

ON THE EVE OF THE INVASION. FORMATION OF AN OFFENSIVE GROUP OF THE ARMED FORCES OF THE RUSSIAN FEDERATION NEAR THE BORDERS OF UKRAINE (2020-2022)

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Abstract: *This article examines the reform, rearmament, and preparation of the Armed Forces of the Russian Federation for offensive operations between 2020 and 2022. The analysis highlights the reorganisation of the Russian army, the creation of strike groups in the south-eastern and north-eastern strategic directions (notably in the Central and Southern Military Districts), and the development of new mechanised, armoured, airborne assault, special forces, rocket, and artillery units, as well as enhanced Air Force components. Emphasis is placed on the role of Russian and Russian-Belarusian military exercises, which served as both a platform for large-scale troop deployment and a method of strategic concealment for forces stationed near Ukraine's borders. The authors conclude that, by the end of February 2022, Russia had completed the formation of a comprehensive offensive force to launch the so-called "Special Military Operation."*

Keywords: *military strategy, Russian armed forces, military-industrial complex, Russian-Ukrainian war.*

Rezumat: *În ajunul invaziei. Formarea grupului ofensiv al forțelor armate ale Federației Ruse în apropierea granițelor Ucrainei (2020–2022). Acest articol examinează reforma, reînarmarea și pregătirea Forțelor Armate ale Federației Ruse pentru*

operațiuni ofensive în perioada 2020–2022. Analiza evidențiază reorganizarea armatei ruse, crearea unor grupuri de lovitură în direcțiile strategice sud-est și nord-est (în special în districtele militare Central și Sudic), precum și dezvoltarea de noi unități mecanizate, blindate, de asalt aerian, forțe speciale, rachete și artilerie, alături de consolidarea componentelor Forțelor Aeriene. Este evidențiat rolul exercițiilor militare ruso-belaruse și ruse, care au servit atât ca platformă pentru desfășurarea pe scară largă a trupelor, cât și ca metodă de camuflare strategică a forțelor staționate în apropierea granițelor Ucrainei. Autorii conchid că, până la finele lunii februarie 2022, Rusia finalizase formarea unei forțe de ofensivă cu prinzătoare pentru declanșarea așa-zisei „Operațiuni Militare Speciale”.

INTRODUCTION

Since the large-scale invasion of Ukraine on 24 February 2022, a new stage of military-historical research into the activities of the Armed Forces of Ukraine in defence of national statehood has begun. Historians have analysed the nature of large-scale armed confrontation across historical contexts and its civilizational and metaphysical dimensions.¹ In particular, the study of the Battle for Kyiv from 24 February to 2 April 2022 has proven to be innovative in the development of the Armed Forces of Ukraine's military art.² The innovativeness of the military-theoretical analysis of the mentioned battlefield combines elements characteristic of the Second World War (the massive use of armoured and mechanized forces, missile troops and artillery, militias in the form of Territorial Defence units and volunteers); features of asymmetric warfare (active use of highly mobile troops, the particular importance of special operations forces, and reconnaissance-sabotage tactics); and, finally, elements of “sixth-generation warfare” (non-contact, remote), reflected in the use of high-precision weaponry, electronic warfare, cyber-electronic weapons, space-based reconnaissance, and unmanned aerial vehicles (UAVs), among others.

Currently, the most comprehensive scientific study of the actions of the Armed Forces in repelling a full-scale armed invasion of Ukraine has been the

¹ V. Hrytsiuk, O. Lysenko, *Viina Rosiiskoi Federatsii proty Ukrainy: voiennyi, mizhnarodno-pravovyi, heopolitychnyi ta ekonomichnyi vymiry* [The War of the Russian Federation against Ukraine: military, international legal, geopolitical and economic dimensions], in “Ukrainskyi istorychnyi zhurnal”, 2023, Vol. 2, p. 5-33.

² M. Koval, P. Shchypanskyi, V. Kydon, V. Hrytsiuk, *Stratehichniy kharakter Kyivskoi oboronoï operatsii (24.02–02.04.2022)* [The strategic nature of the Kyiv defence operation (February 24–April 2, 2022)], in “Ukrainskyi istorychnyi zhurnal”, 2023, Vol. 3, p. 5-29.

monograph "Year of Invincibility: The Collapse of Operation Z", prepared by a team of authors from the National Defence University of Ukraine.³ The paper presents a military-historical analysis of the recent period of Russian armed aggression, based on extensive factual material and specialised studies. The main stages and events of the Russian-Ukrainian war have been revealed through the authors' conceptual framework for military-historical research. The analysis of recent Ukrainian historiography of the full-scale war has demonstrated that one of its directions was the study of the military-political conditions for the transition from the hybrid phase of the Russian-Ukrainian conflict to a large-scale military one.

The Russian military accorded high priority to integrating hybrid instruments (including information warfare, disinformation campaigns, and strategic messaging) as core components of operational design. As Marin Gherman⁴ demonstrates, the narrative portraying Ukraine as a failed or externally manipulated state was intensified across state-controlled media and official communications, creating conditions for legitimising future military aggression.

NATO experts actively studied the military potential and combat capabilities of Russian forces near Ukraine's borders in early 2022. Notably, Amos C. Fox⁵ analysed the Russian ground forces' organisation and tactics, emphasising the strengths and weaknesses of the battalion tactical group and providing statistical data on the combat readiness and structure of Russian units.

The heads of the Defence Policy Studies programme at the Swedish Defence Research Agency, Michael Jonsson and Johan Norberg, analysed Russia's war scenarios against Ukraine, its resource base, and troop losses by September 2022, using NATO analyses and Western media reports.⁶ British and Belgian experts in international law assessed the legality of Russia's full-scale invasion and estimated the size and combat potential of its offensive forces.⁷ In 2023, Alex Hughes

³ D. Viedienieiev, V. Hrytsiuk, V. Kydon, M. Koval, O. Pokotylo, S. Sehed, P. Shchypanskyi, *Rik nezlamnosti: Krakh operatsii Z* [Year of Invincibility: Collapse of Operation Z], Kyiv, NUOU, 2023, p. 320.

⁴ Marin Gherman, *The Evolution of the Russian Federation's Official Anti-Ukraine Discourse (2014–2022)*, in "Codrul Cosminului", 2023, Vol. 29, No. 1, pp. 193–216.

⁵ Amos C. Fox, *Reflections on Russia's 2022 Invasion of Ukraine: Combined Arms Warfare, the Battalion Tactical Group and Wars in a Fishbowl*, in "Land Warfare Paper No. 149", September 2022, 16 p.

⁶ M. Jonsson, J. Norberg, *Russia's War Against Ukraine: Military Scenarios and Outcomes*, in "Survival", 2022, Vol. 64, p. 91–122.

⁷ J. A. Green, C. Henderson, T. Ruys, *Russia's attack on Ukraine and the jus ad bellum*, in "Journal on the use of force and international law", 2022, Vol. 9, No. 1, pp. 4–30.

(Cardiff University) critically examined the feasibility of Russia's offensive in light of its available manpower, equipment, and military doctrine.⁸ Significant contributions also come from RAND Corporation (notably Dara Massicot)⁹ and the Institute for the Study of War,¹⁰ whose assessments align with NATO and Russian sources on the scale and capabilities of Russia's offensive grouping near Ukraine's borders as of February 2022.

The study of this aspect of the Russian-Ukrainian war has allowed us to assess the military potential of the parties objectively, the balance of forces, the strategic plan, and the features of the military construction of the war participants, and to adequately understand the course of the first stages of the armed struggle. By doing so, this article seeks to complement current Ukrainian-centred historiography with fresh insights into Moscow's military preparations and strategic evolutions leading up to late February 2022. The article also addresses the broader security significance of Russia's force deployment near Ukraine's borders, linking it to Ukraine's official defence strategy¹¹ and the evolving nature of hybrid and conventional threats in the region through an analysis of Russia's contemporary military strategy and tactics.

