

# BACKGROUND

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## A U.S. Response to Russia's Military Modernization

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### Abstract

*Russia's military occupation and absorption of Crimea shattered the two decades of post-Cold War peace in Europe. Twenty-two years after the collapse of the Soviet Union, Russia is rebuilding its military strength and is once again rising in regional influence. In the military, economic, and political spheres, Russia is preparing to project its power across Eastern Europe, the Caucasus, Central Asia, and the North Pacific. Most notably, Russia is also beginning to bolster its geopolitical presence and military might by expanding the Collective Security Treaty Organization. Russia's resurgent assertiveness presents challenges for the U.S. and Western allies. It is vital that the Obama Administration increase intelligence gathering on Russian military modernization and strategic and tactical goals, programs, and plans. It is also crucial that U.S. military modernization continue—and that defense spending remain at 4 percent of gross domestic product.*

Twenty-two years after the collapse of the Soviet Union, Russia is rebuilding its strength and is once again rising in regional influence. In the military, economic, and political spheres, Russia is preparing to project its power across Eastern Europe, Central Asia, and the North Pacific. It is strengthening relationships in the Middle East, especially with Iran and Syria, but also with Egypt. Most notably, Russia is also beginning to bolster its geopolitical presence and military might by expanding the Collective Security Treaty Organization (CSTO)—its regional military bloc<sup>1</sup> for arms sales and military cooperation.

### KEY POINTS

- Russia's lightning military occupation and absorption of Crimea shattered the two decades of post-Cold War peace in Europe. Russia is rebuilding its military strength and is once again rising in regional influence.
- The U.S. should be mindful of Russia's return as an important international actor. Russia will increasingly affect, and at times threaten, its neighbors, and will do its best to project power into the Mediterranean and the Middle East.
- Russia's assertiveness and outright aggression present challenges for U.S. foreign and security policymakers. The U.S. needs to expand its intelligence gathering and analysis, with special focus on Russia's military operations in the Crimea and Ukraine.
- The U.S. should deploy military assets for protection of its allies in Central Europe; boost the number of U.S. military training facilities in the region; increase senior leader engagement with the former Soviet republics; commit to a speedy and robust ballistic missile defense in Europe; and enhance cybersecurity cooperation.

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The U.S. political and military leadership should be mindful of Russia's return as an important actor in international relations. Russia will increasingly affect its neighbors in Eastern and Central Europe, in the South Caucasus, and in Central Asia, and will do its best to project power into the Mediterranean and the Middle East.

Following the principles articulated in its new military and foreign policy doctrines and redefining the core of Russia's military and diplomatic strategy, Russia emphasizes its international indispensability, upholding its sovereignty, asserting claims to protect co-ethnics and Russian-speakers along its borders; and, going beyond the inviolability of its boundaries, Moscow is asserting claims to protect co-ethnics and Russian-speakers *beyond* its borders.<sup>2</sup> This assertiveness, when turning into outright aggression, presents challenges for the U.S.

The most important step that the Obama Administration can take in light of Russia's growing military power is to increase intelligence gathering on Russian military modernization and strategic and tactical goals, programs, and plans. The Administration should also pay closer attention to the dynamics of Russian technical-military cooperation with other countries (arms and military-technology sales); maintain the U.S. military budget at 4 percent of gross domestic product (GDP); continue U.S. military modernization, including the nuclear arsenal and missile defense; and expand military cooperation with NATO allies and partners, especially those in the former Soviet Union.

### **Protecting Eurasia's Core, Building Global Power**

Russia's security strategy is the pursuit of a "multipolar" world based on balance-of-power relations not unlike those that Europe experienced between the end of the Napoleonic wars and World War I. This pursuit of a balance among world powers (the

G-5 plus BRICS [Brazil, Russia, India, China, and South Africa]) is Russia's stated reason for seeking military capabilities, including a modernized nuclear triad deterrence, a powerful 21st-century ocean-faring navy, space forces, and a powerful land army.

What the Russian government does not announce publicly is the purported need to humble the United States and to keep a check on unparalleled U.S. military capability, one of the pillars of America's alleged unipolarity. Equally unstated is the pursuit of hegemony among the Soviet Union's former subjects, and creation of a 19th-century-style sphere of influence—what then-president Dmitry Medvedev referred to as a "sphere of exclusive interests" in 2008.

Russia's security strategy calls for Moscow to be an indispensable party in the settlement of regional disputes as the Syrian crisis has demonstrated, and so do regional architectures, such as the CSTO, the Eurasian Union, the Customs Union, the Unified Economic Space, and the Shanghai Cooperation Organization (SCO), in an effort to counter strategic alliances, first and foremost, NATO.<sup>3</sup>

A strong Russian military is one of the pillars of the so-called Putin doctrine, the goal of which is to recover the economic, political, and geostrategic assets lost by the Soviet state in 1991.<sup>4</sup> By means of a full tool box of state power—economic, cultural, but first and foremost, a strong military—the Kremlin seeks to dominate the Russian "near abroad": the former Soviet space. Many view this as a tool of Russian neocolonialism.<sup>5</sup>

The core of the Russian military policy is to ensure its military dominance of the vast periphery and protect its economic interests there. Currently, Russia's contribution to the CSTO surpasses that of the other members combined. The CSTO also serves to ensure a Russian monopoly on arms sales to the other members of the organization. Russia is not genuinely interested in strengthening the military potentials of other CSTO members, but in using them

1. Russia's regional military bloc consists of Russia, Armenia, Belarus, Kazakhstan, Kyrgyzstan, and Tajikistan.

2. Timothy L. Thomas, *Recasting the Red Star: Russia Forges Tradition and Technology Through Toughness* (Fort Leavenworth, KS: Foreign Military Studies Office, 2011), p. 85.

3. *Ibid.*, p. 86.

4. Leon Aron, "The Putin Doctrine," *Foreign Affairs*, March 8, 2013, <http://www.foreignaffairs.com/articles/136255/leon-aron/the-putin-doctrine> (accessed November 1, 2013).

5. A. S. Makhmutov, "Problemy chlenstva Kazakhstana v ODKB" [Problems of Kazakhstan's membership in the CSTO], Institute of World Economics and Politics, September 1, 2009, [http://2004-2010.iwep.kz/index.php?option=com\\_content&task=view&id=3627&Itemid=63](http://2004-2010.iwep.kz/index.php?option=com_content&task=view&id=3627&Itemid=63) (accessed March 18, 2013).

as a buffer zone for Russian regional ambitions. In addition, a strong Russian military facilitates anticipated counterterrorism operations, such as against the Islamic Party of Turkestan in the Fergana Valley in Central Asia, but also meddling in the internal affairs of other CSTO states, especially those with Russian military bases on their territories, such as Armenia, Georgia, Kyrgyzstan, and Tajikistan.

A strong military is also the cornerstone of Russia's international standing, of its territorial integrity, and its survival as a country. "The weak are beaten," Vladimir Putin famously said after the 2004 Beslan hostage-taking operation by North Caucasus Islamist terrorists.<sup>6</sup> Such statements of the Russian leadership demonstrate the continuous sense of threat in the Kremlin. Aleksey Arbatov, a scholar at the Carnegie Moscow Center's Nonproliferation Program, explains that Russia has lost a leading role if measured by criteria of national power (with the exception of the nuclear arsenal, territory, and natural resources).<sup>7</sup>

The Russian (and Soviet) logic posits that a strong military is vital for acceptance of a country as an equal international partner to the U.S. The general feeling in Moscow is that due to the 2008 Five-Day War with Georgia, Russia is taken more seriously. In this regard, the war is Russia's international victory,<sup>8</sup> and so may be the Syrian chemical disarmament initiative—if it is successful and facilitates a settlement.

Nevertheless, Russia is currently relying on its nuclear arsenal to ensure its invincibility against any kind of enemy. The arsenal provides Russia with an umbrella under which it can develop convention-

al forces without having to rush. While its nuclear deterrent is necessary to protect Russia from a large-scale attack, a modern and flexible military is necessary to be able to fight local wars, such as the one in Georgia in 2008, and also to be ready to conduct peacekeeping missions, such as in Transnistria, or a proposed U.N. permanent peacekeeping contingent in the Golan Heights.<sup>9</sup>

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## A strong Russian military is one of the pillars of the so-called Putin doctrine, the goal of which is to recover the economic, political, and geostrategic assets lost by the Soviet state in 1991.

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Russia's military policy is driven by its leadership's geostrategic views: how they view regional and global threats and the strategies needed to counter them.<sup>10</sup> This method requires a clear vision of the country's geostrategic interests and finding a path to achieve them in the highly competitive global environment.

The following are the factors driving Russia's geostrategic policy:

- **Revenge for the defeat in the Cold War.** Russia indoctrinates its population and its allies with anti-Western views, and supports states that hold anti-Western sentiments.

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6. "Putin: My proyavili slabost, a slabykh byut" [Putin: We showed weakness, and the weak are beaten], Lenta.Ru, September 4, 2004, <http://lenta.ru/russia/2004/09/04/putin/> (accessed November 1, 2013).

7. Aleksey Arbatov, "Ugrozy realnyye i mnimyye: Voennaya sila v mirovoy politike nachala XXI veka" [Real and imaginary challenges: Military power in the world politics of the beginning of the 21st century], Moscow Carnegie Center, March 3, 2013, <http://carnegie.ru/2013/03/03/%D1%83%D0%B3%D1%80%D0%BE%D0%B7%D1%8B-%D1%80%D0%B5%D0%B0%D0%BB%D1%8C%D0%BD%D1%8B%D0%B5-%D0%B8-%D0%BC%D0%BD%D0%B8%D0%BC%D1%8B%D0%B5-%D0%B2%D0%BE%D0%B5%D0%BD%D0%BD%D0%B0%D1%8F-%D1%81%D0%B8%D0%BB%D0%B0-%D0%B2-%D0%BC%D0%B8%D1%80%D0%BE%D0%B2%D0%BE%D0%B9-%D0%BF%D0%BE%D0%BB%D0%B8%D1%82%D0%B8%D0%BA%D0%B5-%D0%BD%D0%B0%D1%87%D0%B0%D0%BB%D0%B0-xxi-%D0%B2%D0%B5%D0%BA%D0%B0/fpmv#> (accessed November 1, 2013).

8. Ariel Cohen and Robert Hamilton, "The Russian Military and the Georgia War: Lessons and Implications," Strategic Studies Institute, U.S. Army War College, June 2011, <http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB1069.pdf> (accessed November 1, 2013).

