



REGIONAL PERSPECTIVES REPORT ON RUSSIA

STRATEGIC FORESIGHT ANALYSIS



**Headquarters, Supreme
Allied Command Transformation**

Norfolk, Virginia | USA



I am pleased to present the Allied Command Transformation (ACT) Strategic Foresight Analysis (SFA) Regional Perspectives Report on Russia. This report is the second within a series of regional studies designed to support development of a comprehensive visualisation of the future security environment. Earlier this year, ACT released the SFA Regional Perspectives Report on North Africa and the Sahel. In early 2021 the third report, Arctic and the High North, will be produced and distributed. These three major efforts will form the heart of the next major version of the SFA (SFA 2021) and the follow-on Framework for Future Alliance Operations (FFAO) report.

History has demonstrated that an accurate assessment of the future is critical for any organisation to make good decisions in the present. Together, the SFA and FFAO provide military advice and inform the NATO Defence Planning Process (NDPP), as well as other NATO and national processes that require an understanding of the long-term future. Responding to NATO's expectations, the SFA reports aim to be widely distributed to provide an understanding of the anticipated complexities and challenges of the future security environment.

Therefore, the most recent SFA reports have taken on even greater importance and significance, with elements contributing to the new NWCC: NATO's 2040 Military North Star, which defines the vision and ambition of our Military Instrument of Power for the next 20 years. It plots a course to meet challenges "beyond the horizon" while guiding the continuous improvements needed to succeed against those we face today.

SFA reports do not focus on any particular region, rather provide an overarching assessment of the changing global security context. However, some trends and their military implications may have dramatic impacts in some regions of the globe, while having less effect in others. Based on suggestions from the Nations, ACT accepted the benefit that could be gained by defence planners and Alliance political/military leadership of having additional regional studies to enhance understanding of the trend effects in various

global regions. The Perspectives reports have been created to address this need.

This Regional Perspectives Report on Russia reconfirms that the long-standing conflicts of interests that Russia and NATO have experienced in the past are likely to continue well into the future, both during and potentially far beyond the end of Putin's supremacy. Russia's future intentions cannot be forecast precisely, but there have been repeated declarations that it sees NATO enlargement on its borders and the enhancement of NATO military capabilities as a threat. NATO planners and policymakers should be attuned to Russian perceptions of the threat posed and how future trends may see them act to address these threats or seek advantage from future opportunities. Certainly, Russia is seeking to change international order as it endeavours to recover its global power status.

Equally, COVID-19 is likely to accelerate changes in some global trends, which may result in severe economic, social and geopolitical consequences for Russia. While the pandemic will have far-reaching impacts for the future, an initial analysis of COVID-19 on previously observed trends is included in the report. How Russia may seek to take advantage of some opportunities, while addressing challenges raises ambiguity concerning the future strength of the Russian military poses enormous challenges for Alliance defence planners.

ACT will continue to help to transform Alliance forces and capabilities through agile processes and by exploring new concepts and doctrines. This will further strengthen NATO's collective ability to adapt to strategic challenges as and when they arise to help ensure the Alliance remains prepared for whatever changes may develop in the future. The effort to produce this report spanned over a year, using proven SFA development methodology consisting of extensive research and collaboration with experts from Alliance nations and organisations as well as strategic think tanks and academia. In this way, ACT is able to produce not just this Regional Perspectives Report but all of the LTMT products, thus remaining an essential catalyst for driving change within the Alliance. Whatever challenges or opportunities present themselves in the future, SFA regional reports are a vital contribution to ensuring NATO will remain prepared for the future, undoubtedly characterised by complexity, competition and global issues.

André Lanata
General, French Air Force
Supreme Allied Commander Transformation

//
*ACT –
Improving
Today,
Shaping
Tomorrow,
Bridging the
Two*

//



1	<i>FOREWORD</i>	
5	<i>EXECUTIVE SUMMARY</i>	37
9	<i>INTRODUCTION</i>	
13	<i>CH. 1 - FROM PARTNERSHIP TO COMPETITION/CONFRONTATION</i>	49
19	<i>CH. 2 - POLITICAL THEME</i> 2.1 Russian Attempts To Regain And Maintain Great Power Status 2.2 Increased Perception/Sense Of Containment 2.3 Increased Centralization Of State Power 2.4 Use Of Hybrid Warfare Tools As Part Of Instruments Of National Power 2.5 Russia And Non-State Actors - An Increasingly Complex Relationship	55
29	<i>CH. 3 - HUMAN THEME</i> 3.1 Changing Demographics: Demographic Decline, Ageing, Gender Imbalance And Uncontrolled Migration 3.2 Increasing Urbanization 3.3 Deficit Of Democratic Governance 3.4 Growing Public Discontent And Public Perception 3.5 Increased Role Of Traditional And Social Media For Propaganda And Social Engineering	61
	<i>CH. 4 - TECHNOLOGY THEME</i> 4.1 The Organisation Of R&D And S&T Innovation In Russia 4.2 Increasing Focus On Artificial Intelligence Development 4.3 Breakthrough Technology And Advanced R&D 4.4 Hypersonic Missile And Advanced Delivery Vehicles/ Systems 4.5 Military Robotics And Autonomous Systems 4.6 Electromagnetic Warfare Capabilities 4.7 Developments In Automated Command & Control Systems 4.8 Brain Drain And Issues Linked To Scientific Education In Russia 4.9 Increased Use Of Cyber Domain And Cyber Tools 4.10 Maintaining Investment In The Space Industry And Space Technology 4.11 Legal And Ethical Concerns	
	<i>CH. 5 - ECONOMICS / RESOURCES THEME</i> 5.1 Slow Economic Growth 5.2 Increased Inequality 5.3 Resource Dependent Economy 5.4 Increased Interdependency With Europe/ European Markets	
	<i>CH. 6 - ENVIRONMENT THEME</i> 6.1 Increasing Pace Of Climate Change 6.2 Increased Stress On Food And Water Security 6.3 Increasing Infrastructure Fragility 6.4 Maintaining Energy Systems 6.5 The Effects Of Waste On The Ecosystem	
	<i>CH. 7 - POSSIBLE FUTURE SCENARIOS</i> Baseline Futures: Russia 2045 Scenario 1: Global Power Shift Scenario 2: Future Russian Regime Scenario 3: The Future of Energy	
	<i>CH. 8 - CONCLUSIONS</i> <i>APPENDICES</i> A. Summary of Trends B. Bibliography	67



1. The end of the Cold War marked a great success for the West, although it resulted in an increasingly complex relationship with Russia. Russia's aggressive actions and assertive rhetoric over the last two decades, such as the use of military power for illegal annexation of Crimea, increased and sometimes provoked military activities in the Euro-Atlantic area. Russia's continued involvement in Libya, Syria and the wider Middle East to reclaim its status as a global power broker has generated greater concern. The resurgence of Russia should be considered with the redistribution of geostrategic power from the West to the East and the continued rise of China with increasing political and military influence over global affairs. Thus, the trends affecting and emanating from Russia cannot be analysed in isolation. Russia's relationships with China, the United States, India, and Europe, are expected to be key for understanding the global strategic context over the next two decades.