1. LOGISTIC MODERNIZATION OF THE RUSSIAN ARMY

According to experts from think tanks such as RAND and the International Institute for Strategic Studies (IISS), the Armed Forces of the Russian Federation have significantly strengthened their potential as an effective instrument of the state's foreign policy. According to the assessment of the military potential of the Russian Federation by the U.S. Congressional Research Group (CRS, June-July

⁸ A. Hughes, *Plan Z reassessing security-based accounts of Russia's invasion of Ukraine*, in "Journal of Advanced Military Studies", 2023, Vol. 14, No. 2, pp. 174-209.

⁹ D. Massicot, *Observations of Russian military operations in Ukraine in 2022 and the year ahead*, in https://www.rand.org/content/dam/rand/pubs/testimonies/CTA2600/CTA2646-1/RAND_CTA2646-1.pdf (Accessed on 28.03.2025).

¹⁰ *The Institute for the Study of War*, in <https://www.understandingwar.org/who-we-are> (Accessed on 28.03.2025).

¹¹ *Ukaz Prezidenta Ukrainy 121/2021 Pro rishennia Rady natsionalnoi bezpeky i oborony Ukrainy vid 25 bereznia 2021 roku pro stratehiu voiennoi bezpeky Ukrainy* [Decree of the President of Ukraine 121/2021 About the decision of the national security and defence council of Ukraine dated March 25, 2021, on the military security strategy of Ukraine], in <https://www.president.gov.ua/documents/1212021-37661> (Accessed on 29.03.2025).

2020), and based on IISS Military Balance data, Russia had nearly one million military personnel. Analysts have stated that the transition to a professional army has been generally successful, while noting problems with attracting and properly retaining highly qualified specialists for the high-quality maintenance of military equipment and modern weapons.¹²

In 2021, the implementation of the State Armament Program of the Russian Federation for 2018-2027, which required an investment of \$330 billion, continued. However, experts were sceptical about the possibility of such full funding, considering pessimistic economic forecasts and falling energy prices. According to the leadership of the Ministry of Defence of the Russian Federation, in 2021, the troops would receive more than 5,000 pieces of heavy weapons, combat, and special equipment under the state defence order. The military equipment of the Ground Forces would be supplied with 240 tanks (new T-90M and deeply modernised T-72B3M and T-80BVM, equipped with an advanced fire control system and all-round protection against modern anti-tank weapons). The troops received T-90M "Breakthrough" tanks, the latest modifications of T-72B3 and T-80BVM tanks, "Terminator" armoured personnel carriers, modernised "Msta-SM" self-propelled howitzers, "Tornado-G" and "Tornado-S" long-range multiple launch rocket systems (MLRS), "Malka" self-propelled heavy guns and "Tyulpan" mortars, new silent "Gall" mortars, and "Kornet" anti-tank missile systems. The army's missile brigades have fully transitioned to the "Iskander-M" operational-tactical missile systems. It was claimed that the overall rate of equipping the Armed Forces with modern weapons had reached 71.2%.¹³

Significant attention was paid to the strengthening of the country's air defence forces through the delivery of S-400 "Triumph" and S-350 "Vityaz" anti-aircraft missile systems, as well as to the air defence of the army ("Tor-M2DT" air defence system, "Buk-M3" air defence system, "Verba" portable complexes). Among the recipients of the new air defence systems was the newly formed Anti-

¹² Mykola Bielieskov, *Suchasnyi rosiiskyi sposib vedennia viiny: teoretychni osnovy i praktychne napovnennia* [The modern Russian way of waging war: theoretical foundations and practical content], Kyiv, Natsionalnyi instytut stratehichnykh doslidzhen, 2021, p. 3-5, <https://niss.gov.ua/sites/default/files/2021-02/analitichna-dopovid.pdf> (Accessed on 08.01.2025).

¹³ V. Karnozov, *Perevooruzhilis na 71%. Minoborony podvelo itogi priemki i postupleniya v armiyu voennoj tehniki* [Rearmed by 71%. The Ministry of Defence has summed up the results of the acceptance and delivery of military equipment to the army], in "Nezavisimoe voennoe obozrenie", https://nvo.ng.ru/nvo/2022-01-27/1_3_1174_priemka.html (Accessed on 05.01.2025).

Aircraft Missile Brigade of the 8th Army, which was stationed near the borders of Ukraine from the southeast.¹⁴

Among the main priorities was the purchase of high-precision weapons such as missile systems “Kalibr,” “Iskander-M,” “Kinzhal,” “Zircon,” “Avangard,” etc. The Russian Aerospace Forces significantly modernised the arsenal of high-precision means of strategic non-nuclear deterrence, including at the expense of the strategic cruise missiles “Kinzhal,” “Zircon,” and “Avangard.” From 2012 to 2021, the number of long-range missiles increased by 13 times, while the number of cruise missiles increased by 37 times. “Orlan-10” multifunctional unmanned aerial vehicles (UAVs), “Fara” and “Sobolyatnyk” short-range reconnaissance radars, “Zoopark-1” and “Niobium-SV” fire control radars, and “Strelets” control systems were purchased.¹⁵ Since 2015, the Russian military industry has developed up to 20 innovative electronic warfare systems, and by 2021, the level of electronic warfare equipment in the Armed Forces of the Russian Federation exceeded 70%.¹⁶

In 2021, the engineering troops introduced significant innovations, including the new remote mining system “Agriculture,” capable of creating complex minefields with troop passages at distances of 5-15 km. Training for specialised engineering units was prioritised, with the first officers graduating from the Tyumen Higher Military Engineering School in summer 2021. Additionally, the 1st Engineer-Sapper Brigade of the Supreme Commander-in-Chief’s Reserve was established in Murom in 2014.

New small arms systems were adopted, such as AK-12 and modernised AK-74 rifles, ADS assault rifles, “Vintorez” sniper rifles, ASVK and “Kord-M” sniper rifles, and the “Boa” and “Rook” pistols. By 2021, officers accounted for 95% of the army, with an average age of 35. Most senior commanders and a large proportion of aviation, air defence, naval, military police, and engineering personnel gained combat experience in local and hybrid conflicts. Increased funding focused on the Ground Forces, Special

¹⁴ V. Sokirko, V. Popov, *Kto sobet Bajraktar nad Donbassom?* [Who is going to shoot down Bayraktar over Donbass?], in <https://svpressa.ru/war21/article/294676/> (Accessed on 05.01.2025).

¹⁵ A. Ramm, D. Litovkin, *Uhodyashchij god dlya Rossijskoj armii – odin iz znakovyh* [The outgoing year for the Russian army is one of the most significant], in “Nezavisimoe voennoe obozrenie”, https://nvo.ng.ru/nvo/2020-12-24/1_1123_realty2.html (Accessed on 08.01.2025).

¹⁶ D. Kozlov, *Radioelektronna borotba. Rosiiskyi vyklyk ta ukrainska vidpovid* [Radio electronic warfare. Russian challenge and Ukrainian response], in “Vyklyky i ryzyky. Bezpekovi ohliad Tsentru doslidzhennia armii, konversii ta rozzbroiennia”, 2020, No. 7, pp. 27-39.

Forces, Airborne Troops, and Marine Corps. Main attention was paid to increasing their mobility, improving reconnaissance capabilities, and developing their own heavy artillery based on experience from combat operations in Syria.¹⁷

2. FORMATION OF A MULTIPLE-BRANCH GROUP OF THE RUSSIAN ARMY NEAR THE BORDERS OF UKRAINE IN THE SOUTHEASTERN DIRECTION

While the most precise and reliable information on this subject remains contained in classified documents of the Russian military planning apparatus, there are compelling reasons to utilise the open-source data presented below. First, the general credibility of these data is substantiated by the actual progression of Russia's military offensive, as reflected in coverage by Russian media outlets, chronicle-style reporting from specialised Russian military information platforms, and even published obituaries.

Additionally, corroboration is provided by Ukrainian military-analytical sources, which have drawn upon captured operational documents, testimonies from prisoners of war, and related materials obtained in the field. Lastly, the Russian military-analytical publications consulted (most notably Independent Military Review) have maintained a critically independent stance vis-à-vis official government narratives, frequently presenting alternative expert assessments and commentary. The contributors to these sources are widely regarded as qualified military analysts and researchers.

The leading Russian multi-branch military group in the territories adjacent to Ukraine's south-eastern border was the troops of the Southern Military District, headquartered in Rostov-on-Don.