9. Aleksey Arbatov, "Beskonechnaya dilemma: prizyv — kontrakt" [A never-ending dilemma: Conscription versus contract], Carnegie Endowment for International Peace, April 5, 2013, <http://carnegieendowment.org/2013/04/05/%D0%B1%D0%B5%D1%81%D0%BA%D0%BE%D0%BD%D0%B5%D1%87%D0%BD%D0%B0%D1%8F-%D0%B4%D0%B8%D0%BB%D0%B5%D0%BC%D0%BC%D0%B0-%D0%BF%D1%80%D0%B8%D0%B7%D1%8B%D0%B2-%D0%BA%D0%BE%D0%BD%D1%82%D1%80%D0%B0%D0%BA%D1%82/g13b> (accessed November 1, 2013).

10. Thomas, *Recasting the Red Star*, p. 93.

- **Multipolarity**, which substantiates Russia's main policy of pursuing a global strategy of multilateral international relations.<sup>11</sup>
- **Rejection, by the regime and significant parts of the elite, of emulation of the West**—religiously, politically, and culturally. New isolationism facilitates greater authoritarianism.
- **Shaping of Russian geo-strategy** through a selective choice of partners on specific issues.
- **Strategic deterrence:** political, diplomatic, informational, economic, and military measures aimed at deterring, reducing, and preventing threats and aggression from outside states.

Russian military theorists believe that their country's military and industrial base is weaker than the West's, and is in danger of being outpaced by China, too. Thus, Russia must "out think" them. While behind the curve in modern weapons and development and systems integration, Russia is simultaneously claiming "asymmetric warfare" and striving to build strategic systems equal to or surpassing those of the U.S. and the Western allies, such as a new generation of intercontinental ballistic missiles (ICBMs) and nuclear submarine-launched ballistic missile (SLBM)-carrying submarines. (For more detailed information on the capabilities of selected new Russian weaponry, see the Appendix.)

Since Putin's accession to power in 1999, the Russian leadership has been instilling a disturbing "militarization mind-set" in the Russian citizenry. This militarization is conducted through the Soviet-style military training in high school, refusing to eliminate the draft despite its inefficiency and lack of popularity, boosting "military departments" at universities (like an anti-American version of ROTC programs on U.S. college campuses), military TV channels and propaganda TV programs aired on state-owned channels, a government-paid army of

"patriotic" anti-American bloggers, and state support for close ties between the Russian Orthodox Church and the military.<sup>12</sup>

An important element in the conscription system is "military departments" at Russian universities. From 2005 to 2008, military departments underwent a reform, with only 68 of the original 226 departments remaining.<sup>13</sup> Currently, the alumni of these military departments are not conscripted as privates, but instead are given officer commissions, with an option to sign a service contract or remain in the reserve. These draft-exempting options put military departments in high demand among college students. The steady diet of anti-Americanism is a part of these departments' routine.

The Russian leadership is engaged in full-spectrum information operations, both domestically and internationally. Anti-Western, especially anti-American, propaganda also gets a fair amount of television time on the state-owned channels, including "Anatomy of Protest" aired in 2012 on Gazprom-controlled NTV. The program claimed that U.S. diplomats organized the 2011–2012 protests against rigged parliamentary and tainted presidential elections<sup>14</sup> and accused the U.S. government of financing the Russian opposition despite the economic crisis in the United States. Russian propagandists claimed that the U.S. attempted to oust Putin by inspiring a revolution, akin to those in Georgia, Ukraine ("The Colored Revolutions"), and in the Middle East ("The Arab Spring"). Similar programs regularly aired on Russian TV also accuse the U.S. and the U.K. of never-ending attempts to overthrow the Russian government and divide the motherland into a series of small and weak states, loyal to selfish Western interests. This is not, by any stretch, legitimate documentary film work, but conditioning and brainwashing to justify high military expenses and the atmosphere of "besieged fortress" useful for political control. What such propaganda neglects to highlight are the real and immediate threats to Russia's security, which come from its neighbors.

11. Thomas, *Recasting the Red Star*, p. 29.

12. "Washington Post: Avtoritarizm zavedyot Rossiyu v yegipetskiy tupik" [Washington Post: Authoritarianism will lead Russia to an Egypt-like impasse], RT, August 19, 2013, <http://inotv.rt.com/2013-08-19/Washington-Post-Avtoritarizm-zavedet-Rossiyu> (accessed November 1, 2013).

13. Vladimir Svartsevich, "Voennyye kafedry: elita i kontraktniki" [Military departments: The elite and the Kontraktniki], *Argumenty i Fakty*, [http://gazeta.aif.ru/\\_/online/aif/1298/08\\_01](http://gazeta.aif.ru/_/online/aif/1298/08_01) (accessed November 1, 2013).

14. "Rassledovaniye: AnATOMiya protesta" [Investigation: The anatomy of protest], NTV, 2012, [http://www.youtube.com/watch?v=3tEb\\_16dxRE](http://www.youtube.com/watch?v=3tEb_16dxRE) (accessed November 1, 2013).

**Russia's Complex Neighborhood.** Geographically, one can divide the threats to Russia into four theaters: (1) China/East Asia; (2) Central Asia, including Afghanistan; (3) Turkey/the North and South Caucasus; (4) and Europe. While China and Europe currently pose a low geopolitical risk, Central Asia is unstable internally and may become much more so after U.S. troops leave Afghanistan in 2014 and 2015. The Caucasus also remains unstable due to expansion of radical Shia Islam from Iran to Azerbaijan, penetration of Salafi/Wahhabi ideology from the Gulf States to the North Caucasus, and because of several unresolved conflicts in the region.

NATO was the main adversary during the Cold War, and its expansion eastward is considered a threat even today, despite its changed mission after the fall of Communism in Eastern Europe and the breakup of the Warsaw Pact. China, despite military cooperation and a number of common interests with Russia, is by far the top long-term threat. Thus, the ruling Russian elites promote the narrative of their country being besieged by potential enemies and threats of various levels of seriousness, which serves as a powerful motivation for the Russian leadership to conduct military reforms—and for the Russian population to support them. Building up the new armed services for the 21st century has become a top priority for the third Putin administration.

### **Russian Military-Industrial Complex: Problems and Potential**

Russia is clearly aware of its own military weakness. The Kremlin recognizes that its military-industrial complex trails the West in a number of key platform characteristics: computers; communications; space and other key technologies,<sup>15</sup> such as radio and microelectronics;<sup>16</sup> and that Russia's C4ISR<sup>17</sup> is often problematic at best. Nikolay Makarov, then-chief of

the General Staff of the Armed Forces of Russia, said in March 2011 that Russia's science and military are hopelessly behind Western countries: "For the last two decades, we have been unable to raise the military to a modern level.... While the rest of the world was busy developing space technologies, information systems and massively buying weapons, we kept relying on an army of mass mobilization and purchases of obsolete military equipment."<sup>18</sup>

The Russian leadership believes that over the two decades they were trying to reform their military, they have not achieved the desired results in troops interoperability, communications, night fighting, and deployment of modern high-tech systems. While the reforms have improved Russia's military performance somewhat, as demonstrated by action in Georgia (2008) and Crimea (2014),<sup>19</sup> Russia failed to catch up with the United States. The ongoing and often problematic military reform makes Russian decision makers worry—as they did 150 and 100 years ago, when the Russian military had been defeated by the French and British in the Crimean War (1854–1855); by the Japanese Empire in 1904 and 1905; and by Germany between 1914 and 1918.

Russian leaders are concerned about U.S. military superiority and the progress of China's military over the long term. They are worried about non-state strategic threats, such as radical Islamists, both domestic and in Central Asia. To counter these threats, the Russian government has appropriated 22 trillion rubles (\$730 billion) over the next decade for modernization of the Russian military. Of that amount, roughly \$650 billion will be spent on new equipment.<sup>20</sup> This grand procurement and restructuring program includes 100 new naval vessels, 600 new warplanes, and 1,000 new helicopters, to be delivered by the year 2020.

15. "Voennaya elektronika v RF otstayot ot inostrannoy na 5-12 let-Rogozin" [Military electronics falls behind foreign one by 5-12 years], RIA Novosti, April 23, 2012, [http://ria.ru/defense\\_safety/20120423/632699832.html](http://ria.ru/defense_safety/20120423/632699832.html) (accessed November 1, 2013).

16. "Rogozin: Voennaya elektronika v Rossii otstayot ot zapadnoy na 5-12 let" [Rogozin: Military electronics falls behind foreign one by 5-12 years], Argumenty i Fakty, April 23, 2012, <http://www.aif.ru/society/army/274917> (accessed November 1, 2013).

17. Command, control, communications, computers, intelligence, surveillance, and reconnaissance.

18. "Genshtab: Rossiya opozdala s armeyskoy reformoy na 20 let, primer brat' nado s NATO" [The General Staff of the Armed Forces of the Russian Federation: Russia has fallen behind with its military reform. NATO is an example to follow], Newsru.com, March 28, 2011, <http://www.newsru.com/russia/28mar2011/army.html> (accessed November 1, 2013).

19. Ariel Cohen and Col. Robert Hamilton, "The Russian Military and the Georgia War: Lessons and Implications," U.S. Army War College, Strategic Studies Institute, 2011, <http://www.strategicstudiesinstitute.army.mil/pubs/summary.cfm?q=1069> (accessed March 18, 2014).

20. RT News, "Russia's Military Spending Soars," February 25, 2011, <http://rt.com/news/military-budget-russia-2020/> (accessed July 20, 2013).

According to Putin, “Geopolitical developments call for our response to be well calculated and quick, [and] the Russian armed forces must move to a dramatically new level of capabilities as soon as the next three to five years.”<sup>21</sup>

The Russian military suffers from a lack of qualified personnel that would be able to efficiently use new military technology, which the military is procuring as part of its modernization. Defense Minister Sergey Shoygu plans to reform the assignment of conscripts and contract-based soldiers, as it is not feasible to train conscripts who serve one year to operate the sophisticated military technology with which Russia is now equipping its military.<sup>22</sup>

**Military Expansion and Deployment.** As many of the Russian army’s weapons systems date back to the Soviet era and are insufficiently modernized or altogether obsolescent, the arms procurement program mandates an 11 percent annual upgrade of weapons systems,<sup>23</sup> and allocates \$60 billion a year to modernizing its armaments (compared to U.S. spending of \$170 billion per year before the most recent cuts were announced).<sup>24</sup>

Modernized weapons and equipment in the Russian Armed Forces are projected to increase to 30 percent of the total by the year 2015, and, ultimately, to 70 percent in 2020. In June 2013, the Russian Defense Ministry signed 737 billion rubles (\$22.5 billion) worth of contracts as a part of its arms procurement program for 2013.<sup>25</sup>

This ambitious work is based on the governmental armament program for 2011 to 2020. According to the plan, strategic nuclear forces are the main beneficia-

ry of modernization. Other priorities include modern air defense, communications, control, and reconnaissance systems, and to start the production of fifth-generation fighter planes and other modern aircraft.<sup>26</sup>

The plan to purchase new arms between 2011 and 2020 is a closely coordinated goal to overhaul the Russian military by 50 percent in most areas, and by 90 percent in those sectors considered top priorities by Putin.

