



**Unclassified Summary of the U.S. Army Training and Doctrine Command
Russian New Generation Warfare Study**

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Introduction

A revisionist Russia is increasing its military capabilities and threatening U.S. allies and partners across Eurasia and the Middle East. In multiple theaters Russia is conducting sophisticated campaigns that combine economic pressure, disinformation, cyberspace activities, and the use of conventional and unconventional military forces to influence neutrals and intimidate U.S. allies and partners. It is likely that a perceived reduction in the United States' comparative military advantages emboldens Russian actions. To deter Russia and other revisionist powers that may emulate Russian capabilities (e.g. China, North Korea, and Iran), and to ensure effective response to aggression that threatens the security of the United States and its allies, the U.S. Army requires improved capabilities, increased capacity, and revised warfighting doctrine.

Purpose: What This Study Is For

The purpose of this study is to analyze how Russian forces and their proxies employ disruptive technologies in the conduct of modern warfare; identify enhanced Russian capabilities; identify implications for the U.S. Army; and recommend actions the Army should take to ensure overmatch against Russian capabilities.

This Russian New Generation Warfare (RNGW) study assesses recent Russian operations, published Russian doctrine and other strategic documents, and U.S. and foreign assessments of Russian modernization. Based on that assessment, this study determines how future Army forces, operating as part of joint and multi-national teams, must fight to defeat capable enemies, control terrain, and project combat power to obtain operational advantage and achieve strategic objectives. It identifies critical capability gaps, capacity shortfalls, and implications for Army force design, concepts, modernization, and doctrine. The RNGW study examines Russian capabilities; it does not assess Russian intentions.

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The numerous studies conducted on recent Russian operations focus primarily on near-term implications for the Joint Force. This study draws on previous work and extends beyond it to identify gaps and opportunities for Force 2025 and Beyond. The study uses the Army Operating Concept (AOC), draft functional concepts, and Army Warfighting Challenges (AWFC) as the basis and framework for analysis.¹

Methodology

The RNGW study team divided into five sub-teams: Red, Strategic, Operational, Tactical, and Integration/Operations. Members of these teams visited Ukraine and the Baltic nations, reviewed over 700 reports and studies² and conducted over 90 interviews.³ These interviews spanned United States European Command (USEUCOM), Special Operations Command Europe (SOCEUR), U.S. Army Europe (USAREUR), NATO, every Center of Excellence commander, the Army National Guard, and select think tanks. The study reviewed the TRADOC Analysis Center (TRAC) and Center for Army Analysis (CAA) analysis of a relevant scenario wargame and its results. The team also conducted a RNGW Operational Level Seminar War Game. Research and analysis informed a Special RNGW Capability Based Assessment (CBA) to include a week-long Analyst Synthesis Working Group during which the team refined key findings.⁴ This RNGW report will inform force design, force structure, future force development decisions, and readiness through rigorous and holistic analysis.

Historical Context

A focused effort to learn from contemporary conflict and apply lessons to future force development is not unprecedented. In 1974, GEN William E. DePuy sent then-MG Donn

¹ These include the draft concept papers for Multi-Domain Battle: Combined Arms for the 21st Century (Draft v0.53, Dated 13 October 2016) and the U.S Army Functional Concept for Movement and Maneuver, 2020-2040 (Draft v.703, Dated 24 September 2016).

² These included studies and war games from the intelligence community, the ESAT study, USAF 2030 Flight Plan, OSD Kill Chain Analysis, JCOA–Russian Aggression/Baltics Study, Potomac Foundation, CAA, TRAC, RAND, MITRE, CNAS, and CBS.

³ See Annex A (Bibliography) of the Technical Companion

⁴ This included analysts from HQDA, NGIC, CAA, MCOE, OSD, USN, USMC, USAF, JCOA, TRADOC G-2, SMDC, ARCIC, Army Science Board, and CERDEC.

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A. Starry to study the lessons from the 1973 Arab-Israeli War. DePuy noted that “there have been so many reports [of the '73 war] that the important lessons of the war tend to be lost in details. As a consequence, the Department of the Army asked the U.S. Army Training and Doctrine Command (TRADOC) to summarize the major lessons from that war and to examine the impact of these lessons on the tactics, doctrine, training, and materiel development of the U.S. Army.”⁵ This study emerged from challenges similar to those that spurred the Starry Study.

In GEN DePuy’s executive summary, he made observations that underpinned Army doctrine until the end of the Cold War: What can be seen can be hit; what can be hit can be killed. This greater lethality was based on new Soviet concepts of operational depth and the increased effectiveness of massed air and ground missile systems demonstrated during the 1973 war.