2. Immediately following the Cold War,

The resurgence of Russia should be considered with the redistribution of geostrategic power from the West to the East and the continued rise of China with increasing political and military influence over global affairs.

Russia attempted to build an alliance with the United States and became involved in European affairs. Russia hoped that partnerships and cooperation would result in resources and capital to preserve its own economic and political standing. Owing to domestic developments and other external factors, Russia ultimately abandoned this strategy when leadership realized that Russia would not receive the economic and political privileges they had hoped to gain from the West, and that NATO would continue to expand and strengthen its presence in Central and Eastern Europe. Increasing Western/NATO soft power further challenged the Russian regime. These developments led to the deterioration of Russia-NATO/West relations.

3. Russia's forceful annexation of Crimea in 2014 was seen as a breach of international law, which took Russia's relations with the West to their lowest point under Putin. Putin has focused on strengthening relations between Russia and China. China and Russia share similar strong nationalist values (national unity, sovereignty,

//

Russia's forceful annexation of Crimea in 2014 was seen as a breach of international law, which took Russia's relations with the West to their lowest point under Putin.

//



more authoritarian) that differ from the West's liberal values (democracy, individual liberty and the rule of law). Despite the cooperative relationship between Russia and China, the possibility of conflict still remains.

4. From the time Putin returned to presidency in 2012, Russia increased its efforts to re-emerge as a global power. Russia's political strategy involves building strategic alliances, sowing seeds of discord amongst Western allies and fomenting nationalist rhetoric.

- Russia will cooperate with countries with values similar to its own, such as China, and will continue to attempt to divide members of the alliance to disrupt NATO's cohesion.

- Russia will use a suite of military and non-military hybrid warfare tools, including disinformation campaigns, influence operations, economic sanctions, diplomatic pressure and energy supply cuts, to guard against any potential external threat and undermine Western democracies.

- To protect itself from neighbouring powers and to increase its sense of isolation and containment, Russia will continue internally to spread a nationalist rhetoric.

- The Russian government will continue to support the Russian Orthodox Church and other non-governmental organizations (NGOs) that support the Russian government, while establishing legal restraints against Western NGOs.

- Russian information operations are targeting the West's ability to determine fact from fiction in an effort to complicate decision-making. With these actions, Russia is attempting to influence the general public, elections and increasing support of populism/radicalism/political parties in the Euro-Atlantic region.

5. Russia's population is projected to decrease over the next 20 years due to high mortality rates, low fertility rates, and imbalances in emigration and immigration. An ageing population will add to demographic pressures. These trends are expected to result in a shrinking workforce and falling productivity.

- Government corruption and unpopular domestic policies will persuade well-educated

young Russians to emigrate, limiting the economy's capacity to grow and innovate. The government will tightly manage access to information, in part to address this emigration trend. It is likely to use censorship to foster loyalty to Russia and influence public perceptions of its performance.

- While the decrease in the military-age population will limit military recruitment, Russia should be able to find and recruit sufficient personnel to maintain the current size of its military forces.

- Increased urbanization is creating pressures, sapping the economic dynamism of rural areas, straining the environment in urban areas and fomenting resentment between communities. There are a disproportionately greater number of employment opportunities, essential services and infrastructure capabilities in urban areas, further driving migration from rural regions.

- In order to combat population decline, Russia is likely to allow and encourage immigrants to settle. However, the entrance of a greater number of immigrants will alter Russia's racial mix and fuel public discontent.

6. One of Russia's greatest strengths is the use of cyber tools for "grey zone operations" and the weaponization of information. This presents a significant threat to NATO and the West, given that legal constraints and ethical considerations often render Western nations unable to operate

in this "grey zone." Cyber resilience should be increased and mechanisms for defending against "grey zone" attacks should be established to counter asymmetric use of cyber domain.

- Russia is not likely to compete with China and Western nations in technology, which incentivizes it to build asymmetric tools to give itself a competitive advantage. Russia prioritizes the continued development of electromagnetic warfare capabilities as an asymmetric tool to give the nation a technological edge.

- Russia will continue the development of space industry and space technologies.

- Russia's technological achievements are likely to be limited in select areas due to political corruption and a lack of human capital, monetary capital and innovation.

- The development of narrow artificial

Russia will use a suite of military and non-military hybrid warfare tools, including disinformation campaigns, economic sanctions, diplomatic pressure and energy supply cuts, to guard against any potential external threat and undermine Western democracies.

intelligence, for military and non-military purposes, seems feasible for Russia and is a priority for the Kremlin. However, Russia seems reluctant to put full trust into machine intelligence over human intelligence.

- Russia will continue to further develop and deploy hypersonic weapons to demonstrate its superiority. It is ahead of most other nations in this capability, which has the potential to lead to increased military competitiveness between Russia and the West.

7. COVID-19 economic fallout, uncertainty surrounding oil prices, government corruption, lack of institutional reforms and a failure to adhere to market prices will hamper Russia's GDP growth rates. Yet, despite its stagnating economy, Russia is unlikely to alter its foreign policy.

- Russia exports a significant amount of oil, gas, coal and uranium to the EU, and the EU supplies Russia with manufactured goods. This trade partnership is set to continue, ensuring Russia's relationship with the EU remains key.

- In order to combat the effects of Western sanctions, Russia will continue to expand its trade with China to foster greater economic growth.

- Russia's changing demographics and the declining labour force are straining the economy.

- Government corruption is one of the key drivers of inequality between Russia's oligarchs and the rest of the population. This corruption, along with Russian fiscal policy, contributes to Russia's unequal wealth distribution.

8. Russia's vast land area, its biodiversity and its dependence on natural resources make it highly susceptible to the adverse impacts of climate change. These impacts include ice reduction, melting permafrost, increased flooding, air pollution and resource depletion. The biggest concerns are food and water insecurity, infrastructure coverage, resource exploitation and migration. However, the regime's freedom from conventional term limits means it can focus on long-term responses to climate change and become a global leader in some areas of environmental policy, if it is incentivized to do so.

- Environmental awareness, technological advancements and infrastructure investment will be critical for Russia to mitigate some of the negative impacts of climate change. However, environmental regulation and management has been relegated by the struggle to sustain the economy, sacrificing long-term concerns for short-term priorities.

- China may contribute strategic investments and technological support to help Russia fight the negative effects of climate change in the short-term.