According to Vladislav Putilin, the deputy head of Russia’s Military Industrial Commission, the goal over the next three years is to invest nearly 1 trillion rubles (\$31 billion) on new arms.<sup>27</sup> Specifically, the government will buy over 30 Iskander missile systems, 48 combat planes, six drones, over 60 helicopters, 14 warships, and 300 tanks with these funds. (For more detailed information on the capabilities of selected Russian weaponry, see the Appendix.) According to the Defense Ministry, this will satisfy 100 percent of the short-term modernization demand for a new Russian military: “The overall volume of the state armament program is 21.5 trillion rubles. The Defense Ministry will provide 19.5 trillion rubles. The rest will be provided by other ministries and agencies,” former defense minister and presidential chief of staff Sergey Ivanov said.<sup>28</sup>

As oil prices skyrocketed, the Russian military budget doubled between 2006 and 2009, from \$25 billion to \$50 billion. While the amount spent officially is not even a tenth of the U.S. defense budget, which averages around \$600 billion per year,<sup>29</sup> many Russian military, R&D, and procurement expenses remain off the books, as was the case in Soviet times.

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21. Nataliya Vasilyeva, “Russian Army Upgrade: Putin Calls for Dramatic Military Update,” *The Huffington Post*, February 27, 2013, [http://www.huffingtonpost.com/2013/02/27/russia-army-upgrade\\_n\\_2773633.html](http://www.huffingtonpost.com/2013/02/27/russia-army-upgrade_n_2773633.html) (accessed July 5, 2013).
  22. “Shoygu nashel akhillesovu pyatu rossiyskoy armii” [Shoygu has found the Achilles heel of the Russian military], KM, July 26, 2013, <http://www.km.ru/v-rossii/2013/07/26/vladimir-putin/716706-shoigu-nashel-akhillesovu-pyatu-rossiiskoi-armii> (accessed November 1, 2013).
  23. “Rossiya ne budet narashchivat yadernye sily” [Russia will not build up its nuclear forces], Dni.Ru, March 5, 2010, <http://www.dni.ru/polit/2010/3/5/186837.html> (accessed November 1, 2013).
  24. Paul D. Shinkman, “Massive Budget Cuts Would Redefine U.S. Military,” *U.S. News & World Report*, February 24, 2014, <http://www.usnews.com/news/articles/2014/02/24/pentagons-massive-budget-cuts-would-redefine-the-us-military> (accessed March 19, 2014).
  25. Globalsecurity, “Russian Military Budget,” 2013, <http://www.globalsecurity.org/military/world/russia/mo-budget.htm> (accessed July 5, 2013).
  26. Walter Hickey, “A Full Rundown of Russia’s Immense Military Acquisitions,” *Business Insider*, July 23, 2012, <http://www.businessinsider.com/a-full-rundown-of-russias-military-might-and-future-2012-7?op=1#ixzz2ZH5THKGy> (accessed July 5, 2013).
  27. “Gosoboronzakaz na blizhayshiy tri goda sostavit 4 trilliona rubley” [The government military procurement is to amount 4 trillion rubles], Lenta.Ru, December 22, 2008, <http://lenta.ru/news/2008/12/22/putilin/> (accessed November 1, 2013).
  28. “Na razvitie rossiyskogo OPK reshili napravit 3 trilliona rubley” [It was decided to allocate 3 trillion rubles to developing Russian defense industry], KM.Ru, March 21, 2011, <http://www.km.ru/news/na-razvitie-rossiiskogo-opk-reshili-napravit-3-trilliona-rublei> (accessed November 1, 2013).
  29. Hickey, “A Full Rundown of Russia’s Immense Military Acquisitions.”

Thus, the official military procurement figures provide a very limited picture.

According to the Jamestown Foundation, there are concerns and complaints over the increased secrecy of the new 2014–2016 defense budget prepared by the Defense Ministry under Shoygu.<sup>30</sup> However, even the disclosed information suggests that the military may start suffering from fuel and lubricant shortages due to spending cuts on fuel. That is likely to lead to reduction of flying hours for pilots and fewer military exercises.

**Corruption Corroding the Military.** The battle against corruption in the military peaked when President Putin fired his close ally Anatoly Serdyukov, the defense minister, in late October 2012. This move was unexpected, given that Putin is usually hesitant to purge his close allies. Putin's spokesman Dmitri Peskov said that the removal of Serdyukov was necessary for permitting the police to move forward with their investigation of unlawful activity in the Russian Defense Ministry, which, Peskov noted, would be an impossibility if Serdyukov continued as defense minister.<sup>31</sup>

However, only mid-level officials can be expected to get real sentences in the Oboronservis scandal,<sup>32</sup> not top-level officials, such as Minister Serdyukov, and his protégés. In October 2012, a series of searches was conducted in the Oboronservis holding. The largest was the search of the apartment of Yevgenia Vasilyeva, then head of the ministry's department of

real estate. The police seized jewelry and 3 billion Russian rubles (around \$90 million) in cash. However, Vasilyeva is unlikely to be sentenced and go to prison, because of her close relations with Serdyukov.<sup>33</sup> As *The New York Times* notes, the police that raided Vasilyeva's apartment at an early hour found Serdyukov there in slippers and a bathrobe.<sup>34</sup>

The Defense Ministry corruption affair has led to 25 indictments. For instance, Boris Miroshnikov, a retired general, was sentenced to 3.5 years in prison in exchange for testifying against another woman indicted in the scandal, Yekaterina Smetanova, wife of Maxim Zakutailo, who is a former head of a Moscow air force depot.<sup>35</sup> Serdyukov himself was only a witness in the process; no indictment has been filed against him. According to Russian sources, the investigators had enough evidence to indict Serdyukov himself, but were explicitly told to stop pursuing any charges.<sup>36</sup> A slight majority of the Russian society (56 percent) viewed Serdyukov's ouster as a positive step.

Another problem is that the majority of general officers and Ministry of Defense officials engage in side businesses and own expensive property not commensurate with their income, which raises the well-founded suspicions of corruption. Many are reportedly very wealthy. These practices were tolerated until Putin signed new legislation in May 2013,<sup>37</sup> which orders senior officials, including senators, ministers, and members of the Duma to choose between their own business and foreign assets and their govern-

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30. Roger McDermott, "Shoigu Opts for Mystical Defense Plans (Part One)," The Jamestown Foundation, October 29, 2013, [http://www.jamestown.org/regions/russia/single/?tx\\_ttnews\[tt\\_news\]=41544&tx\\_ttnews\[backPid\]=48&cHash=40797bcd8ba3f754802a805d099464b7#.UnPywhCE6So](http://www.jamestown.org/regions/russia/single/?tx_ttnews[tt_news]=41544&tx_ttnews[backPid]=48&cHash=40797bcd8ba3f754802a805d099464b7#.UnPywhCE6So) (accessed November 1, 2013).
  31. Andrew Kramer, "Putin Ousts Defense Chief, Longtime Ally," *The New York Times*, November 6, 2012, <http://www.nytimes.com/2012/11/07/world/europe/putin-dismisses-russian-defense-minister.html?pagewanted=all&r=0> (accessed July 11, 2013).
  32. Oboronservis is a commercial organization, established in 2008 by a presidential decree. The Russian media exposed massive corruption in the organization closely managed by Serdyukov's intimate associates. Its purpose is to free military personnel from doing non-military and other housekeeping work.
  33. "Serdyukov provoyl noch s Vasilyevoy" [Serdyukov spent a night with Vasilyeva], Dni.Ru, December 13, 2012, <http://dni.ru/society/2012/12/13/245152.html> (accessed November 1, 2013).
  34. Kramer, "Putin Ousts Defense Chief, Longtime Ally."
  35. "Korrupsiya na Dozhde: Serdyukovu v Chekhii ne povezlo by" [Corruption in TVRain: Serdyukov would have bad luck in the Czech Republic], TVRain, June 20, 2013, [http://tvrain.ru/articles/korrupsiya\\_na\\_dozhde\\_serdyukovu\\_v\\_chehii\\_ne\\_povezlo\\_by-346153/](http://tvrain.ru/articles/korrupsiya_na_dozhde_serdyukovu_v_chehii_ne_povezlo_by-346153/) (accessed November 1, 2013).
  36. Sergey Smirnov and Zhanna Ulyanova, "Korrupsiya derzhit oboronu" [Corruption is holding a line], *Gazeta.Ru*, November 20, 2012, [http://www.gazeta.ru/politics/2012/11/20\\_a\\_4860633.shtml](http://www.gazeta.ru/politics/2012/11/20_a_4860633.shtml) (accessed November 1, 2013).
  37. Law "On the Prohibition of Certain Categories of Persons to Open or Possess Bank Accounts, to Keep Available Funds and Valuables in Foreign Banks, Located outside the Territory of the Russian Federation, and to Possess and (or) Use Foreign Financial Instruments," adopted on May 7, 2013, <http://www.rg.ru/2013/05/14/zapret-dok.html> (accessed November 1, 2013).

ment service.<sup>38</sup> Soon after Serdyukov's firing, Putin appointed the popular Sergey Shoygu, Russia's Minister of Emergency Situations (equivalent to the Federal Emergency Management Agency in the U.S.), as the country's new defense minister.

Furthermore, the RIA Novosti news agency has issued an astonishing report on mass corruption in the Russian military. The report, quoting the Prosecutor General's Office, states that the cost of corruption uncovered in the Russian Armed Forces in 2013 has soared 450 percent to over 4.4 billion rubles (\$130 million).<sup>39</sup> The amount of money reportedly laundered or embezzled escalated by 50 percent in 2013. Every fifth crime in the military is corruption-related.<sup>40</sup>

The Prosecutor General's office has reported that eliminating the military's non-essential functions and moving to subcontracting with civilian companies and providers, from food preparation to medical services, will save billions of rubles.<sup>41</sup> James Miller, one of the most astute observers of Russian crime, writes that corruption in Russia is prosecuted mostly when it is "politically convenient, or when the accused are politically at odds with the current leadership."<sup>42</sup>

Firing, then amnestying, but not jailing or prosecuting, Serdyukov<sup>43</sup> has sent the wrong signal: that Serdyukov and his cronies are too politically connected to be sent to jail. Lacking a systemic anti-corruption policy, there are no guarantees that the Defense Minister Sergei Shoygu has better chances of battling corruption than his predecessor.<sup>44</sup> Yet, Shoygu needs

to face other challenges, such as personnel shortages and conscripts' and officers' poor qualifications.

