

Russian approaches to military technology

The Northern dimension

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Summary

This policy brief presents the main findings of a project on Russian approaches to technological challenges, and the implications for security developments in the High North. It begins by examining the Russian debate on the technological challenges identified as posing a threat to national security by the country's policymakers. Next, it explores how these challenges have been dealt with by Russia in the post-2014 context, paying special attention to developments in the field of military technology and how President Putin has taken advantage of these to address questions of strategic balance. Finally, the brief sets out the strategic implications for Norway, as NATO's representative in this northern corner and Russia's direct neighbour.

The question of Russian backwardness is a recurrent topic of debate both within the country and among foreign observers. Efforts to modernize litter the country's history, from the systemic reforms introduced by Peter the Great to, most recently, Vladimir Putin's early reformist zeal and Medvedev's subsequent grandiose – albeit mostly rhetorical – modernization plans. The impetus for such efforts has come mainly from the country's political elite, which has an interest in turning Russia into a more effective state, capable of using its vast resources as an instrument to gain influence on the global stage. Successful modernization would also enhance Russia's ability to oppose attempts by other states to subject it to political or military pressure. Furthermore, modernization would have positive impacts on the country's population, enhancing well-being and thereby securing political stability.

These drivers of modernization continue to play an important role in contemporary Russian politics. However, the stimulus to conduct the comprehensive structural political reforms needed to turn Russia into a modern state is dampened by fear of political destabilization. This may explain why

both Medvedev's and Putin's interest in modernization was limited purely to the economic and technological realms.¹ It is this lack of political modernization that has led one of the most interesting observers of the country's political scene, V. Inozemtsev, to label Russia as a non-modern country.²

A thorough examination of how key Russian policy documents and political figures approach the issue of technological challenges reveals three dominant approaches: 1) technology enables social, economic and political development, and provides a competitive advantage – thus, it is an important and useful policy instrument; 2) technology, especially high levels of digitalization, poses various risks, challenges and threats, including societal or military insecurity, caused by the use of various political technologies and facilitated by digital social media; and 3) lack of adequate technological development can potentially be a threat to a country's sovereignty. This latter perspective was expressed by Putin in his 2018 Annual Address to the Parliamentary Assembly, where he stated: 'Those who manage to ride this technological wave will surge far ahead. Those who fail to do this will be submerged and drown in this wave ... Technological lag and dependence translate into reduced security and economic opportunities of the country and, ultimately, the loss of its sovereignty.'

Although officially the main driver for technological modernization in today's Russia is improving economic competitiveness, Putin's speech reveals a move towards securitization of the issue. Technological backwardness is thus viewed not only in economic terms, but as an important challenge to the country's – or regime's – security. This ties in with the Russian elite's neurotic fear of penetration, encirclement and invasion, identified as a key element in a foreign and security policy historically driven by an overriding sense of insecurity.³ The current regime has failed to shed such anxieties, fearing as it does that a colour revolution instigated and supported by external forces could threaten its very existence. In line with traditional Russian thinking on reducing the country's exposure to external pressure, it is

therefore believed that military power is the only instrument truly capable of ensuring the country's sovereignty and its ability to project power beyond its borders.⁴

All talk of technological modernization as a means of securing competitiveness and security notwithstanding, Russia remains a country whose exports are dominated by raw materials. Between 2000 and 2018, exports of oil, gas and petroleum products represented 62.1 per cent of the country's entire export value, bringing in USD 3.8 trillion.

Russian export statistics do, however, reveal one area in which Russian producers can successfully compete in the field of relatively advanced technology. According to SIPRI data, Russia is the second-largest exporter of military equipment in the world, with exports of more than USD 171 billion recorded between 2001 and 2017.⁵ However, over the past five years, Russia's share of the global arms trade has declined. While Russia accounted for 21 per cent of total arms exports between 2015 and 2019, in value terms this was 18 per cent lower than in 2010–14. This was despite the global market growing by 5.5 per cent over the same period.⁶