8th Guards Combined Arms Army of the Order of Lenin (headquartered in Novocherkassk). Its formations were deployed near the border with Ukraine in the Donetsk and Luhansk regions. The base of the army was the 150th Motorised Rifle Idritsa-Berlin Division of the Order of Kutuzov (headquartered in Novocherkassk), as well as the 20th Separate Guards Motorised Rifle Brigade (headquartered in Volgograd). The formations were mainly manned by contract soldiers and officers who had gained combat experience in the Donbass since 2014. The division included two tanks and two artillery regiments, as well as an anti-aircraft missile regiment (modern "Tor-M2U" systems).

The 58th Combined Arms Army (Vladikavkaz) included the 42nd Motorised Rifle Division (Chechnya) with its 70th, 71st, and 291st Motorised Rifle Regiments;

¹⁷ *Ibid.*, p. 47-48.

50th Artillery Regiment; and 1203rd Anti-Aircraft Missile Regiment. By 2020, it possessed 100 T-72B3 tanks, 430 armoured vehicles, 90 “Msta” and “Gvozdika” self-propelled guns, 50 mortars, 18 MLRS “Grad,” and over 30 air defence systems like “Tor,” “Strela-10,” and “Tunguska.” The 19th (Vladikavkaz) and 136th (Buynaksk) Separate Motorised Rifle Brigades and the 291st Artillery Brigade operated 80 T-72B3 and T-90A tanks, 350 armoured personnel carriers, 80 self-propelled guns (including 203-mm “Pion”), 40 MLRS (“Grad,” “Tornado-G,” “Uragan”), and advanced systems like “Chrysanthemum-S” and “Iskander” missiles (12th Separate Missile Brigade, Mozdok).

In an attempt to emulate the experience of American “armoured cavalry” units, the Army was equipped with the experimental 100th Reconnaissance Brigade (headquartered in Mozdok), a light mobile unit equipped with sufficient reconnaissance assets and powerful weapons. Its structure included reconnaissance and airborne assault battalions, a tank unit, signal intelligence units, UAVs and a psychological operations unit.¹⁸ Experts note that strengthening the 58th Army aimed to establish a new core of combined arms armies based on divisional structures. By late 2018, two motorised rifle divisions - 19th and 136th – were formed within the 58th Army, evolving from experienced brigades and reinforced with additional battalions and regiments equipped with BMP-3 infantry fighting vehicles and modernised T-72B3 tanks.

A part of the 58th Army’s forces was redeployed to the west, to the Stavropol and Krasnodar regions, approaching a potential theatre of military operations with Ukraine. In general, according to expert estimates, by 2022 it was planned to increase the combat power of the 58th Army: in personnel by 1.5 times (up to 41-44 thousand), in tanks by 1.5-2.3 times (up to 347-517 in various configurations), in armoured personnel carriers by 1.5 times (up to 1,300-1,400), in artillery systems by 1.6 times (up to 674), in anti-aircraft systems by 1.1 times (up to 269), etc.¹⁹

The 49th Combined Arms Army (Stavropol) included the 20th, 205th Motorised Rifle, 34th Motorised Rifle (Mountain) Brigades, and the 227th Artillery

¹⁸ A. Ramm, *Reforma VDV idet udarnym tempom. Desantno-shturmovye brigady novogo tipa usilyat oboronu Kryma* [Airborne Forces reform is proceeding at an accelerated pace. A new type of air assault brigades will strengthen the defence of Crimea], in “Nezavisimoe voennoe obozrenie”, https://nvo.ng.ru/realty/2021-04-08/3_1136_reform.html (Accessed on 08.01.2025).

¹⁹ A. Khramchikhin, *Severnyi Kavkaz: kogda tyl stanovitsya frontom* [North Caucasus: when rear becomes a front], in “Nezavisimoe voennoe obozrenie”, https://vpk.name/news/245546_severnyi_kavkaz_kogda_tyl_stanovitsya_frontom.html (Accessed on 08.01.2025).

Brigade. These units were equipped with over 80 T-72B3 and T-90A tanks, 430 armoured fighting vehicles, 100+ 152 mm self-propelled and towed guns, 50 2S12 mortars, 40+ MLRS ("Grad," "Tornado-G," "Uragan"), 60 "Shturm-S" self-propelled ATGMs and anti-tank guns, and 50+ air defence systems ("Tor-M1/M2U," "Strela-10," "Tunguska"). The Army also included the 1st Separate Guards Missile Brigade ("Iskander" launchers), 90th Anti-Aircraft Missile Brigade ("Buk-M2"), engineering and sapper units, radiological, chemical, and biological protection regiments, electronic warfare battalions, and a special forces company.

Two units of *Airborne Forces of the Armed Forces of the Russian Federation* were also stationed in the North Caucasus: firstly, the 7th Guards Airborne Assault (Mountain) Division (headquartered in Novorossiysk). It included the 108th Airborne, 247th Airborne, 1141st Artillery, 3rd Anti-Aircraft Missile Regiments, and separate tank and reconnaissance battalions. Additionally, it had the 56th Guards Airborne Assault Don Cossack Brigade (headquartered in Kamishin), which included two airborne assault and parachute battalions, an artillery division, and other units. In fact, that "airborne" brigade turned into a strong one: the combined arms unit numbered 2,700 people, had 13 T-72B3 tanks, 33 amphibious assault vehicles (BMD-2), 46 BMP-2, 10 BTR-82A, six self-propelled guns 2S9, 12 82-mm mortars 2B14 "Podnos," 18 howitzers D-30, electronic warfare systems "Leer-2," etc.

It is noteworthy that the Russian Airborne Forces developed into elite, highly mobile, rapid-reaction forces. According to the "Plan for the construction of airborne troops until 2030," adopted on 7 May 2018, the divisions and brigades of the airborne troops were equipped with tanks, armoured fighting vehicles, electronic warfare and unmanned aerial vehicles (UAVs), anti-aircraft units and subdivisions, self-propelled artillery and the latest ATGMs, etc.²⁰

In addition, a capable component of the Special Forces was created as part of the Southern Military District:

10th Separate Special Forces (Mountain) Brigade of the Order of Zhukov (more than 3,300 servicemen, Molmino, Goryachyy Klyuch, Krasnodar region; 85th, 95th, 104th, 551st and 107th Separate Special Forces Detachments);

22nd Separate Special Forces Brigade (2,240 servicemen, Stepnyy, Rostov region, which took part in the armed conflict with Georgia in 2008: 108th, 173rd Separate Special Forces Detachments, separate psychological operations detachment);

346th Separate Special Forces Brigade (Prokhladnyy, Kabardino-Balkarian

²⁰ Yu. Barash, *Vozdushno-desantnye voiska Rossii: Etap perevooruzheniya* [Russian airborne forces: rearmament stage], in "Vyklyky i ryzyky. Bezpekovyi ohliad Tsentru doslidzhenia armii, konversii ta rozzbroiennia", 2018, no. 14, p. 44-52; no. 15, p. 33-66.

Republic, formed in 2013);

25th Separate Special Forces Regiment of the Southern Military District (Stavropol, up to 1,500 people).²¹

In 2021, measures were taken to significantly increase the combat potential of the troops of the Southern Military District, to create a powerful mobile group on its territory. According to General Aleksandr Dvornikov, the commander of the Air Defence, the combat potential of the district had increased due to the formation of new units and formations, and the share of modern weapons had reached 71%. Only in 2021, the district's troops received more than 1.5 thousand pcs. of the latest designs, including Ka-52 helicopters with the latest sighting equipment, modernised Su-25SM3 attack aircraft, S-350 "Vityaz" and S-300PM2 air defence systems, and communications and electronic warfare equipment.²² Separately, it is advisable to mention the deployment of a missile group based on the "Iskander" missile system. It was armed in the 40th Guard Missile Brigade of the District (Astrakhan region), the 47th Missile Brigade of the 8th Army (Stanitsa Dyadkovskaya), the 1st Guards Missile Brigade of the 49th Army (Goryachyy Klyuch), and the 12th Missile Brigade of the 58th Army (Mozdok). Their total single salvo was estimated at 150-200 ballistic missiles.²³ Since 2020, the troops of the district have begun receiving the latest remote mining systems "Agriculture" (11th Engineering Brigade of the District and engineering regiments of the 8th, 49th, and 58th Armies).²⁴

The Southern Military District was home to the powerful Aerospace Forces of

²¹ D. Viedienieiev, A. Sliusarenko, *Elita zbroinykh syl susidiv Ukrainy: syly spetsoperatsii postradianskykh derzhav* [Elite of the armed forces of the neighbouring countries of Ukraine: special operations force of the post-Soviet states], in "Vyklyky i ryzyky. Bezpekovyi ohliad Tsentru doslidzhennia armii, konversii ta rozzbroiennia", 2018, no. 11, p. 24-33.

