreme High Command of the Russian Armed Forces. The former is tasked with providing nuclear deterrence and power projection in out-of-area operations, and the latter provides strategic and operational airlift.

A self-sufficient fighting force has been established in the Kaliningrad Oblast. Units based there can undertake both defensive and offensive operations. However, without reinforcements, their main role seems to be maintaining pressure on NATO forces based in the region and ensuring that the alliance's combat potential is first engaged in combating Kaliningrad-based units. Forces based in the oblast can be divided into three main parts: the Baltic Sea Fleet; the air and air defense components, which include the 44th Air Defense Division and the 132nd Mixed Aviation Division; and the 11th Army Corps. The addition of naval infantry provides expeditionary capability, albeit limited by the state of the fleet's assets. Ground and naval forces equipped with ballistic and cruise missiles provide long-range strike capability that can engage high-value targets almost everywhere in Europe.

# The 1st Guards Tank Army

The 1st Guards Tank Army was stood up in late 2014 (announced in mid 2015).<sup>7</sup> In 2013, the 4th Guards Tank Brigade and the 5th Motor Rifle Brigade were converted back to divisions (4th Tank Division and 2nd Motor Rifle Division, respectively) in order to increase the potential of available forces deployed in the outskirts of Moscow. The main goal was to create a fighting force composed of light to heavy units, which could undertake combat operations across the entire spectrum, from low-level counterinsurgency to high-tempo maneuver operations against a near-peer adversary. Figure 2 shows the locations of the 1st GTA units.

Figure 2. Units under the command of the 1st Guards Tank Army



Source: Author's findings.

<sup>7</sup> Роман Крецун, Россия закрывает «черную дыру» на границе с Украиной, Взгляд, June 1, 2015, <https://vz.ru/society/2015/6/1/748541.html>.

The Serdukov-era forces were predominantly geared towards low- and medium-level operations, and lacked units that could conduct wide, front-level armored operations. Hence the decision was made to convert some of brigades into divisions. Events in Ukraine in 2014 and the deployment of NATO forces into the Baltic States validated this decision. It also validated the decision to relocate the headquarters of the 20th Combined Arms Army from Nizhniy Novgorod to Voronezh. The 20th CAA then took control over some elements of the Russian task force deployed near the border with Ukraine; by 2020 it had also become a two-division maneuver army. Relocations of ground forces around 2014-2015, which were clearly aimed at Ukraine, also allowed a partial cover for the so-called “Smolensk Gate.”<sup>8</sup> Despite this, there still is a 400-km hole between Smolensk and Luga, and it remains to be seen whether there will be any efforts to plug it with new ground force units. This role is now partially fulfilled by the Belarusian armed forces; however, given the current state of relations between Minsk and Moscow, it is possible, although unlikely, that the reliance on Belarusians to cover northern parts of the gate will have to cease.

The core of the 1st GTA is formed by two divisions: the 2nd Motor Rifle Division and the 4th Tank Division.

The 2nd Motor Rifle Division is based in Kalininets, around 50 km (31 miles) west of Moscow. It fields two motor rifle regiments, one tank regiment, and artillery and air defense regiments. Battalion-level formations (one logistics and one engineer-sapper) support combat operations, and a reconnaissance battalion provides forward intelligence, surveillance, and reconnaissance (ISR) and target acquisition for the maneuver forces. Given the number of various VDV and Spetsnaz units in the Western MD, it is unlikely that the 1st GTA reconnaissance is tasked with operations deep behind enemy lines. Hence, the key issue lies in the operability levels between special operations forces and units tasked with front-line operations, and the extent to which 1st GTA operations can be linked to missions conducted by special forces on an operational level.

The 4th Tank Division, based in Naro-Fominsk, 65 km (40 miles) west of Moscow, has two tank regiments and one motor rifle regiment. It is supported by a self-propelled howitzer (SPH) regiment for additional strike options. It also possesses an organic air defense regiment that provides area divisional-level air defense capability. In contrast to the 2nd Motor Rifle Division, the regiments of the 4th Tank Division are mostly equipped with T-80U and T-80BVs rather than T-72s or T-90s.<sup>9</sup> T-72B3s are fielded in a tank battalion of the motor rifle regiment. Thus,

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<sup>8</sup> The “Smolensk Gate” is the area between the Dnieper and Dzwina Rivers in eastern Belarus. Moscow could be directly threatened if this area were controlled by hostile forces. Historically, all major offensives both eastward and westward came through the gate.

<sup>9</sup> Центр АСТ, Танки Т-80БВ в Кантемировской танковой дивизии, Sept. 19, 2017, <https://bmpd.livejournal.com/2855984.html>.



both divisions field almost all tank types that are available to the Russian ground forces. This mix of deployed tasks has several possible explanations. First, when the brigades were being converted into divisions, the General Staff withdrew the least used main battle tanks (MBTs) from storage facilities and placed them in front-line units. This was a mixture of tanks, from T-72B3s to T-90s. Second, albeit costs associated with maintaining different training and logistics services are significant, should security situation deteriorate, Russia would be able to ramp up production/modernization of various tank types across UralVagonZavod factories relatively quickly. Also, those reservists who undertook service in tank subunits would not need to be trained to operate a new tank type and instead could be quickly deployed to the front line. Not without significance is the fact that those factories employ thousands of employees and additional thousands of subcontractors, whose lives often depend on the scale of state contracts. Restricting the number of tank types to just one, such as T-90M Proryv-3—or, in the long term, the T-14 Armata—would negatively impact public sentiments and undermine support for the regime. Consequently, although the goal is still to harmonize training and logistics, a continuous expansion of the land forces' armored capabilities will force Russia to maintain different tank types in its front-line units, which will be based on the combination of T-72B3/T-80/T-90 MBTs and BMP-2/3 IFVs.

Just as in the long term the GTA is prioritized for the delivery of new-generation hardware, in the short term the unit's armor fleet is prioritized to receive modernized MBTs. In April 2020, the 2nd MRDiv received its first upgraded T-90M Proryv-3 MBTs. Plans call for modernizing 120 T-90s to the M-variant with an additional 10 newly built models,<sup>10</sup> which would be enough to populate four tank battalions. Where T-72s are deployed, they likely all have been modernized at least to the T-72B3 variant, and in some cases to T-72B3M.<sup>11</sup>

Both divisions also seem to serve as the main testing grounds for new equipment and new concepts for the utilization of hardware on the battlefield. The new equipment includes a Kurgantes-25 heavy infantry fighting vehicle, which is meant to replace all BMP-2s and BMP-3s. With its 12 ATGM launchers (4 x Kornet-KM and 8 x Bulat),<sup>12</sup> and its 57mm automatic cannon, the vehicle can deliver significant firepower over short distances (Kornet-EM ATGM

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<sup>10</sup> Центр АСТ, 2-я гвардейская Таманская мотострелковая дивизия получила первые танки Т-90М, Apr. 13, 2020, <https://bmpd.livejournal.com/3965326.html>.

<sup>11</sup> Центр АСТ, Танки Т-80БВ в Кантемировской танковой дивизии, Sept. 19, 2017, <https://bmpd.livejournal.com/2855984.html>.

<sup>12</sup> Интерфакс АВН, Первая танковая армия усилена Севастопольской мотострелковой бригадой, Интерфакс АВН, June 5, 2020, <https://www.militarynews.ru/story.asp?rid=1&nid=532977&lang=RU>.

<sup>12</sup> See Jon Hawkes' series of tweets on Apr. 21, 2020, <https://twitter.com/JonHawkes275/status/1252548096996843521>.

has a range of up to 5,500 meters). This makes it very useful in engaging secondary tank targets without the need to risk a valuable tank fleet.

The 1st Tank Regiment of the 2nd Motor Rifle Division is also slated to be the first to receive the T-14 Armata new-generation MBT<sup>13</sup> for testing and evaluation. Replacing all armored combat and support vehicles with one heavily armored chassis will undoubtedly have a positive effect on maintenance and on the survivability and durability of the entire APC/IFV fleet in a conventional conflict scenario. However, given the complexity of the design, the cost overruns, the decrease in defense spending, and the doctrinal changes required to fully implement and employ this concept,<sup>14</sup> it will be decades before the Armata concept is fully applied across the land forces.

Additional ground units under the command of the Tank Army include the 27th Motor Rifle Brigade (light),<sup>15</sup> which is stationed at Zavoda Mosrentgen, and the 6th Tank Brigade, which is stationed in Mulino, 350 km (217 miles) east of Moscow. The latter comprises three tank battalions (at least one equipped with T-72B3M<sup>16</sup>) and one motor rifle battalion.

Also in Mulino is the 288th Artillery Brigade, which provides additional forward observers and artillery support to the tank brigade, a combination of which (albeit with additional reconnaissance support) was also practiced during Zapad-17.<sup>17</sup>

The operational-level air defense for the GTA is provided by the 49th Air Defense Brigade, deployed near Smolensk. The brigade constitutes the westernmost unit belonging to the tank army. It fields the Buk-M1 medium-range air defense system, which provides coverage over ground forces in contested areas. The system can work independently because of its inbuilt

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<sup>13</sup> Николай Сурков, Алексей Рамм, Евгений Андреев, Таманская «дивизия будущего», Известия, Feb. 22, 2018, <https://iz.ru/708875/nikolai-surkov-aleksei-ramm-evgenii-andreev/tamanskaia-diviziia-budushchego>.

<sup>14</sup> Михаил Ходаренок, Идеология боевой системы будущего, Газета.Ру, July 21, 2016, [https://vpk.name/news/159847\\_ideologiya\\_boevoi\\_sistemyi\\_budushego.html?new#new](https://vpk.name/news/159847_ideologiya_boevoi_sistemyi_budushego.html?new#new).

<sup>15</sup> Subordination of the 27th Motor Rifle Brigade to the 1<sup>st</sup> Guards Tank Army has been a subject of debate for years, mainly due to the role the brigade has played in Soviet and then Russian domestic politics. Historically, it served “as a last reserve for the Soviet (and then Russian) government in a national emergency,” according to Igor Sutyagin. (See Igor Sutyagin and Justin Bronk, *Russia’s New Ground Forces: Capabilities, Limitations and Implications for International Security* (Routledge Journals, 2017), p. 98.) That said, in June 2020 the Western MD press service reported that the 27th Motor Rifle Brigade had become a part of the 1st Guards Tank Army, thus expanding the capability and mission envelope of the tank army. Due to the large number of BTR-82A in service, the brigade is considered “light.”

<sup>16</sup> Центр АСТ, Поставки военной техники в Вооруженные силы России в 2019 г., Mar. 22, 2020, <https://bmpd.livejournal.com/3965326.html>.

<sup>17</sup> Konrad Muzyka, “Go West – Analysing Zapad,” *Jane’s Defence Weekly*, Nov. 1, 2017.

radar—or, preferably, several vehicles can work in a battery configuration. In the near term, the system will likely be replaced by the more capable Buk-M2 or M3; they provide a level of protection comparable to that of the S-300P/PM2 but are cheaper to procure and faster to deploy in a combat scenario.<sup>18</sup> A Buk-M3 battery is also equipped with the telescope-mounted 9S36M target illumination and guidance radar, which greatly increases its detection and hence its engagement capability. The system can also use a semiactive radar seeker or active radar homing missiles.

The author assesses that the tank army is also supported by the 112th Missile Brigade (MB), deployed at Shuya. The brigade was converted from Tochka-U to the OTRK operational-tactical missile system (*Operativno-Takticheskiy Raketnyy Kompleks*—OTRK) Iskander in 2016. The system is designed to engage high-value targets at a short range of up to 500 km, although the introduction of a new missile has reportedly increased the range of the system. Iskanders are designed for deep-strike operations against stationary and movable targets, such as SAM and ballistic missile sites, air bases, ports, command and control (C2) facilities, factories, and hardened targets. A standard Iskander brigade comprises 12 launchers and 12 transport-loading vehicles; this translates to three battalions, each with two batteries. In late 2019 Russian media reported a possible expansion of the existing Iskander-equipped brigades with an additional battalion, which could include the INF-prohibited missile.<sup>19</sup>

Before the Kaliningrad-based missile brigade was equipped with Iskanders in 2018, there was at least one occasion, in late 2016, when the above-mentioned 112th Brigade was deployed to Kaliningrad as a part of a Western MD readiness check. It is unclear, however, whether this move was designed to score propaganda points or whether the brigade was earmarked to reinforce the Kaliningrad-based forces during a period of increased tension or wartime. Given the role of the 1<sup>st</sup> GTA and the scope of its offensive operations, it is unlikely that the General Staff would permanently shift the 112<sup>th</sup> MB to reinforce and enhance strike options from Kaliningrad. This is especially unlikely, given that the Oblast-based 152nd MB received its own Iskander brigade set in 2018.

The 20th Nuclear, Chemical, Biological (NCB) Defense Regiment is also an integral part of the 1<sup>st</sup> GTA. This GTA is a direct result of reforms pursued post-2012, which envisaged the establishment of an NCB defense regiment in each of the field armies. Despite their name, the

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<sup>18</sup> Александр Лузан, *Проблемы борьбы с ракетами средней и меньшей дальности и некоторые пути их решения*, June 13, 2019, *Воздушно-космическая сфера*, <https://www.vesvks.ru/vks/article/problemy-borby-s-raketami-srednei-i-menshei-dalnos-16433>.

<sup>19</sup> Алексей Рамм, Богдан Степовой, *Ракетное объединение: бригадам «Искандеров» увеличили огневую мощь*, *Известия*, Dec. 16, 2019, <https://iz.ru/952462/aleksei-ramm-bogdan-stepovoi/raketnoe-obedinenie-brigadam-iskanderov-uvelichili-ognevuiu-moshch>.

role of these “NCB regiments” is much more robust than typical CBRN protection and mitigation when nuclear or chemical/biological weapons are used. The NCB defense regiments field flamethrower elements in order to enhance close combat capabilities. The 20<sup>th</sup> NCB Regiment also fields at least one company of TOS-1A Solntsepyok heavy flamethrowers equipped with 24 thermobaric munitions that can effectively engage targets at 6,000 meters and can cover an area of up to 10 acres.<sup>20</sup> The TOS-1A system can be used in both offensive and defensive operations and is used to attack fortified positions or troop concentrations. Lessons learned from Ukraine and Syria and tested during Vostok-19 about the utility of mass artillery barrages concentrated on small areas seem to have influenced an MoD decision to equip each MD with a battalion set of heavy flamethrowers.<sup>21</sup> It is unclear whether they will be a part of existing military district-level NCB defense brigades, or whether new TOS-1A battalions will be set up.

The regiments are also tasked with providing concealment and *maskirovka* on an army level to prevent units from being detected and being engaged by precision-guided munitions and artillery shells, and to hide troop concentrations.

The discussions regarding deployment of the GTA to Belarus surfaced in the months and weeks leading to the Zapad-17 quadrennial operational-strategic exercise when the Russian MoD announced a tender for 4,162 wagons for the implementation of rail transportation to Belarus and back for 2017. However, because of Zapad, the entire year was marked with an increase in the exercise tempo of the Russian units deployed in the Western JSC and within Belarus. Between May and August, Russia and Belarus conducted joint exercises to test their electronic warfare (EW), logistics, engineering, C2, CBRN, and air defense capabilities, which prepared the ground for further testing during Zapad in September. According to Pavel Kovalev from the Belarusian Military-Political Review, even with all the exercises conducted in 2017 between Russia and Belarus, only 1,254 railcars were earmarked for Zapad-17, which was akin to the 2013 figure.<sup>22</sup>

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<sup>20</sup> Igor Sutyagin and Justin Bronk, *Russia's New Ground Forces: Capabilities, Limitations and Implications for International Security* p. 65.