This study confirmed that the lessons of increased battlefield lethality revealed in the 1973 war still apply; present-day capabilities amplify those lessons. Today, adversaries challenge Joint Force overmatch across all domains and are able to contest the U.S.’s ability to deploy and sustain forces. For example, unmanned aerial systems (UAS) and sensors enable opponents to see and target each other at low risk and cost. Modern artillery systems are capable of shooting highly lethal cluster and thermobaric munitions at extended range and with greater precision. The demonstrated ability of Russian forces, regular and proxy, to monitor and use the cyberspace domain and link cyberspace and electronic reconnaissance with artillery have increased the lethality of the battlefield. Unless the Army adapts to the new realities of the modern battlefield, future U.S. Joint Forces could face operational and tactical defeat in war. A tactical defeat could have strategic consequences such as loss of NATO cohesion or escalation beyond the nuclear threshold. The findings of this study are not limited to one particular theater or potential enemy. Any potential adversary could adopt the capabilities and

⁵ GEN William E. DePuy, “Implications of the Middle East War on U.S. Army Tactics, Doctrine, and Systems,” in Richard Swain, ed., *Selected Papers of General William E. DePuy* (Fort Leavenworth, KS: Combat Studies Institute, 1994), p. 76.

concepts that underpin this Russian way of warfare. Therefore, this study has global implications for the U.S. Joint Force.

The Primary Finding

The primary finding of the RNGW Study is that the U.S. Army's ability to close with and destroy the enemy is at risk. The U.S. Army's unique contribution to joint warfighting is the ability to develop situational understanding in close contact, close with and destroy the enemy, secure terrain, and consolidate gains to achieve sustainable outcomes in war. Russia employs formations, operational concepts, and capabilities that overmatch U.S. capabilities in range and lethality thus challenging U.S. ability to conduct operational maneuver and win battles. Four additional findings support the primary finding: (1) the Joint Force's ability to execute operations consistent with the tenets of its warfighting doctrine (for the Army, Unified Land Operations and its predecessor AirLand Battle), is at risk; (2) formations seen in any domain or waveform, can be hit, destroyed, disrupted, or manipulated; (3) force posture⁶, projection, and sustainment once again are a major challenge (time, scale, distance, and threat) affecting the warfight; and (4) adversarial competition with a military dimension short of armed conflict is a fundamental component of RNGW. Russian operational concepts, flexible units, and technological capabilities, combined with geographical distance from the U.S., challenge the U.S. Army's ability to conduct operational maneuver and win in close combat. Therefore, the Army requires improved capabilities, increased capacity, and revised warfighting doctrine to cope with the problem of RNGW.

Based on the above key findings, this study posits four problems that the Army must solve to reduce the tactical, operational, and strategic risk: How do future Army forces: (1) seize, retain, and exploit the initiative against advanced Russian capabilities? (2) avoid detection and survive while targeting and engaging the enemy in all domains? (3) posture, project, and sustain forces to deter/defeat adversaries that possess RNGW capabilities? (4) contribute capabilities to win in competition short of armed conflict?

⁶ This study includes forward presence as part of force posture.

Russian New Generation Warfare

The Western term Russian New Generation Warfare describes what Russia has done to marry military hard power and irregular forces with other elements of national power. Russian leaders intentionally emphasize integration of the diplomatic, military, and informational elements of power as well as the use of unconventional forces under the cover of modern conventional force capabilities within these reforms. Although there are other names to describe recent Russian operations (such as hybrid⁷, gray zone⁸, irregular, or unconventional), this study selected Russian New Generation Warfare.⁹

Definition. This study defines RNGW as Russia's integration of all instruments of national power (.i.e. diplomatic, informational, military, and economic) to achieve its objectives. RNGW applies non-military, indirect, and asymmetric methods, as well as

⁷ This study builds upon the work of Frank Hoffman and others on hybrid warfare, for a discussion of the topic see Frank G. Hoffman, "Conflict in the 21st Century: The Rise of Hybrid Wars", Potomac Institute for Policy Studies Arlington, VA, December 2007. As defined in U.S. Army Field Manual 3.0, *Operations*: "The future operational environment will be characterized by hybrid threats: combinations of regular, irregular, terrorist, and criminal groups who decentralize and syndicate against us and who possess capabilities previously monopolized by nation states. These hybrid threats create a more competitive security environment, and it is for these threats we must prepare."

http://www.potomacinstitute.org/images/stories/publications/potomac_hybridwar_0108.pdf

⁸ There are a number of definitions for conflict in the gray zone; this report uses the one found in the United States Special Operations Command white paper "The Gray Zone," which defines gray zone challenges as "competitive interactions among and within state and non-state actors that fall between the traditional war and peace duality."