- Various constraints will hinder Russia's response to climate change: public awareness differs among regions while Russia fails to adopt meaningful reduction targets; appropriate energy sector reform is unlikely given Russia's dependence on revenue from hydro-carbon sales; and a dysfunctional private sector in Russia discourages the foreign investment required for development of more environmentally safe technologies.

- Russia has displayed Arctic capabilities and with China's financial backing can capitalize on the potential new commerce and resource exploration.

9. The COVID-19 crisis caused unprecedented challenges for the West and has shaken international order with increased nationalistic sentiments. It also increased uncertainty for Russia regarding key issues such as the future of Putin, despite constitutional change to allow him to remain in power until 2036 as president; Russia-China relations; and Russian approach to the West and NATO. While the post COVID-19 geo-strategic environment is not expected to bring major changes to Russia's opportunistic use of soft and hard power to claim great power status, it might also present an opportunity for Russia to reconsider strategic dialogue with NATO.

10. Finally, Russia is expected to use non-state actors when the opportunity arises, such as the most recent 'significant disinformation campaign' against the West to exacerbate the impact of COVID-19 to generate panic and sow distrust. This also includes creating a wedge between NATO and its Partner Nations and other international organisations (IOs), such as the EU. These developments and the threat posed by changes in national nuclear strategy, the collapse of the Intermediate-Range Nuclear Forces (INF) treaty, and the modernisation of nuclear and conventional forces of major and regional powers require NATO to maintain a robust and credible deterrence and defence.

//
Russia has displayed Arctic capabilities and with China's financial backing can capitalize on the potential new commerce and resource exploration.

//
Russia is expected to use non-state actors when the opportunity arises, such as the most recent 'significant disinformation campaign' against the West to exacerbate the impact of COVID-19 to generate panic and sow distrust.



SWEDEN FINLAND

ESTONIA

LATVIA

LITHUANIA

RUSSIA

BELARUS

POLAND

CZECH. REP.

SLOVAKIA

HUNGARY

ROMANIA

UKRAINE

MOLDOVA

SERBIA

BULGARIA

ITALY

ALBANIA

NORTH MACEDONIA

VATICAN CITY

SCANDINAVIA

Kola Peninsula

WHITE SEA

GULF OF BOTHNIA

Gulf of Finland

BALTIC SEA

BLACK SEA

Sea of Azov

NATO UNCLASSIFIED - PUBLICLY DISCLOSED

“[Russia]... is a riddle wrapped in a mystery inside of an enigma; but perhaps there is a key. That key is Russian national interest.” - Winston Churchill.

AIM

1. The aim of the Strategic Foresight Analysis (SFA) Regional Perspective Report on Russia is to identify trends that are likely to shape the future strategic context in Russia, its relations with the West and the rest of the world, and derive implications for the Alliance out to 2040 and beyond.

BACKGROUND

2. Russia's relationship with the West has been increasingly complex and deteriorating since the beginning of the 21st Century, and the illegal annexation of Crimea in 2014 was a watershed moment. Since then, the situation has worsened with Russia's aggressive actions and increasingly assertive rhetoric. This report provides a Euro-Atlantic perspective of Russia and the security environment based on a collaborative effort leveraging expertise from NATO and Partner Nations, NATO Command and Agencies, international organisations, think tanks, industry and academia. This regional report will inform the development of the SFA 2021 and Framework for Future Alliance Operations (FFAO) 2022 Reports as well as the NATO Warfighting Capstone Concept (NWCC) and other studies that require a long-term perspective of the future security environment.

3. The redistribution of geostrategic power, the resurgence of Russia and continued rise of China with increasing political and military influence has brought up the connotation of great power competition into Western policymaking. An in-depth understanding and visualization of the dynamic and complex relationship between the West and Russia has been increasingly important in order to support the timely decisions required to ensure the Alliance is prepared for future challenges while taking advantage of identified opportunities.

4. Recognising diverging views on Russia due to geographical proximity, trade, socio-economic ties and historical relations, this report provides a baseline analysis and a shared perception of Russia. This report was developed through research engagements in NATO and Partner Nations and the Regional Perspectives Workshop co-hosted by Finland and Sweden that took place in Helsinki on 17-19 June 2019. It is based on the findings of extensive research using a variety of recent studies and reports provided by NATO and Partner Nations, international organizations, and an array of literature, articles, and academic work.

SCOPE

5. SFA Reports have focused on the trends and associated implications at a global level while

“
Recognising diverging views on Russia due to geographical proximity, trade, socio-economic ties and historical relations, this report provides a baseline analysis and a shared perception of Russia.”

//

The trend analysis and the resultant implications in the Regional Perspectives Report on Russia will support efforts to adapt NATO's strategy, plans and military capabilities across the Alliance which are in line with the 360-degree approach to security.

//

differences in regional aspects are included where necessary. Conversely, Regional Perspectives Reports solely focus on certain regions that are important for Euro-Atlantic security such as North Africa and the Sahel, Russia, the Arctic/High North and the Asia-Pacific. The trends and developments in and around these regions have direct, second and third order implications on their respective regions stretching from Europe, Asia and close to North America as well as to the Middle East, Africa and South America. The biggest challenge in development of the Russia report was lack of involvement of Russian academics or officials, albeit views and statements from publications such as the Russian National Security Strategy, foreign policy documents and academic literature are included. Thus, the document is titled as the 'Regional Perspectives Report on Russia'.

6. The trends and implications presented in this report are derived from a synthesis of the research using academic expertise, the summary findings of SFA workshops and professional judgement. These trends and implications are being utilised in the development of future scenarios that are included in Allied Command Transformation's (ACT) strategic foresight reporting for the first time. There are an infinite number of ways the future of Russia might be influenced by any number of trends or singular spark events that cannot be foreseen or anticipated. They are descriptive and are not intended to be prescriptive or linked to any specific capabilities. The purpose of presenting these scenarios is to inform NATO and national decision-makers on potential eventualities.

7. The NATO London Summit Declaration highlights that the Alliance is facing distinct threats and challenges, emanating from all strategic directions. It states that Russia's aggressive actions constitute a threat to Euro-Atlantic security. NATO will continue defending Alliance territory and populations against attack, as set out in Article 5 of the Washington Treaty. The trend analysis and the resultant implications in the Regional Perspectives Report on Russia will support efforts to adapt NATO's strategy, plans and military capabilities across the Alliance which are in line with the 360-degree approach to security. It will provide insights for NATO to determine how the Alliance could accomplish several key actions: establish

and apply a unifying vision; adapt and transform to fulfil its core tasks; address a full range of security challenges; and advance a conceptual framework for forces and abilities required to succeed beyond the mid-term planning horizon. These actions will also allow NATO to address a set of security challenges and provide the means for deterrence and defence, and serve to protect common values and project stability beyond the Euro-Atlantic region.