This loss of global market share is a worry to Russian policymakers, as arms exports have helped the country's military industry survive a period of shrinking domestic demand. During this time, various modern weapons systems have been introduced to the benefit of both foreign and domestic 'consumers'. The Russian military industry has traditionally played a key role in the country's technological modernization, developing advanced military technology capable of matching – sometimes even bettering – that produced by its main competitor, the USA.⁷ Growing tensions in Russia's relations with the West in the wake of the 2014 conflict in Ukraine, combined with substantial funding generated by petroleum products, has given an additional boost both to the development of new weapons systems and the modernization of Russia's armed forces (which, since 2012, has been subject to a huge rearmament programme).⁸

New Russian military technology

When discussing technological modernization in relation to Russia's military, it is important to examine the impact of the country's rearmament programme on its armed forces, as well as what new weapons systems have been acquired and how these might alter the international strategic balance. Equally important is unpicking how these issues have been communicated to both domestic and foreign audiences.

The results of Russia's military modernization and its rearmament programme have been comprehensively examined by numerous experts.⁹ The focus here, therefore, will be on Russia's strategic communication. On 1 March 2018, President Putin presented several new weapons systems developed by Russian producers, backed up by figures illustrating the success of the military modernization programme. What impressed the audience most, however, was a series of film clips showcasing Russia's key technological achievements, which – supposedly – were going to tilt the balance of power in the country's favour. Thus, a new era in Russia's strategic competition with the USA was about to commence, one in which Russia would have the economic muscle and human resources to design,

develop and produce highly effective but modestly priced weapons systems. These, it was claimed, would be fully capable of overcoming missile defence systems developed by the USA.

The weapons systems discussed by Putin included a heavy intercontinental missile (Sarmat), a hypersonic aircraft missile (Kinzhal), a strategic missile system with a manoeuvrable hypersonic gliding wing unit (Avangard), a nuclear-powered missile with unlimited range (Burevestnik), and unmanned submersible vehicles with conventional or nuclear warheads, capable of travelling intercontinentally at great depths (Poseidon) as well as laser weapons (Peresvet).

The presentation was meticulously prepared by Putin's communications team, apparently building on a Russian aesthetic tradition known as the 'montage of attractions', first used by revolutionary filmmaker Sergei Eisenstein. This method involves subjecting the viewer to a series of sensual, psychological or emotional impressions that combined clearly impart the film's key message. Using this instrument, Putin was able to communicate to his Western interlocutors that Russia was invulnerable, while providing reassurance to his domestic audience that they were safe in the hands of a tough national leader.

Two years on from this presentation, Putin sent a new message to his Western interlocutors, reinforcing the notion that Russia was a force to be reckoned with and able to resist any international pressure. In his annual address of 15 January 2020, Putin claimed that 'the country's defence capability is ensured for decades to come'. Further, he announced that for the first time ever Russia was not catching up with anyone – instead, other leading states now had to develop new military technology to catch up with Russia. Here, in other words, was the ultimate proof of Russia's ability to technologically outcompete its global rivals, first and foremost the USA. Thus, the strategic parameters of any future military confrontation had fundamentally changed: no longer would numerically superior Russian forces have to face off against a technologically superior enemy. Instead, Russia would be able to use its technological edge to deter potential aggression, and should such aggression occur regardless, it had the offensive capability to respond accordingly. This can be interpreted as an offset strategy, with Russia using technical innovation to counter the strength of potential adversaries.¹⁰

Russian technological offset strategy and the High North

In assessing the impact this offset strategy will have on the situation in the High North, it is necessary to look at three levels: tactical, operational and strategic. At both the tactical and operational levels, any improvement – quantitative and/or qualitative – in Russia's ability to project military power across the region will have to be dealt with by national and NATO planners. As to strategic impacts, a better understanding of the ranges of these new weapons, as well as how Russia plans to use them, is needed.

Concerning Russia's plans, limited insights are available, though there have been instances where Russia has

communicated how the weapons might be employed. Burevestnik (range theoretically unlimited), Sarmat (estimated range of 18,000 km), Avangard and Poseidon (both with an estimated range of around 10,000 km) are all often presented as being capable of reaching the US mainland and central parts of Europe from either the Russian mainland or from bases and delivery systems located in the area described as Russia's 'Northern Bastion'. This area is of high strategic importance in terms of Russia's ability to deliver a retaliatory strike.¹¹ However, to deliver Zirkon (estimated

Ranges

Zirkon – 1000 km

Kinzhal – 2000-3000 km

Poseidon – 10 000 km?