**The Shrinking Personnel Base.** In 1988, the Soviet Union had a standing military of two million men, the majority of them conscripts. Since then, military personnel have been reduced to about 800,000, and Defense Minister Shoygu wants recruitment to go up to 50,000 new contract personnel per year. His goal is to recruit 425,000 new professional ("contract") soldiers by 2017. It is questionable whether this goal is achievable. First, the percentage of conscripts that are unfit for service is rising. While at the end of 2007 the percentage of suitable recruits was at 70.4 percent, by the end of 2009 it was already down to 68.4 percent.<sup>45</sup> Second, due to the sharp decline in the birthrate in the early 1990s, it will not be possible to recruit as many conscripts as it was until now. Third, there is a lack of patriotism among some conscripts, especially North Caucasian Muslims. In addition, minorities from the North Caucasus constitute around 20 percent of the current Russian military personnel, reportedly contributing to bullying, crime, and other problems in the military.<sup>46</sup> This number is expected to rise even higher in the future, mainly due to a higher birthrate among Russian Muslims from the North Caucasus.<sup>47</sup>

Thus, the Federal Targeted Program of Transition, the Defense Ministry's 2004–2007 attempt to transform the military to a professional contract-based military, failed. While the goal was to bring

38. RIA Novosti, "Senate Starts Summer Break Amid Resignations Over Foreign Asset Rules," July 15, 2013, <http://www.themoscowtimes.com/business/article/senators-choose-business-or-power/483169.html> (accessed July 17, 2013).

39. RIA Novosti, "Corruption up 450% in a Year in Russian Military-Prosecutors," July 11, 2013, <http://en.ria.ru/crime/20130711/182183954/Corruption-up-450-in-a-Year-in-Russian-Forces--Prosecutors.html> (accessed July 17, 2013).

40. Ibid.

41. Ibid.

42. James Miller, "Growing Corruption in the Russian Military," *The Interpreter*, July 15, 2012, <http://www.interpretermag.com/growing-corruption-in-the-russian-military/> (accessed July 19, 2013).

43. "Former Defense Minister Serdyukov Amnestied, Report Says," *The Moscow Times*, March 7, 2014, <http://www.themoscowtimes.com/news/article/former-defense-minister-serdyukov-amnestied-report-says/495764.html> (accessed March 19, 2014).

44. Ibid.

45. Mikhail Barabanov, Konstantin Makienko, and Ruslan Pukhov, "Military Reform: Toward the New Look of the Russian Army," Valdai Discussion Club, July 2012, p. 14, [http://vid1.rian.ru/ig/valdai/Military\\_reform\\_eng.pdf](http://vid1.rian.ru/ig/valdai/Military_reform_eng.pdf) (accessed July 6, 2013).

46. "Pyataya chast armii Rossii ispoveduyet islam" [One-fifth of the Russian military professes Islam], Islamnews.Ru, February 28, 2013, <http://www.islamnews.ru/news-138598.html> (accessed November 1, 2013).

47. Grzegorz Janiszewski, "Muzułmanie zdominują rosyjską armię?" [Will Muslims dominate the Russian military?], *Polska Zbrojna*, April 14, 2011, <http://konflikty.wp.pl/kat,1020223,title,Muzulmanie-zdominuja-rosyjska-armie,wid,13314341,wiadomosc.html?icaid=11144d> (accessed November 1, 2013).



the number of contracted personnel in the armed forces up to 400,000, in 2009, the actual number of contract soldiers was 190,000. This was due to a lack of professional recruiters, low educational levels, and poor health of available personnel. This challenge can be solved only by attracting more volunteers, while keeping the numbers of recruits high. In the absence of a large pool of recruits, the Russian military has to rely on its nuclear deterrent.

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## Putin has no intention of reducing Russia's nuclear arsenal; on the contrary, he seeks to add 400 new ICBMs and SLBMs during the 10-year modernization plan.

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**The Nuclear Deterrent: Strategic Nuclear Forces.** The defense ministry states that the new structure of the armed forces is being created with the intent of increased flexibility, mobility, and readiness for combat in limited-scale conflicts. Strategic Rocket Forces are the first line of defense (and offense) against Russia's great power counterparts.<sup>48</sup> Russia reported 1,400 warheads on 473 deployed strategic launchers,<sup>49</sup> and over 2,300 strategic weapons on non-deployed strategic launchers.<sup>50</sup> Russia also has over 4,000 non-strategic nuclear weapons. Some estimates for tactical nuclear weapons are as high as 8,500.<sup>51</sup> These include bombs, torpedoes, depth charges, warheads

for the SS-21 Tochka and SS-26 Iskander sort-range ballistic missiles, and warheads for the A-135 and S-300 antiballistic missile systems.<sup>52</sup> This brings the total Russian nuclear stockpile to a low estimate of 6,500 active nuclear weapons.<sup>53</sup>

Russia reduced the number of test launches from two to one in 2013 for the problem-ridden R-30 (SS-NX-32) Bulava SLBM.<sup>54</sup>

Russia has two strategies of nuclear deterrence: The first is based on a threat of massive launch-on-warning and retaliatory strikes to deter a nuclear attack; the second is based on a threat of limited demonstration and de-escalation strikes to deter and terminate a large-scale conventional war—essentially, warfighting.<sup>55</sup> Russia's emphasis on nuclear deterrence of potential threats to its sovereignty can be explained by the lower cost of the nuclear deterrent.

Russia is modernizing its strategic nuclear weapons arsenal with new SLBMs and ICBMs capable of carrying 10 to 15 warheads. In particular, Russia has developed a new ICBM designated as Yars-M. This model is based on Topol-M, but is capable of carrying three to four nuclear warheads<sup>56</sup> to the effective range of over 10,000 kilometers. (For more detailed information on the capabilities of selected Russian weaponry, see the Appendix.) Russia is also enhancing the reliability of its new generation of low-yield tactical/theater nuclear weapons.<sup>57</sup>

Russia's Strategic Rocket Forces have fielded an 18-launcher division of the RS-24 (SS-29) Yars ICBMs, designed to penetrate U.S. missile defenses.<sup>58</sup> Putin has no intention of reducing Russia's

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48. Barabanov, Makienko, and Pukhov, "Military Reform," p. 14.

49. U.S. Department of State, "New START Treaty Aggregate Numbers of Strategic Offensive Arms," October 1, 2013, <http://www.state.gov/t/avc/rls/215000.htm> (accessed November 1, 2013).

50. The Center for Strategic Budgetary Analysis, "Nuclear Conventional Firebreaks and the Nuclear Taboo," April 18, 2013, p. 34, <http://www.csbaonline.org/wp-content/uploads/2013/04/Nuclear-Conventional-Firebreaks-Report.pdf> (accessed July 9, 2013).

51. News release, "Nuclear Force Reductions and Modernizations Continue; Drop in Peacekeeping Troops; No Progress in Cluster Munitions Control—New SIPRI Yearbook Out Now," Stockholm International Peace Research Institute, June 3, 2013, [http://www.sipri.org/media/pressreleases/2013/YBlaunch\\_2013](http://www.sipri.org/media/pressreleases/2013/YBlaunch_2013) (accessed November 1, 2013).

52. The Center for Strategic Budgetary Analysis, "Nuclear Conventional Firebreaks and the Nuclear Taboo," p. 34.

53. *Ibid.*, p. 36.

54. David C. Isby, "Only One Bulava Launch Prepared for 2013," *Jane's Defense Weekly*, July 28, 2013, <http://www.janes.com/article/25134/only-one-bulava-launch-planned-for-2013> (accessed July 11, 2013).

55. The Center for Strategic Budgetary Analysis, "Nuclear Conventional Firebreaks and the Nuclear Taboo," p. 20.

56. "Rakety 'Yars-M' postupyat na vooruzhenie RVSN do kontsa 2013 goda" ["Yars-M' rockets to come to the armament of the RVSN before the end of 2013], *Rossiyskaya Gazeta*, April 18, 2013, <http://www.rg.ru/2013/04/18/raketa-anons.html> (accessed November 1, 2013).

57. The Center for Strategic Budgetary Analysis, "Nuclear Conventional Firebreaks and the Nuclear Taboo," p. 42.

58. *Ibid.*, p. 50.

nuclear arsenal; on the contrary, he seeks to add 400 new ICBMs and SLBMs during the decade-long modernization plan.<sup>59</sup> Russia sees its nuclear arsenal as one of the principal guarantors of its security and global power.<sup>60</sup>

### Russia's Potential Weaknesses

Will Russia be able to afford its lofty goals of military modernization? As the Russian leadership floods its military with hundreds of billions of dollars, it seems to be forgetting the overall state of the national economy. Such a distortion could prove detrimental to the federal budget. The tilt toward weapons modernization also comes at the expense of soldiers' service benefits, including housing.

Two years into the 10-year military modernization, a majority of analysts believe that Russia will run out of funds. According to the Valdai Club 2012 Report on the Russian military modernization, the program is too burdensome:

Obviously, this [modernization] places quite a high burden on the relatively small and weak Russian economy. We can assume that after 2013, implementing all the commitments to raising wages for servicemen, re-equipping the Army and intensifying their combat training will require increasing the percentage share of the GDP spent on the military to 4% or even higher. This is the maximum permissible level of military spending—anything higher would have a detrimental effect on Russia's economy. Even a prolonged period of 4% military spending is highly undesirable in a country that requires a radical overhaul of its [civilian] infrastructure, healthcare and education.<sup>61</sup>

Essentially, a comprehensive downsizing of primary services like health care and education would be necessary to ensure proper funding levels for the

military, and to prevent budget deficits and state debt levels from skyrocketing. The Russian government already announced that it will cut social spending, including on education and basic scientific research. Yet, President Putin and his stalwarts will continue his efforts to overhaul the military and modernize its forces. Cyber capability is one of the novel offensive capabilities they are seeking—and threats they are facing.