<sup>21</sup> Алексей Рамм, Богдан Степовой, Система выжигания: в армии создадут батальоны тяжелых огнеметов, Известия, 22 Oct. 2019, <https://iz.ru/928820/aleksei-ramm-bogdan-stepovoi/sistema-vyzhiganiia-v-armii-sozhdadut-batalony-tiazhelykh-ognemetov>; Дмитрий Попов, Батальоны дают огня, Армейский стандарт, Nov. 19, 2019, <https://armystandard.ru/news/t/2019118124-6UKVY.html>.

<sup>22</sup> Belvpo, Западные страшилки или мифы о российских вагонах, Aug. 10, 2017, <https://www.belvpo.com/85537.html/>.

Moving a tank or motor rifle division would necessitate the utilization of around 1,950 to 2,600 railcars,<sup>23</sup> which is at least three times more than what was scheduled for Zapad. Given that a typical train echelon has 57 cars, just one division would require as many as 34 to 50 trains.<sup>24</sup> To put this into perspective, the number of wagons that reportedly were deployed into Belarus (627) translates exactly into 11 trains—a third of what a division would demand for movement. (Figure 3 shows rifle brigade elements before being loaded on a train.)

Figure 3. Elements of the 2nd Motor Rifle Division (battalion) before being loaded on a train during an April 2019 exercise



Source: Google Earth, image date Apr. 17, 2019.

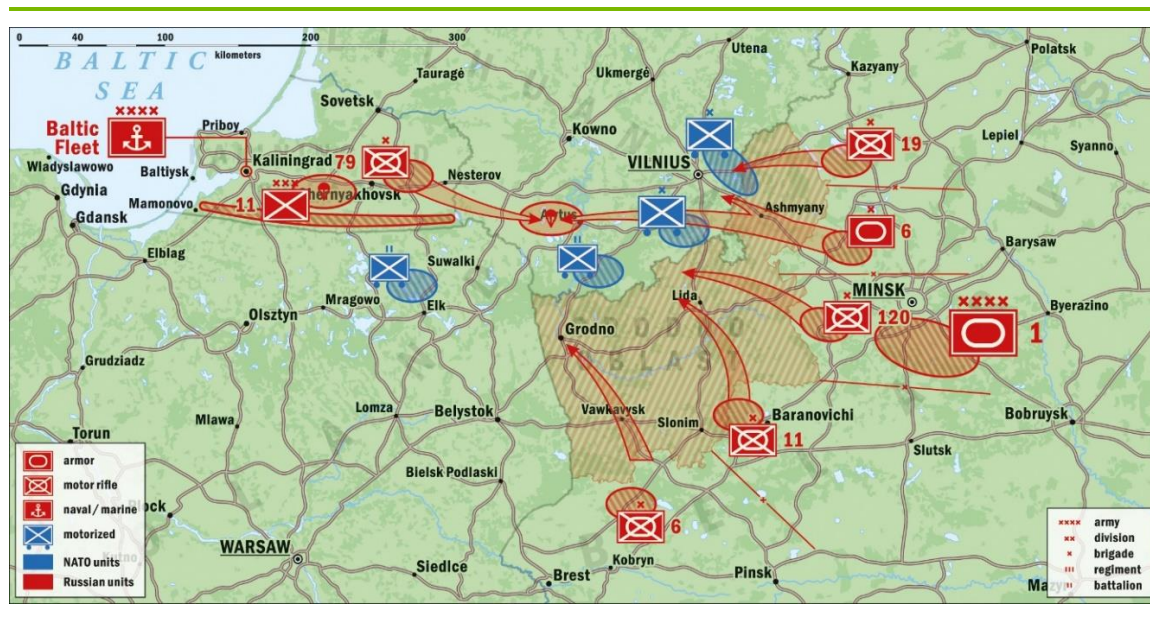
As already stated, the role of the 1st GTA depends on whether the unit will conduct operations in offense or defense. In defense, because of the build-up of the 20th CAA near Belarus and Ukraine since 2015, the GTA serves as the strategic, armored reserve earmarked for counteroffensive operations. There is an understanding within the Russian political-military circles that the period of an increased threat, which allowed the Soviet Union and Russia to

<sup>23</sup> Michael Sadykiewicz, *Soviet-Warsaw Pact Western Theater of Military Operations* (Santa Monica, CA: RAND, 1987), p. 92.

<sup>24</sup> This can change for wartime.

mobilize and strategically redeploy its forces, has decreased substantially, which was clear during operations in Georgia and then Ukraine. Therefore, high-readiness, self-sufficient maneuver forces are key in ensuring Russia's ability to respond appropriately during initial hostilities. This was tested during Zapad-17, where reinforced elements of the 6th Tank Brigade had been deployed into Belarus before the active phase of the exercise began. (See Figure 4.)

Figure 4. Deployment during Zapad-17 counteroffensive operation



Source: Author's assessment.

According to Lieutenant Colonel Dr. Marek Depczyński from the Polish War University, these elements were later strengthened with additional subunits, and after the defensive part of the exercise was over, they conducted a counteroffensive, probably into the Baltic States.<sup>25</sup> Therefore, the tank army is capable of a wide spectrum of operations depending on the circumstances and the plans assigned to them.

According to Depczyński, one lesson learned during Zapad-17 was that even though a force the size of the 1st GTA is insufficient to reach the Vistula-Wieprz line<sup>26</sup>, it is adequate to seize the

<sup>25</sup> Lieutenant Colonel Dr. Marek Depczyński, *Zasadnicze Parametry i Przebieg Strategicznego Ćwiczenia Dowódczo – Sztabowego Zachód 2017*, Akademia Sztuki Wojennej, Warszawa, 2017.

<sup>26</sup> In Poland, the Wieprz River has its sources near Tomaszów Lubelski, some 40 km (25 miles) from the border with Ukraine. It flows into the Vistula River 50 km (31 miles) south of Warsaw. The line forms a natural obstacle for any mechanized/armored forces pushing from Belarus towards southern and central Poland.

Baltic States, especially if additional support comes from air mobile forces and Kaliningrad-based naval infantry units.

One of the less pronounced reorganization decisions that was pursued after 2012 pertains to the logistical support system that would allow the main components of the land forces to be continually engaged in military operations across a wide spectrum of military operations. One lesson learned during the “Centre-2011” strategic-operational exercise was that the CAA-level logistics brigade was inefficient in supporting army operations, because it was able to service five to eight brigades (or 2 x motor rifle/tank divisions and 2 x motor rifle/tank brigades).<sup>27</sup> Consequently, additional logistics support will be provided by units at the Military District level, in order to ensure that materiel is appropriately provided to the battlefield. The 1st GTA has an organic support brigade in Dzerzhinsk, west of Mulino.

In a classical sense, the Russians assess that they need to possess at least a force ratio of 3:1, preferably 4:1, to defeat a US division (three brigade combat teams) in an open battle. Naturally, the outcome of a battle also depends on asymmetrical means of combat, such as electronic warfare; however, in terms of force correlation, Moscow would like to possess enough fire superiority in the initial period of war to ensure an immediate breakthrough of front lines. Before 2012, the Russian Land Forces would have required at least seven to nine combined arms brigades just to defeat a US division. As a result, and given the complexities of commanding combined arms brigades, a decision was made to return to the pre-Serdyukov model of C2 of regiment-division-army to match NATO’s potential in the western operational direction.<sup>28</sup>

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<sup>27</sup> Marek Depczynski, *Ewolucja Rosyjskich Sił Lądowych, Przegląd Sił Zbrojnych*, Warsaw, Mar. 2018, p. 114.

<sup>28</sup> Marek Depczynski, *Ewolucja Rosyjskich Sił Lądowych, Przegląd Sił Zbrojnych*, Warsaw, Mar. 2018, p. 116.

# The 6th Combined Arms Army

The 6th Combined Arms Army is headquartered in St. Petersburg and is composed of nine brigades and regiments. Figure 5 shows the locations of the 6th Combined Arms Army units.

Figure 5. Units under the command of the 6th Combined Arms Army



Source: Author's findings.



Command of the army is exercised through the 95<sup>th</sup> Command (C4I) Brigade. Its maneuver forces are based in the 25<sup>th</sup> and 138<sup>th</sup> Motor Rifle Brigades, which are stationed in Pskov and Kamenka, respectively. Although each brigade fields just one tank battalion,<sup>29</sup> with armored support they possess enough capability to engage two Estonian land forces brigades. In addition, once a motor rifle brigade captures an area, the Estonians will have difficulties conducting a counteroffensive because of their lack of armor.

Additional combat support is provided by Luga-based 9<sup>th</sup> Artillery Brigade. Also based in Luga is the 26<sup>th</sup> Missile Brigade, which was the first ground forces unit to convert from the OTR-21 Tochka-U to the 9K720 Iskander ballistic missiles complex in 2011.<sup>30</sup> The base was fully modernized between 2013 and 2015 to house the new system. Since then, each new Iskander missile base has had a similar structure, the most obvious one being green tent mobile shelters. These shelters do not seem to be hardened, and therefore are vulnerable to an aerial attack and ballistic missile strikes. (See Figure 6.)

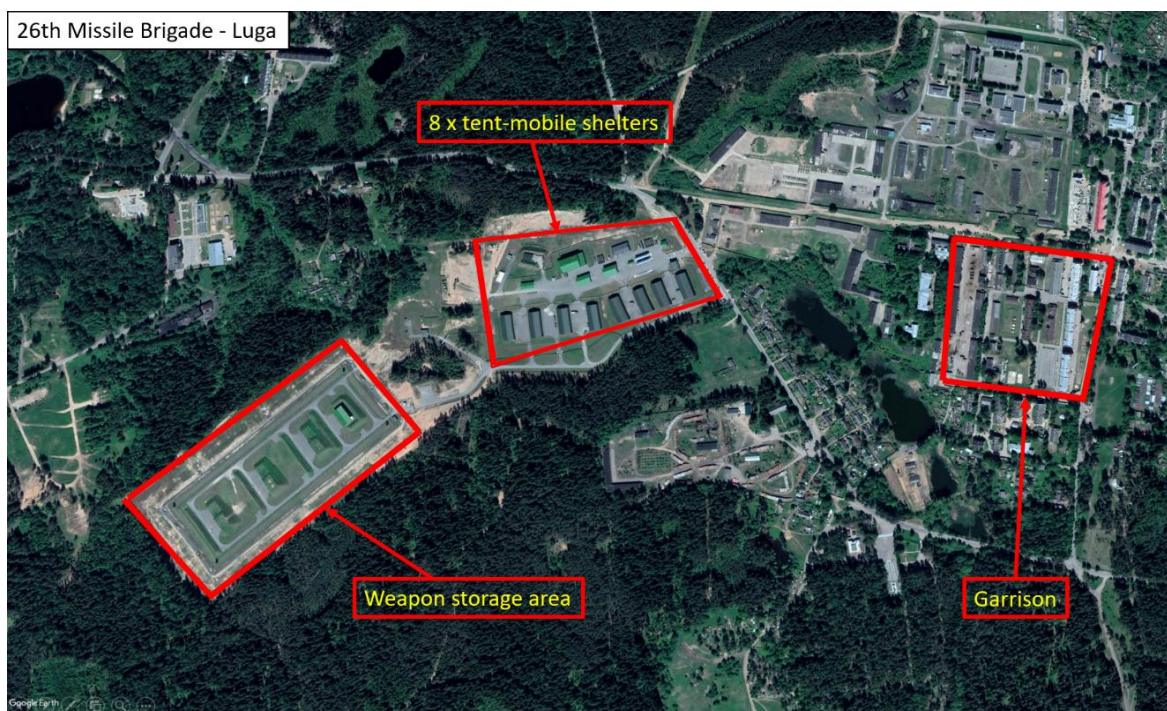
The 6<sup>th</sup> CAA is the least developed combined arms army in the Western MD; its structure resembles a division rather than a combined arms army. There are several possible explanations as to why the 6<sup>th</sup> CAA has not been prioritized in terms of receiving new equipment and expanding its units. First, an increase of the army's combat potential (addition of new brigades and expansion of existing ones) would be perceived by NATO as a hostile act, and would force the alliance to respond in kind by forward deploying additional assets to the Baltic States. Second, despite the post-2014 breakdown in relations between NATO and Russia, the latter chose not to escalate further by increasing its presence on NATO's doorstep. Finally, post-2014 modernization priorities forced the army staff to focus on developing combat potentials near Ukraine in order to deter Kyiv from conducting any significant counteroffensive operations in the Donbas.

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<sup>29</sup> The number of tanks in a Russian motor rifle tank battalion varies. A standard number is 31; however, this can increase to 42, depending on the unit and role assigned to it. See Московский Государственный Институт, Международных Отношений (Университет), Мотострелковая (Танковая) Бригада В Основных Видах Боя, Moscow, 2011, p. 11.

<sup>30</sup> Лента.ру, В России появилась первая бригада ракетных комплексов "Искандер", Oct. 20, 2011, Лента.ру.

Figure 6. The 26th Missile Brigade, Luga



Source: Google Earth. Image date: 25 May 2018.

During Zapad-17, the core task of the 6th CAA was to cover the right flank of the advancing 1st GTA, keep NATO forces engaged in Estonia and Latvia, and safeguard northern approaches into Western Russia. As the initial push into Belarus was held by the joint Russo-Belarusian task force, the counteroffensive pushed NATO forces back into the Baltic States. The 6th CAA was likely involved in conducting operations both in Estonia and in Latvia. As stated earlier, with its current structure the army does not allow for combined arms operations. For this reason, the army could be supported by airborne forces, presumably the Pskov-based 76th Airborne Division, as well as the heavy combat helicopter presence near St. Petersburg.