TERMINOLOGY

8. This Regional Perspectives report uses essentially the same definitions of terms as used in the previous SFA Reports. However, the definition of 'implication' is expanded appropriately. For the purpose of this study, themes, trends, and implications are defined as:

- a. Theme. A collection of similar or related trends.
- b. Trend. A discernible pattern or a specified direction of change.
- c. Implication. A significant effect on Russia that might also have direct, second or third order effect on the defence, security and stability of one or more NATO Nations.
- d. Scenario. A description of possible actions or events in the future.

REGIONAL REPORT STRUCTURE

9. The first chapter titled 'From Partnership to Competition/Confrontation' studies the developments of events since the collapse of the Berlin Wall and the demise of the Soviet Union. This chapter provides an overview of how the NATO-Russia relationship, which has failed to produce a reliable partnership, is likely to continue to deteriorate.

10. The subsequent chapters follow the same general structure as the SFA, analysing trends and implications in the framework of the five themes of Political, Human, Technology, Economics/Resources, and Environment. However, since this is a regional report and the trends differ from those identified at a global level, the definitions regarding the following areas to be addressed are refined as follows:

- a. **Political.** Russian attempts to gain/regain and maintain great power status, increased

perception/sense of containment, use of hybrid warfare tools as part of its grand strategy to influence outcomes, and its approach to non-state actors, addressing an increasingly complex relationship and increased centralization of state power

b. **Human.** Changing demographics in Russia including demographic decline, ageing, gender imbalance and uncontrolled migration, increasing urbanization, deficit of democratic governance, corruption, growing public discontent and public perception, propaganda, and the increasing role of traditional and social media

c. **Technology.** Russian approach to research and development, innovation, science and technology, increasing focus on select areas such as artificial intelligence, hypersonic missile and delivery systems, military robotics and autonomous systems, electromagnetic warfare capabilities, development of space industry and space technologies, the increased use of cyber domain, and the related legal and ethical concerns

d. **Economics/Resources.** The condition of the Russian economy, sluggish economic growth, increased inequality, an economy dependent on resources, increased interdependency with Europe and European markets, and Russia-China relations

e. **Environment.** The increasing pace of climate change, increased stress on food and water security, infrastructure fragility, and challenges maintaining energy systems and the effects of waste on the ecosystem

f. **Scenarios.** Using the trends identified in early parts of the report, a baseline future assessment - Russia 2045 - was developed to set the foundation for studying alternative scenarios. The following three scenarios describe potential deviations - alternative futures that might influence Russia, its relationship with the West and implications for Euro-Atlantic security: Global Power Shift; Future Russian Regime; and the Future of Energy. Each scenario has three alternative outcomes: positive, neutral and negative.





NATO UNCLASSIFIED - PUBLICLY DISCLOSED

FROM PARTNERSHIP TO COMPETITION/CONFRONTATION

“From what I have seen of our Russian friends and Allies during the war, [...] there is nothing they admire so much as strength, and there is nothing for which they have less respect than weakness, especially military weakness”. - Winston Churchill.

1. The end of the Cold War was a great success for the United States, NATO and the West in general. However, the high hopes for a ‘peace dividend’ reaping the rewards of decreased defense spending looks to have failed as NATO-Russia relations continues to deteriorate. Russia used force to achieve political objectives and attacked neighbouring states, the Intermediate-Range Nuclear Forces (INF) Treaty collapsed and revisionist powers actively are challenging the international system. While the goal of Europe being whole, free and at peace remains as vital today as it did in 1989, Europe still faces conflict, borders have changed by force and it still remains susceptible to threats three decades following the end of the Cold War. This chapter provides an overview of how this opportunity was missed and explains how emerging political dynamics brought back great power competition to the Euro-Atlantic region.

2. During the Cold-War, the Union of Soviet Socialist Republics (USSR) was one of two global superpowers that had been engaged in a ‘zero-sum’ competition for power and influence against the United States and NATO. The Russian elite and population were in shock due to the rapid collapse of their political system and they found themselves in an identity crisis. Militarily and politically, Russia had much less global influence than the Soviet Union did during the Cold War. With the dissolution of the Warsaw Pact and the collapse of the Soviet

Union in 1991, the Russian Federation emerged as the primary successor and inherited the USSR’s role in various international fora.

3. A country that was once a superpower in a bipolar world began to doubt its place, status and role in the international system. Additionally, chronic problems including corruption, acute financial and economic crisis, lack of law and order, loss of central control over the periphery and conflicts in Chechnya were undermining political stability. Russian policy objectives were not clearly developed. The institutions intended to make and to carry out Russian policy were managed poorly due to domestic political, social and economic chaos in the early 1990s. Central and Eastern European countries were seeking closer relationships with the West and Western institutions, such as NATO and the European Union (EU), in search of a new identity.

4. At the end of the Cold-War, NATO’s perception of security challenges and risks changed drastically. Russia was no longer perceived as the primary security concern for the Euro-Atlantic security and NATO’s 21st Century focus initially turned towards partnership, cooperation and dialogue. As stated in the NATO Strategic Concept 1991, ‘The threat of a simultaneous, full-scale attack on all of NATO’s European fronts has effectively been removed and thus no longer provides the focus for Allied strategy.’

5. Seeking to be recognised as an equal



Russia used force to achieve political objectives and attacked neighbouring states, the Intermediate-Range Nuclear Forces (INF) Treaty collapsed and revisionist powers actively are challenging the international system.



//
Putin's first national security priority was to establish a foundation for Russia's modernization and economic growth, so balancing American power would become subordinate.

//

partner by the West, Russia's initial foreign policy objective was to join and become an integral player in European affairs while establishing a cooperative relationship with the United States. President Yeltsin and Foreign Minister Kozyrev recognized the ground-breaking nature of their approach to establish relations with the West. Western economic, material and moral support for reform were essential to accomplish a liberal transformation. Thus, Kozyrev followed a foreign policy aiming to integrate Russia in the group of 'civilized nations.' Russian leadership intended to join Western international organizations in order to receive economic and material resources required to stabilize and restructure the economy. However, 'Russia was offered partnership but no special privileges and no role in Western decision making.' The Yeltsin-Kozyrev approach, which could not be sustained as the integration strategy with the West, did not produce the intended economic and political outcomes.