**Cyber Attacks.** A part of the ongoing modernization is a significant investment in cybersecurity. Nikolai Patrushev, Russia's Security Council Secretary, has announced that the websites of President Putin and the two chambers of parliament have been swarmed with about 10,000 cyber attacks each day since February 2013. As a result of these virtual assaults, the Russian Interior Ministry will invest \$1.3 million to develop a security system designed to thwart potential cyber attacks on its computer networks.<sup>62</sup>

Recently, the Kaspersky Lab, a leading international computer security company based in Russia, detected a major virus known as Red October. This very complex malicious software concentrated on the extraction and destruction of "diplomatic, governmental and scientific research institutions in Eastern Europe and former Soviet republics."<sup>63</sup> Based on the language in the source code, the virus is likely coming from a Russian-speaking environment.<sup>64</sup>

President Putin recently instructed the Federal Security Service (FSB) secret service to increase cybersecurity activity. Moreover, Putin has deployed the FSB offensively—to go after "secessionists" and opponents of Russia-centric integration in the post-Soviet space. His announcement was instantaneously developed into an official presidential order. Kaspersky Labs has joined forces with the FSB to fight cyber crime.<sup>65</sup>

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59. Ibid.

60. Ibid., p. 42.

61. Barabanov, Makienko, and Pukhov, "Military Reform," p. 14.

62. RIA Novosti, "Russian Police Plan to Spend \$1.3 million on Cyber Defense," April 15, 2013, <http://en.ria.ru/russia/20130415/180654663.html> (accessed July 21, 2013).

63. RIA Novosti, "Russian Military Wants Young Computer Programmers," July 4, 2013, [http://en.rian.ru/military\\_news/20130704/182054290.html](http://en.rian.ru/military_news/20130704/182054290.html) (accessed July 21, 2013).

64. Sultan Suleymanov, "Krugom odni shpiony" [There are spies all around us], Lenta.Ru, June 6, 2013, <http://lenta.ru/articles/2013/06/05/spies/> (accessed November 1, 2013).

65. RIA Novosti, "FBS to Beef Up Cyber Defense," July 4, 2013, <http://en.rian.ru/crime/20130121/178918058.html> (accessed July 22, 2013).

As President Putin noted in late May: “[W]e need to be prepared to effectively ward off threats to informational networks ... first and foremost for strategic and critically important installations,” warning that the effects of one or several cyber attacks could be far more crippling than a conventional enemy assault.<sup>66</sup>

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## Russia is actively modernizing its nuclear arsenal while the U.S. is letting its invaluable deterrent deteriorate.

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Russia still boasts high-quality personnel in both the hacking and cybersecurity areas. The Russian military has begun to heavily recruit the best computer programmers from top schools, including the prestigious Bauman Moscow State Technical University, the Moscow Institute of Physics and Technology (MFTI), and Moscow State University. At times, however, Russian countermeasures seem like overkill: The Russian media reported, for instance, that some offices in the presidential administration and secret services got rid of computers altogether and re-introduced “dumb” electric typewriters.<sup>67</sup>

### Russia’s 21st-Century Challenge to the U.S. and NATO

The modernization of the Russian military has important implications for U.S. military readiness, force structure, and military posture in the Central Command, European Command, and Pacific Command. The growing Russian interests in the Middle East and the republics of the former Soviet Union affect American forces and allies. However, U.S. intelligence capabilities have been committed for the past 12 years to the Middle East and Afghanistan. Today, they are being refocused in line with the Asian “pivot.” Intelligence collection and overwhelming military power in the theaters abutting Russia may be reduced.

It will be unwise to downgrade Russia to a secondary priority in terms of intelligence collection focusing on military industrial potential, military doctrine, capabilities, preparedness, and planning. Moreover, Russian military modernization affects potential U.S. adversaries and weapons markets. Russia has been a principal arms supplier to China, India, and Iran, and sold advanced weapons systems to Syria and Venezuela. The U.S. and its allies need to know exactly what the growing capabilities of the new Russian weapons systems are, many of which are exported to the Middle East.

“We must never accept a fair fight,” Army General Martin Dempsey, Chairman of the Joint Chiefs of Staff, stated in his remarks at the 2013 Reagan National Security Forum.<sup>68</sup> If the military were a football team, he said, it would not want to win 10–7, but 59–0. “We can’t lose our global network of global friends and allies, and finally, we simply can’t believe too strongly in our ability to control conflict,” he concluded.

However, with the Russian military strengthening overall, combined with U.S. defense budget cuts, the U.S. military superiority vis-à-vis Russia (and China) is declining. However unlikely a full-scale war between the U.S. and Russia might be, the U.S. should prepare to win handily—and that takes information, personnel, platforms, funds, and allies. With military budget cuts and U.S. global disengagement, all these factors are becoming uncertain.

Russia is the only country in the world that has a nuclear triad comparable to that of the U.S. Russia is actively modernizing its nuclear arsenal while the U.S. is letting its invaluable deterrent deteriorate. Conversely, the Obama Administration, despite its firm rhetorical commitment to the American nuclear arsenal, has allocated insufficient funds to modernizing it, as Heritage Foundation national security policy analysts Baker Spring and Michaela Dodge point out.<sup>69</sup>

The necessity to maintain the U.S. nuclear triad has also come under question both in the U.S. Sen-

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66. RIA Novosti, “Putin Urges Readiness Against Cyber and Outer-Space Attacks,” July 5, 2013, <http://en.ria.ru/russia/20130705/182079750/Putin-Urges-Readiness-Against-Cyber-and-Outer-Space-Attacks.html> (accessed July 22, 2013).

67. “Posle skandala so Snowdenom, FSO zakupaet pechatnye mashinki” [After the Snowden scandal, Russian Secret Service purchases typewriters], *Izvestiya*, July 9, 2013, <http://izvestia.ru/news/553314?iframe=true&width=95%&height=95%> (accessed January 31, 2014).

68. Jim Garamone, “Dempsey: Military Battles Against Fiscal Uncertainty,” U.S. Department of Defense, November 16, 2013, <http://www.defense.gov/news/newsarticle.aspx?id=121151> (accessed November 20, 2013).

69. Michaela Dodge and Baker Spring, “Bait and Switch on Nuclear Modernization Must Stop,” Heritage Foundation *Backgrounder* No. 2755, January 4, 2013, <http://www.heritage.org/research/reports/2013/01/bait-and-switch-on-nuclear-modernization-must-stop>.

ate<sup>70</sup> and the military, with calls for elimination of the land-based missile leg of the triad to save money in the defense budget.<sup>71</sup>

A particular area of concern is cybersecurity. As General Dempsey noted, “[W]e are vulnerable.”<sup>72</sup> China, Russia, and Iran would be happy to do harm to the U.S. without a single shot being fired.<sup>73</sup> Currently, Russia has the strongest cyber capability for harming the U.S., and has demonstrated that it does not hesitate to use it against small countries, with whose policies it disagrees. Estonia came under attack in 2007, and Georgia fell victim to a cyber attack originating from Russia in 2008 during the Five-Day War in Abkhazia and South Ossetia. U.S. cyber superiority over Russia is, by far, not as clear as is its (albeit diminishing) superiority in conventional forces.

Growing Russian assertiveness in Europe raises concerns in many European countries, especially in Eastern Europe and the Baltics, about their security. Eliminating U.S. missile defense in Europe—something Moscow desperately wanted—without extracting a penny of concessions from Russia was simply a poor practice of foreign policy. Moreover, due to U.S. defense budget cuts and President Obama’s rhetorical pivots to the Middle East and Asia—and away from Europe—continuing U.S. commitment to European security is under question. This is not a good time to undermine the trust of European allies by withdrawing forces or radically downsizing U.S. military bases in Europe and paying insufficient attention to joint military exercises.

### What the U.S. Should Do

Russia’s military buildup and modernization has serious implications for U.S. foreign policy and security objectives. First, a more powerful Russia may become a threat to NATO allies, especially in Eastern and Central Europe. Second, this increase

in military power will affect countries of the former Soviet Union, which are seeking more freedom from Russia and are trying to shake off their past as imperial subjects, including Ukraine, Moldova, Belarus, and the countries of the South Caucasus and Central Asia. Finally, Russian military power will be a factor to take into account in conflicts in the Middle East, including the Levant, such as the recent friction with the U.S. over Syria.

To address and contain the Russian military buildup, the Obama Administration should:

- **Increase the quality and volume of intelligence collection and analysis of Russian military modernization and strategic and tactical goals, programs, and plans.** The U.S. needs to maintain and expand current space-based (imaging), electronic (SIGINT), and human intelligence (HUMINT) collection. A special priority needs to be assigned to planning and execution of the Russian military operations in the Crimea and against Ukraine. Eastern Europe is quickly becoming a “hot” intelligence collection target. With the Cold War generation retiring and leaving government service, the quality of U.S. collection and analysis is declining.<sup>74</sup> New training programs, including language and subject-matter education, need to be funded so that the U.S. does not lose critical skill sets and capabilities developed during the Cold War.
- **Focus collection on the dynamics of the Russian technical-military cooperation with other countries.** Russian military-technological cooperation with China and Iran in particular has contributed to the improvement of these countries’ military-industrial capabilities, including Sukhoi jets, surface ships, and Ratnik

70. Paul Bedard, “Senator Puts U.S. Nuclear Arsenal in Doubt,” *U.S. News & World Report*, January 26, 2012, <http://www.usnews.com/news/blogs/washington-whispers/2012/01/26/senator-puts-us-nuclear-arsenal-in-doubt> (accessed November 20, 2013).

71. Mark Thompson, “Triad and True...,” *Time*, June 21, 2013, <http://nation.time.com/2013/06/21/triad-and-true/> (accessed November 20, 2013).

72. “Dempsey: ‘We Are Vulnerable’ to Cyber Attacks,” *The Wall Street Journal Live*, video, November 18, 2013, <http://live.wsj.com/video/dempsey-we-are-vulnerable-to-cyber-attacks/72351AE5-5CC9-437F-B944-5B5F7A1A0DFE.html> (accessed November 20, 2013).

73. Robert Windrem, “Expert: US in Cyberwar Arms Race with China, Russia,” *NBC News*, February 20, 2013, [http://investigations.nbcnews.com/\\_news/2013/02/20/17022378-expert-us-in-cyberwar-arms-race-with-china-russia](http://investigations.nbcnews.com/_news/2013/02/20/17022378-expert-us-in-cyberwar-arms-race-with-china-russia) (accessed November 20, 2013).