For the offense, a motor rifle or tank brigade operates at a front 6 km (3.7 miles) wide with a breaking point 2 km (1.2 mile) wide and 10-15 km (6.2-9.3 miles) deep.<sup>31</sup>

Geography severely limits the offensive points of Russian forces into Estonia. Only the areas near Narva to the north and near Sesniki to the south of the country offer both rail and road

<sup>31</sup> В. И. Александров, А. М. Кабаченко, В. В. Куликов, А. Н. Леунов, И. В. Пестроухов, Мотострелковая (Танковая) Бригада В Основных Видах Боя Часть 1, Учебное Пособие, Московский Государственный Институт Международных Отношений (Университет), Moscow, 2011, p. 142.

entrances into Estonia. The southern corridor is just 30 km (18 miles) from Pskov, which, apart from the 76th VDV Division, also hosts the 2nd Spetsnaz Brigade, elements of which are located in Pechory, on the border with Estonia. Passage across Lake Peipus could also be built, a capability which was practiced during the Zapad-17 and Centre-19 operational-strategic exercises.<sup>32</sup>

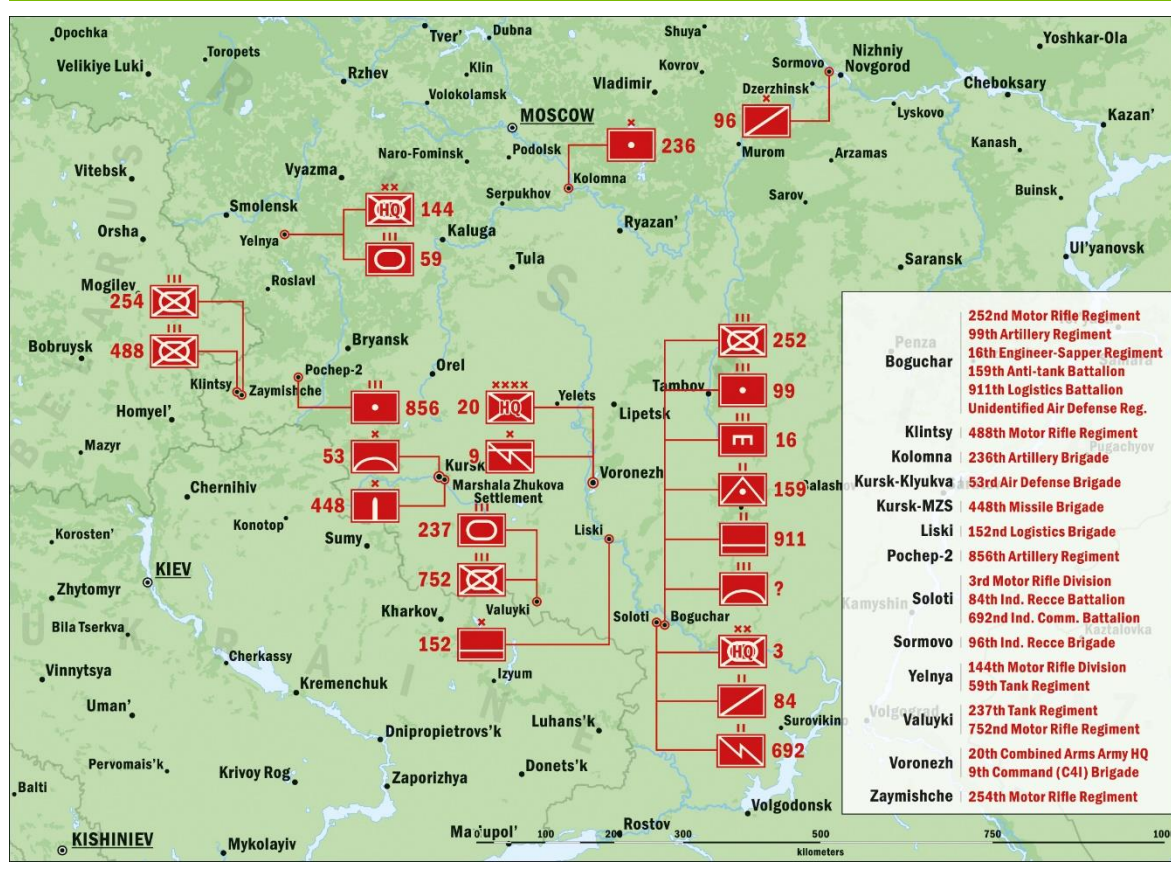
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<sup>32</sup> During Zapad-17, a 700-meter-long (2,300-foot) brigade was set up over the Volga River. Centre-19 saw the setting up of at least four bridges, the longest of which was 3,500 meters (2.1 miles). The capability exists to restore 3,700 meters of bridge crossings per day. Журнал «Материально-техническое обеспечение Вооруженных Сил Российской Федерации» Jan. 2020, pp. 7, 18, 19.

# The 20th Combined Arms Army

After its operations in Ukraine, Russia needed to strengthen its units in the border regions. Therefore, in 2015, the headquarters of the CAA was relocated from Nizhny Novgorod back to Voronezh, where it had been stationed between 1994 and 2010. Figure 7 shows the locations of the 20th Combined Arms Army units.

Figure 7. Units under the command of the 20th Combined Arms Army



Source: Author's findings.

Establishment of the unit took significant logistics, financial, manpower, and procurement efforts, especially as most of its maneuver components were either created from scratch or developed from units redeployed from the Central Military District. At the same time, there was no infrastructure to support the basing of an army-level grouping; thus, garrisons along the 20th CAA area of responsibility had to be built to house equipment and manpower.

Wide, open battlespace favors deployment of motor rifle divisions for combined theater operations. To this end, and because there was no military infrastructure near Ukraine, a decision was made to establish two new motor rifle divisions. The army now covers the northern part of Ukraine (it can ultimately conduct an offensive straight into Kyiv) and the eastern Russian-Ukrainian border; it likely serves as a quick-reaction force to cover the Russian proxy units in the Donbas. On a strategic level, the role of the CAA is to protect the left flank of the 1st GTA. Given the vicinity of its maneuver units to Belarus, elements of the 20th CAA could also be tasked with quick-reaction operations in the country, should such a need arise.

The 20th CAA is composed of two motor rifle divisions. The 144th Motor Rifle Division is headquartered in Yelnya. It is a five-regiment division consisting of two motor rifle regiments (488th and 254th), one tank regiment (59th), and an artillery regiment (856th), as well as a likely, yet unconfirmed, air defense regiment. The full structure of the division is also unclear, although it is safe to assume that other elements of the 144th Motor Rifle Division have also been stood up and include logistics, antitank, communications, and reconnaissance battalions, and an engineer-sapper regiment.

Whereas the above-mentioned division was developed from the 28th Motor Rifle Brigade, previously deployed in Yekaterinburg, the 3rd Motor Rifle Division was developed from the elements of the 9th and 23rd Motor Rifle Brigades as well as the 262nd Weapon Storage Base. It also has two motor rifle regiments (252nd and 752nd), one tank regiment (237th), reinforced by the 99th Artillery Regiment, and an as-yet-unidentified air defense regiment. Open-source information also gives a clearer picture of the support structure of the division. It includes the 16th Engineer-Sapper Regiment, and the 692nd Independent Communications Battalion, the 84th Independent Reconnaissance Battalion, the 159th Antitank Battalion, and the 911th Logistics Battalion.

Other army-level formations include the Iskander-equipped 448th Missile Brigade, 53rd Air Defense Brigade that fields the Buk-M3s, and the 2017-established 236th Artillery Brigade.

A September 2018 Google Street View image from Nizhny Novgorod also indicates that the 96th Independent Reconnaissance Brigade is subordinated to the 20th CAA. Although the reference to the 20th CAA disappeared from Yandex Street View (dated 2019), it is unclear whether the subordination changed as well or whether it was just the poster that was replaced. Otherwise, the unit is subordinated to the 1<sup>st</sup> Guards Tank Army.

During full peacetime, the 20th CAA fields four motor rifle regiments and two tank regiments. Assuming that a motor rifle regiment in a standard configuration deploys three motor rifle battalions (3 x 41 BMPs) and a tank battalion (1 x 31 T-72B3s), and that a tank regiment has one motor rifle battalion (1 x 41 BMPs) and three tank battalions (3 x 31 T-72B3s), the army can deploy around 560 BMPs and 300 MBTs.

## Units Subordinate to the Western MD

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Apart from the two combined arms armies and one tank army, approximately 23 units are subordinated to the Western MD commander; they mostly serve in combat support roles. They include the 1st Engineer-Sapper Brigade (Murom), 45th Engineer-Sapper Brigade (Nakhabino), and 45th Engineering-Camouflage Regiment (Inzhenernyy 1).

Also in Murom is the 28<sup>th</sup> Pontoon-Bridging Brigade, which is solely dedicated to the provision of bridging capability on a front level; however, it is reportedly subordinated to the General Staff<sup>33</sup> rather than to the Western MD commander.

Railway transport, which is absolutely key for long-distance troop mobility on a district level, is provided by the 29th, 34th, and 38th Independent Railway Troops Brigades, based in Bryansk, Ryazan, and Yaroslavl, respectively.

Also subordinate to the General Staff are the 2nd and 16th Spetsnaz Brigades, stationed in Pskov and Tambov, respectively. The units are tasked with conducting long-range reconnaissance, target acquisition, and diversionary operations behind enemy lines (especially against high-value targets). Despite their subordination to a higher echelon, in times of war the brigades are tasked with conducting special operations within the Western MD areas of responsibility.

An additional force multiplier comes in the form of the 15th and 16th Independent EW Brigades (Stroitel and Kursk). They have proved their effectiveness, or Russian EW capability, in the conflicts to which their personnel have been deployed. Consequently, EW assets have been integrated into land forces at every echelon: combined arms brigades, divisions, corps, and military districts. Just as air defense brigades at the district and army levels provide a flexible response to air threats, the EW brigades could also be utilized on a strategic level to protect front-level operations at selected locations. EW brigades are tasked with eavesdropping and denying communications and degrading opposing forces' information superiority. EW brigades field some of Russia's most powerful systems—such as RB-109A Bylina, Krasukha, Leer-3, Moskva, and Murmansk-BN—which offer ranges of several hundred miles.<sup>34</sup> In addition to the EW brigades, the ground forces in the Western MD field two special

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<sup>33</sup> Алена Романова, Под Муромом выбрали победителя конкурса "Открытая вода", Владимирские ведомости, July 10, 2019, <https://vedom.ru/news/2019/07/10/35847-pod-muromom-vybrali-pobeditelya-konkursa>.

<sup>34</sup> Roger N. McDermott, *Russia's Electronic Warfare Capabilities to 2025*, ICDS, Sept. 2017, p. 7, [https://icds.ee/wp-content/uploads/2018/ICDS\\_Report\\_Russias\\_Electronic\\_Warfare\\_to\\_2025.pdf](https://icds.ee/wp-content/uploads/2018/ICDS_Report_Russias_Electronic_Warfare_to_2025.pdf), and Анатолий Аркадьевич

purpose radio engineering brigades (the 82nd and 146th), which provide electronic warfare capability for special forces units.

Since 2016 the land forces have also been growing their repair and evacuation capabilities. To this end, repair and evacuation battalions were set up in each of the military districts, and are now being converted into regiments. One such regiment was established in Mozhaysk, west of Moscow. The 5th Repair and Evacuation Regiment is composed of two battalions, one tasked with evacuation and one with equipment repair and restoration. Plans reportedly call for a reconnaissance company to be established within such regiments.<sup>35</sup> The creation of MD-level regiments has increased the ability to evacuate and repair equipment by a factor of 1.4 (from 4.3 to 6.3 thousand units per day).<sup>36</sup>

In 2014, also in a response to the lessons learned in Ukraine, heavy artillery elements began to be reconstructed within artillery units. To this end, 24mm 2S4 Tulipan self-propelled mortars and 203mm 2S7 Pion self-propelled guns that were previously stored at armaments depots were delivered to the 45th Heavy Artillery Brigade in Tambov. By 2022 Russia plans to conclude a modernization effort that seeks to upgrade the capabilities of both the 2S4 and the 2S7.<sup>37</sup> This upgrade likely includes co-operative capability between aircraft, UAVs, and forward observers and artillery systems. Both systems fill the gap that occurred after the Tochka-U SSMs were withdrawn from service (minimum range of 15 km (9 miles)) and will supplement future 152mm 2S35 Coalition self-propelled gun-howitzers in delivering high-accuracy, high-powered artillery rounds. In the meantime, it seems that the SPH squadrons (дивизионы) will

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Ясинский, Направление деятельности 15-ой отдельной бригады радиоэлектронной борьбы (Верховного Главного командования) в области радиоэлектронной борьбы, Радиоэлектронная борьба в Вооруженных Силах Российской Федерации, 2015, p. 44.

<sup>35</sup> Кирилл Рябов, Ремонтно-эвакуационные полки в России. Формирование продолжается, July 26, 2019, topwar.ru, <https://topwar.ru/160550-prodolzhaetsja-formirovanie-remontno-jevakucionnyh-polkov.html>.

<sup>36</sup> Дмитрий Витальевич Булгаков, Современное состояние и перспективы развития системы материально-технического обеспечения Вооруженных Сил Российской Федерации, Материально-техническое обеспечение Вооруженных Сил Российской Федерации, Jan. 2020, p. 7.

<sup>37</sup> Тасс, Российская армия получила одну из самых мощных в мире самоходных пушек после модернизации, Тасс, Apr. 16, 2020, <https://tass.ru/armiya-i-opk/8256869>.

be expanded with the delivery of the new 2S35 Coalition and will feature 24 guns,<sup>38</sup> compared to 18 now.<sup>39</sup>

Also at the Western MD commander's disposal is the 79th Reactive Artillery Brigade (Tambov). It is equipped with the 9K515 300mm Tornado-S MLRS, which is designed to replace the BM-30 Smerch, and to conduct counterbattery fire or engage armored and infantry groupings, command posts, airbases, or other facilities of operational importance. It is equipped with GLONASS satellite navigation, automated fire control, and 9M542 long-range precision-guided munitions with a range of up to 120 km. With one volley, the Tornado-S can cover 67 hectares.<sup>40</sup>

The 202nd Air Defense Brigade deployed at Naro-Fominsk provides army-level air defense coverage of army groupings against aircraft and cruise and ballistic missiles. The unit is equipped with the self-propelled S-300V4 theater air defense system, which can engage targets at ranges of up to 350 km and altitudes of 40 km (24 miles).<sup>41</sup> The system's engagement umbrella was increased twofold over that of its predecessor through the introduction of "new technologies and hardware" and implementation of an automated battle management system.<sup>42</sup>

Lastly, the 27th NCB Defense Brigade, which provides theater-level NCB defense protection and camouflage capability, is in Kursk.

Figure 8 shows the locations of the units subordinated directly to the Western MD commander.

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<sup>38</sup> Полковник Аристархов А.Н, Взгляды На Организационно-Штатную Структуру Артиллерийских Формирований, Имеющих В Своем Составе Робототехнические Комплексы Военного Назначения <https://en.ppt-online.org/361074>.

<sup>39</sup> Dr. Lester W. Grau, Charles K. Bartles, *The Russian Way of War*, Foreign Military Studies Office, 2016, <https://www.armyupress.army.mil/Portals/7/Hot%20Spots/Documents/Russia/2017-07-The-Russian-Way-of-War-Grau-Bartles.pdf>, p. 234.