²² *Podvedeny itogi modernizatsii vooruzhenii v voiskah VVO, ZVO i YuVO* [The results of the modernisation of weapons in the troops of the Eastern, Western and Southern military districts have been summed], in <https://oborona.product/zhurnal-nacionalnaya-obo-rona/podvedeny-itogi-modernizatsii-vooruzhenij-v-vojskah-vvo-zvo-i-yuvo-43314.shtml> (Accessed on 05.10.2024).

²³ S. Ishchenko, *Terpenie Moskvyy lopnulo: Krym razvorachivaet Iskandery* [Moscow's patience has run out: Crimea deploys Iskander missiles], in <https://svpressa.ru/war21/article/322034/> (Accessed on 04.01.2025).

²⁴ O. Kravtsov, *Rossiia postavit neprohodimye minnye polya dlya VSU* [Russia will create impenetrable minefields against the Ukrainian Armed Forces], in <https://www.politnavigator.net/rossiya-postavit-neprokhodimye-minnye-polya-dlya-vsu.html> (Accessed on 05.01.2025).

the Russian Federation, anchored by the 4th Red Banner Army of the Air Force and Air Defence, established in August 2015. This operational unit included the 1st Guards Mixed Aviation Division, equipped with over 30 Su-34 attack aircraft, approximately 20 Su-25SM attack aircraft, and 60 Su-30SM/M2 and Su-27 bombers, supported by bomber, fighter, and assault aviation regiments. The 4th Mixed Aviation Division operated Su-24M bombers, Su-24MR reconnaissance aircraft, and Su-25SM/UB aircraft. The 27th Mixed Aviation Division, stationed in Crimea, comprised mixed, fighter, and rotary-wing aviation regiments. Additionally, the 16th Brigade, 55th, and 487th Army Aviation Regiments deployed up to 80 Mi-28N, Mi-35M, and Ka-52 attack helicopters, along with 40 Mi-8 multi-purpose helicopters. The 30th and 708th Military Transport Aviation Regiments were equipped with Il-20M reconnaissance aircraft, An-12, An-26, and An-148 transport planes, Mi-26 heavy-lift helicopters, and 21 Il-76 transport aircraft. The 4th Army consistently received dozens of modern combat aircraft, demonstrating its advanced operational capabilities.²⁵

3. FORMATION OF MULTIPLE-BRANCH GROUP OF THE RUSSIAN ARMY IN THE NORTH-EASTERN DIRECTION

As for the north-eastern strategic direction, the 20th *Guards Red Banner Army* (20 A, headquartered in Voronezh) of the Western Military District was urgently restored on the border with Ukraine. In general, in 2021, the Western Military District received about 1.4 thousand new and modernised models of military equipment, including more than 80 T-90M, T-80BV, and T-72B3M tanks, as well as “Msta-SM2” self-propelled guns, etc., and the share of modern weapons reached 72%.²⁶

According to a well-known Russian military analyst, Alexander Khramchikhin, a regular contributor to the publication *Independent Military Review*, in 2021, the 29th Army in the vicinity of Ukraine included:

3rd Vistula Red Banner Motorised Rifle Division of Orders of Suvorov and

²⁵ A. Khramchikhin, *Severnyi Kavkaz: kogda tyl stanovitsya frontom* [North Caucasus: when rear becomes a front], in “Nezavisimoe voennoe obozrenie”, https://vpk.name/news/245546_severnyi_kavkaz_kogda tyl_stanovitsya_frontom.html (Accessed on 08.01.2025)

²⁶ *Podvedeny itogi modernizatsii vooruzhenii v voiskah VVO, ZVO i YuVO* [The results of the modernisation of weapons in the troops of the Eastern, Western and Southern military districts have been summed], in <https://oborona.product/zhurnal-nacionalnaya-obo-rona/podvedeny-itogi-modernizatsii-vooruzhenij-v-vojskah-vvo-zvo-i-yuvo-43314.shtml> (Accessed on 05.10.2024).

Kutuzov (3rd Motorised Rifle Division, headquartered in Valuyki, tanks, two motorised rifle regiments, self-propelled artillery, anti-aircraft missile regiments, separate units and subdivisions). The Division was armed with more than 150 T-72B3 tanks, up to 170 BMP-2, and up to 150 BTR-80/82A. It received up to 30 new “Tornado-G” MLRS, which significantly exceeded its predecessor “Grad”, in combat capabilities.

144th Yelnya Guards Red Banner Motorised Rifle Division of the Order of Suvorov (headquartered in Yelnya, Smolensk region), included at least 62 T-72B3 tanks, up to 160 BMP-2, up to 30 BTR-82AM, and had a 122-mm “Tornado-G” MLRS.

The 20th Army also included 448th Missile Brigade (Kursk, 12 “Iskander” missile systems), 236th Artillery Brigade (Kolomna), 49th Anti-Aircraft Missile Brigade (4 battalions of “Buk-M1” air defence systems, Smolensk), 53rd Anti-Aircraft Missile Brigade (4 battalions of “Buk-M3” air defence systems), and 16th Electronic Warfare Brigade. By mid-2020, the Army had about 25 thousand servicemen, up to 500 tanks, more than 600 armoured personnel carriers, and more than 370 self-propelled artillery units.²⁷

4. DEPLOYMENT OF THE RUSSIAN ARMY IN CRIMEA

The core of the Russian army in Crimea was the 22nd Army Corps of the Coastal Defence Forces, established in 2016. It included the 126th Coastal Forces Brigade (Perevalne), the 127th Reconnaissance Brigade (Sevastopol), the 133rd Logistics Brigade (Bakhchysarai), and the 8th Artillery Brigade. Key units were equipped with modern weapons, including 152-mm howitzers “Msta-B,” “Tornado-G” MLRS, and “Chrysanthemum-S” ATGMs. By early 2021, the force comprised about 9,000 personnel, 155 armoured fighting vehicles, and 80 self-propelled guns. The 126th Brigade received modernised T-72B3M tanks, capable of countering amphibious landings, destroying small vessels, and targeting helicopters with guided missiles.²⁸

At the same time, the combat capabilities of the Russian ground component

²⁷ A. Khranchikhin, *Protivniki mnimye i realnye* [Imaginary and real opponents], in “Nezavisimoe voennoe obozrenie”, https://vpk.name/news/394364_protivniki_mnimye_i_realnye.html (Accessed on 08.01.2025).

²⁸ S. Ishchenko, *Boi v Krymu – vse v dymu: Moskva sformiruet na poluostrove novuyu armiyu* [The battle in Crimea is all up in smoke: Moscow will form a new army on the peninsula], in <https://svpressa.ru/war21/article/284810/?qcq=1> (Accessed on 07.01.2025).

on the peninsula increased. As early as December 2020, the Ukrainian mission to the OSCE, during the 18th round of annual consultations on the implementation of the Document on Confidence and Security-Building Measures in the Naval Field in the Black Sea, announced the existence of plans to transform 22nd Army Corps into a separate combined arms army to increase the number of troops by 10 thousand servicemen, weapons and equipment by 1.5-2 times.²⁹

In addition, the 810th Separate Marine Brigade numbering up to 2,800 servicemen, 144 armoured fighting vehicles, 36 self-propelled artillery units, and the 501st Separate Marine Battalion were stationed in Feodosia.³⁰ Based on units of the 7th Airborne Assault Division in Dzhankoi, the 97th Airborne Assault Regiment was formed on armoured fighting vehicles. It was planned that the airborne assault component would be strengthened by a new airborne regiment (stationed in Feodosia) by the end of 2021, which was announced by its commander, Colonel General Andrey Serdyukov, at the "Army-2021" forum.³¹

In 2021, the Armed Forces of the Russian Federation in Crimea focused on coastal and anti-landing defence rather than offensive operations. The 15th Brigade of coastal anti-ship missile systems, equipped with "Bal" and "Bastion" types, was on combat duty. The inter-service formation included a specialised unit of up to 1,000 personnel for countering underwater sabotage and guarding the Crimean Bridge, comprising anti-sabotage boats, elite Special Operations Forces, paratroopers, and marines.³² A brigade of the Federal Service of the National Guard was deployed in Crimea to protect the bridge.