74. David M. Herszenhorn and Ellen Barry, “From Russia, with Wig: American Spy Suspect is Ejected,” *The New York Times*, May 14, 2013, [http://www.nytimes.com/2013/05/15/world/europe/russia-detains-american-saying-he-is-cia-agent.html?\\_r=0](http://www.nytimes.com/2013/05/15/world/europe/russia-detains-american-saying-he-is-cia-agent.html?_r=0) (accessed January 31, 2014).

thermvision systems.<sup>75</sup> It is likely that Russia will be exporting new Kalashnikov models<sup>76</sup> and innovative models of tanks based on the Armata platform.<sup>77</sup> India and Russia co-produce cruise missiles and fighter jets. Additional military sales may further boost military capabilities of these countries to the detriment of U.S. and allied military forces.

- **Ensure continued U.S. commitment to European security**, maintain nuclear and conventional forces in Europe to keep regional security at its current levels, including readiness, capabilities, training and exercises. The U.S. cannot leave its military in a position where it cannot fulfill U.S. security commitments around the world because its capabilities, training, and platforms deteriorate.
- **Expand military cooperation with Central European NATO allies and NATO partners, especially in the former Soviet Union.** As demonstrated by the Crimean occupation and the conflict with Ukraine, as Russia is becoming more powerful militarily, it is also becoming more assertive politically. Moscow is increasingly intervening in the domestic and foreign policies of most countries of the former Soviet Union, dragging them into its sphere of influence. To counter this tendency, the U.S. should temporarily deploy military assets necessary for protection of its allies in Central Europe; boost the number of U.S. military training facilities, including in Romania, Bulgaria, and the Baltics; increase senior leader engagement with the former Soviet republics; commit to a speedy and robust ballistic missile defense in Europe; and enhance cybersecurity cooperation. The U.S. should avoid repeating the

embarrassing precedent with Steadfast Jazz 2013, a large NATO military exercise in Poland and the Baltics, where it sent only 200 troops—as much as Estonia.<sup>78</sup> This step was viewed by U.S. allies in Europe as weakening of the U.S. commitment to European security.

## Conclusion

The occupation of Crimea should be a wake-up call for U.S. civilian and military leaders. President Putin has committed a considerable portion of Russian GDP toward modernizing the military over the next 10 years—a goal many experts saw as unrealistic. However, Russia’s performance in Crimea demonstrates that its military has come a long way from the 1990s defeats in Chechnya. If successful, the Putin military modernization will allow Russia to increase power relative to its former Soviet and NATO neighbors and expand influence along its periphery: in the former Soviet republics, in Central and Eastern Europe, and in the Middle East. The military modernization program conclusively demonstrates that in the next decades Russia will seek not only regional presence, influence, and dominance, but also a greater say in the global affairs. Russia’s geostrategic and military goals indicate a desire to expand its great power status in the coming decades: in Europe, in the Arctic, in the Asia–Pacific, in Central Asia, and in the Middle East. The United States and her allies would be wise to start improving intelligence collection; maintain military budgets at 4 percent of GDP; secure proper maintenance of current nuclear stockpiles; and ensure modernization of military forces, both conventional and nuclear. As Ronald Reagan used to say, America will achieve peace through strength. Today, the congressional and national leadership should take the looming threats seriously and put its money where its mouth is.

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75. “Nazvana stoimost teplovizionnoy sistemy ‘Ratnik’” [The Cost of the Ratnik thermvision system has been determined], Lenta.Ru, October 17, 2013, <http://lenta.ru/news/2013/10/17/ratnik/> (accessed November 1, 2013).

76. “Novyye avtomaty Kalashnikova postupyat v voyska v 2014 godu” [New Kalashnikovs to equip the military in 2014], Lenta.Ru, September 17, 2013, <http://lenta.ru/news/2013/09/17/newak> (accessed November 1, 2013).

77. “Sozdany pervye obrazcy tehniki na platforme ‘Armata’” [First weapon models based on Armata platform have been developed], Lenta.Ru, September 6, 2013, <http://lenta.ru/news/2013/09/06/armata/> (accessed November 1, 2013).

78. Luke Coffey and Daniel Kochis, “Steadfast Jazz 2013: U.S. Lackluster Contribution Undermines U.S. Interests in Eastern Europe,” Heritage Foundation *Issue Brief* No. 4076, November 1, 2013, <http://www.heritage.org/research/reports/2013/11/steadfast-jazz-2013-us-lackluster-contribution-undermines-us-interests-in-eastern-europe>.

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## APPENDIX: RECENT RUSSIAN MILITARY UPGRADES

### MILITARY TOWNS/BASES

- General Valery Gerasimov, chief of the General Staff of Russia's Armed Forces, said that "[a]bout 100 new defense infrastructure facilities, including airfields and Army and Navy maintenance and supply bases, will be built in Russia to accommodate new weapon systems," according to RIA Novosti.<sup>79</sup>
- In addition, General Gerasimov noted that "by 2016, 316 towns are to be built around these bases, and their number is set to increase to 495 by 2020."<sup>80</sup>

### AIR FORCE: WARPLANES

#### Tu-160 Blackjack Strategic Bomber SPECIFICATIONS

- Maximum speed: Mach 2.05.
- The largest supersonic bomber in the world
- Service ceiling: 16,000 m.
- Flight range with normal payload: 13,200 km.
- Payload: up to 40 tons.
- Uses Kh-55 cruise missiles and AS-16 Kickback hypersonic missiles.<sup>81</sup>

### SERVICE INFORMATION

- In service since 1987.
- 16 planes currently in service.
- At least 10 of the Russian Air Force's Tu-160 bombers will be modernized by 2020.<sup>82</sup>
- Upgrades will include:
  - Digital, multi-reserved, neutron, and other nuclear-emissions-resistant avionics.
  - Full support of cruising and steering through the Global Navigation Satellite System (GLONASS).
  - An updated version of the NK-32 engine with increased reliability.<sup>83</sup>
- The upgraded warplanes will be ready for use by 2015.<sup>84</sup>

#### T-50 Fifth-Generation Fighter SPECIFICATIONS

- Maximum speed: Mach 2.45.
- Service ceiling: 20,000 m.
- Flight duration: 3.3 hours.
- May be fitted with "10 weapons pods in closed bomb bays and can be fitted with pylons for external pods. The target range is increased as a result."<sup>85</sup>

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79. RIA Novosti, "Russia to Build 100 New Military Bases and Airfields," June 27, 2013, [http://en.rian.ru/military\\_news/20130627/181914590.html](http://en.rian.ru/military_news/20130627/181914590.html) (accessed April 16, 2014).

80. Ibid.

81. RIA Novosti, "Russian Defense Ministry Signs \$100 Million Deal to Overhaul 3 Tu-160 Bombers," Russian News and Information Agency, July 26, 2013, [http://en.rian.ru/military\\_news/20130726/182436578/Defense-Ministry-Signs-100-Mln-Deal-to-Overhaul-3-Tu-160-Bombers.html](http://en.rian.ru/military_news/20130726/182436578/Defense-Ministry-Signs-100-Mln-Deal-to-Overhaul-3-Tu-160-Bombers.html) (accessed April 16, 2014).

82. Ibid.

83. Ibid.

84. Ibid.

85. Alexei Druzhinin, "Russian Military to Buy 60 Fifth-Generation Fighters After 2016," RIA Novosti, July 13, 2010, [http://www.en.rian.ru/military\\_news/20100713/159797767.html](http://www.en.rian.ru/military_news/20100713/159797767.html) (accessed April 16, 2014).

SERVICE INFORMATION

- Will replace the MiG-29 and Su-27.<sup>86</sup>
- First flight was January 29, 2010.
- Will be introduced 2016.
- 10 evaluation aircraft were purchased in 2012.<sup>87</sup>
- 60 standard production aircraft will be bought after 2016.<sup>88</sup>
- Vympel R-73E/M, R-74M.
- Kh-31A/P.
- Kh-59.
- Kh-29T/L.

**Su-35**

SPECIFICATIONS

- Maximum speed: Mach 2.45.
- Service ceiling: 18,000 m.
- Flight range: 4,500 km.
- Uses (rockets):
  - S-25LD laser-guided rocket, S-250 unguided rocket.
  - B-8 unguided S-8 rocket pods.
  - B-13 unguided S-13 rocket pods.
- Uses (missiles):
  - Vympel R-27R/ER/T/ET/EP.
  - Vympel R-77: The proposed R-77M1, R-77T.

Uses (bombs):

- KAB-500L laser-guided bomb.
- KAB-1500 laser-guided bomb.
- LGB-250 laser-guided bomb.
- FAB-250 250-kg (550-lb) unguided bombs.
- FAB-500 500-kg (1,100-lb) unguided bombs.<sup>89</sup>

SERVICE INFORMATION

- Tested/produced 2008–present.
- Number built: 14.
- Russian air force has ordered 48 Su-35s.<sup>90</sup>

**MiG-35**

SPECIFICATIONS

- Maximum speed: Mach 2.35.
- Service ceiling: 17,500 m.<sup>91</sup>
- Flight range: 3,100 km.<sup>92</sup>

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86. Ibid.

87. Ibid.

88. Ibid.

89. Airforce Technology, "Su-35 Flanker-E Multirole Fighter, Russia," <http://www.airforce-technology.com/projects/su-35/> (accessed April 29, 2014).

90. Andrey Fomin, "Su-35 Has Flown!" Aeromedia, May 24–29, 2008.

91. RIA Novosti, "Russia's 'MiG' Will Sign a Contract with Defense Ministry in June for a Batch MiG-35," May 31, 2013, [http://ria.ru/defense\\_safety/20130531/940534518.html](http://ria.ru/defense_safety/20130531/940534518.html) (accessed April 16, 2014).

92. Ibid.



- Uses (guns):
  - 1× 30 mm GSh-30-1 cannon, 150 rounds.
- Uses (rockets):
  - S-8, S-13, S-24, S-25L, S-250 unguided and laser-guided rockets.
- Uses (missiles):
  - Air-to-air: + AA-10 Alamo: 4× R-27R, R-27T, R-27ER, R-27ET; + AA-8 Aphid: 4× R-60M; + AA-11 Archer: 8× R-73E, R-73M, R-74M; + AA-12 Adder: 8× R-77.
  - Air-to-surface: + AS-17 Krypton: 4× Kh-31A, Kh-31P; + AS-14 Kedge: 4× Kh-29T, Kh-29L.
- Uses (bombs):
  - Guided: + KAB-500L: 500-kg laser-guided bomb; +KAB-500T: 500-kg TV-guided bomb.
  - Unguided: +FAB-250: 250-kg bomb; +FAB-500: 500-kg bomb; +ZAB-500 fuel-air explosive bomb.