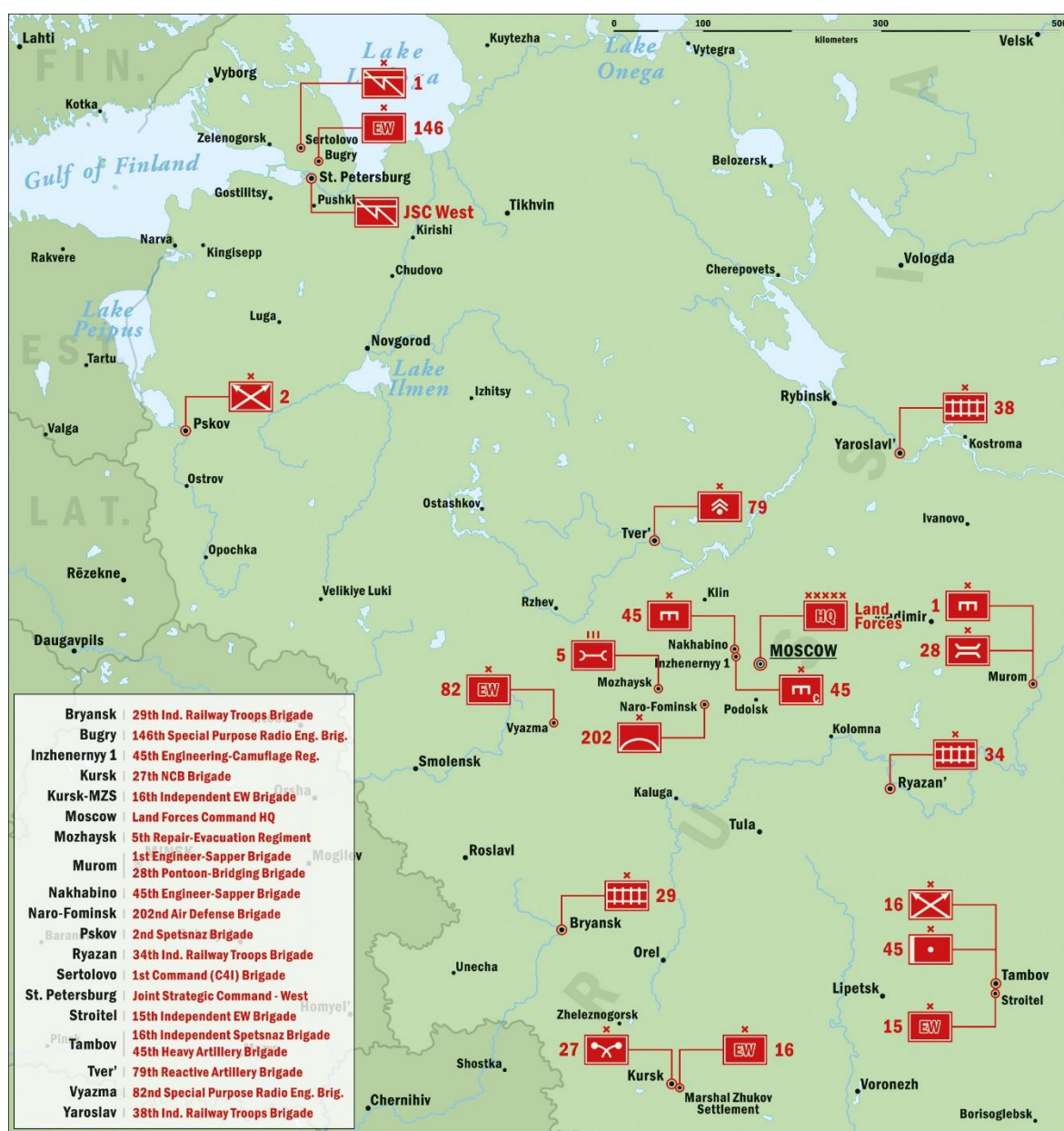
<sup>40</sup> Алексей Савелов, «Торнадо-Г» и «Торнадо-С» значительно расширили возможности артиллерии РФ, Телеканал «ЗВЕЗДА», Jan. 19, 2019, <https://tvzvezda.ru/news/opk/content/201901190009-2s8b.htm>.

<sup>41</sup> Сергей Линник, Зенитная ракетная система С-300В: против самолётов, крылатых и баллистических ракет, topwar.ru, 15 Mar. 2020, <https://topwar.ru/168997-zenitnaja-raketnaja-sistema-s-300v-protiv-samoletov-krylatyh-i-ballisticheskikh-raket.html> and Александр Храмчихин, На страже сердца России, Независимая газета, Jan. 11, 2019, [http://nvo.ng.ru/concepts/2019-01-11/7\\_1029\\_army.html](http://nvo.ng.ru/concepts/2019-01-11/7_1029_army.html).

<sup>42</sup> Сергей Линник, Зенитная ракетная система С-300В: против самолётов, крылатых и баллистических ракет, topwar.ru, Mar. 15, 2020, <https://topwar.ru/168997-zenitnaja-raketnaja-sistema-s-300v-protiv-samoletov-krylatyh-i-ballisticheskikh-raket.html>.



Figure 8. Units subordinated directly to the Western MD commander

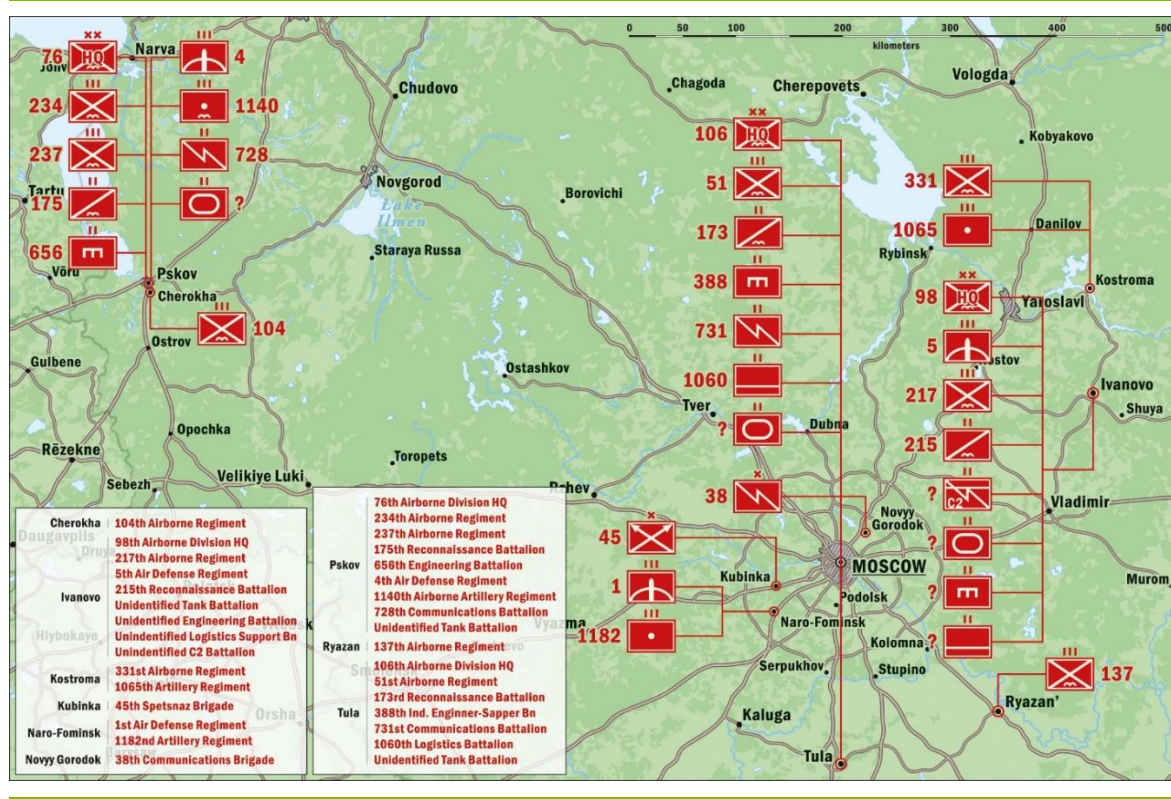


Source: Author's findings.

# Airborne Forces

Out of four airborne divisions in the Russian armed forces, three (one air assault, two parachute) are based in the Western MD, and an additional one is in the Southern MD. This confirms the priority given to maintaining a heavy VDV presence in the western and southern operational directions. Figure 9 shows the units under the command of the Airborne Forces Command.

Figure 9. Units under the command of the Airborne Forces Command



Source: Author's findings.

For unconventional operations, the VDV deploys the 45th Guards Spetsnaz Brigade, which is stationed in Kubinka. Its separate reconnaissance detachment was deployed to Crimea in early

2014 to support the seizure of the peninsula,<sup>43</sup> and its combat elements “forced Georgia to peace” in 2008.<sup>44</sup> However, it was not until after the operations in Ukraine, at the end of 2014, that a decision was made to expand the regiment into a brigade; this also allows the unit to operate in three different operational areas.<sup>45</sup> The unit is predominantly tasked with conducting deep reconnaissance behind the enemy’s lines against strategic-value targets. The brigade’s officers have a saying: “When the shooting starts, reconnaissance ends.”<sup>46</sup> Even so, the unit’s role can also be kinetic, and can include the destruction of C2 posts and headquarters, and the assassination of political or military figures.

In Tula, 170 km (105 miles) south of Moscow, the VDV fields the 106th Airborne Division (parachute). It is composed of two parachute regiments, and organic air defense and artillery regiments, and is supported by reconnaissance, engineer, and logistics battalions. In 2016, tank companies started appearing across VDV formations to increase the firepower of ground components in maneuver operations. These were subsequently expanded to battalion-level formations by 2020.<sup>47</sup> When explaining the move to expand VDV’s TO&E, the former VDV commander, Colonel-General Georgy Ivanovich Shpak, gave Soviet experience in Afghanistan as a reason to add more firepower to divisions, claiming that not a single VDV operation in Afghanistan had been conducted without tanks and that tanks should be subordinated to the unit that is conducting ground operations (in this case, the airborne forces). Consequently, the VDV command sees divisions as quick-reaction forces that can conduct quick ground operations across different theaters, and believes that even though the division’s mobility will be partly sacrificed, the inclusion of some thirty-five T-72B3 MBTs<sup>48</sup> is a worthy expense.

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<sup>43</sup> Олег Грозный, Кого возьмут в спецназ?, Красная Звезда, Oct. 22, 2017, <http://archive.redstar.ru/index.php/component/k2/item/34859-kogo-vozmут-v-spetsnaz>.

<sup>44</sup> Олег Грозный, Кого возьмут в спецназ?, Красная Звезда, Oct. 22, 2017, <http://archive.redstar.ru/index.php/component/k2/item/34859-kogo-vozmут-v-spetsnaz>.

<sup>45</sup> Igor Sutyagin and Justin Bronk, *Russia’s New Ground Forces: Capabilities, Limitations and Implications for International Security* (Routledge Journals, 2017), p. 51.

<sup>46</sup> Александр Тихонов, Бригада глубинной разведки, Красная Звезда, Oct. 22, 2015, <http://archive.redstar.ru/index.php/newspaper/item/26253-brigada-glubinnoj-razvedki>.

<sup>47</sup> Интерфакс АВН, Военные сообщили об учении недавно созданного в Псковской дивизии ВДВ танкового батальона, Sept. 24, 2019 <https://www.militarynews.ru/story.asp?rid=1&nid=517997&lang=RU> and [pln-pskov.ru](http://pln-pskov.ru), Танковый батальон создан в псковской десантной дивизии, [pln-pskov.ru](http://pln-pskov.ru), 17.04.2019, <https://pln-pskov.ru/society/342461.html>.

<sup>48</sup> Two companies are manned by contract personnel, and the third is composed of draftees. Владимир Сосницкий, Десантные тельняшки танкистам в пору, Красная Звезда, Mar. 25, 2019, <http://redstar.ru/desantnye-telnyashki-tankistam-vporu/>.

Another parachute division in the Western MD, the 106th Airborne Division, is in Ivanovo, 250 km northeast of Moscow. It is also composed of two maneuver regiments supported by air defense and artillery regiments.

The sole air assault division, the Pskov-based 76th Air Assault Division, fields three airborne regiments, artillery and air defense regiments, and a tank battalion, as well as three support battalions (logistics, engineer, and reconnaissance).

The VDV has several important roles to play in the Russian armed forces. First, taking into consideration all war-going ground components, the VDV represents the best trained high-readiness force: it requires little preparation and notice (perhaps 48-72 hours) to be forward deployed, using strategic airlift aircraft to undertake combat operations. Therefore, it forms the backbone of the Russian rapid-reaction forces. Second, it is the main reserve force for the General Staff that is capable of undertaking nonconventional and conventional operations. Tactically, plans to include organic rotary-wing assets in the VDV structure, as well as an already-implemented plan to incorporate main battle tanks into the VDV TO&E, make it an agile, flexible force that not only can parachute (or repel/dismount) to create tactical advantages but also can be used as a motor rifle infantry that can penetrate defenses in order to bring tactical victories. Strategically, the VDV's mobility and training exercises make it suitable for being deployed to operations in different theaters at short notice in order to support units already deployed there (Kaliningrad, the Arctic).

Since 2014, the VDV has been undergoing expansion, which again is linked to its role in combat operations in Ukraine—particularly in Donbas. The addition of tank battalions, along with organic helicopters, is coupled with an increase in the size of the force. Plans from post-2014 called for doubling the size of the force, to 72,000 personnel, by 2020. VDV divisions were slated to grow from two maneuver regiments to a traditional three-regiment configuration. This goal is unlikely to be achieved in the long term.<sup>49</sup> As of mid 2020, the VDV had around 42,000 personnel, of whom 30,000 were serving under contract.<sup>50</sup> This gap between rhetoric and reality will prevent, or at least significantly delay, the MoD's plans to add a third maneuver regiment to division-level units. Indeed, a lack of manpower was reportedly one reason why

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<sup>49</sup> Российская газета, Численность ВДВ России планируется увеличить до 72 тысяч человек, Aug. 6, 2014, <https://rg.ru/2014/08/06/vdv-anons.html>.

<sup>50</sup> Michael Kofman, "Rethinking the Structure and Role of Russia's Airborne Forces," Russian Military Analysis: A Blog on the Russian Military (blog), Jan. 30, 2019, <https://russianmilitaryanalysis.wordpress.com/2019/01/30/rethinking-the-structure-and-role-of-russias-airborne-forces/>.

the 72,000 figure was revised to 60,000.<sup>51</sup> That said, small expansions of the VDV force have occurred. In 2017, a VDV battalion (171st Airborne Battalion), subordinated to the Southern MD 7th Guards Airborne Assault Division (Mountain), was established in Crimea.<sup>52</sup> By 2021 it is to be expanded to a regiment in order to “strengthen the defense of the Crimean Peninsula.”<sup>53</sup> It remains to be seen whether the Crimean blueprint will be repeated in other areas, such as the Kaliningrad Oblast. In 2018, the 76th Airborne Division also reinstated the 237th Air Assault Regiment (disbanded in 2001),<sup>54</sup> which added the third regiment to the already existing 104th and 234th regiments.

Airborne troops will form the backbone of the new Russian rapid-reaction forces in the coming years. The new forces will be able to maintain operations as self-sufficient units and as part of the land force on a separate attack axis.

A VDV regiment comprises three air assault or parachute battalions, an artillery battalion, a reconnaissance company and tank companies, an antitank battery, an air defense battery, a signal company, and an engineering company. Offensive operations rest on the first three battalions and the newly established tank company. On a battalion level, they utilize a mix of 31 BMD-4M airborne infantry fighting vehicles and 16 BTR-MDMs. The former are equipped with 100mm guns, which generate sufficient firepower to enable an airborne regiment to undertake independent operations without the need for additional supporting units. The vehicle is designed to engage targets of a similar kind (APCs, IFVs). For bigger threats, the VDV is testing the Sprut-SDM1 lightweight tank. Based on a BMD-4M’s chassis, the vehicle will feature a 125mm smoothbore gun and will thus be able to destroy main battle tanks.