The aviation component of the Russian contingent in Crimea was based on the 27th Mixed Air Division (Belbek, Hvardiyskyi, Dzhankoi airfields) of the 4th Red Banner Army, comprising mixed, fighter, and helicopter regiments with Su-27SM3 and Su-30M2 aircraft. Air defence was strengthened by S-400 "Triumph" systems

²⁹ V. Kopchak, *Chotyry roky okupatsii Krymu. Potochni vysnovky z militaryzatsii pivostrova* [Four years of occupation of Crimea. Current findings on the militarisation of the peninsula], in "Vyklyky i ryzyky. Bezpekovi ohliad Tsentru doslidzhennia armii, konversii ta rozzbroiennia", 2018, no. 4, p. 12-16.

³⁰ V. Sokirko, *Krilataya pehota v Krymu* [Winged Infantry in Crimea], in <https://svpressa.ru/war21/article/316528/> (Accessed on 05.01.2025).

³¹ A. Ramm, *S Arbaletom v glubokii reid* [With the Crossbow in a deep raid], in "Nezavismoe voennoe obozrenie", https://nvo.ng.ru/armament/2021-03-11/1_1132_crossbow.html (Accessed on 08.01.2025).

³² V. Tuchkov, *Moskva legko ustanovit bezpoletnuyu zonu nad Krymom, DNR i LNR* [Moscow will easily establish a no-fly zone over Crimea, the DPR and the LPR], in <https://svpressa.ru/war21/article/295278/> (Accessed on 09.01.2025).

(two regiments of the 31st Air Defence Division with four divisions in Sevastopol and Feodosia), capable of targeting air threats up to 400 km away, including over mainland Ukraine. In May 2021, an anti-aircraft missile regiment of the division began receiving the latest S-350 "Vityaz" medium-range systems.³³

5. STRENGTHENING OF THE OFFENSIVE POTENTIAL OF THE BLACK SEA FLEET

The strike potential of the Black Sea Fleet of the Russian Federation also grew. First of all, in 2021, the missile and strike potential of the Black Sea Fleet continued to be built up to effectively destroy control points, communication centres and other important "point" targets of the Armed Forces of Ukraine, as well as important objects of the military-industrial complex and civilian infrastructure of Ukraine.³⁴ For this purpose, cruise missiles of naval vessels of the Black Sea Fleet and the Caspian Military Flotilla were designated. The Black Sea Fleet could launch rockets of the "Kalibr" family, in particular, from modern patrol ships (frigates) of the 11356 project of "Admiral Grigorovich" type (three units of 30th Division of Surface Ships of the Black Sea Fleet), submarines of the 636.3 project ("Rostov-on-Don" type) of 4th Separate Submarine Brigade, etc.³⁵

The Caspian Flotilla's carriers could reinforce the missile strike. The salvo of "Kalibr-NK" cruise missile launches by the Black Sea Fleet at that time was estimated at 56 (88 together with the Caspian Flotilla). The striking potential of the Black Sea Fleet was strengthened by coastal missile and artillery brigades; 11th in Anapa (anti-ship missile complexes "Bal" and "Bastion" with a range of 600 and 280 km, respectively, and 130-mm self-propelled guns "Bereg"), 15th in Sevastopol ("Bal," "Bastion" and "Progress" complexes).³⁶ In 2022-2023, from the territory of

³³ S. Ishchenko, *Poka gromit NATO, my gotovimsya bumazhnymi diviziyami* [While NATO is thundering, we are preparing with paper divisions], in <https://svpressa.ru/war21/article/301181/> (Accessed on 07.01.2025).

³⁴ V. Kopchak, *Chotyry roky okupatsii Krymu. Potochni vysnovky z militaryzatsii pivostrova* [Four years of occupation of Crimea. Current findings on the militarisation of the peninsula], in "Vyklyky i ryzyky. Bezpekovyi ohliad Tsentru doslidzhennia armii, konversii ta rozzbroiennia", 2018, no. 4, p. 16.

³⁵ A. Sokolov, *Kalibr – neotrazimyi kulak Rossii* [Kalibr is the irresistible fist of Russia], in <https://topwar.ru/90534-kalibr-neotrazimyy-kulak-rossii.html> (Accessed on 14.12.2024).

³⁶ *Voienno-istorychnyi opys rosiisko-ukrainskoi viiny* (liutyi-berezen 2022 roku) [Military-historical description of the Russian-Ukrainian war (February–March 2022)], Kyiv,

Crimea, the anti-ship missile systems also hit the ground facilities of the Armed Forces of Ukraine.³⁷

6. STRATEGIC AND OTHER MILITARY EXERCISES OF THE ARMED FORCES OF THE RUSSIAN FEDERATION

Large-scale military exercises served as both training arenas and strategic camouflage for deploying offensive forces near Ukraine's borders. In early 2022, annual strategic exercises of the Russian Armed Forces, including "Union Resolve 2022" (10-20 February), played a key role in this effort. On 14 January, a sudden inspection of the Eastern Military District prompted the transfer of its units to Belarus for exercises. By 9 February, the transfer was complete, significantly bolstering Russian troop formations in Belarus. Overall, units from 12 brigades, a motorised rifle regiment, and various support units were relocated, enhancing the offensive capability near Ukraine.

During the active phase of the exercises, 6-8 thousand Belarusian and 10-12 thousand Russian servicemen participated in Belarus, utilising five training ranges and four airfields. Belarusian units, including paratroopers and internal troops, trained in urban blockades and assaults, forming a brigade-level unit of up to 2,000 personnel with 300 pieces of equipment. A joint missile forces formation was established, featuring the "Polonez" MLRS and "Iskander" OTRK, with electronic missile launch simulations conducted. State Secretary Dmitriy Mezentsev noted the exercises demonstrated the unified defence doctrine's capacity to secure the Union State's western borders. On 21 February 2022, the Ministry of Defence of the Republic of Belarus announced that Russian troops would be stationed in Belarus to "further verify the reaction forces of the Union State... in connection with the increase in military activity on the external borders of the Union State, and the aggravation of the situation in Donbass."³⁸

The joint Russian-Belarusian strategic exercise "Union Resolve" actually became a cover for the deployment of a powerful offensive combined arms group of

2022, p. 40-41.

³⁷ A. Khramchikhin, *Chernoe more: paritet bez peremiriya* [Black Sea: parity without truce], in "Nezavisimoe voennoe obozrenie", https://nvo.ng.ru/armament/2021-07-08/6_1148_blacksea.html (Accessed on 08.01.2025).

³⁸ *Belorussko-rossiiskie ucheniya Soyuznaya reshimost-2022 zaversheni* [The Belarusian-Russian exercises Union Resolve 2022 are completed], in <https://rg.ru/2022/02/24/belorussko-rossijskie-ucheniia-soiuznaia-reshimost-2022-prodolzhenie-sleduet.html> (Accessed on 24.10.2024).