6. The NATO Strategic Concept 1999 acknowledged that 'a strong, stable and enduring partnership between NATO and Russia is essential to achieve lasting stability in the Euro-Atlantic area.' Within this concept, the Alliance gave the highest priority to NATO's enlargement and expected Russia to 'play a unique role' within the framework of the NATO-Russia Founding Act on Mutual Relations (establishment of NATO-Russia Council), Cooperation and Security on the basis of common interest, reciprocity and transparency to achieve a lasting and inclusive peace. Although Russia has traditionally been a Serbian ally, the Kremlin initially positioned itself as the West's partner in finding a solution to the Kosovo crisis. Initial cooperation efforts with Russia, through special partnership status, provided positive outcomes such as addressing the crisis in the Balkans, arms control issues and later the global war on terrorism. However, signs of resentment started emerging from the very beginning as former Warsaw Pact and Soviet Republics were becoming members of the NATO Alliance.

7. Despite Russia's objections to enlargement, the accession of the Central and Eastern European countries into NATO and the EU were implemented successfully in 1999 and 2004. NATO enlargement, increasing Western power and influence in Central and Eastern Europe sent shockwaves to Russian leaders and the public who were conditioned to view the West through an enemy-image prism. Compounded by the Russian perception of its exclusion from the enlargement process, losing influence over its near abroad, dealing with an economic crisis and drastic changes in the standard of living resulted in deterioration of Russia-NATO/Western relations and acceptance of the Primakov Doctrine.

8. Foreign Minister Primakov proposed two central elements for recovering Russia's status as a great power in a multipolar world: balancing the United States' unipolar ambitions and integrating the former Soviet region back under Moscow control. Recognising Russia's weakness and limited resources to follow a grandiose foreign policy, reintegration of the former republics was seen as an alternative strategy with an intent to build a power centre around Russia. Additionally, Primakov focused on challenging the unipolar order with flexible alliances and economic reforms. In Primakov's view, Russia is both in Europe and Asia, and this geopolitical position continues to play a tremendous role in the formulation of its foreign policy. In summary, Russia's geopolitical interests include China, India and Japan as well as 'the Middle East and the Third World.' Primakov argued that without such a geopolitical scope, Russia could not continue to be a great power and play the positive role it had been destined to play. While successful in negotiating peace in Moldova and Tajikistan, Primakov's diplomatic attempts failed in Georgia. Despite general resistance to great power balancing, Russia was largely able to assert its interests in the southern near abroad.

9. Putin's arrival in 1999 signalled a change in policies and a renewed interest in engaging the West. Although he insisted on Russia's priority of preserving great power status, his strategy, 'pragmatic cooperation,' differed considerably from Primakov's approach. This change was driven by the alliance of oligarchs and chekists, the domestic coalition that brought Putin to power. Russia's cooperation with the West during the war on terrorism was motivated by gaining support for anti-terrorist action in Chechnya and advancing its economic interests. Coinciding with economic stabilization and cooperation with the US after the 9/11 terrorist attacks, the public strongly supported Putin's approach and his vision of national interests. This included the preservation of Russia's security and identity; socio-economic development; and the strengthening of political institutions.

10. Putin's first national security priority was to establish a foundation for Russia's modernization and economic growth, so balancing American power would become subordinate. While focused on the maintenance of status quo in its relations with the West, Putin's approach did not last long. The possibility of a closer alignment with the West declined as cooperation turned into competition and then confrontation due to differences in understanding of the European future.

11. President Putin's 2007 Munich Security Conference speech was an expression of Russia's grievances. It marked the first open challenge to

the post-Cold War liberal world order and US global leadership, demanding Russia should have an equal say in world affairs. In June 2008, newly elected President Medvedev echoed Putin's assertive vision seeking to position Russia as a global player and maker of new global rules. Blaming the US, Medvedev suggested a new European security architecture beyond NATO was required.

12. Conversely, the NATO Bucharest Summit 2008 Declaration stated that NATO welcomed Ukraine's and Georgia's Euro-Atlantic hopes for NATO membership and agreed to them joining the Alliance formally. Russia reiterated that it would do everything in its power to prevent expansion of the Alliance and extension of its membership to Georgia and Ukraine. Russia increasingly recognised its lack of ability to influence the global landscape on key issues such as the NATO enlargement, the Balkan and Iraq Wars, the Arab Spring, and the US withdrawal from the Anti-Ballistic Missile (ABM) Treaty. Additionally, concerns over NATO troop deployments such as air policing and the question of missile defence sparked big differences between NATO and Russia. Attempts to signal their frustration to the West were neglected and these developments exacerbated Russia's sense of vulnerability and isolation by the West.

13. The Russia-Georgia conflict in 2008 was the culmination of years of increasing tensions, provocations and incidents due to Russian support for Abkhazia and South Ossetia. This conflict was an early indication of Russian leadership's concern with the 'colour revolutions' in Georgia and the return of great-power politics. It demonstrated the will and ability of Russia to contest Western vision as well as its desire to control its near abroad. Additionally, it could be explained as a consequence of Russian perception of the threat posed by NATO expansion, and Russia then using this development to leverage its great-power assertiveness in the Caucasus region. Moscow has shown that if the West comes close to its red lines, it will not hesitate to act. When NATO announced that the Alliance agreed to welcome Ukraine and Georgia as new members in the future, Moscow took advantage of border disputes between Georgia, Abkhazia, and South Ossetia, and annexed its way into a sustained conflict in the Donbas to disqualify any attempt at membership by the two nations.

14. The 2010 NATO Strategic Concept aims to tame Russian concern by highlighting the strategic importance of NATO-Russia cooperation for peace, stability and security. It states NATO poses no threat to Russia but seeks a true strategic partnership. The 2012 NATO Chicago Summit Declaration highlighted the uncertainty of the future of NATO Russia relations. NATO had

expressed its determination by working together with Russia for creating a common space of peace, stability and security based upon the goals, principles and commitments of the NATO-Russia Founding Act and the Rome Declaration. Russia's aggression against Georgia was clearly stated in the Summit declaration, and the Allies called on 'Russia to reverse its recognition of the South Ossetia and Abkhazia regions of Georgia as independent states.' Additionally, the Chicago Summit Declaration stressed that 'the NATO missile defence is not directed against Russia and will not undermine Russia's strategic deterrence capabilities.' Under these circumstances, newly elected President Putin decided not to attend the Chicago Summit and continued using NATO as an imagined external threat to reinforce public support for its domestic political control, especially after the Russia-Georgia conflict. At this point, the allies seemed well-aware that relations with Russia were rapidly moving toward confrontation, even if they wanted to keep the door open for cooperation.

15. In 2014, Russia used force against Ukraine to illegally and illegitimately annex Crimea. The annexation of Crimea resulted in the disruption of two key initiatives of Russian foreign policy: integration into the wider West and reintegration of the former republics to Russia. This was a pivotal change in Russia's relations with the West which had been deteriorating for quite some time; the use of hybrid warfare tools 'suggest[ed] a readiness by one of the nuclear great powers to take risks that many in the West would have thought implausible just a short while ago.' Violation of Ukraine's sovereignty and territorial integrity was recognised as a serious breach of international law and a major challenge to Euro-Atlantic security. The assassination attempt on Skripal, the associated disinformation campaign, the OSCE hack, and the downing of the Malaysia Airline Flight 17 over Eastern Ukraine further strained this relationship.