Avangard – 10 000 km?

Sarmat – 18 000 km?

Burevestnik – unlimited?

range of 1,000 km) and Kinzhal (estimated range of 2,000–3,000 km) missiles to the US mainland and other core areas of a potential adversary (read: NATO), the Russian military would need to access areas beyond the Northern Bastion, beyond the Bear Gap, beyond the area of bastion defence,

and even beyond the so-called GIUK line.¹² In October 2019, Russia conducted a major strategic exercise testing its ability to cross these important lines, demonstrating its interest in being able to conduct offensive operations in areas deemed important to the transatlantic community.¹³

NATO and Norwegian policy planners argue that the High North and the North Atlantic will (re-)gain strategic importance should there be a (so-called) horizontal escalation of conflict between Russia and NATO. In such circumstances, NATO and Norway will face various political, military and strategic challenges, including being forced to operate in a highly contested environment. The main challenges involve enhancing the readiness and resilience of Norwegian forces when it comes to deterring aggression, and having the necessary capacity to receive reinforcements from NATO allies. This will require control of the North Atlantic, which in turn means containing Russia's ability to operate in the area, including using the new weapons systems announced by Putin in 2018.¹⁴

Conclusions and policy recommendations

The new weapons systems announced by Putin on 1 March 2018 form an important element of Russia's strategic communication, signalling the country's return as a near-invulnerable great power. However, both Western and Russian observers see many economic and technological constraints standing in the way of Russia being able to compete with other great powers, including in the High North.

Russia's economy is more than ten times smaller than the combined economy of the West (USA+the EU+Japan etc.), which represents a clear barrier to it engaging in a new costly arms race. This was clearly demonstrated in 2017, when Russia was forced to cut its military spending by 20 per cent.¹⁵ Also, in technological terms, many of the supposedly innovative weapons systems recently presented are, in reality, extensions of past projects. Russia has also encountered grave economic and technical problems in trying to deploy these new systems.¹⁶ Trials involving Burevestnik ended in disaster, with seven Russian experts killed in August 2019.¹⁷ Another symbolic development was the loss, in December

2019, of the first of 76 fifth generation (in the opinion of many, fourth+ generation) Su-57 fighters to be delivered to Russian armed forces. This occurred just three months before Lockheed Martin delivered its five-hundredth F-35 to the US Airforce, with plans in place to continue delivering 180 fighters per year, eventually reaching a total of 4,000 units.¹⁸

With all of the above factors and constraints in mind, it is important that Norway and NATO allies devise a strategy that minimizes the risk of confrontation between Russia and the West. This will involve combining communication, political and military instruments. What needs to be communicated is NATO's ability not only to speak with one voice but to act in an orchestrated and effective manner. This will prompt potential adversaries, including Russia, to exercise caution before taking any offensive action against any alliance members. Having a credible strategy of military and political deterrence, as well as a demonstrable ability to counter aggression not only rhetorically but practically, is key to preventing any outbreak of a conflict between Russia and NATO – both in the High North and elsewhere.

An important element of such a strategy is convincing Russia that both Norway and NATO have a high situational awareness in the region, and so will be able to deal with negative changes in the strategic environment in a timely and efficient way. This would involve making use of available political and diplomatic instruments to convince Russian policymakers that the potential costs of offensive actions outweigh the strategic benefits. Further, that the West – NATO and the EU – are not interested in stoking conflict with Russia.

In the NATO context, Norway enjoys a special position as a partner that has managed to keep communication lines and some dialogue open with Russia post-2014. This is combined with a high level of situational awareness, both militarily, with Norway acting as NATO's eyes and ears in the High North, and politically, with Norway providing 'expertise on Russian strategy, policy, doctrine and capabilities' to its allies.¹⁹

However, Norway faces similar problems to other NATO members whose security depends on securing the attention of powerful members of the alliance (primarily the USA). In Norway's case, this should be done by 're-branding' the High North in strategic terms, presenting the region not only in terms of purely regional defence and deterrence, but as the first line of defence against Russia's new weapons systems – the potential targets of which lie, as demonstrated in many Russian presentations, on US soil. Helping Norway deal with the regional challenge posed by Russia should therefore be understood as being in the self-interest of all allies, the USA included.