The BMD-4M/BTR-MDM duo has been delivered to the Airborne Forces since 2016. As of mid 2020, eight battalion sets and one company set have been delivered, which indicates that around 320 BMD-4Ms and 180 BTR-MDMs have been handed over.<sup>55</sup> (See Table 1.)

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<sup>51</sup> Тасс, Источник: Россия на постоянной основе развернет батальон ВДВ в Крыму в 2017-2018 годах, Тасс, Feb. 17, 2016, <https://tass.ru/armiya-i-opk/2677585>.

<sup>52</sup> Телеканал «Звезда», Первый в Крыму батальон ВДВ получил боевое знамя, Телеканал «Звезда», Dec. 4, 2017, <https://tvzvezda.ru/photo-gallery/201712041011-mp2q.htm/>.

<sup>53</sup> Тасс, Аксенов: новый полк ВДВ позволит укрепить оборону Крыма, Тасс, Dec. 17, 2019, <https://tass.ru/armiya-i-opk/7359959>.

<sup>54</sup> Лента.ру, Старейшей дивизии ВДВ вернули созданный при Сталине полк, Dec. 17, 2019, <https://lenta.ru/news/2018/12/17/diviziya/>.

<sup>55</sup> Центр АСТ, 234-й десантно-штурмовой полк Псковской дивизии ВДВ получил второй батальонный комплект БМД-4М, June 20, 2020, <https://bmpd.livejournal.com/4065141.html#cutid1>.

**Table 1. BMD-4M/BTR-MDM duos delivered to airborne forces as of mid 2020**

<b>Airborne force</b>	<b>No. of duos delivered</b>
234 <sup>th</sup> Air Assault Regiment (76 <sup>th</sup> Airborne Division)	2 x Battalion BMD-4 / BTR-MDM
104 <sup>th</sup> Air Assault Regiment (76 <sup>th</sup> Airborne Division)	2 x Battalion BMD-4 / BTR-MDM
137 <sup>th</sup> Airborne Regiment (106 <sup>th</sup> Airborne Division)	2 x Battalion BMD-4 / BTR-MDM
31 <sup>st</sup> Airborne Brigade	1 x Battalion BMD-4 / BTR-MDM
108 <sup>th</sup> Air Assault Regiment (7 <sup>th</sup> Airborne Division)	1 x Battalion BMD-4 / BTR-MDM
242 <sup>nd</sup> VDV Training Centre	1 x Company BMD-4 / BTR-MDM

Source: CAST.

## The 6th Air and Air Defense Army

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In 2012, Shoigu reverted Serdyukov's reforms and returned to the regiment-division-army organization and the regiment-airbase concept of basing of air force assets. All seven 1st grade air bases, along with their subordinated air groups, were disbanded and converted into aviation division headquarters. Consequently, a regiment was again the main combat unit of the air force, a structure that had been in place since the late 1930s and changed only briefly when Serdyukov managed the MoD.

In August 2015, the Russian Air Force merged with Aerospace Defense Troops, creating the Aerospace Forces (*Vozdushno-Kosmicheskiye Sily*: VKS). This move served to integrate air assets responsible for air defense under one unified command, in order to increase readiness and force cohesion, and improve information sharing across the forces responsible for air defense of Russia. At the same time, the regiments' dispersal increased the general readiness of the air forces to respond to various threats in different theaters and increased their survivability in case of a surprise armed attack (because fewer assets were stationed at one base).

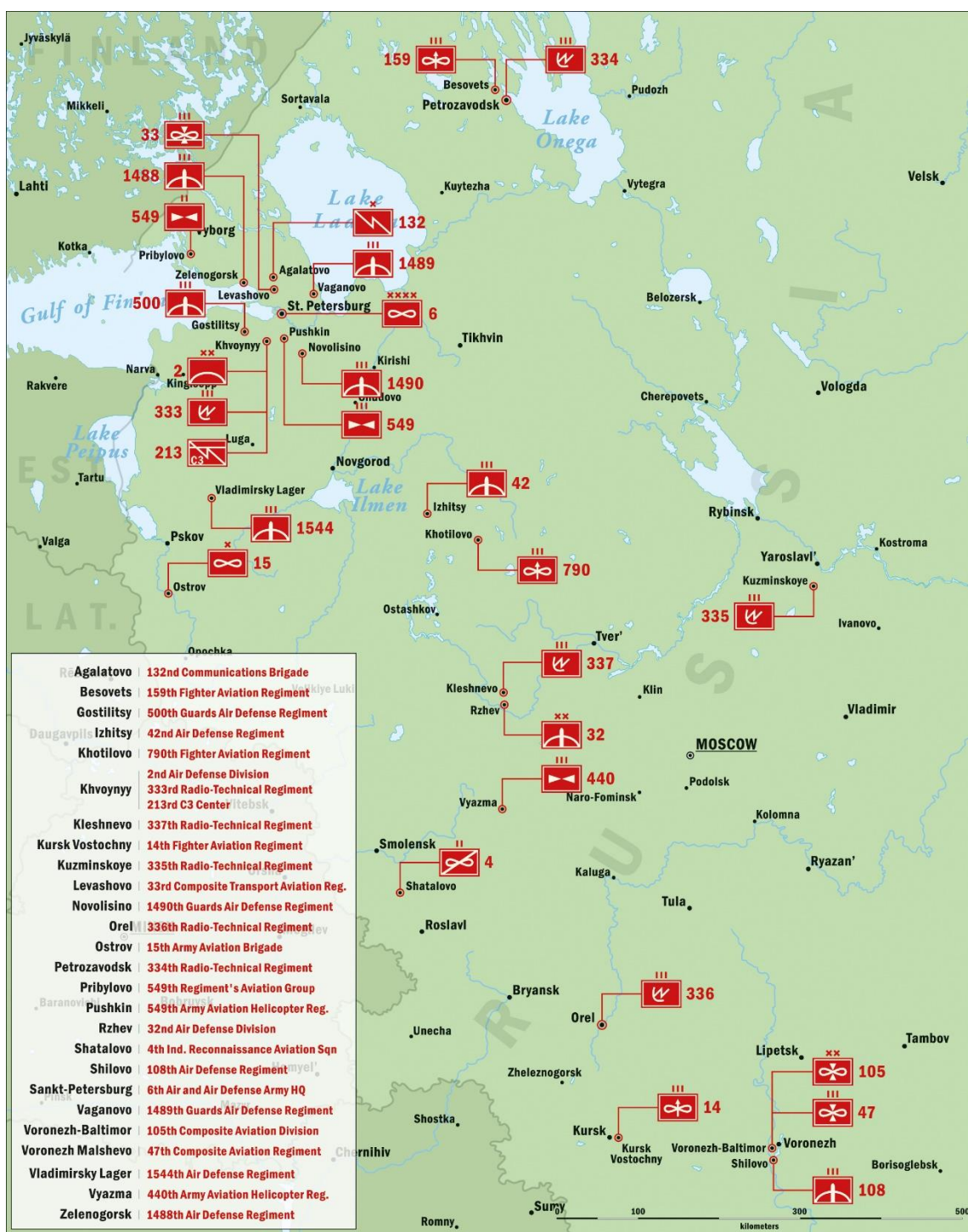
The creation of air and air defense armies followed as a result. Such an army combines all air (fixed- and rotary-wing) assets on its territory as well as air defense regiments and divisions with their SAM and early warning systems.<sup>56</sup> Each army also fields air defense divisions, comprising air defense (SAM) and radio-technical (radar) regiments that create unified, integrated, layered air defense network whose main task is to repel air and ballistic missile strikes on Russia. Moscow remains the most heavily guarded city in Russia. It is followed by St. Petersburg, which in recent years has seen a significant upgrade in the quantity and quality of SAM systems deployed to defend the city.

Figure 10 shows the locations of the 6th Air and Air Defense Army units.

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<sup>56</sup> The VKS commander manages direct reporting units, which include the Long-Range Aviation Command (operationally subordinated to the Supreme High Command of the Russian Armed Forces), tasked with providing nuclear deterrent and power projection in out-of-area operations; and the Military Transport Aviation, also operationally subordinated to the Supreme High Command, which provides strategic and operational airlift.

Figure 10. Units under the command of the 6th Air and Air Defense Army



Source: Author's findings.



## Fixed- and rotary-wing units

The main combat unit of the army is the 105th Composite Aviation Division (*Smeshnaya Aviatsionnaya Diviziya: SAD*), headquartered at Voronezh-Baltimor. It consists of four aviation regiments and one aviation squadron.

First, the 14th Fighter Aviation Regiment (*Istrebitelnyi Aviatsionnyi Polk: IAP*) is based in Kursk Vostochny/Khalino. It fields 24 Su-30SM fighters (two squadrons), which were delivered between 2017 and 2018.<sup>57</sup> Before that, the unit was equipped with MiG-29SMT aircraft that were originally sold to Algeria but were later refused due to poor manufacturing quality. Satellite imagery from early 2019 still shows around 20 MiGs at the airbase, but they do not seem to have moved for years and therefore are unlikely to be operational.

The 47th SAP's home base is Voronezh Malshevo; however, since 2013 it has been redeployed to Buturlinovka while the former is undergoing modernization. The renovation of the base was to conclude in 2015, but it has been regularly postponed.<sup>58</sup> As of mid 2020, it was still undergoing work. Delays have reportedly been caused by issues with the contractor and funding.<sup>59</sup> Current plans call for the base to reopen in fall 2020. The regiment is equipped with two Su-34 squadrons, which were handed over between 2010 and 2013.

The northernmost regiment belonging to the 6th AADA is the 159th IAP, deployed at Besovets, Karelia, 300 km (186 miles) north of St. Petersburg. Its location makes it responsible for the provision of air attack capability along the Finnish border. It can also support the defense of St. Petersburg and provide additional strike capability to the Northern Fleet's 45th AADA. The regiment began receiving Su-35S airframes in 2016. The process concluded in 2018, when two full squadrons were fully re-equipped. An additional squadron of Su-27SMs is also deployed at the airbase, which therefore houses at least 36 combat aircraft.<sup>60</sup>

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<sup>57</sup> Центр АСТ, 14-й гвардейский истребительный авиационный полк в Курске получил еще один истребитель Су-30СМ, Dec. 1, 2019, <https://bmpd.livejournal.com/3436686.html>.

<sup>58</sup> Илья Ершов, Генерал Зибров рассказал о завершении работ на аэродроме «Балтимор» в Воронеже, [bloknot-voronezh.ru/](https://bloknot-voronezh.ru/); <https://bloknot-voronezh.ru/news/general-zibrov-rasskazal-o-zavershenii-rabot-na-ae-925837>.

<sup>59</sup> SVIK-TV, Воронежский военный аэродром «Балтимор» откроют осенью 2020-го, Dec. 14, 2019, <http://xn--ctbbwk3bl.xn--p1ai/voronezhskij-voennyj-aerodrom-baltimor-otkroyut-osenyu-2020-go>.

<sup>60</sup> A total of 60 aircraft are deployed at the base, although it is unclear how many, apart from the above-mentioned three squadrons, are operational.

Khotilovo Air hosts the 790th IAP. It is equipped with two squadrons of modernized MiG-31BM interceptor aircraft as well as at least one squadron of Su-27/SMs. The latter is being replaced by Su-35s, nine of which had been delivered to the unit as of mid 2020.<sup>61</sup>

Finally, the 105th SAD also fields the 4th Independent Reconnaissance Aviation Squadron (*Otdelnaya Aviatsionnaya Razvedyvatelnaya Eskadrilya: OARE*), stationed in Shatalovo. It was established in 2014 and nominally fields one Su-24MR squadron tasked with reconnaissance and target designation missions. That said, satellite imagery from 2019 does not indicate that the squadron is at its full strength; it only shows several Su-24s at various parts of the airbase. According to Piotr Butowski, an aviation journalist, the unit will be expanded into a regiment and its assets will be augmented with Su-34s in the future.<sup>62</sup>

There are also numerous directly reporting units under the command of the 6th AADA.

The 33rd Independent Transport SAP provides army-level rotary- and fixed-wing tactical airlift capability. It is equipped with An-26, An-12, An-72, An-148 (100), and Tu-134 aircraft. These are supported by around a squadron of Mi-8 helicopters.

The 15th Br AA is deployed at the Ostrov Airbase, some 30 km (18 miles) from the border with Latvia and 70 km (43 miles) from the border with Estonia. Its proximity to Pskov (60 km, or 37 miles) makes it naturally prepositioned to operationally support the 76th Airborne Division in the Baltic theater. Plans announced in 2014 called for an army aviation brigade to field 84 to 88 combat and airlift helicopters (66 for a regiment).<sup>63</sup> Satellite imagery from March 2020 shows around 60 helicopters deployed at the base, which includes a squadron (12 airframes) each of Mi-28N and Ka-52 attack helicopters, a squadron of Mi-8MTV-5 helicopters, and several Mi-26 heavy transport helicopters.

The 549th Independent Helicopter Regiment (*Otdelnyi Vertoliotnyi Polk: OVP*) is deployed at the Pushkin Airbase, just south of St. Petersburg. It fields one squadron of Mi-8 transports, and one of Mi-28N and Mi-35 attack helos. Some of its assets, which include Mi-8s and Mi-24PNs, are also deployed at the Pribylovo Airbase, located 100 km (62 miles) northwest of St. Petersburg.<sup>64</sup>

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<sup>61</sup> Центр АСТ, ВКС России получили первые три истребителя Су-35С постройки 2019 года, <https://bmpd.livejournal.com/3713121.html>, July 22, 2019.

<sup>62</sup> Piotr Butowski, *Flashpoint Russia: Russia's Air Power: Capabilities and Structure* (Vienna: Harpia Publishing, 2019), p. 70.

<sup>63</sup> Взгляд, В ВВС России решено сформировать 14 бригад армейской авиации и вертолетных полков, Взгляд, July 26, 2014, <https://vz.ru/news/2014/7/26/697375.html>

<sup>64</sup> The author understands that the regiment was stood up on the 549th Army Aviation Air Base in December 2016. Previously, the 332nd Helicopter Regiment with just one squadron was deployed at Pribylovo, whereas the

Lastly, the 440th OVP is located at the Vyazma Airbase. It is equipped with around 20 Mi-24s and Mi-28Ns, at least 10 Ka-52s, and around 20 Mi-8s in various configurations. Around 50 of what seem to be Mi-24s and Mi-8s are also stored at the base, but they seem to be cannibalized for parts.

The army aviation has been subordinated to the air force since 2003. Although there are voices that call for at least a partial reversal of this decision,<sup>65</sup> rotary-wing assets play a key role in the provision of close air support for maneuver ground forces, and they increase its flexibility and readiness to respond to quickly materializing threats.

One intrinsic feature of the Baltic States battlespace is the heavy presence of Russian army aviation assets, which include one regiment and one brigade. The reason behind such force prepositioning is the ground terrain around the Baltic States, which, because of its large number of lakes, rivers, and generally boggy terrain, does not favor maneuver warfare. Consequently, combat helicopters would be used to soften defensive lines in order to limit the need to maneuver, and to attack targets behind enemy's lines in order to delay reinforcements. Airlift adds additional flexibility and provides maneuver space where necessary.