16. The competition between states is increasingly encompassing value systems and is reflected in the Russian National Security Strategy. Fundamental disagreements in the perception of 'value systems' exist between Russia and the West. Liberal Western values such as democracy, individual liberty and rule of law contradicts Russian conservative values that give priority to national unity (nationalism), sovereignty and traditional family. This value-based conflict also contributes to disagreements generated by different understanding of national interests and the perception of threats. The revisionist powers, China and Russia, want to shape the world in contradiction with the value system established by the U.S. and its Allies.

17. President Putin focused on strengthening

//

The competition between states is increasingly encompassing value systems and is reflected in the Russian National Security Strategy. Fundamental disagreements in the perception of 'value systems' exist between Russia and the West.

//

//
Russia-China relations gained a strategic dimension due to the increased convergence of their views of international liberal world order and global priorities. //

relations with China, India, Brazil and South Africa by establishing and supporting non-Western institutional frameworks such as BRICS and the Shanghai Cooperation Organization (SCO). Russia will continue to work or be part of the alternative frameworks such as the Eurasian Economic Union (EEU), Commonwealth of Independent States (CIS), SCO, BRICS, Asian Infrastructure Investment Bank and the Belt and Road Initiative (BRI) that duplicate and undermine the Bretton Woods system that is the benchmark of the liberal world order.

18. Russia-China relations gained a strategic dimension due to the increased convergence of their views of international liberal world order and global priorities. Russian political elite had initially diverging views on establishing closer relations with China; one group was expecting that China could replace the West and help balance against the United States. The others feared that China would come to dominate Russia economically and politically. For the moment, China appears to be focused on more transactional outcomes such as 'energy supplies, military technology, and a stable bulwark in the north.' China is also seen 'as a source of easy credit, large-scale investment, and advanced technology, as well as a principal market for Russian exports.'

19. Russia-China cooperation and competition looks like two sides of a coin. Russia and China have established foundations for a strategic relationship that have potential in several dimensions ranging from oil and gas resources, economics, sales of advanced military equipment, technology investment such as 5G, and harmonization of EEU and BRI. However, while Russia and China continue to increase cooperation in certain areas, there are likely points of friction that might lead to competition for influence, including but not limited to influence in Central Asia.

20. Russia-China collaboration in technology is picking up pace in a range of areas, frequently with dual use in both commercial and military applications. For instance, President Xi Jinping announced a joint investment fund for high-tech projects with President Vladimir Putin that launched in September 2019 with an initial budget of US\$1bn. Huawei signed another deal in 2019 with an artificial-intelligence research centre backed by Moscow, partly in response to the US-led campaign to squeeze the company's 5G technology out of world markets.

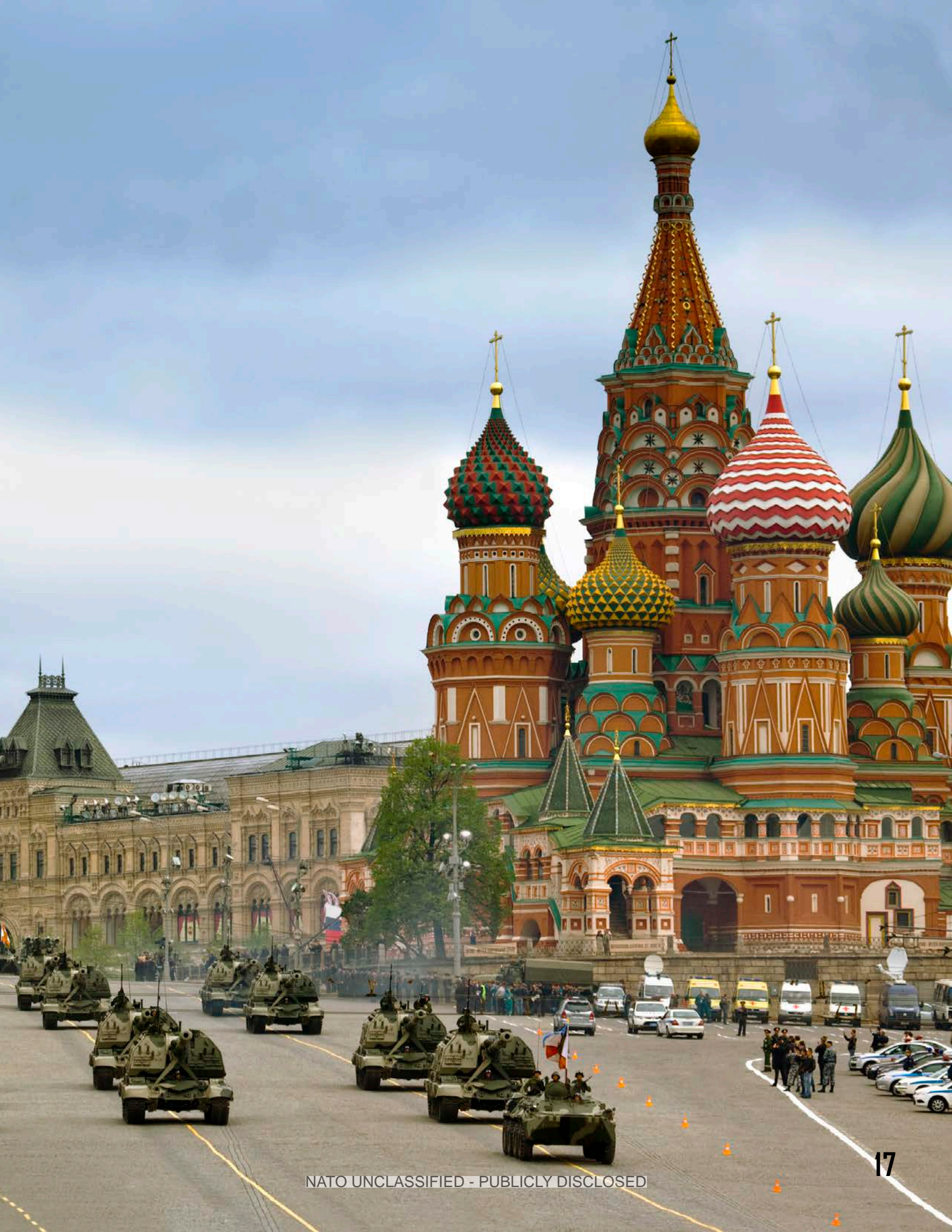
21. Russia-China partnership is focused on the following areas: telecommunications; big data, robotics and artificial intelligence; biotechnology; internet governance and propaganda; the digital economy; facial recognition and public surveillance. With more immediate relevance to NATO, Russian President Vladimir Putin announced in October

2019 that Russia is helping China create an anti-missile early warning system. So far, only the US and Russia have successfully built such systems. Russia can support China's efforts with both consulting (based on its long experience in the area) and hardware.