Russia in the south-east of the Republic of Belarus for further actions in the operational direction of Kyiv (according to Aleksandr Lukashenko, on 24 February, 2022, 20 thousand Russian troops launched an offensive against Ukraine from the territory of the Republic of Belarus). During the exercises, Aleksandr Lukashenko stated his intention to strengthen military integration with the Russian Federation and increase Belarus's military potential. On 18-19 February, he held talks with Vladimir Putin on "strengthening the common defence space" in view of the growing threat of an armed conflict between Russia and Ukraine and "increasing military activity of NATO countries."³⁹ Evaluating the results of the above-mentioned exercises, the Minister of Defence of Belarus Viktor Khrenin and the Chief of the General Staff of the Armed Forces of the Republic of Belarus Viktor Gulevich on 20 February, 2022, stated that there was no "military Schengen" between Moscow and Minsk, the military-political leadership of both states had a common mindset and a political basis for military cooperation, the parties were capable of creating coalition military groups, the Belarusian army was capable of withstanding internal and external threats.⁴⁰

Local military exercises were also held near Ukraine's territory. On 11 January 2022, the Russian army announced military exercises (with the participation of 3,000 servicemen and 300 armoured fighting vehicles) in the regions bordering Ukraine, namely Voronezh, Belgorod, Bryansk and Smolensk. According to official information, units of both motorised rifle divisions conducted tactical and special manoeuvres, developed combat coordination, and new methods and tactics for conducting fire missions. However, leading Ukrainian experts at the time believed that "these exercises are not offensive in nature, ... work out tactical elements, coherence of tank combat crews, etc." However, unlike in 2021, they did not simulate the capture of airfields or offensives as part of units. Not assault units participated in the exercises, but ordinary motorised gun, engineering, and other units did. The main types of weapons and equipment used included T-72B3 tanks, modernised T-80 tanks, armoured personnel carriers, and infantry fighting vehicles.⁴¹

³⁹ O. Falichev, *Vtoroi etap Soyuznoi reshimosti* [The second stage of "Union Resolve"], in "Voenno-promyshlennyyi kurier", <http://vpk-news.ru/news/top/8782375923> (Accessed on 10.12.2023).

⁴⁰ M. Khodarenok, *Tonkie grani upravleniya. Soyuznaya reshimost – 2022: kto stoit za mashtabnymi ucheniyami Moskvy i Minska* [Fine edges of control. Union Resolve 2022: Who is behind the large-scale exercises of Moscow and Minsk?], in "Nezavisimoe voennoe obozrenie", https://nvo.ng.ru/realty/2022-02-17/3_1177_control.html (Accessed on 08.01.2025).

⁴¹ *Viiskovi navchannia armii Rosii, shcho rozpochalysia 11 sichnia 2022* [Military exercises of the Russian army, which began on 11 January 2022], in

During the 2020–early 2022 military exercises, the Russian army tested numerous new or modernised weapons and equipment. Engineering, reconnaissance, and strike tools were widely utilised alongside tanks and other ground and air systems. Notable were the “Uran” ground-based drones: “Uran-9,” capable of destroying personnel and vehicles with missile systems and thermobaric ammunition, and “Uran-6,” used to clear minefields for equipment convoys. Other drones, such as “Nerekhta” (armed with a machine gun and a grenade launcher) and “Platform-M”, supported reconnaissance and fire missions, operating within defensive formations to protect mechanised units during manoeuvres.

The actions of robotic units were closely coordinated with other forces, including UAVs, which interacted with the “Strelets” command, control, and communications reconnaissance complex. This system enabled mobile reconnaissance elements equipped with “friend-or-foe” recognition to communicate efficiently with surveillance and targeting systems. At the same time, GLONASS-equipped UAVs provided precise object identification, coordinate calculation, and target data for weapon deployment. For the first time, exercises featured extensive use of reconnaissance and combat UAVs, including “Orlan-10,” “Lastochka,” “Inokhodets,” and “Forpost.” Air support was provided by Su-35S, Su-30SM, MiG-31BM, and Su-34 fighters, along with Mi-8 multipurpose helicopters, Mi-28 “Night Hunter,” Ka-52 “Alligator,” and Mi-35 attack helicopters, which conducted tactical troop landings, equipment transfers, and frontline counteroffensive operations.⁴²

The exercises showcased modernised T-72B3 tanks with reactive armour and mine traps, along with the BMPT “Terminator,” now actively used in Ukraine. A platoon of B-19 infantry fighting vehicles, featuring the “Epoch” combat module (equipped with a 57-mm automatic cannon, ATGM “Kornet,” and “Bulat” missile system), participated. Heavy flamethrower systems TOS-1A “Solntsepek,” with a 24-barrel rocket launcher capable of creating a 40,000-square-meter destruction zone, were also deployed and are now actively used in hostilities in Ukraine.⁴³

<https://www.radiosvoboda.org/a/viyskovi-navchannya-mozhut-vykorystaty-yak-prykryttya-dlya-vtorhnennya/31651199.html> (Accessed on 03.01.2025).

⁴² *Boevye roboty poshli na Zapad* [Combat robots went to the West], in https://eng.mil.ru/en/news_page/press_review/more.htm?id=12384930@egNews (Accessed on 22.09.2024).

⁴³ *Novuyu BMP B-19 s modulem Epoha v pervye pokazali na strategicheskikh ucheniyakh Zapad-2021* [The new B-19 infantry fighting vehicle with the Epoch module was shown for the first time at the West-2021 strategic exercises], in <https://topwar.ru/187096-novuyu-bmp-b-19-s-modulem-jepoha-vpervye-pokazali-na-strategicheskikh-ucheni-jah-zapad-2021.html> (Accessed on 14.09.2024).

7. THE CONFIGURATION OF THE OFFENSIVE GROUP OF THE RUSSIAN TROOPS BEFORE THE START OF A LARGE-SCALE INVASION

In late February 2022, on the borders with Ukraine, Russia completed the creation of a strike group to conduct a full-scale offensive, officially called the “Special Military Operation” in the Russian Federation. At the time, the troops (forces) of Russia were distributed in geographical directions as follows:

In *the direction of the Polissia Operational District*, a group of troops of the Eastern Military District of the Russian Army, reinforced by units and subdivisions of the Airborne Forces, forces of up to 23 battalion tactical groups (BTGs) of formations, military units and units of 5th, 35th, 36th Combined Arms Armies, coastal troops of the Pacific Fleet of the Eastern District, and airborne troops of the Armed Forces of the Russian Federation conducted an offensive. The group numbered up to 14.1 thousand servicemen, 12 OTRK, 160 tanks, 807 armoured fighting vehicles, 210 artillery systems, and 68 MLRS.

In *the Western Strategic Direction*, the group of troops (forces) was created from formations, military units, and subdivisions of the Western Military District, the Central Military District, the Eastern Military District, the Aerospace Forces, and the Airborne Forces. The formation included up to 41 BTGs (more than 39.5 thousand servicemen, 38 OTRK, 869 tanks, 1,764 armoured fighting vehicles, 454 artillery systems, 226 MLRS) in specific directions.

A group of troops of the Central Military District was sent to *the Siverskyi Operational District*, comprising up to sixteen battalion tactical groups and fifteen territorial groups from formations, military units, and units of the 2nd, 41st, and 90th Armies of the Central Military District. The group numbered: 16.5 thousand servicemen, 20 OTRK, 348 tanks; 959 armoured fighting vehicles, 237 artillery systems, 114 pcs. of MLRS.

In the direction of *the Slobozhanskyi Operational District*, troops of the Western Military District were grouped, including up to 25 BTGs from formations, military units, and units of the 6th, 20th Armies, and the 1st Tank Army, and the Northern Fleet.

In *the Southwestern Strategic Direction*, a grouping of troops (forces) was created based on formations, military units, and subdivisions of the Southern and Central Military Districts, the coastal troops of the Black Sea Fleet, the Aerospace Forces, and the Airborne Forces. The group included up to forty-three BTGs (up to 83.7 thousand servicemen, 16 OTRK, 966 tanks, up to 2,970 armoured fighting vehicles, up to 1,290 artillery systems, 407 pcs. of MLRS) in certain districts.

In the direction of the Donetsk Operational District, a group of up to seventeen battalion tactical groups from formations, military units and units of the 8th Army of the Southern Military District, with possible reinforcement from the formations of the 2nd Army of the Central Military District. The group numbered: up to 58.2 thousand servicemen, 16 OTRK, 794 tanks; 1,654 armoured fighting vehicles, 950 artillery systems, 264 pcs. of MLRS.