#### SERVICE INFORMATION

- MiG-35: 10 prototypes have been assembled and will be kept for flight testing.<sup>93</sup>
- First flight was in 2007.
- 3 MiG-35s have been developed (since June 2010).<sup>94</sup>
- “In May 2013, it was reported that Russia plans to order 37 aircraft.”<sup>95</sup>

## AIR FORCE: HELICOPTERS

### Mi-28 HAVOC SPECIFICATIONS

- Initial year of service: 2009.
- In production: 98.
- Empty weight: 8,600 kg (18,960 lb).
- Maximum takeoff weight: 11,500 kg (25,350 lb).
- Maximum speed: 199 mph (320 km/h).
- Maximum range: 684 miles (1,100km).
- Service ceiling: 19,029 ft (3.6 mi; 5,800 m).<sup>96</sup>
- Uses (guns):
  - 1 x 30mm Shipunov 2A42 cannon in chin mounting.
- Currently in service.
- Production 1982–present.<sup>97</sup>

#### SERVICE INFORMATION

- After 19 production orders, the Russian air force “began formal acceptance testing in September 2006. Five aircraft are involved in the testing which is scheduled to conclude in early 2008.”<sup>98</sup>
- Optional (mission-specific) armaments configurations include:
  - 16 Ataka-V anti-tank missiles and 40 S-8 rockets.

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93. Domain-B Aviation & Aerospace, “Russia Begins Testing MiG-35 Ahead of Field Trials in India News,” August 14, 2009, [http://www.domain-b.com/aero/mil\\_avi/mil\\_aircraft/20090814\\_mig-35\\_oneView.html](http://www.domain-b.com/aero/mil_avi/mil_aircraft/20090814_mig-35_oneView.html) (accessed April 16, 2014).

94. RIA Novosti, “Russia’s ‘MiG’ Will Sign a Contract with Defense Ministry in June for a Batch MiG-35.”

95. Ibid.

96. Army Technology, “Mi-28A/N Havoc Attack Helicopter,” <http://www.army-technology.com/projects/mi28/> (accessed April 16, 2014).

97. “Mi-28H, Ka-52 Complete State Tests,” CNEWS R&D, December 30, 2008, [http://rnd.cnews.ru/army/news/line/index\\_science.shtml?2008/12/30/333682](http://rnd.cnews.ru/army/news/line/index_science.shtml?2008/12/30/333682) (accessed April 16, 2014).

98. Ibid.

- 16 Ataka-V anti-tank missiles and 10 S-13 rockets.
- 16 Ataka-V anti-tank missiles and two 23 mm Gsh-23L gun pods with 250 rounds each.
- 9K118Sheksna and 9A-2200 anti-tank missiles, 8 Iгла-V and Vympel R-73 air-to-air missiles, 2 KMGU-2 mine dispensers.<sup>99</sup>

### **Kamov KA-52 Alligator** SPECIFICATIONS

- Maximum speed: 217 mph (350 km/h).
- Empty weight: 7,700 kg (17,000 lb).
- Maximum takeoff weight: 10,800 kg (23,810 lb).
- Maximum range: 520 km (323 miles).
- Service ceiling: 5,500 m (18,000 ft).
- Uses: 1x mobile semi-rigid 30 mm Shipunov 2A42 cannon (460 rounds total, dual-feeding AP or HE-Frag).<sup>100</sup>

### SERVICE INFORMATION

- Official prototype was finished in 1996.
- First flight was in June 1997.
- First phase of official tests were completed in December 2008, which gave permission for the production of an experimentation batch.<sup>101</sup>

- The Ka-52 has completed all test trials. The Russian armed forces were slated to receive 30 helicopters by 2012.<sup>102</sup> A second set of 36 helicopters were to be delivered and ready for service in early 2012.<sup>103</sup>

- Dmitry Petrov, CEO of Russian Helicopters, said that the firm had signed contracts to deliver 450 helicopters, including the Kamov KA-52 Alligators, as part of 2011's arms procurement plan. The company is expected to deliver over 1,000 military helicopters to the Russian air force before 2020.<sup>104</sup>

#### ■ Armament options (rockets):

- 80 x 80 mm S-8 rocket.
- 20 x 122 mm S-13 rocket.

#### ■ Armament options (missiles):

- 2 x APU-6 missile racks, able to accommodate a total of 12 9K121 Vikhr anti-tank missiles; Vympel R-73 (NATO: AA-11 Archer) air-to-air missiles; and Kh-25 semi-active laser-guided tactical air-to-ground missiles.

#### ■ Armament options (bombs):

- 4x 250 kg (550 lb) bombs or 2x 500 kg (1,100 lb) bombs.

#### ■ Armament options (other):

- 23 mm UPK-23-250 gun pods (240 rounds each), 500 L (130 U.S. gal) external fuel tanks. Reportedly, twin Iгла light air-to-air missile launchers under each wingtip countermeasure pod (total 4 missiles).<sup>105</sup>

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99. Ibid.

100. RIA Novosti, "Russian Military to Receive 450 Helicopters This Year," August 16, 2011, [http://en.rian.ru/military\\_news/20110816/165822621.html](http://en.rian.ru/military_news/20110816/165822621.html) (accessed April 16, 2014).

101. Alexander Mladenov, "Reforming a Formidable Foe," *Air Forces Monthly*, Vol. 269 (September 2010), pp. 62-68.

102. Ibid.

103. Ibid.

104. RIA Novosti, "Russian Military to Receive 450 Helicopters This Year."

105. Mladenov, "Reforming a Formidable Foe."

## GROUND FORCES: TANKS

### T-90 SPECIFICATIONS

- Road clearance: 0.49 m.
- Engine: V-84AMS diesel with 840 hp or V-9525 diesel with 1,000 hp.
- Maximum speed: 60–65 km/h (37–40 mph).
- Range: 550 km.
- Crew size: 3.
- Features:
  - Refleks anti-tank guided missile system.
  - Automatic Loading.
  - Multi-layered explosive reactive armor.
- Weapons:
  - 2A46M 125 mm smoothbore tank gun with ATGM capability (Refleks anti-tank guided missiles).
  - PKT 7.62 mm coaxial machine gun, NSV 12.7 mm AA machine gun.
  - Gun ammo: 42 rounds and anti-tank missiles.<sup>106</sup>

### SERVICE INFORMATION

- Prototype was built in 1989.
- Production started in 1992–present.

- Number Built: 1,700+.
- The Russian army discontinued purchases of the T-90 in 2011 and will wait for the brand new T-99 to enter into service in 2020.<sup>107</sup>
- The army has said that it has 200 T-90 tanks in possession.<sup>108</sup>
- In 2004 the updated T-90S were fitted with the Shtora self-protection system and Catherine thermal imagers from Thales of France and Peleng of Belarus.<sup>109</sup>

### MSTA-S 2S19 SPECIFICATIONS

- Road clearance: 0.45 m.
- Engine: V-84A diesel with 840 hp.
- Maximum speed: 60 km/h (37 mph).
- Range: 500 km.
- Crew size: 5.
- Armor: Classified.
- Weapons:
  - 152 mm howitzer gun.
  - 12.7 mm anti-aircraft machine gun that is remotely controlled by the commander.
- Three smoke grenade dischargers are mounted on each side of the turret.
- 50 rounds of ammunition for the howitzer gun are carried onboard and 300 cartridges for the machine gun.<sup>110</sup>

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106. Army Technology, "T-90S Main Battle Tank, Russian Federation," <http://www.army-technology.com/projects/t90/> (accessed April 16, 2014).

107. LENTA.RU, "Armored Contention," February 15, 2012, <http://lenta.ru/articles/2012/02/15/uncertain/> (accessed April 16, 2014).

108. Army Technology, "T-90S Main Battle Tank, Russian Federation."

109. Ibid.

110. Army Technology, "MSTA-S 2S19 152mm Self-Propelled Howitzer, Russian Federation," <http://www.army-technology.com/projects/mstas/> (accessed April 16, 2014).

## SERVICE INFORMATION

- Originally produced in 1989.
- Has been in service 1989–present.
- The Russian army operates about 550 MSTA-S 2s19s.<sup>111</sup>
- MSTA-S fires a variety of ammunition:
  - HE-FRAG (high-explosive fragmentation).
  - HE-FRAG with base gas bleed, cluster projectiles with fragmentation submunitions, and the Krasnopol laser-guided 152 mm projectile.
  - 3RB30 jammer carrying projectiles which set up radio interference to disrupt enemy communications.<sup>112</sup>

## GROUND FORCES: MISSILE DEFENSE

### Iskander-M

#### SPECIFICATIONS

- A tactical ballistic missile developed for the Russian army.
- Expected range: more than 400 km.
- Equipped with inertial and optical guidance systems for improved firing accuracy and electro-optical seeker for self-homing capability.<sup>113</sup>

- Missile can be re-targeted during flight to engage moving targets.
- Target accuracy of 5m to 7m and operates even in fog or darkness.<sup>114</sup>

## SERVICE INFORMATION

- The missile's first test trials were held in 1996.
- In 2006 the Russian Army acquired a single extended-range Iskander-M system.<sup>115</sup>
- Russia acquired six Iskander systems in 2010.<sup>116</sup>
- The Russian Defense Ministry projects that 120 Iskander-M tactical missile systems are to be equipped to at least five missile brigades of Iskander-M complexes by 2016.<sup>117</sup>

### Pantsyr-S1 (SA-22)

#### SPECIFICATIONS

- A system designed to defend small facilities and sectors from enemy aircraft, cruise missiles, and high-precision weapons, and is used to reinforce air-defense units.<sup>118</sup>
- Weapon specification:
  - Twelve 57E6-E hypersonic missiles.
  - 2A38M 30-mm twin-barrel automatic cannons (1,400 rounds).
  - Missile target accuracy range is at about 20 km (12 mi) with a flight altitude of 49,000 feet.

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111. Army Recognition, "2S19 Msta-S 152mm Self-Propelled Howitzer," [http://www.armyrecognition.com/russia\\_russian\\_army\\_vehicles\\_system\\_artillery\\_uk/2s19\\_msta-s\\_self-propelled\\_howitzer\\_gun\\_technical\\_data\\_sheet\\_specifications\\_information\\_description.html](http://www.armyrecognition.com/russia_russian_army_vehicles_system_artillery_uk/2s19_msta-s_self-propelled_howitzer_gun_technical_data_sheet_specifications_information_description.html) (accessed April 16, 2014).

112. Army Technology, "MSTA-S 2S19 152mm Self-Propelled Howitzer, Russian Federation."

113. Army Technology, "Iskander Tactical Ballistic Missile System, Russian Federation," <http://www.army-technology.com/projects/iksander-system/> (accessed April 16, 2014).