Russia continues to modernize its fixed-wing aviation fleet, although the pace of this modernization seems to have reached a plateau. Combat aircraft deliveries to front-line units reached their peak in 2014, when a total of 88 airframes were handed over. After that, delivery numbers gradually decreased, with 2019 marking the lowest number since 2009.<sup>66</sup> In her recent interview with *Krasnaya Zvezda*, Tatiana Shevtsova, who is responsible for MoD finances, stated that “the increase in defense spending in previous years was due to the comprehensive re-equipment of the army” and that “this peak has been passed.”<sup>67</sup> This indicates that the top brass is happy with what the rearmament has delivered and that it is unnecessary to maintain elevated defense spending (perhaps it is also unaffordable).

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147<sup>th</sup> Independent EW Helicopter Regiment was at Pushkin. These were merged into the 549th Regiment and their previous structures were disbanded.

<sup>65</sup> Алексей Рамм, Алексей Козаченко, Богдан Степовой, Константин Валентинов, ВДВ окрыляют: десантники получают собственную авиацию, *Известия*, Feb. 19, 2019, <https://iz.ru/847090/aleksei-ramm-aleksei-kozachenko-bogdan-stepovoi-konstantin-valentinov/vdv-okryliaiut-desantniki-poluchat-sobstvennuu-aviatciu>.

<sup>66</sup> In 2019, six Su-35Ss were handed over to the 790th IAP and six Su-34s were handed over to the 2nd SAP deployed at Chelyabinsk Shagol in the Central MD. Another two Su-34s were handed over to the air force in December, but it is unclear where they were sent.

<sup>67</sup> Евгений Подзорнов, Сбалансированный бюджет позволяет реализовать все планы по развитию Вооружённых Сил, *Красная Звезда*, Dec. 27, 2019, <http://redstar.ru/sbalansirovannyj-byudzhnet-pozvolyaet-realizovat-vse-plany-po-stroitelstvu-i-razvitiyu-vooruzhyonnyh-sil/>.

The defense industry is also struggling with debt burden and is unable to produce aircraft at prices negotiated in 2012, as is the case with Su-34s. At the same time, long-term contracts signed in the early 2010s are also concluding, and no new deals have been signed as prices and terms are being negotiated.

There is also a gradual decrease in defense spending, which impacts both the state defense order (SDO) and the way that funds within it are managed, as well as which programs receive priorities. Fixed-wing aircraft do not seem to be prioritized, which could denote a gradual decrease in obtaining such aircraft. (See Table 1.) Indeed, *Vedomosti* reported in September 2019 that, although a new contract for the production of 48 Su-34s is expected in 2020, aircraft production at the Novosibirsk plant may cease: it is uneconomical to produce just 48 airframes at two plants (Su-34's main production site is in Komsomolsk-on-Amur).<sup>68</sup>

Table 2. Fixed-wing combat aircraft deliveries to VKS

Type	2008	2009	2010	'11	'12	'13	'14	'15	'16	'17	'18	'19	2020	Total
MiG-29SMT	-	28	-	-	-	-	-	3	11	-	-	-	-	42
MiG-29UB	-	6	-	-	-	-	-	2	-	-	-	-	-	8
MiG-35	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Su-27SM3	-	-	4	8	-	-	-	-	-	-	-	-	-	12
Su-30M2	-	-	2	2	-	3	8	3	2	-	-	-	-	20
Su-30SM	-	-	-	-	2	14	18	22	2	1	12	-	-	71
Su-34	1	2	4	6	10	14	18	18	16	16	12	8	3	128
Su-35S	-	-	-	-	2	8	24	12	12	10	10	6	-	84
Yak-130	-	3	6	3	15	18	20	14	10	6	14	-	2	111
<b>Total</b>	<b>1</b>	<b>39</b>	<b>16</b>	<b>19</b>	<b>29</b>	<b>57</b>	<b>88</b>	<b>74</b>	<b>53</b>	<b>33</b>	<b>48</b>	<b>14</b>	<b>4</b>	<b>475</b>

Source: Author's calculations.

## Air defense

As part of its role, the 6th AADA also provides strategic-level early warning and air defense coverage for units stationed in the Western MD. To fulfill this mission, it fields two air defense divisions, described in Table 3. Altogether, there are twelve S-400, four S-300PM, and five S-300PS SAM batteries deployed in the Western MD, under the command of the 6th AADA.

<sup>68</sup> This contract would produce just six airframes per year. Иван Сафронов, Производство боевых самолетов в Новосибирске может прекратиться, *Ведомости*, 7 Oct. 2019, <https://www.vedomosti.ru/politics/articles/2019/10/07/813072-proizvodstvo-boevih-samoletov>.

**Table 3. Air defense divisions in the 6th AADA and their equipment**

<b>Unit</b>	<b>Equipment</b>
2 <sup>nd</sup> Air Defense Division (Khvoynyy)	
500 <sup>th</sup> ADR (Gostilitsy)	1 x S-300 PM(?), 2 x S-400
1488 <sup>h</sup> ADR (Zelenogorsk)	2 x S-300PS(?), 2 x S-400
1489 <sup>th</sup> ADR (Vaganovo)	2 x S-400
1490 <sup>th</sup> ADR (Novolisino)	4 x S-400
1544 <sup>th</sup> ADR (Vladimirsky Lager)	2 x S-300 PS(?), 2 x S-400
42 <sup>nd</sup> Air Defense Division	
42 <sup>nd</sup> ADR (Izhitsy)	2 x S-300 PS(?)
108 <sup>th</sup> ADR (Shilovo)	2 x S-300 PS(?)

Source: Author's calculations.

The 2nd Air Defense Division guards St. Petersburg, which again emphasizes Russia's efforts to protect the city and its neighboring areas from mass attacks. It is composed of five air defense regiments (the 500th, 1488th, 1489th, 1490th, and 1544th), which are predominantly equipped with S-400 Strategic SAMs. The 1490th Air Defense Regiment is the only one composed of four S-400 batteries, which were delivered in February 2020.<sup>69</sup> In its standard configuration, each battery is composed of eight transporter erector launchers (TELS). It is thus able to fire 32 missiles in a single salvo, or 128 for the entire regiment. The 2nd Air Defense Division, which is fielding 12 S-400 batteries, can therefore launch 384 missiles in a single salvo. Given that the Russian doctrine stipulates the employment of two missiles per target, the division can engage 192 targets.

However, the effectiveness of such attacks depends on the extent to which SAM batteries will obtain incoming targets, process them, and release missiles into them. To support the entire engagement cycle, an S-400 battery is supported by the following: a 92N6 target engagement radar (six to 10 simultaneous engagements); a 96L6 target acquisition radar, with an acquisition range of 300 km (186 miles); and a 91N6 battle management radar, with an acquisition range of 600 km (372 miles). It is equipped with a 48N6E3/48N6DM interceptor missile that has a nominal range of 250 km (155 miles). It is to be augmented with a 40N6 missile, which reportedly has a range of 400 km (248 miles). These nominal ranges, for both missile and radar systems, are restricted by two factors: first, the radar horizon, which effectively limits how much a radar horizon can "see"; and, second, by Russia's ability to

<sup>69</sup> Altyn73, Сразу Четыре дивизиона С-400 получил один полк, Feb. 25, 2020, <https://altyn73.livejournal.com/1426325.html>.

undertake cooperative engagements, which depends on the fusion of various (seaborne, airborne) radar sensors to provide target engagement data to S-400 battle management system (BMS) systems and thus nullify effects caused by the curvature of the earth. However, there are reasons to assume that Russia has not yet acquired the latter capability, which significantly decreases its ability to engage aerial targets in over-the-horizon mode.<sup>70</sup> There will definitely be an increase in this capability once the A-100 AWACS and the Su-57 aircraft enter service.

For this reason, each air division is also composed of additional radio-technical regiments<sup>71</sup> that, when placed away from batteries, provide additional data collection capability that can be used later for target engagement. The 36D6 Tin Shield is one of the acquisition components of S-300/S-400 SAM systems and is used as “a general-purpose medium/high altitude search radar.”<sup>72</sup> There are at least 18 such radars in the 2nd Air Defense Division’s areas of operations with additional early warning radars, such as 1L119 Nebo, P-35/37 Bar Lock, and P-12/18 Spoon Rest. In addition, it seems that the 96L6 radars are also being employed in a standalone configuration, detached from S-400 batteries, to provide greater radar coverage and increase the readiness of air defense forces in the Western Military District.

Farther south, the 32nd Air Defense Division is scattered between Vladimirsky Lager, 60 km north of Pskov, to Voronezh. It fields three radio-technical regiments (the 335th, 336th, and 337th) and two air defense regiments (the 42nd and 108th).

The 1544th Air Defense Regiment is equipped with two S-400 battalions, received in early 2018.<sup>73</sup> The Voronezh-based 108th Air Defense Regiment is equipped with two S-300PS/PM battalions and is scheduled to upgrade to S-300PM2.<sup>74</sup>

The 108th Air Defense Regiment is based near Voronezh and is equipped with two batteries of S-300PMs.

The 42nd Air Defense Regiment is equipped with two batteries of S-300PS/PMs. It is located 200 km northwest of Tver. Both regiments are tasked with the provision of air defense for the

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<sup>70</sup> For further reading see: FOI, *Bursting the Bubble? Russian A2/AD in the Baltic Sea Region: Capabilities, Countermeasures, and Implications*, Mar. 2019, <https://www.foi.se/rest-api/report/FOI-R--4651--SE>.

<sup>71</sup> The 2nd Air Defense Division commands the 334th and 333rd Radio-Technical Regiments.

<sup>72</sup> Dr. Carlo Kopp, *Search and Acquisition Radars (S-Band, X-band)*, Jan. 27, 2014, <https://www.ausairpower.net/APA-Acquisition-GCI.html#mozTocId55304>.

<sup>73</sup> Altyn73, *Догоняемся по размещению новых дивизионов С-400*, Mar. 12, 2019, <https://altyn73.livejournal.com/1426325.html> and <https://altyn73.livejournal.com/1375792.html>.

<sup>74</sup> Елена Черных, *Воронежские ракетчики получают аналог С-400*, Dec.1, 2018, <https://infovoronezh.ru/News/Voronejskie-raketchiki-poluchat-analog-S-400-61455.html>.

Central Economic Region, which is located in the central area of the European part of Russia. It is the most populous, urbanized, and industrialized region of Russia and houses approximately 20 percent of the Russian population.

Also, note that each S-400 battalion is guarded by up to six Pantsir-S1 air defense missile-gun systems, which are designed to engage tactical aircraft, UAVs, and precision-guided munitions at ranges up to 40 km.<sup>75</sup> It is effectively a close-in weapon to be used when missiles have penetrated other layers of the air defense network. Interestingly, in one video showing a Kaliningrad-based Pantsir during an exercise, the system was used to engage ground targets. It is unclear whether it was only target practice or whether the Pantsir-equipped units could also be tasked with providing indirect fire against ground targets.<sup>76</sup>

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<sup>75</sup> According to the *Military Russia* page on “Complex 96K6 Pantsir-S / Pantsir-C1 - SA-22 GREYHOUND” (<http://militaryrussia.ru/blog/topic-558.html>), the exact number of Pantsir units deployed to defend a S-400 battalion depends on the threat environment and the number of other short-range air defense assets employed to defend strategic SAM systems.

<sup>76</sup> “Russia: Pantsir-S1 anti-missile systems in Kaliningrad drills,” Ruptly Channel, Mar. 21, 2019, [https://www.youtube.com/watch?v=g\\_pDw-4yn4](https://www.youtube.com/watch?v=g_pDw-4yn4).

## The Kaliningrad Oblast

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For many years, the Russian forces stationed in the Kaliningrad Oblast presented a mixed picture of capabilities. On the one hand, between 2007 and 2014, the Baltic Sea Fleet received four Project 20380 Steregushchiy-class corvettes; on the other hand, the subsurface force relied on two antiquated Kilo-class submarines. The oblast-based strategic S-300 SAMs began to be replaced by S-400s in 2012, and the process is mostly completed (more on that below); however, air assets deployed in the Kaliningrad Oblast are still a mix of Su-27Ps and Su-24M/MRs. They have had only a limited increase in capabilities since 2016, through the delivery of eight Su-30SM fighters.

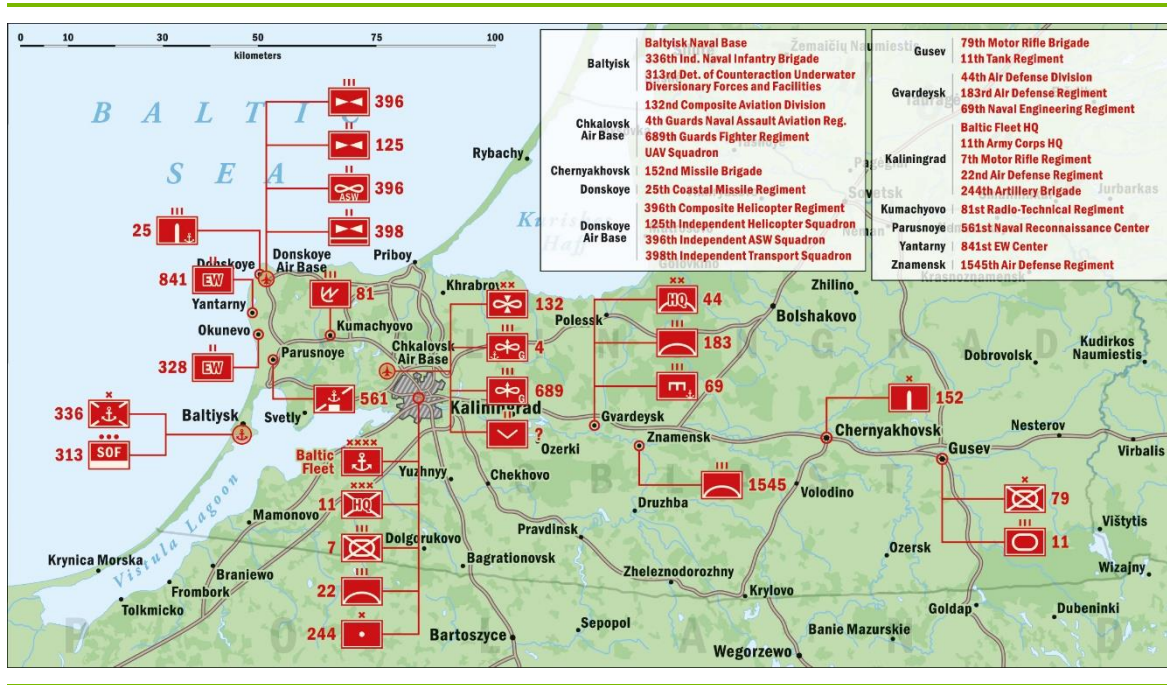
Except for the 336th Naval Infantry Brigade, ground components were significantly underdeveloped until recently, especially in terms of armor and ability to conduct long-range artillery (both missile and shell) strikes. This was particularly evident when comparing ground capabilities of those in the oblast to those in mainland Russia: in the latter, modernization was steady, whereas in Kaliningrad it was uneven and rudimentary.

However, over the last few years, forces in the oblast have undergone a significant expansion and reorganization, to ensure that they are capable of conducting and maintaining offensive ground operations in the theater. At the same time, should a conflict break out, these forces would maintain pressure on NATO assets deployed in the region and would “occupy” the alliance’s military potential during initial stages of the conflict. The control of the land components by the 11th Army Corps was re-established in 2016, as an additional C2 structure between brigades/regiments and the Baltic Sea Fleet command.