⁹ Russian "New Generation Warfare" (NGW) is not a phrase that occurs commonly in Russian military discourse, and is being used here as Western shorthand for contemporary warfare. Developed by two retired military officers, Sergei Chekinov and Sergei Bogdanov, NGW was a Russian attempt to understand and characterize changes in warfare. The Russian military, as of 2016, appears more focused on a concept proposed by the Chief of the Russian Main Operations Directorate, "New Type War" (NTW), a representation of predominantly U.S. and Western strategic actions, regime change, and technological developments. NTW evolved this into a more detailed framework, discussing specific templates of how the U.S. conducted operations (lessons learned) and integrating them with traditional Russian military thought. See, for example, Kartapolov, A.V., "Yroki voennik konfliktov, perspektivy razvetiia sreyts i sposobov ikh veydenniya. Priyamii i nepreyamii destviya v sovryemennik mezhdunarodnik konfliktakh [Lessons of military conflicts, prospects for development of the means and methods for their execution. Direct and indirect actions in modern international conflicts]." *Vestnik Akademii Voennix Nauk*, No. 2 (51), 2015, pp. 26-36.

traditional military force, in arrangements that vary with the unique logic of each conflict.¹⁰

Under the concept of RNGW, Russia:

(1) Undertakes asymmetric actions to achieve its ends, including political subversion to undermine and weaken a targeted government and its institutions; economic warfare; and, prominently, information-psychological operations to pressure, disorient, and manipulate a target population.¹¹ Russia accepts higher levels of collateral damage, and states openly a willingness to escalate to achieve its ends.¹²

(2) Maintains ambiguity in conflict by employing special operations, private contractors, criminal and extremist groups, and other proxy forces, together with intelligence and counterintelligence, deception, and disinformation.¹³ The information element and the deception element of RNGW, as observed in Ukraine, amplified ethnic Russian disaffection with the national government. Russian information tactics built upon this disaffection to spark an uprising that the Russians could use as a pretext for intervention. Once the uprising began, Russia either denied supporting the uprising or declared its material and manpower support as humanitarian, despite visual evidence to the contrary. The deception campaign found a willing audience among those that feared escalation. This ambiguity, combined with diplomatic actions at the strategic level, creates operational and tactical freedom of maneuver.

However, Russia's strategic deception campaign constrained the use of Russian military power in support of Russia's proxies. To maintain the fiction that the uprising was purely domestic, Russians used captured equipment and did not deploy fixed- or

¹⁰ Chekinov, Sergei, and Bogdanov, Sergei, "O kharaktere i sodержanii voyny novogo pokoleniia [On the character and composition of new generation warfare]." *Voennaia mysl'*, No. 10, 2013, pp. 13–24.

¹¹ Chekinov, Sergei, and Bogdanov, Sergei, "O kharaktere i sodержanii voyny novogo pokoleniia [On the character and composition of new generation warfare]." *Voennaia mysl'*, No. 10, 2013, p. 17.

¹² NGIC Syria Update.

¹³ Gareev, Mahmut, "Voyna i voyennaya nauka na sovremennom etape [War and military science in the modern era]," *Voyenno-promyshlenniy kur'yer*, No. 13 (481), April 3-9, 2013.

rotary-wing aircraft. At the same time, Russia extended its integrated air defense system (IADS) from Russian territory over the conflict zone in Ukraine to negate the use of most Ukrainian air power. The result was battle between land forces at close range although both sides integrated UASs to collect information and cue fires.

(3) Uses advanced technologies to expand the battlefield through the use of cyberspace, electronic warfare (EW) and information weapons, robotics, and stand-off strikes with high-precision weapons, including air and space-launched attacks.¹⁴

These technologies coupled with organizational changes have increased Russian forces' lethality and survivability and allowed them to achieve conventional overmatch in several key areas—armor, artillery, air defense, space, and cyberspace. None of the components of RNGW are new to statecraft or military philosophy; they, in fact, reinforce Russia's traditional concepts of warfare. However, the integration of these elements and Russia's willingness to employ them create a new challenge at this strategic juncture when NATO allies have significantly reduced military structure and capabilities.