In the direction of the Tavriia Operational District, a group of the Southern District with forces of up to twenty-six BTGs from formations, military units and units of the 8th Army, 22nd Army Corps, 58th Army of the Southern Military District, coastal forces of the Black Sea Fleet, and the 7th Air Assault Division. The group numbered up to 25,5 thousand servicemen, 172 tanks, 1,311 armoured fighting vehicles, 337 artillery systems, and 143 MLRS.⁴⁴

In general, by 24 February, 2022, the total number of ground groups of the Russian army along the state border of Ukraine (including the Crimean Peninsula) was estimated at 107 BTGs (more than 138.5 thousand servicemen), 66 launchers of operational-tactical missiles, up to 2,000 tanks; more than 5,570 armoured fighting vehicles, up to 1,950 artillery systems, up to 700 pcs. of MLRS.⁴⁵ Some researchers counted at least 115 BTGs (estimated – up to 175-190 thousand servicemen), to which it is necessary to add (in total and without further mobilisation) up to 35 thousand bayonets of the 1st Army Corps of the self-proclaimed “Donetsk People’s Republic” and 2nd Army Corps of the “Luhansk People’s Republic.”

A significant issue for the Russian Armed Forces, which affected their performance during the “Special Military Operation” in Ukraine, was a shortage of manpower in the ground forces and understaffed units. By 2020, mobilisation plans required at least 0.5 million contract servicemen, but by March 2020, there were only 405,100, despite ongoing unit formation. Over five years, only 20,000 professional servicemen were recruited. Some motorised rifle divisions in the Western Military District lacked whole motorised rifle regiments, and divisions effectively replaced anti-aircraft regiments. For example, with a target of 11,000 personnel, the 3rd and 144th Motorised Rifle Divisions of the 20th Army had only about 8,500 servicemen in 2021.⁴⁶

⁴⁴ *Voienno-istorychnyi opys rosiisko-ukrainskoi viiny (liutyi-berezen 2022 roku)* [Military-historical description of the Russian-Ukrainian war (February–March 2022)], Kyiv, 2022, p. 39-40.

⁴⁵ *Khroniky viiny, chastyna 1 (pershi 30 dib rosiisko-ukrainskoi viiny 24.02–26.03.2022)* [Chronicles of the war, part 1 (the first 30 days of the Russian-Ukrainian war, February 24.02–26.03.2022)], in “Informatsiinyi biuleten”, 2022, p. 118.

⁴⁶ S. Ishchenko, *Poka gromit NATO, my gotovimsya bumazhnymi diviziyami* [While NATO is

CONCLUSIONS

Thus, between 2020 and 2022, the Russian Federation undertook a comprehensive modernisation of its Armed Forces, including doctrinal reforms aligned with the principles of high-intensity, network-centric warfare. The integration of advanced armour, high-precision missile systems, and elements of so-called “sixth-generation warfare” gave Russia an advantage over Ukraine in terms of strike range, mobility, and operational coordination.

Key military-technical advancements included the introduction of upgraded main battle tanks (T-72B3, T-80BVM, T-90M), infantry support vehicles such as the BMPT Terminator, and long-range precision missile systems, including Iskander (range 500–650 km), Kalibr cruise missiles, and modernised Tornado-G and Tornado-S MLRS. Russia also tested and deployed unmanned and robotic systems (e.g., Uran-9, Orlan-10), underscoring a shift toward automation and stand-off engagement. These systems enabled elements of sixth-generation warfare, potentially incorporating guided munitions with near-tactical nuclear capabilities, capable of striking the entire operational-tactical depth of Ukraine’s defences from within Russian territory.

By early 2022, four of eight Russian motorised rifle divisions and two of three tank divisions were positioned near Ukraine, reflecting a steady mechanised buildup since 2014. These forces were supported by enhanced artillery, anti-aircraft, and anti-tank systems, as well as emerging robotic battlefield platforms – together strengthening Russia’s ground warfare capabilities. Additionally, Russia restored or newly formed multiple motorised rifle and tank divisions near Ukraine’s borders, significantly raising combat readiness. Belarus served as both a logistical hub and a forward deployment zone, enabling troop regrouping and the launch of air and missile strikes. Joint Russian-Belarusian exercises masked the concentration of forces, intensifying regional tensions and foreshadowing the February 2022 invasion.

Moreover, two airborne assault and two airborne divisions, along with two assault brigades and specialised units (e.g., the 45th Special Forces Brigade), were upgraded with heavier vehicles and expanded firepower. These transformations enhanced Russia’s rapid-reaction and deep-strike capabilities, enabling more effective combined-arms combat under network-centric conditions. In the event of

thundering, we are preparing with paper divisions], in <https://svpressa.ru/war21/article/301181/> (Accessed on 07.01.2025).

large-scale interstate conflict, such airborne forces could be used to swiftly penetrate Ukrainian territory, opening operational flanks or conducting rear-area raids.

This trajectory of military transformation suggests that continued modernisation, especially when paired with strategic deception and enhanced rapid deployment capabilities, may further destabilise regional security.

REFERENCES

1. Barash Yu., *Vozdushno-desantnye voiska Rossii: Etap perevooruzheniya* [Russian airborne forces: rearmament stage], in "Vyklyky i ryzyky. Bezpekovy ohliad Tsentru doslidzhennia armii, konversii ta rozzbroiennia", 2018, no. 14, p. 44-52; no. 15, p. 33-66.
2. *Belorussko-rossiiskie ucheniya Soyuznaya reshimost-2022 zaversheni* [The Belarusian-Russian exercises Union Resolve 2022 are completed], in <https://rg.ru/2022/02/24/belorussko-rossijskie-ucheniia-soiuznaia-reshimost-2022-prodolzhenie-sleduet.html>.
3. Bielieskov Mykola, *Suchasnyi rosiiskyi sposib vedennia viiny: teoretychni osnovy i praktychne napovnnennia* [The modern Russian way of waging war: theoretical foundations and practical content], Kyiv, Natsionalnyi instytut stratehichnykh doslidzhen, 2021, p. 3-5, <https://niss.gov.ua/sites/default/files/2021-02/analitichna-dopovid.pdf>.
4. *Boevye roboty poshli na Zapad* [Combat robots went to the West], in "Voenno-promyshlennyi kurier", https://eng.mil.ru/en/news_page/press_review/more.htm?id=12384930@egNews.
5. Falichev O., *Vtoroi etap Soyuznoi reshimosti* [The second stage of Union Resolve], in "Voenno-promyshlennyi kurier", <http://vpk-news.ru/news/top/8782375923>.
6. Fox C., *Reflections on Russia's 2022 Invasion of Ukraine: Combined Arms Warfare, the Battalion Tactical Group and Wars in a Fishbowl*, in "Land Warfare Paper No. 149", September 2022, 16 p.
7. Gherman Marin, *The evolution of the Russian Federation's official anti-Ukraine discourse (2014–2022)*, in "Codrul Cosminului", 2023, Vol. 29, No. 1, pp. 193-201.
8. Green J., Henderson C., Ruys T., *Russia's attack on Ukraine and the jus ad bellum*, in "Journal on the use of force and international law", 2022, Vol. 9, No. 1, pp. 4-30.
9. Hrytsiuk V., Lysenko O., *Viina Rosiiskoi Federatsii proty Ukrainy: voiennyi, mizhnarodno-pravovyi, heopolitychnyi ta ekonomichni vymiry* [The war of the Russian Federation against Ukraine: military, international legal, geopolitical and economic dimensions], in "Ukrainskyi istorychnyi zhurnal", 2023, Vol. 2, p. 5-33