Figure 11 shows the locations of the Russian forces in the Kaliningrad Oblast.



Figure 11. Russian forces in the Kaliningrad Oblast



Source: Author's findings.

## Ground components

The The army corps now fields a self-sufficient fighting force that can conduct medium-intensity combat operations along two axes of advance.

Until 2018 the forces in the oblast fielded just one tank battalion, as a part of the 79th Motor Rifle Brigade based in Gusev. Although it has not been officially confirmed, it appears that the tank battalion was detached from the brigade, which resulted in the brigade being converted into a regiment that has three BMP-2-equipped battalions.

The above-mentioned detached tank battalion served as a basis from which the 11th Tank Regiment was stood up in 2018, also in Gusev. This move increased the number of MBTs deployed to the oblast from around 30 to 90 (excluding naval infantry); thus, it increased

offensive capability, especially vis-à-vis those NATO forces stationed in Orzysz in northeastern Poland. In late 2018 the regiment also received a battalion set of 2S19M1 Msta-S SPHs.<sup>77</sup>

The land component also features the 7th Motor Rifle Regiment, which is based in Kaliningrad. This unit, along with the 11th Tank Regiment and the 79th Motor Rifle Brigade, will form the core of a new motor rifle division, which is to be established in Gusev.<sup>78</sup>

As of mid 2020 only one tank battalion of the 11th Tank Regiment was equipped with T-72B3 MBTs, whereas remaining armor subunits within the 11th Army Corps field antiquated T-72B1s. According to press reports, all T-72B1s are earmarked for replacement with T-72B3/B3Ms by the end of 2021, which will harmonize the tank fleet across the oblast and increase its firepower<sup>79</sup>.

Support elements of the 11th Army Corps include the 2nd Air Defense Regiment and the 244th Artillery Brigade, both stationed in Kaliningrad. The latter's capabilities have also been a subject of modernization in recent years, after it received BM-27 Uragan and BM-30 Smerch heavy MLRSs. Smerch can fire its 12 rockets in 38 seconds, after which the reload time is about 25-35 minutes, depending on how well trained the crew is. The BM-30 increases the area covered by one launcher, and it offers a significant range expansion as well, especially compared to other MLRS systems. One Smerch launcher can cover 67 hectares, compared to 4 hectares for BM-21 and 29 hectares for BM-27. One battery of eight launchers can disorganize the opposing force's division-level operations. Three launchers can provide a level of destruction comparable to that of two Tochka-U-equipped brigades.

The BM-30 battalion could be the basis upon which a brigade will be formed to create a fully developed reactive artillery brigade. In such a case, a BM-30 brigade would deploy three battalions, each with two batteries of four launchers, which equals 24 launchers per brigade. In times of war, the number of battalions could be increased to four, the number of batteries to three, and the number of launchers per battery to six. This would equal a total of 72 BM-30 launchers per brigade, and a single salvo of 864 missiles.

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<sup>77</sup> Rochan Consulting, "Kaliningrad's 2S19M1 SPHs land in a tank regiment," Rochan-Consulting.com, May 3, 2020, <https://rochan-consulting.com/kaliningrads-2s19m1s-land-in-a-tank-regiment/>.

<sup>78</sup> Интерфакс-Россия, Группировку в Калининградской области усилят мотострелковой дивизией, Интерфакс-Россия, Feb. 12, 2019, <https://www.interfax-russia.ru/northwest/main/gruppировку-v-kaliningradskoy-oblasti-usilyat-motostrelkovoy-diviziei>. The 79th Motor Rifle Brigade holds the honorary name, insignia, and regalia of the 18th Guards Motor Rifle Insterburg Red Banner Order of the Suvorov Division, which indicates that the new division will bear this name: Виталий Хвалец, В Калининградской области отметили юбилей 18-й гвардейской мотострелковой дивизии, Вести-Калининград, Aug. 10, 2019.

<sup>79</sup> Антон Лавров Роман Крецул, Перевооружен и опасен: западные границы РФ усилят ракетные супертанки, Известия, Nov. 9, 2020, <https://iz.ru/1084350/anton-lavrov-roman-kretcul/perevooruzhen-i-opasen-zapadnye-granitcy-rf-usiliat-raketnye-supertanki>.

The 152nd Missile Brigade, based in Chernyakovsk (and shown in Figure 12), was the next to last brigade in the Russian ground forces to receive the Iskander complex, in 2018. In this case, delivering the complex to Kaliningrad may have been an intentional move as the system became a part of the Russian propaganda toolkit used against NATO countries, Poland, and the Baltic States in particular. Any information about the possible deployment of the system (either permanently or for exercises) was met with an uproar, and the media in those countries gave increased attention to the militarization of the region. Unlike the missile brigade based in Luga, and because of its location (in the northeastern part of the city), the base does not seem to feature a weapon storage area where warheads for the Iskander complex can be stored; this presumably has a negative effect on the readiness of the brigade.

The army corps also has the 148th Repair and Recovery Battalion, which provides repair and recovery services to ground units in Kaliningrad.

The Baltic Sea Fleet commander also manages coastal defense forces, which are composed of the 336th Naval Infantry Brigade, the 25th Coastal Missile Regiment, the 561st Naval Reconnaissance Centre, the 69th Naval Engineering Regiment, and the 841st EW Centre.

**Figure 12. The 152nd Missile Brigade based in Chernyakovsk, largely completed**



Source: Includes material from © CNES 2020, Distribution Airbus DS, all rights reserved/PLEIADES satellite imagery/Acquired through ShadowBreak Intl. on Oct. 5, 2020.

The army corps also has the 148th Repair and Recovery Battalion, which provides repair and recovery services to ground units in Kaliningrad.

The Baltic Sea Fleet commander also manages coastal defense forces, which are composed of the 336th Naval Infantry Brigade, the 25th Coastal Missile Regiment, the 561st Naval Reconnaissance Centre, the 69th Naval Engineering Regiment, and the 841st EW Centre.

The 336th Naval Infantry Brigade is the most combat-ready ground force/naval infantry unit in the oblast. Its personnel were deployed to operations in Eastern Ukraine in 2014 and Syria in 2016. This confirms that at least some of the personnel from the brigade have gained combat experience—some, possibly in two theaters—which has undeniably increased the overall professionalism levels within the unit.

Locally, personnel from the brigade train extensively, usually at the Khmelevka training range, although these exercises are rather limited in mission scope and size (company level). Within the first two months of service, enlisted servicemembers spend an average of three weeks at the range.

The brigade is a heavily mechanized force. It fields around 60-80 BTR-82s (two battalions). One battalion, the 879th, has jump status, which is confirmed by social media posts. The battalion could, therefore, be earmarked for airborne assault operations. Its personnel train with the VDV and are likely linked to them on an operational level. Interoperability between Western VDV forces (most likely the 76th Airborne Division) and the 336th Brigade, is also presumably higher than interoperability between other units stationed in the oblast.

This means that in times of crisis or war, personnel from the brigade could be employed with VDV servicemembers, using the latter's transport aircraft in coastal areas to clear them from opposing forces and allow for amphibious landings. The brigade possesses organic artillery capability in the form of an artillery battalion.

The 25th Coastal Missile Regiment operates out of Donskoye. It is equipped with a battalion of one 3K60 Bal and, presumably, one K-300P Bastion-P coastal defense system.<sup>80</sup> The unit is tasked with protecting sea approaches and conducting surface-to-water strikes against opposing naval forces at stand-off distances. In Syria, the K-300P Bastion-P has also been used in a land attack mode, thus expanding the mission envelope of the regiment.

At least one company—the 69th Naval Engineering Regiment—is at full readiness status to conduct demining tasks across the Kaliningrad Oblast. However, apart from such missions, the unit is also responsible for the provision of camouflage and deception capabilities for some of

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<sup>80</sup> Интерфакс АВН, Балтийский флот будет усилен еще одним противокорабельным ракетным дивизионом с комплексом "Бал" – источник, Интерфакс АВН, 02.03.2019, <https://www.militarynews.ru/story.asp?rid=1&nid=503170&lang=RU>.

the forces stationed in the oblast. Also, it has a pontoon-bridging battalion that provides bridging capabilities for ground forces operating in and from the oblast.

Electronic warfare capability on a fleet level is provided by the 841st EW Centre, which may consist of two battalions and a company. The first battalion undertakes strategic EW tasks, and the second is responsible for the provision of EW capability on a tactical level.<sup>81</sup>

The Centre fields the “Samarkand” electronic warfare (EW) system,<sup>82</sup> which has the stated role of monitoring and assessing the electromagnetic spectrum, instantly detecting, analyzing, and locating radio signals in conjunction with other mobile and static signals intelligence/electronic intelligence (SIGINT/ELINT) systems, as well as using software, electronics, and other decoys to divert and misdirect enemy platforms and systems away from intended targets. Krasuha EW and Murmansk-BM complexes are also understood to be deployed within the Centre.<sup>83</sup>

## Naval forces

As of mid 2020, the Baltic Sea Fleet fielded 52 surface combatants and one subsurface combatant, with an average age of 24 years. These assets are grouped into two naval bases: Leningrad (Kronstadt) and Baltyisk. In Kronstadt, the fleet deploys the 3rd Submarine Brigade<sup>84</sup> and the 105th Sea Protection Ships Brigade. In addition, two rescue detachments are subordinated to the base, one of which is earmarked for expeditionary (long-range) operations. Note that each naval base across Russia has one subunit—a detachment for counteraction underwater diversionary forces and facilities—which conducts underwater combat, mining, and demining operations, and protect fleets’ assets against the enemy’s naval special forces. In the case of the Baltic Sea Fleet, these are the 473rd and the 313th Detachments, located in Kronstadt and Baltyisk, respectively.

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<sup>81</sup> Jonas Kjellèn, *Russian Electronic Warfare. The role of Electronic Warfare in the Russian Armed Forces*, FOI, Apr. 10, 2018, p. 37, <https://www.foi.se/rapportsammanfattning?reportNo=FOI-R--4625--SE>.

<sup>82</sup> Андрей Резчиков, «Самарканд» превратит армии НАТО в войско дикарей, *Взгляд*, Oct. 28, 2018, <https://vz.ru/society/2018/10/28/674524.html>.

<sup>83</sup> Лидия Мисник, Гроза Европы: в Калининграде развернули «Мурманск-БН», *Газета.ру*, Apr. 26, 2019, <https://www.gazeta.ru/army/2019/04/26/12323509.shtml>. This deployment is also confirmed by satellite imagery (54.831422, 19.957723).

<sup>84</sup> The brigade fields one Kilo-class patrol submarine – Project 877EKM (487 *Dmitrov*, commissioned in 1986). It was under repair between 2014 and March 2018, when it was transferred back to the Baltic Sea Fleet. In the meantime, the second submarine of the fleet, Project 877 (469 *Vyborg*, commissioned in 1983), is understood to have been decommissioned in November 2018.

In the future, the fleet may obtain modern submarines in the form of the Project 636.3 Varshavyanka class (Improved-Kilo). There are several reasons why the Baltic Sea Fleet's submarine presence is mediocre. The first is that the Black Sea Fleet took modernization priority post-2014, which resulted in the delivery of six 636.3 Varshavyanka class submarines between 2014 and 2016. The second modernization priority pertained to the delivery of new submarines to the Pacific and Northern Fleets as an additional support to their SSBN forces. The third reason is the low priority of the Baltic Fleet as a training and sea trials fleet. Last but not least, the Russian military leadership had little incentive to allocate funds into the development of the Baltic Sea Fleet's capabilities, in view of the inherent weakness of other regional navies. The Polish Navy's submarine force is on the brink of collapse, and there are real concerns that Warsaw may soon lose this capability altogether. The surface fleet is also antiquated, obsolete, and unable to effectively address challenges posed by the fleet and its sea- and land-based platforms.

Most naval forces are stationed in Baltyisk: the 36th Missile Boats Brigade, the 64th Sea Protection Ships Brigade, the 72nd ELINT Ships Squadron, the 71st Landing Ships Brigade, the 106th Small Missile Ships Squadron, and the 128th Surface Ships Brigade. Each fleet also has a detachment that is responsible for rescue and emergency operations as well as for undertaking such roles in expeditionary missions. Baltyisk also houses the 342nd Emergency Rescue Detachment, and the base in Kronstadt has both the 501st Emergency Rescue Detachment and the 328th Expeditionary Emergency Rescue Detachment.

Between 2007 and 2014, the fleet received four Steregushchy-class FFCs (Project 20380) and one Neustrashimy-class FFG (FFG Project 11540). In 2016, Russia redeployed two Project 21631 Buyan-M artillery ships from the Black Sea Fleet to the Baltic Sea. These vessels epitomize the "Kalibrization" of the Russian Navy, which seeks to provide the Russian Navy with as many cruise missiles as possible. Indeed, one of the most significant surface ship developments has been the fitting of the Kalibr capability to the Project 21631 Buyan-M corvettes. The ships' eight-cell 3S-14 VLS launcher has been used to fire missiles on a number of occasions during combat operations in Syria. What is most striking in this development is the proven ability to fit a long-range land-attack punch to even relatively small surface platforms, and for these platforms to have a demonstrable impact on shaping events ashore. With a reported range of 1,500 km (932 miles), these missiles can effectively engage targets across Western and Northern Europe. However, the Buyan-M's weakness is a lack of air defense, given that it comprises two Komar launchers with 9M39, 9M313, or 9M342 Iгла missiles, which can only engage targets up to 6 km (3.7 miles). This means that Buyan-Ms also need to operate under a more robust air defense umbrella provided either by larger-class vessels, such as Steregushchiy-class, or by land-based systems.

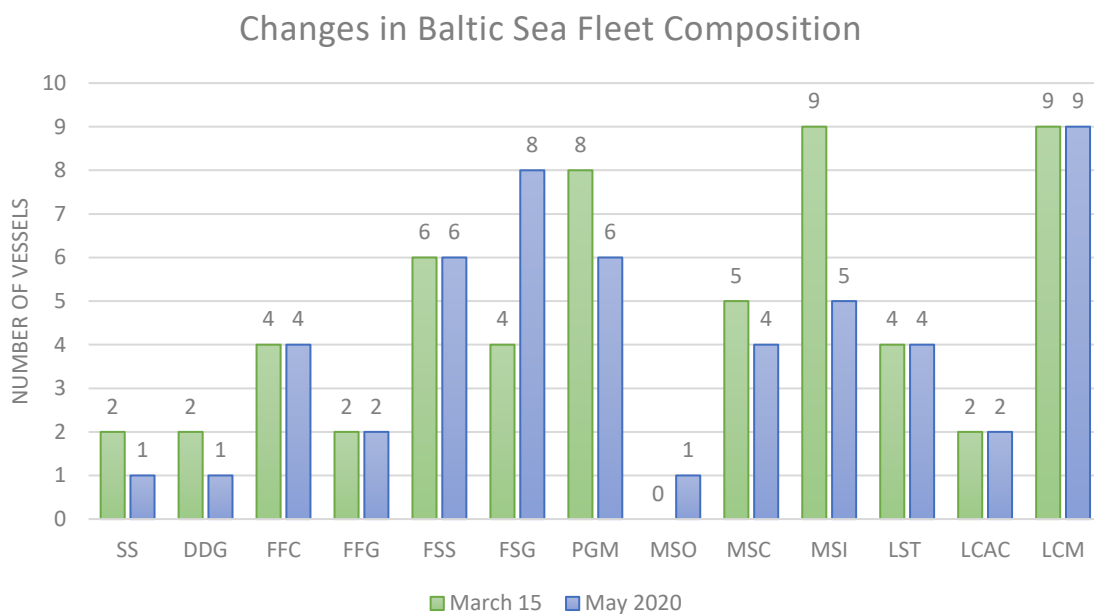
Initially, the inclusion of Buyan-Ms in the Baltic Sea Fleet inventory served as a power projection tool, but its psychological effect on regional countries could not be

underestimated—it was akin to that of the Iskander deployment threat before 2018. It remains to be seen how Russian “missile posturing” will change with the demise of the INF and whether operationally, low-displacement vessels will be augmented with land-based medium-range missiles. These Buyan-Ms were augmented by two Project 22800 Karakurt-class small missile ships delivered in 2018-19, thus further saturating the fleet with long-range strike capability.