22. Russia-China relations will continue to carry strategic importance and will be shaped by each country's interactions with the West, in particular with the United States. Russia and China increasingly have become more assertive in their influence both regionally and globally. While China is likely to adapt a more assertive position, Russia will continue to push for a multipolar world order that allows Russia to act as a key player. This global assertiveness is likely to expand to the Arctic. Russia views the Arctic region as one of the key elements of Russian national security and one of two regions where Russia plays the role of a great power. China, as a strategic partner, has no alternatives but to work with Russia to materialize its Polar Silk Road project.

23. Preserving historically-established state unity has been and will continue to be a foundational pillar of Russia. Domestic political stability is expected to remain the top security policy goal that prevents separatism, addresses social popular unrest, counters terrorism and entails economic development and stability. Russian understanding of political stability also includes avoidance of colour revolution scenarios in areas along Russia's neighbourhood, defined as its near abroad, and countering perceived Western attempts at regime change globally, in particular in areas where Russian national security interests exist. The developments explained in this chapter summarizes Russian security policy goals since the end of the Cold War and provides insights on potential projections over the next two decades and beyond.

24. Russia has re-emerged onto the international scene over the last decade and is expected to remain as a key actor for European security due to its peculiar strengths such as a huge land mass, a skilled population, energy resources, and inventories of conventional and nuclear weapons. Russia is likely to continue to be more assertive in its foreign policy and continue to challenge NATO and NATO Allies with a range of aggressive actions in pursuit of global ambitions to establish itself as a great power. Russia uses every opportunity such as the disinformation campaign related to the spread of COVID-19. The following chapters cover trends that are likely to unfold over the next two decades in order to describe the regional strategic context with a focus on Russia.





АРСТВЕННАЯ ДУМ

POLITICAL THEME

“The attitude of the West and of Russia towards a crisis like Ukraine is diametrically different. The West is trying to establish the legality of any established border. For Russia, Ukraine is part of the Russian patrimony”. Henry Kissinger

1. The complexity of the new strategic environment requires a better understanding of Russia's security perceptions, international motives and goals, as well as resources that could be used to materialize/accomplish these objectives. The Russian National Security Strategy outlines threats to the security of the state but frames them as the long-term national strategic interests including ‘traditional Russian spiritual-moral values.’ By presenting external forces as an assault on traditional Russian values, Moscow has positioned itself as a defender of the Russian civilization from terrorists, internal threats, and destructive Western ways. This view is also clearly stated in Russia's Foreign Policy Concept published in November 2016, which describes ‘competition of civilizations’ and ‘duelling values.’
2. Russian foreign policy is based on three intertwined and connected drivers that should always be considered holistically. First, Russia would like to be recognised as a great power that legitimizes its geographical and geopolitical ambitions. Second, Russia senses its vulnerability due to an absence of natural barriers protecting it from neighbouring powers. Finally, the increased sense of isolation and containment both in the Russian elite and the public complicate its relations with the West. While Russia needs Western financial and technical support to accomplish reforms, it continues to reflect/depict the West/NATO as a rival.
3. Russia has developed a coercive strategy that aims to keep the West out of the

non-NATO former Soviet Republics. This new strategy combines traditional conventional and nuclear military capabilities with non-kinetic operations such as cyber-attacks, propaganda, and disinformation. Current Russian narrative suggests that the humiliated nation of the 1990s, led by a disoriented Yeltsin, has become a resurgent global power. Putin is determined to consolidate his authority to ensure that Russia becomes an independent centre of power, increasingly self-confident, and more influential than at any time since the fall of the Soviet Union.

4. Russia has also been in violation of international agreements, norms and treaties that created arms control architectures established during the Cold War. Russia's suspension of the Conventional Forces in Europe (CFE) Treaty and efforts circumventing the Organization for Security and Co-operation in Europe (OSCE) Vienna Document, which provides for inspections of military activities and exercises that reduces risk of unintentional conflict, are examples of non-compliance within the rules of the arms control architecture. Finally, Russian deployment of intermediate-range missiles has resulted in US withdrawal from and subsequent demise of the INF Treaty.

5. To support its claim of being a global power, Russia will need to extend its influence beyond the near abroad and have international/global reach. While usually associated with Putin, the foundation of current policy dates back to Primakov and is based on historical



Putin is determined to consolidate his authority to ensure that Russia becomes an independent centre of power, increasingly self-confident, and more influential than at any time since the fall of the Soviet Union.





and intellectual traditions of Soviet and imperial Russian perception of security and foreign policy. A closer look reveals that Russian activities go far beyond Ukraine, Syria and election meddling in the West. Beginning in 2012, Putin set out on a global influence campaign which has stretched throughout Europe, the Middle East, and parts of Africa, Latin America, and Asia. In Syria, Putin saw an opportunity to counter what he saw as yet another attempt at regime change by the West, while at the same time, gaining a stronger foothold in the Middle East. Russia's deployment of army medical staff, decontamination units and medical aid to Italy was initially a publicity victory for Putin, however, it became apparent soon afterwards that the equipment was defective and unreliable.

2.1 RUSSIAN ATTEMPTS TO REGAIN AND MAINTAIN GREAT POWER STATUS

6. The power transition from the West to Asia is expected to continue, resulting in potential structural challenges in the liberal world order and disrupting global strategic balance. In addition to economic and military aspects, this multiple dimensional power transition also includes weakening of liberal democracy and broken-down political bargains that are the foundation of the Alliance system. One of the most important consequences of the changes in the strategic balance was the declaration of the U.S. 'pivot' or 'rebalancing' toward the Asia-Pacific in 2011. The rebalancing has created the risk of U.S. military capacity reduction in other parts of the world that could potentially create a power vacuum for Euro-Atlantic security. Russia has been attempting to fill the vacuum to become an independent centre of power and continues to challenge legal and normative positions of the West and the liberal world order.

7. The shift in the United States' foreign policy centre of gravity, national security and economic interests almost coincided with Putin's return to the Presidency in 2012. Russia, under Putin's leadership, has initiated a large outreach campaign to expand its international standing while the retrenchment of the West and movements to undermine United States' centrepiece role to the international order are on the rise. These factors are important for a Russian foreign policy that aims to regain and maintain its great power position over the next two decades. Russia is likely to continue to use economic and political influence, military ties and information space to disrupt Western democratic structures and NATO's cohesion.