10. Hughes A., *Plan Z reassessing security-based accounts of Russia's invasion of Ukraine*, in "Journal of Advanced Military Studies", 2023, Vol. 14, No. 2, pp. 174-209.
11. Ishchenko S., *Boi v Krymu – vse v dymu: Moskva sformiruet na poluostrove novuyu armiyu* [The battle in Crimea is all up in smoke: Moscow will form a new army on the peninsula], in <https://svpressa.ru/war21/article/284810/?qcq=1>.
12. Ishchenko S., *Poka gromit NATO, my gotovimsya bumazhnymi diviziyami* [While NATO is thundering, we are preparing with paper divisions], in <https://svpressa.ru/war21/article/301181/>.
13. Ishchenko S., *Terpenie Moskvyy lopnulo: Krym razvorachivaet Iskandery* [Moscow's patience has run out: Crimea deploys Iskander missiles], in <https://svpressa.ru/war21/article/322034/>.
14. Jonsson M., Norberg J., *Russia's War Against Ukraine: Military Scenarios and Outcomes*, in "Survival", 2022, Vol. 64, p. 91-122.
15. Karnozov V., *Perevooruzhilis na 71%. Minoborony podvelo itogi priemki i postupleniya v armiyu voennoj tehniki* [Rearmed by 71%. The Ministry of Defense has summed up the results of the acceptance and delivery of military equipment to the army], in "Nezavisimoe voennoe obozrenie", https://nvo.ng.ru/nvo/2022-01-27/1_3_1174_priemka.html.
16. Khodarenok M., *Tonkie grani upravleniya. Soyuznaya reshimost – 2022: kto stoit za masshtabnymi ucheniyami Moskvyy i Minska* [Fine edges of control. Union Resolve 2022: who is behind the large-scale exercises of Moscow and Minsk], in "Nezavisimoe voennoe obozrenie", https://nvo.ng.ru/realty/2022-02-17/3_1177_control.html.
17. Khramchikhin Aleksandr, *Chernoe more: paritet bez peremiriya* [Black Sea: parity without truce], in "Nezavisimoe voennoe obozrenie", https://nvo.ng.ru/armament/2021-07-08/6_1148_blacksea.html.
18. Khramchikhin Aleksandr, *Protivniki mnimye i realnye* [Imaginary and real opponents], in "Nezavisimoe voennoe obozrenie", https://vpk.name/news/394364_protivniki_mnimye_i_realnye.html.
19. Khramchikhin Aleksandr, *Severnyy Kavkaz: kogda tyl stanovitsya frontom* [North Caucasus: when rear becomes a front], in "Nezavisimoe voennoe obozrenie", https://vpk.name/news/245546_severnyy_kavkaz_kogda_tyl_stanovitsya_frontom.html.
20. *Khroniky viiny, chastyna 1 (pershi 30 dib rosiisko-ukrainskoi viiny 24.02–26.03.2022)* [Chronicles of the war, part 1 (the first 30 days of the Russian-Ukrainian war, February 24–March 26, 2022)], in "Informatsiyni biuleten", 2022, p. 118.
21. Kopchak V., *Chotyry roky okupatsii Krymu. Potochni vysnovky z militaryzatsii pivostrova* [Four years of occupation of Crimea. Current findings on the militarisation of the peninsula], in "Vykylyky i ryzkyky. Bezpekovi ohliad Tsentru doslidzhennia armii, konversii ta rozzbroiennia", 2018, no. 4, p. 11-20.
22. Koval M., Shchypanskyi P., Kydon V., Hrytsiuk V., *Stratehichniy kharakter*

Kyivskoi oboronnoi operatsii (24.02–02.04.2022) [The strategic nature of the Kyiv defence operation (February 24–April 2, 2022)], in “Ukrainskyi istorychnyi zhurnal”, 2023, Vol. 3, p. 5-33.

23. Kozlov D., *Radioelektronna borotba. Rosiiskyi vyklyk ta ukrainska vidpovid* [Radio electronic warfare. Russian challenge and Ukrainian response], in “Vyklyky i ryzyky. Bezpekovi ohliad Tsentru doslidzhennia armii, konversii ta rozzbroiennia”, 2020, no. 7, p. 27-39.

24. Kravtsov O., *Rossiya postavit neprohodimye minnye polya dlya VSU* [Russia will create impenetrable minefields against the Ukrainian Armed Forces], in <https://www.politnavigator.net/rossiya-postavit-neprokhodimye-minnye-polya-dlya-vsu.html>.

25. Massicot D., *Observations of Russian military operations in Ukraine in 2022 and the year ahead*, in https://www.rand.org/content/dam/rand/pubs/testimonies/CTA2600/CTA2646-1/RAND_CTA2646-1.pdf.

26. *Novuyu BMP B-19 s modulem Epoha vpervye pokazali na strategicheskikh ucheniyakh Zapad-2021* [The new B-19 infantry fighting vehicle with the Epoch module was shown for the first time at the West-2021 strategic exercises], in <https://topwar.ru/187096-novuju-bmp-b-19-s-modulem-jepoha-vpervye-pokazali-na-strategicheskikh-uchenijah-zapad-2021.html>.

27. *Podvedeny itogi modernizatsii vooruzhenii v voiskah VVO, ZVO i YuVO* [The results of the modernisation of weapons in the troops of the Eastern, Western and Southern military districts have been summed], in <https://oborona.product/zhurnal-nacionalnaya-oborona/podvedeny-itogi-modernizacii-vooruzhenij-v-vojskah-vvo-zvo-i-yuvo-43314.shtml>.

28. Ramm A., Litovkin D., *Uhodyashchij god dlya Rossijskoj armii – odin iz znakovykh* [The outgoing year for the Russian army is one of the most significant], in “Nezavisimoe voennoe obozrenie”, https://nvo.ng.ru/nvo/2020-12-24/1_1123_realty2.html.

29. Ramm A., *Reforma VDV idet udarnym tempom. Desantno-shturmovye brigady novogo tipa usilyat oboronu Kryma* [Airborne Forces reform is proceeding at an accelerated pace. A new type of air assault brigades will strengthen the defense of Crimea], in “Nezavisimoe voennoe obozrenie”, https://nvo.ng.ru/realty/2021-04-08/3_1136_reform.html.

30. Ramm A., *S Arbaletom v glubokii reid* [With the Crossbow in a deep raid], in “Nezavisimoe voennoe obozrenie”, https://nvo.ng.ru/armament/2021-03-11/1_1132_crossbow.html.

31. Sokirko V, Popov V., *Kto sobet Bajraktar nad Donbassom?* [Who is going to shoot down Bayraktar over Donbass?], in <https://svpressa.ru/war21/article/294676/>.

32. Sokirko V., *Krilataya pehota v Krymu* [Winged Infantry in Crimea], in <https://svpressa.ru/war21/article/316528/>.

33. Sokolov Anatoliy, *Kalibr – neotrazimyi kulak Rossii* [Kalibr is the irresistible fist of Russia], in <https://topwar.ru/90534-kalibr-neotrazimyy-kulak-rossii.html>.

34. Tuchkov V., *Moskva legko ustanovit bezpoletnuyu zonu nad Krymom, DNR i LNR* [Moscow will easily establish a no-fly zone over Crimea, the DPR and the LPR], in <https://svpressa.ru/war21/article/295278/>.

35. *Ukaz Prezidenta Ukrainy 121/2021 Pro rishennia Rady natsionalnoi bezpeky i oborony Ukrainy vid 25 bereznia 2021 roku pro stratehiiu voiennoi bezpeky Ukrainy* [Decree of the President of Ukraine 121/2021 About the decision of the national security and defence council of Ukraine dated March 25, 2021 on the military security strategy of Ukraine], in <https://www.president.gov.ua/documents/1212021-37661>.

36. Viedienieiev D., Hrytsiuk V., Kydon V., Koval M., Pokotylo O., Sehed S., Shchypanskyi P., *Rik nezlamnosti: Krakh operatsii Z* [Year of Invincibility: Collapse of Operation Z], Kyiv, NUOU, 2023, p. 320.

37. Viedienieiev D., Sliusarenko A., *Elita zbroinykh syl susidiv Ukrainy: syl spetsoperatsii postradianskykh derzhav* [Elite of the armed forces of the neighbouring countries of Ukraine: special operations force of the post-Soviet states], in “Vyklyky i ryzyky. Bezpekovi ohliad Tsentru doslidzhennia armii, konversii ta rozzbroiennia”, 2018, no. 11, p. 24-33.

38. *Viiskovi navchannia armii Rosii, shcho rozpochalysia 11 sichnia 2022* [Military exercises of the Russian army, which began on 11 January 2022], in <https://www.radiosvoboda.org/a/viyskovi-navchannya-mozhut-vykorystaty-yak-prykryttya-dlya-vtorhnennya/31651199.html>.

39. *Voienno-istorychnyi opys rosiisko-ukrainskoi viiny (liutyi-berezen 2022 roku)* [Military-historical description of the Russian-Ukrainian war (February–March 2022)], Kyiv, 2022, 112 p.