A particular focus is being placed on mine warfare forces. Altogether, the Baltic Sea Fleet deploys 11 minesweepers of three classes (Project 12700, Project 1265, and Project 10750). The latest addition is the Alexandrit-class (Project 12700) fiber-hull minesweeping vessel.

Figure 13 compares the Baltic Sea Fleet’s composition in 2015 with its composition in 2020. As shown, the fleet “lost” one submarine and one guided-missile destroyer, and its minesweeper fleet decreased from 14 to nine vessels. In 2015, the average age of its vessels was 22 years, compared to 24 years in 2020. Replacements are therefore coming too slowly to stop the ageing of the Baltic Sea Fleet. Even so, the addition of four new FSGs increased the total number of small missile ships to eight, thus significantly increasing long-range strike capability.

**Figure 13. Changes in the Baltic Sea Fleet’s composition, 2015 to 2020**



Notes: SS = Attack submarine; DDG = Guided Missile Destroyer; FFG = Guided Missile Frigate; FSS = Small ASW Ship; FSG = Small Missile Ship; PGM = Guided Missile Boat; MSO = Seagoing Minesweeper; MSC = Coastal Minesweeper; MSI = Inshore Minesweeper; LST = Landing Ship; LCAC = Landing Craft Air Cushion; LCM = Landing Craft.

Source: Russianships.com.

## Air and air defense forces

Russia has deployed and developed a robust network of strategic- and tactical-level SAM capabilities that fall under the command of the 44th Air Defence Division. The division comprises the 183rd Air Defence Regiment, the 1545th Air Defence Regiment, and the 81st Radio-Technical Regiment.

In early 2019 the 1545th Air Defence Regiment was rearmed with a regimental set (two battalions) of the S-400s, which are stationed just north of Gvardeysk. The 183rd Regiment fields four S-400 battalions, which are deployed in the western parts of the oblast,<sup>85</sup> and two S-300PS battalions just north and south of the Chernyakovsk Air Base.<sup>86</sup> The conversion of the 1545th also indicates a definite removal of the S-300V SAM system, which the unit previously operated, from the oblast (or perhaps it is a confirmation of the system's non-existence). It is unclear whether there are plans to redeploy it into Kaliningrad; however, from an operational perspective, such a system would undeniably improve the ground forces' ability to operate in a contested environment.

In terms of aviation, in 2018 Russia opened the airbase in Chkalovsk, which was closed for modernization in 2013. The works involved extending the runway, replacing its surface, increasing the apron's size, and installing new navigation and communication systems. Surprisingly, imagery intelligence (IMINT) shows that the resurfacing concluded in 2016 and no construction works occurred at the base for two years. It is unclear what caused the delay, but one would expect an airbase modernization to take less than five years, especially given the deteriorating security environment after Russia's seizure of Crimea and its operations in Eastern Ukraine. Currently, aircraft at Chkalovsk are parked in the open air, because no new shelters have been built.

It remains to be seen whether the Chernyakhovsk airbase will undergo a similar upgrade or whether it will be used as a reserve airbase. As of mid 2020, fixed-wing combat assets were stationed in Chkalovsk.

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<sup>85</sup> One is near Mamonovo by the Polish border; one is south and one is north of Baltyisk; and one is near Yantarny.

<sup>86</sup> Центр АСТ, В Калининградской области развернуты уже шесть дивизионов зенитной ракетной системы С-400, Mar. 12, 2019, <https://bmpd.livejournal.com/3566812.html>.



Russian aviation assets in the Kaliningrad Oblast are centered around the 132nd SAD<sup>87</sup>, which comprises the 4th Guards Naval Assault Air Regiment, the 689th Guards MshAP, a UAV company, and the 369<sup>th</sup> OSVP.<sup>88</sup>

The naval attack aviation regiment was originally stationed in Chernyakovsk. Between 2016 and 2018 it received eight Su-30SMs, which partially replaced and augmented the squadron of Su-24M/MR aircraft.<sup>89</sup>

The 689th MshAP is equipped with about 20 Su-27P/UB fighters, some of which were diverted from the 790<sup>th</sup> IAP's base as it was converting to Su-35s. Ultimately these Su-27s should also be replaced by modern platforms; however, this seems unlikely in the medium term. The combat structure of the division will rest on four squadrons equipped with a mix of Su-30SMs, Su-24s, and Su-27s.

Rotary-wing assets are subordinated to the 396<sup>th</sup> OSVP from Donskoye. It is composed of the 125th OVE (Mi-24s and Mi-8Ts), 396th OKPLVE (Ka-27(M)s, Ka-27Ps, and Ka-29s), and the 398th OVTE. The last subunit provides VIP airlift for Baltic Sea Fleet personnel as well as tactical airlift for ground forces.

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<sup>87</sup> A June 2020 *Krasnaya Zvezda* report stated that rotary-wing aviation assets operating in the Kaliningrad Oblast are subordinate to the 34th SAD. No mention of the 132nd SAD was made therein. It is possible that the 132nd SAD has indeed morphed into the 34th SAD. However, neither has this information been officially confirmed, nor has the author confirmed the veracity of this claim from other openly available sources.

Владислав Павлютки, Стражи неба и моря, Красная Звезда, June 8, 2020, <http://redstar.ru/strazhi-neba-i-moга/>.

<sup>88</sup> Regnum, В Крыму и в Калининграде формируют две новые авиационные дивизии, Regnum, Oct. 30, 2019, <https://regnum.ru/news/polit/2763916.html>.

<sup>89</sup> Piotr Butowski claims that all MR variants were withdrawn from service and replaced by a Forpost UAV detachment. Piotr Butowski, *Flashpoint Russia: Russia's Air Power: Capabilities and Structure* (Vienna: Harpia Publishing, 2019), p. 111.

# Ongoing Modernization, Finished Reform

The current composition of conventional components of the Russian armed forces deployed in the Western Military District presents a force that is capable of conducting operations across all domains and the entire spectrum of warfare. Table 4 shows a summary of Russian forces in the Western Military District.

Table 4. Summary of Russian forces in the Western Military District

Unit	20th CAA	6th CAA	1st GTA	CSU	11th AC	Total
Tank Regiment	3		3		1	7
Motor Rifle Regiment	4		3		1	8
Air Defense Regiment	1		2		1	4
Artillery Regiment	2		2			4
Spetsnaz Regiment				1		1
Tank Brigade			1			1
Motor Rifle Brigade		2	1		1	4
Air Defense Brigade	1	1	1	1		4
Artillery Brigade		1	1	2	1	5
Missile Brigade	1	1	1		1	4
Reconnaissance Brigade	1					1
Spetsnaz Brigade				2		2

Source: Author's calculation.

Since 2014, the Russian armed forces have demonstrated the capability to undertake special forces-led irregular warfare missions, high-tempo maneuver warfare with armor, mechanized forces and artillery forces, effective air operations, and sea- and air-led long-range conventional precision strikes. An indirect threat to use nuclear weapons was used to advance the state's interests and deter potentially hostile actions against Russia in February and March 2014.

A decision to move away from the brigade concept towards heavier division-led ground operations highlights the difference in threat assessments between the current minister of defense, Sergei Shoigu, and those of his predecessor, Anatoly Serdyukov. The latter expected future wars to be limited to local conflicts akin to that in Georgia in 2008. The MoD view is that

conflict with NATO is possible, although unlikely, and that, given the alliance's expansion towards Russia, Moscow needs to be prepared for large-scale operations using regiments and divisions as its main maneuver forces.

The predominant developments focus on the creation of heavy forces that can engage a near-peer adversary close to Russian borders and that can deliver a preponderance of power in the initial stages of conflict and thus bring it to a swift conclusion, or at least place Russia in a favorable position for negotiation. That said, lessons learned from the Syrian campaign also seem to be incorporated into the armed forces. The creation of light and ultra-light battalions seeks to further enhance mobility and maneuverability of land force sub-units, especially in areas where other formations seem to be too heavy or require significant logistics support.

NATO, however, is not the sole enemy "at the gates." The push to establish new regiments, divisions, and armies around Ukraine since 2014 clearly indicates concerns about possible conflict escalation in this southwestern strategic direction. At the same time, these forces could be redeployed to Belarus or farther north near the Baltic States, if required, in order to create favorable correlations of force ratios in targeted battlespaces.

Expansion of divisions, within both the ground and airborne forces, is stymied by a lack of manpower, appropriate equipment, modernization priorities, and—perhaps the most important—financial considerations. The process of expanding VDV to a historic three-regiment configuration is slow. The 1<sup>st</sup> GTA has two maneuver divisions, whereas its Cold War predecessor had three. Similarly, each division was to have six regiments, but it only fields five.

It is Russian policy to build up and maintain forces to fight a conventional war in its neighborhood and sustain enough capability to achieve the immediate deterrent effect through the peacetime location of military units and capabilities that go with them. This pertains not only to strictly offensive operations but to defensive ones as well. A surge in air defense assets deployed in the Western MD in recent years will significantly hinder air operations of any conventional opponent. Long-range assets also ensure that Russia can deliver high-precision strikes on strategic assets to cripple an opposing force's command and control.

To support such operations, in recent years Russia has grown its logistics and support capabilities to provide a constant flow of materiel into the battlefield, evacuate and repair equipment when necessary, and undertake deception operations in terms of movement and assembly of Russian units.

The reorganization of the units stationed in the Western Military District has largely concluded. Although some tactical-level innovations based on combat experiences could be implemented across ground forces, the main fighting and support components are established. There nevertheless are weak areas that will demand addressing. Restructuring of Russian assets in the Kaliningrad Oblast is ongoing, but the pace is sluggish.

Although St. Petersburg is heavily defended with multiple SAM sites, ground force elements would need to be significantly reinforced even if they were to conduct effective defensive operations—and much more so if they were to undertake offensive missions in the Baltic States.

In August or September 2021 Russia and Belarus will conduct the quadrennial Zapad-21 strategic-operational exercise. This will provide insights into how Russia's threat assessment has changed in the last four years and how it plans to fight a war with a near-peer adversary on its borders. The political crisis that erupted following the August 2020 presidential elections in Belarus and statements coming from the Belarusian president, Alexander Lukashenko, blaming NATO and the EU for political upheaval,<sup>90</sup> again indicate that NATO will once more be the main target of the exercise. Numerous calls to Russia for military and political assistance have left Lukashenko weakened in relation to Russia and in the face of Moscow's demands to expedite the merger of the two countries.<sup>91</sup> Zapad-21 will present an ideal opportunity for the Russian troops to stay in Belarus. If this happens, NATO's military posture in Poland and the Baltic States will need to adapt to the challenge of a significantly expanded battlefield (from Belarus to Kaliningrad) and decreased deployment time for Russian forces.

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<sup>90</sup> "Belarus: Rival rallies as Lukashenko claims NATO deployed to border," *Deutsche Welle*, Aug. 16, 2020, <https://www.dw.com/en/belarus-rival-rallies-as-lukashenko-claims-nato-deployed-to-border/a-54586752>.

<sup>91</sup> Konrad Muzyka, *Endgame? Russia to deepen military co-operation with Belarus*, Rochan Consulting, Sept. 16, 2020, <https://rochan-consulting.com/endgame-russia-to-deepen-military-co-operation-with-belarus/>.

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# Abbreviations

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AADA	Air and Air Army Defense
AB	Artillery Brigade
ADB	Air Defense Brigade
APC	Armored Personnel Carrier
ATGM	Antitank Guided Missile
BMD	Airborne Fighting Vehicle ( <i>Boevaya Mashina Desanta</i> )
BrAA	Army Aviation Brigade ( <i>Brigada Armeyskoi Aviatsii</i> )
BTG	Battalion Tactical Group
C2	Command and control
C4I	Command, Control, Communications, Computers, and Intelligence
CAA	Combined Arms Army
CBRN	Chemical, Biological, Radiological, Nuclear
EW	Electronic Warfare
GTA	Guards Tank Army
IAP	Fighter Aviation Regiment ( <i>Istrebitelnyi Aviatsionnyi Polk</i> )
IFV	Infantry Fighting Vehicle
ISR	Intelligence, Surveillance, Reconnaissance
JSC	Joint Strategic Command
MB	Missile Brigade
MBT	Main Battle Tank
MD	Military District
MoD	Ministry of Defense
MRBrig	Motor Rifle Brigade
MRDiv	Motor Rifle Division
MshAP	Naval Attack Aviation Regiment ( <i>Morskoy Shturmovoy Aviatsionnyi Polk</i> )
NCB	Nuclear, Chemical, Biological
OARE	Independent Reconnaissance Aviation Squadron ( <i>Otdelnaya Aviatsionnaya Razvedyvatelnaya Eskadrilya</i> )
OKPLVE	Independent Shipborne ASW Helicopter Squadron ( <i>Otdelnaya Korabelnaya Protivolodochnaya Vertolyotnaya Eskadrilya</i> )
OTRK	Operational-Tactical Missile System ( <i>Operativno-Takticheskiy Raketnyy Kompleks</i> )
OVE	Independent Helicopter Squadron ( <i>Otdelnaya Vertoliotnaya Eskadrilya</i> )

OVP	Independent Helicopter Regiment ( <i>Otdelnyi Vertoliotnyi Polk</i> )
OVTE	Independent Helicopter Transport Squadron ( <i>Otdelnya Vertolyotnaya Transportnaya Eskadrilya</i> )
SAD	Composite Aviation Division ( <i>Smeshnnaya Aviatsionnaya Diviziya</i> )
SAM	Surface-to-Air Missile
SAP	Composite Aviation Regiment ( <i>Smeshnniy Aviatsionnyi Polk</i> )
SPH	Self-Propelled Howitzer
SSM	Surface-to-Surface Missile
SVP	Composite Helicopter Regiment ( <i>Smeshnniy Vertoliotnyi Polk</i> )
TBrg	Tank Brigade
TDiv	Tank Division
TO&E	Table of Organization and Equipment
VDV	Airborne Forces ( <i>Vozdushno-Desantnye Voyska</i> )
VKS	Aerospace Forces ( <i>Vozdushno-Kosmicheskiye Sily</i> )



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