Overview of Russian Actions Since 2008

In March 2014, Russia's occupation and annexation of the Ukrainian territory of Crimea shocked the world. Over the ensuing months, combat in Donbas, involving mainly armored ground forces, reached levels of intensity not seen in Europe since World War II. As of 10 August 2016, Ukrainian forces lost approximately 150 to 170 main battle tanks; 300-plus armored personnel carriers (BMP, BTR, and others); and 50 artillery pieces (2S1 and 2S3).¹⁵ From mid-April 2014 to 31 July 2016, the UN Human Rights Office documented 31,690 casualties, including 9,553 killed and 22,137 injured, in the

¹⁴ Vladimir Slipchenko, "The Strategic Content of the State's Military Reform (A Prognostic View)," *Vooruzheniye Politika. Konversiya*, 07 July 2003.

¹⁵ These figures are according Janes Defense, <https://janes.intelink.sqov.gov/docs/sent/cissu/cissu39/jwara256.htm#toclink-j1501116429863598> (accessed 22 August 2016).

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conflict area in eastern Ukraine.¹⁶ Russian material losses and casualties cannot be verified, but have been substantial.

As fighting progressed, it became clear that Russia was actively supporting the Donbas separatists with sophisticated modern equipment, to include enhanced Russian main battle tanks. Less clear in the first months was the extent of direct involvement by Russian individuals and troops. Little doubt now remains that Russia supplied its own military ground units, command and control systems, and an IADS from support bases operating from the sanctuary of the Russian mainland. Likewise, Russia's Syria campaign, begun in 2015, illustrated its ability to adapt RNGW to different contexts. In addition to relying on allied or proxy forces, as it has in Europe, Russia is using its Syrian operations to experiment with its air, ground, robotics, active protection system, and strike capabilities.

Following the 2008 Russian incursion into Georgia, while the U.S. was preoccupied with counterinsurgency operations in Afghanistan and Iraq, the Russian military learned and instituted organizational and technological reforms that used the U.S. as a pacing threat. These reforms resulted in a Russian military that presents U.S. and allied forces with strategic, operational, and tactical dilemmas. Most recently, its actions in Ukraine demonstrated Russia's significant advances in military technological capabilities combined with new doctrine and organizations that effectively achieved close combat overmatch.

Strategically, Russia's actions in Crimea and eastern Ukraine demonstrate a willingness to use force to undermine the political and security order in Europe. These Russian actions have alarmed U.S. allies and partners from Europe to the Pacific. Russian

¹⁶ These numbers include Ukrainian armed forces, civilians, and members of the armed groups and are reported by the United Nations High Commissioner for Human Rights, at <http://www.ohchr.org/en/newsevents/pages/displaynews.aspx?newsid=20329&langid=e> (accessed 22 August 2016).

operations in Syria are another indicator of Russian willingness to use force to pursue political objectives.

Operationally, Russia demonstrated the capability to orchestrate and sequence tactical events in time, space, and purpose, coupled with diplomatic, economic, and information actions across a long geographic front and across the non-linear domains of the global information commons. Strikingly, Russian information operations successfully delivered operational ambiguity regarding Russia's motives and tactical involvement; created divisions between governments and population groups; and denied adversaries use of the information environment and electromagnetic spectrum, providing the Russians with operational freedom of maneuver. Strategic diplomatic efforts to negotiate cease-fires then allowed the Russians the opportunity to consolidate operational gains obtained on the battlefield while preserving the initiative to reignite violence on short notice. The operational results delivered a level of strategic influence and prestige that Russia has not had since the collapse of the USSR.

Tactically, the Russians invested in capabilities that enabled them to extend a ground-based IADS to isolate the battlefield; and improved combat vehicle lethality and survivability, to include the integration of active protective systems, to be able to attrit U.S. forces short of close combat in order to mitigate U.S. direct fire overmatch. The Russians can mass indirect fires at extended ranges of 100-plus kilometers, while using cheap UAS for ISR, target acquisition, and fire control. Massed cluster and thermobaric munitions proved to have devastating effects on armored formations they attacked. Employment of electronic attack capabilities enabled Russian forces and proxies to neutralize opposing forces. Within an information context of deniability, the Russians also integrated conventional, special operations, and irregular forces to achieve their objectives.