114. Ibid.

115. Ibid.

116. Ibid.

117. Ibid.

118. RIA Novosti, "The Pantsyr-S1 Mobile Short-Range Gun and Missile Air Defense System," <http://en.ria.ru/infographics/20100319/158254598.html> (accessed April 29, 2014).

- Cannon target range is from 200 m to 4,000 m.<sup>119</sup>
- A three-crew combat vehicle, with a battery control center, which utilizes a “smart” radar optical control-and-guidance system.<sup>120</sup>

#### SERVICE INFORMATION

- First prototype completed in 1994.
- In production since 2000
- The Russian military should have 20 Pantsyr S-1 systems by 2015.
  - Experts say that “it’s essential to buy 200–250 systems by 2015 and 400–500 by 2020.”<sup>121</sup>

#### **Topol-M** SPECIFICATIONS

- An intercontinental ballistic missile (ICBM) in service with the Russian strategic rocket forces.<sup>122</sup>
- A three-stage solid-propellant ICBM that can reach a range of 11,000 km at a speed of 17,400 kmh.<sup>123</sup>
- The missile carries targeting countermeasures and decoys; the burn time of the engine was minimized to avoid detection.<sup>124</sup>

- The missile is shielded against radiation, electromagnetic pulse (EMP), and nuclear blasts, and can withstand a hit from laser technology.

#### SERVICE INFORMATION

- First missile was test-fired in December 1994.<sup>125</sup>
- Declared operational in 1998.<sup>126</sup>
- Two Topol-M silo-based missile systems were deployed in December 2010 in the Tatishevo Missile Division near Saratov in southwest Russia.<sup>127</sup>
- About 52 silo-based and 18 mobile Topol-M missile systems were in service as of January 2011.<sup>128</sup>
- A total of 450–500 missiles are expected to be deployed between 2015 and 2020.<sup>129</sup>

#### **NAVY: SUBMARINES**

##### **K-329 Severodvinsk** SPECIFICATIONS

- A Yasen-class fourth-generation nuclear attack submarine.<sup>130</sup>
- The K-329 is 119 m in length.<sup>131</sup>

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119. Ibid.

120. Ibid.

121. “Ten Pantsir-S1s for Russia, or for UAE or Syria?” Russian Defense Policy, March 30, 2010, <https://russiandefpolicy.wordpress.com/tag/pantsir-s1/> (accessed April 29, 2014).

122. Army Technology, “Topol-M Intercontinental Ballistic Missile (ICBM), Russian Federation,” <http://www.army-technology.com/projects/topol-m-intercontinental-ballistic-missile-icbm/> (accessed April 16, 2014).

123. Ibid.

124. Ibid.

125. Ibid.

126. Ibid.

127. Ibid.

128. Ibid.

129. Ibid.

130. Navy Recognition, “Project 885/Yasen Class/Graney/Severodvinsk SSN,” [http://www.navyrecognition.com/index.php?option=com\\_content&task=view&id=149](http://www.navyrecognition.com/index.php?option=com_content&task=view&id=149) (accessed April 29, 2014).

131. Ibid.

- Maximum speed: 35 knots submerged, 20 knots surface speed.<sup>132</sup>
- Designed to sustain autonomous voyages of up to 100 days.<sup>133</sup>
- Maximum depth: 600 m.<sup>134</sup>
- Crew size: 50.<sup>135</sup>
- Armaments:
  - 3M51 Alfa submarine-launched cruise missiles (SLCM).
  - P-800 Oniks or the SS-N-21 Granat / Sampson SLCM.
- Engages targets within 300 km–800 km.<sup>136</sup>
- Able to carry: Long-range nuclear-capable cruise missiles; 24 supersonic Onyx Anti-ship cruise missiles; 10 Torpedo tubes for launching Self-guided Torpedoes; mines.<sup>137</sup>
- Launched on June 15, 2010.<sup>139</sup>
- *Severodvinsk* began sea trials on September 12, 2011.<sup>140</sup>
- The Russian navy plans to have two Yasen-class submarines in service by 2015.<sup>141</sup>
- The Russian navy plans to receive/purchase at least 10 of the multirole submarines by 2020 (to gradually replace both Oscar and Akula subs).<sup>142</sup>

#### SERVICE INFORMATION

- Construction of the submarine started in 1993.<sup>138</sup>

## **NAVY: BATTLESHIPS/CARRIERS**

### **Gorshkov Frigate** SPECIFICATIONS

- Maximum speed: 30+ knots (operative speed: 18 knots).<sup>143</sup>
- Range: 7,200 km at 18 knots.<sup>144</sup>
- Supplies autonomy: 30 days.<sup>145</sup>
- Fitted with:
  - 3-D air search radars.

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132. RIA Novosti, "Russia Launches Long-Awaited Submarine," June 16, 2010, <http://en.ria.ru/analysis/20100616/159452336.html> (accessed April 29, 2014).

133. Naval Technology, "Yasen / Graney Class Submarine, Russian Federation," <http://www.naval-technology.com/projects/yasengraneysubmarine/> (accessed April 16, 2014).

134. Navy Recognition, "Project 885/Yasen Class/Graney/Severodvinsk SSN."

135. RIA Novosti, "Russia Launches Long-Awaited Submarine."

136. Ibid.

137. Naval Technology, "Yasen / Graney Class Submarine, Russian Federation."

138. Charles Digges, "Shaky Severodvinsk Nuclear Sub Sets to Sea for Trials - Again," May 11, 2012, [http://www.bellona.org/articles/articles\\_2012/severodvinsk\\_more\\_delays](http://www.bellona.org/articles/articles_2012/severodvinsk_more_delays) (accessed April 16, 2014).

139. Ibid.

140. RIA Novosti, "Russia's New Attack Submarine Goes for Sea Trials," September 12, 2011, [http://en.rian.ru/military\\_news/20110912/166792371.html](http://en.rian.ru/military_news/20110912/166792371.html) (accessed April 16, 2014).

141. Konstantin Lantratov, "Russia Chooses Its Future Armament," ATO.ru, January 7, 2006, <http://www.ato.ru/content/russia-chooses-its-future-armament> (accessed April 16, 2014).

142. Navy Recognition, "Project 885/Yasen Class/Graney/Severodvinsk SSN."

143. Naval Technology, "Admiral Gorshkov Class Frigates, Russian Federation," <http://www.naval-technology.com/projects/admiral-gorshkov/> (accessed April 16, 2014).

144. Ibid.

145. Ibid.

- Puma fire control radars.
- Sonar suites with hull-mounted LF sonar and LF VDS sonar.
- Garpun-BAL SSM targeting and SAM control systems.<sup>146</sup>
- Armaments:
  - 1 x 130 mm Arsenal A-192M naval gun.
  - 30 mm close-in weapon system (CIWS) gun.
  - 2 x 8 SS-NX-26 Yakhont anti-ship cruise missiles.
  - 2 x Palash CIWS.
  - Medvedka-2 ASW (anti-submarine warfare) system.<sup>147</sup>
  - Buk/Hurricane (SA-11) medium-range surface-to-air missile system.
  - 2 x 14.5 mm MPTU-mounted KPV machine guns.
  - Vessels can also be fitted with 21-inch torpedo tubes to carry torpedoes.<sup>148</sup>
- Aircraft carried: 1 x Ka-27 series helicopter.
- Aviation facilities: helipad and hangar for one helicopter.

#### SERVICE INFORMATION

- The first vessel joined the Russian navy in November 2013.<sup>149</sup>
- The second frigate is expected to be delivered in 2014.<sup>150</sup>
- The Russian navy intends to build 20 vessels of the Gorshkov Class. Six frigates are to be delivered by 2020. The new ships will serve the Baltic, Black Sea, Northern and Pacific fleets.<sup>151</sup>

#### **Steregushchy-Class Corvette: A Multipurpose Guard Ship** SPECIFICATIONS

- Maximum speed: 27 knots.
- Range: 4,000 miles at a speed of 14 knots.<sup>152</sup>
- Crew size: 100.<sup>153</sup>
- Control system features: Sigma combat information management system (collects information from the radars and sensors and provides real-time situational awareness).<sup>154</sup>
- **Sensors/Radars:**
  - Furke-E 3D, E/F band air search radar.<sup>155</sup>
  - Garpun-B/3Ts-25E/Plank Shave surface search radar.<sup>156</sup>
  - Hot Flash radar.

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146. Ibid.

147. Ibid.

148. Ibid.

149. Ibid.

150. Ibid.

151. Ibid.

152. Naval Technology, "Project 20380 Steregushchy Class Corvettes, Russian Federation," <http://www.naval-technology.com/projects/steregushchy-class/> (accessed April 16, 2014).

153. Ibid.

154. Ibid.

155. Ibid.

156. Ibid.

- Ratep 5P-10E Puma fire control radar and Monument targeting radar.<sup>157</sup>
- Zarya-ME sonar suite and Vinyetka-EM towed sonar array.<sup>158</sup>
- **Armaments (combination of missile systems):**
  - Kh-35 missiles.
  - 3M-54 Klub missiles.<sup>159</sup>
  - Two Kashtan anti-aircraft systems (provide close-in air defense against anti-ship missiles, aircraft, and small surface targets).
  - Arsenal A-190 100 mm naval gun.
  - Two 30 mm six-barreled AK-630M automatic gun mounts.<sup>160</sup>
- Two quadruple torpedo tubes for Paket-E/NK anti-torpedo missile.<sup>161</sup>
- Has a stern helicopter deck and hangar to support the operations of a Ka-27 helicopter for use in reconnaissance and anti-submarine missions.<sup>162</sup>

#### SERVICE INFORMATION

- The first corvette in its class, Steregushchy, was laid in December 2001 and launched in May 2006.
- Second ship in class was laid in May 2003 and launched in March 2010. It was delivered to the Russian navy in July 2011.
- Currently the Russian navy has 3 active Corvettes.
- Expecting two more in 2014–2015: The *Stoikiy* by 2014;<sup>163</sup> the *Gromkiy* by 2015.<sup>164</sup>

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157. Ibid.

158. Ibid.

159. Ibid.

160. Ibid.

161. Ibid.

162. Ibid.

163. FlotProm, "The Baltic Fleet Will Take Part in a New Corvette the 'Stoikiy' Commander in 2014," May 20, 2013, [http://flotprom.ru/news/index.php?ELEMENT\\_ID=145516](http://flotprom.ru/news/index.php?ELEMENT_ID=145516) (accessed April 29, 2014).

164. Naval Technology, "Project 20380 Steregushchy Class Corvettes, Russian Federation."