Endnotes

1. For more on Russia's recent modernization agenda, see Godzimirski, J.M., 2013. Institusjonaliseringen av Russlands moderniseringsprosess – fra Medvedevs kommisjon til Putins råd. *Nordisk Østforum*, 27 (3), 269–292.
2. Inozemtsev, V., 2018. *Nesovremennaya strana. Rossiya v mire 21 veka (Not a modern country. Russia in the 21 century)*. Moscow: Alpina.
3. See George Kennan's 'Long Telegram', February 22, 1946. Available from: <https://digitalarchive.wilsoncenter.org/document/116178.pdf>
4. Ibid.
5. Financial value of the global arms trade. SIPRI databases. www.sipri.org/databases/financial-value-global-arms-trade
6. Wezeman, P.D. et al., 2020. Trends in international arms transfers, 2019. *SIPRI Fact Sheet*. Stockholm: SIPRI. Available from: www.sipri.org/sites/default/files/2020-03/fs_2003_at_2019.pdf
7. For some recent assessments of Russian military power and the impact of modernization, see Deni, J. R., ed., 2018. *Current Russia Military Affairs: Assessing and Countering Russian Strategy, Operational Planning, and Modernization*; U.S. Army War College and Defense Intelligence Agency (DIA), 2017. *Russia Military Power. Building a Military to Support Great Power Aspirations*. Washington DC: Defense Intelligence Agency.
8. See Cooper, J., 2018a. The Russian State Armament Programme, 2018–2027. Rome: Nato Defense College; Connolly, R., 2019. Russian Military Expenditure in Comparative Perspective: A Purchasing Power Parity Estimate. *CNA Occasional Paper*. Washington DC: Center for Naval Analyses.
9. See DIA, 2017; Deni, 2018; Cooper, 2018a; Connolly, 2019.
10. Breedlove, P., and Kosal, M. E., 2019. Emerging Technologies and National Security: Russia, NATO, & the European Theater. Winter Series. Stanford CA: Hoover Institution.
11. Atland, K., 2007. The Introduction, Adoption and Implementation of Russia's 'Northern Strategic Bastion' Concept, 1992–1999. *The Journal of Slavic Military Studies* 20 (4), 499–528.
12. For more on these strategic considerations, see Black, J., et al., 2020. Enhancing deterrence and defence on NATO's northern flank: Allied perspectives on strategic options for Norway. RAND Report. Santa Monica CA: Rand.
13. On these issues, see Hamre, J. J., and Conley, H. A., 2016. The Centrality of the North Atlantic to NATO and US Strategic Interests. *Whitehall Papers* 87 (1), 43–58; Foggo, J. G., and Fritz, A., 2018. NATO and the Challenge in the North Atlantic and the Arctic. *Whitehall Papers* 93 (1), 121–128. For more on Russian interests and measures, see Aliyev, N., 2019. *Russia's Military Capabilities in the Arctic*. Tallinn: International Centre for Defence and Security.
14. Black et al., 2020.
15. See, for instance, Nikolsky, A., 2018. Not Just Money: Constraints Facing the Russian Armed Forces. *CNA Occasional Paper* 34. Washington DC: Center for Naval Analyses. Available from: www.cna.org/CNA_files/PDF/DOP-2018-U-018170-1Rev.pdf
16. Cooper, J., 2018b. *Russia's invincible weapons: today, tomorrow, sometime, never?* Oxford: Changing Character of War Centre.
17. Gosdep svyazal vzryv pod Severodvinskom s ispytaniem rossiiskoi yadernoi rakety (DoS has linked explosion close to Severodvinsk with testing of Russia's nuclear missile), Lenta.ru, 21 October 2019. <https://lenta.ru/news/2019/10/21/severodvinsk>
18. Lockheed Martin poobeshchala ezhegodno vypuskat' 180 istrebitelei F-35 (Lockheed Martin promised to produce 180 F-35 fighters per year), Lenta.ru, 2 February 2020. <https://lenta.ru/news/2020/02/01/f35/>
19. Black et al., 2020, p. 26.