Russian Vulnerabilities

Despite improvements in capabilities, the Russian military retains exploitable vulnerabilities. Russia's elite rapid-reaction units make up only about 25 percent of the

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total force.¹⁷ After its initial phase, the conflict in Donbas took on a different character, as many of Russia's fighting forces came from the regular Russian army. These second- and third-echelon forces lacked the high level of training and sophisticated weapons of the elite units. Some of these regular army units are remnants of the Soviet conscription system that some believe resulted in a substantially less qualified fighting force that is limited in the tactical operations that it can undertake. Furthermore, the poor morale in these conscript forces will likely hinder their utility in the close fight. Russian officers speaking off the record admit that between their training and final demobilization, most conscripts are usable for only three months. A lack of discipline resulted in careless violations of operational security (OPSEC), such as widespread images of soldiers on social media. Such indiscretions can be exploited by the West to identify, locate, and target enemy forces. Additionally, Russia's use of proxies has proven problematic, with the proxies neither fully embracing the Russian government's intent nor fulfilling its interests.

The Russians have not demonstrated the ability to perform joint fires coordination and delineation of targets in a non-permissive environment, nor have they exercised the multi-domain integration of automated C2. Moreover, despite improvements in vehicle protection, Russian armored systems remain vulnerable to top attack munitions.

The strategic mobility of the Russian military beyond its near abroad is limited in its nature and scope. Combat support and combat service support capabilities continue to lag with the dissolution of some maintenance and logistics units.¹⁸ Direct proximity either to Russia or to Russian military bases is required in order to provide sustainment to both the special forces and their local allies.¹⁹

¹⁷ (AWC Project 1704, "Analysis of Russian Strategy in Eastern Europe, an Appropriate U.S. Response, and the Implications for U.S. Landpower," pp. 58-59.

¹⁸ "C2, Combat Support and Strategic Mobility of Russia's Troops in Eastern Ukraine," OE Watch, Foreign Military Studies Office, June 2015. http://fmso.leavenworth.army.mil/OEWatch/201506/Russia_02.html

¹⁹ Racz, Andras, "Russia's Hybrid War in Ukraine: Breaking the Enemy's Ability to Resist," p. 83.

The Russian National Security Strategy emphasizes the importance of economic modernization,²⁰ although structural problems with the Russian economy such as endemic corruption and weak rule of law continue to weaken prospects for success. Large drops in central bank reserves and the effects of trade and economic sanctions on Russian high-tech inputs for military production²¹ have unavoidable effects on Russian capability development. As evidence that the economic downturn is taking its toll, in March 2016 the Russian government announced its first ever defense budget cut under President Putin, and forecast delayed delivery of several key military platforms.²²

Conclusions

The U.S. Army must demonstrate credible warfighting capability to deter by denial, and be postured to fight and win if deterrence fails. Current U.S. Army doctrine is inadequate to defeat Russian New Generation Warfare. The Starry Study began an intellectual journey that eventually led to the development of an operational concept, AirLand Battle, to guide how the U.S. Army would employ its forces in conflict. Once again, the U.S. Army must focus its intellectual efforts on the development of a new operational concept that will describe how the force will win this multi-domain battle and guide force development. This new concept must enable our forces to employ each domain's capabilities to complement the others. This multi-domain battle will present dilemmas at a pace the Russians cannot match. As Field Marshal Aleksandr Suvorov said, "Attack your enemy with weapons he does not have." Multi-Domain Battle is the weapon.

The U.S. Army must not only refine the concept of Multi-Domain Battle on an expanded battlefield in conjunction with other services, but also structure the institution to man, train, and equip the formations necessary to counter the threats posed by RNGW. Just as in the Cold War along the inner-German border, the U.S. Army must demonstrate

²⁰ President of the Russian Federation, "O strategii natsional'noi bezopasnosti Rossiskoi Federatsii [National Security Strategy of the Russian Federation]," 31 December 2015.

<http://static.kremlin.ru/media/events/files/ru/l8iXkR8XLAtxeilX7JK3XXy6Y0AsHD5v.pdf>

²¹ Mizokami, Kyle, "Russia's Military: Don't Believe the Hype," 04 January 2016,

<http://theweek.com/articles/596822/russias-military-dont-believe-hype>

²² Gorenburg, Dmitry, "Impact of the Economic Crisis," The Cipher Brief, 08 April 2016,

<https://thecipherbrief.com/article/europe/impact-economic-crisis-1090>

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credible warfighting capability without threatening an offensive response or risking a strategic miscalculation.

This study confirms actions already underway in USAREUR and the broader Army to respond to a revisionist Russia, and recommends additional actions required to address this threat and those that will seek to imitate it elsewhere on the globe. The four problems described above and the recommendations of the completed study will help Army leaders establish priorities to field the force needed to meet the demands of the battlefields of today and tomorrow.

For more information about the Russian New Generation Warfare Study, please contact the study's director, BG Peter L. Jones, at peter.l.jones6.mil@mail.mil.