8. Russia will continue to see the international order as a system to balance power with distinct spheres of influence for each great power. Russia's ambitions go beyond its claim to a sphere of privileged interests around its immediate periphery, which was staked out in the wake of the 2008 war with Georgia and its refusal to accept the

post-Cold War security order in Europe. Russia would like to be recognised as a global power. To achieve this status, Russia is likely to continue re-positioning itself as a stand-alone Eurasian power and establishing a web of relationships that allows 'projecting influence in Africa, Latin America, the Middle East, and other parts of the world.' These outreach attempts to state and non-state actors were recently coined as 'the Return of Global Russia.'

9. Russia has been modernising its strategic triad for more than a decade, deploying and developing two new intercontinental-ballistic-missile (ICBM) systems, one submarine-launched ballistic-missile (SLBM) system, two heavy-bomber systems, and long-range nuclear and dual-purpose air-, ground- and sea-launched cruise missiles. Russia is also developing and deploying a new generation of nuclear and dual-purpose weapon systems unveiled in President Putin's 1 March 2018 address. These systems are covered in Chapter 4, 'Technology.' Given the demise of the INF Treaty agreement on 2 August 2019, intermediate-range land-based Kalibr-type cruise missiles and hypersonic missiles may be deployed. Russia released a strategic planning document that highlights the essence of its nuclear deterrence and the conditions for using nuclear weapons. The unprecedented public release of Russia's basic principles for nuclear deterrence coincided with the slated expiration of the 2010 U.S.-Russia Strategic Arms Reduction Treaty.

10. As part of Putin's campaign for global influence, Russia has increased military and economic relations in the North Africa, selling major weapon systems and platforms such as tanks, helicopters, and submarines to Libya, Algeria, Morocco and Tunisia. Russia's state-owned firms have expanded operations in Africa over the last several years, including Burkina Faso and South Africa. In Latin America, Moscow helped President Maduro's government in Venezuela while making energy deals. Additionally, Moscow has negotiated the sale of military armament to Chile, Peru and Brazil. Russia has also made major investments in Central and East Asia, including energy investments in India and partnering with Japan to survey offshore oil blocks. Over 40% of Russian military sales go to Asia, including the Philippines, Vietnam, Indonesia, and Pakistan. Russia is expected to continue its concerted effort to increase its economic and military ties with the countries in the Middle East, Africa, Latin America and the Asia-Pacific. Finally, Russian assertiveness in the Balkans is targeting the slowing down of the region's integration into Euro-Atlantic institutions and tarnishing the image of Western-style democracy in South-Eastern Europe.

11. Although a rising China should be a concern for Moscow, the Russia-China relationship is expected to increase in economic, political and

military domains in light of poor relations with the West. Both nations will continue to share a vision of the world system based on a multipolar world order. Russia sees an increased China influence on the world order far preferable to US-led unipolar system, as China will not interfere with domestic policies. But if, or more likely when, China surpasses Russia's lead in key regions such as Central Asia, Moscow may have no choice but to shift its stance on the West. The Chinese BRI continues to cut across Central Asia and Russia with railroads and economic corridors aimed at connecting the growing global power to Europe.

12. Under Western sanctions, Moscow needs Chinese investment, and this places them in a precarious position. With an estimated one-fifth of Russia's GDP coming from north of the Arctic Circle, this could also be the more likely area for future contentions with China. Russia views the Northern Sea Route from Novaya Zemlya/Kara Strait and eastwards to the Bering Strait, which lies within its Exclusive Economic Zone (EEZ), as its 'historically developed national transport route.' Russia looks to ensure its jurisdiction of the route, including the recent announcement of, though yet to be implemented, transiting rules for foreign warships, while China looks to include the route in its Polar Silk Road.

13. There are divergent views on the potential threat of escalation in the Baltics. Some see the trip-wire force of NATO's Enhanced Forward Presence in the Baltics and Poland as a step in the right direction, while others are more sceptical of Russia's intentions and fear these multinational units will only serve to up the ante in the region. Military brinkmanship in the Baltics could also result in an inadvertent or deliberate escalation. For example, the crash of an aircraft could trigger a crisis that may be difficult to de-escalate without emergency communication channels between Russia and the Alliance. The growing number and scope of air, land, maritime and cyber domain activities of NATO and Russian militaries and Russian actions under the Article 5 threshold will likely to increase potential for conflict.

IMPLICATIONS

a. **Challenges to Alliance cohesion.** Russia is expected to continue focusing on the differences amongst the members of the Alliance to challenge NATO cohesion. Potential areas might include, but are not limited to, economic and energy interdependency, arms sales, missile defence and the perception of risks and threats under the Article 5 threshold in the grey zone. Russia will continue to exploit each one of these areas to manage quick-wins when the opportunity arises, such as the most recent 'significant disinformation campaign' against the West to worsen the impact of COVID-19 in order to generate panic and sow distrust. This also includes creating a wedge between NATO and its

Partner Nations and international organizations such as the EU.

b. **Disruption of the liberal world order and Western democratic structures.** Russia is likely to continue leveraging conventional and unconventional means to improve its outreach and influence to disrupt the liberal world order. To achieve this, it will continue to work with China, Iran, Venezuela and other like-minded countries to disrupt Western democratic structures and institutions by manipulating information, while emphasizing and exploiting divisions. Russian malign efforts include building a global scale state-sponsored propaganda apparatus; supporting populist and/or far right or far left movements in Europe; fostering corruption in the developing world (in particular Africa); undermining stability in the Balkans by fuelling ethnic tensions; using information operations and leveraging the cyber domain to influence elections in North and South America, Europe and the Middle East; and finally, exploiting political divisions in Europe through the use of hybrid warfare tools including energy security, traditional and social media.

c. **Increased Russian influence through political, military and economic relations including arms sales.** Russia primarily uses 'hybrid warfare' techniques to influence outcomes in Europe. In other parts of the world, Russia will continue to fill in by leveraging economic and business ties, in most cases using state owned energy companies, banks and oligarchs, exerting political influence and harnessing the information space. Russia will stand against democratic movements in countries such as Venezuela and Syria, labelling them as regime change efforts of the West, and forging or deepening military ties with key countries such as China and Iran.

d. **Increased Russian cooperation with China.** Russia and China's common interest is expected to extend over the next two decades in shifting the Western-dominated world order. But with historically-based mistrust between them, time will tell which one will reap the most benefit from this relationship. Moscow and Beijing will continue to expand their partnership on several energy projects and bilateral trade, and exercise their militaries together on a large scale. However, the Russia-China relationship will continue to depend on their relationship with the West and issues such as increasing Chinese influence over Central Asia and freedom of navigation in the Northern Sea Route as it may be yet another red line for Moscow.

e. **Increased potential for miscalculation and escalation to conflict.** The risk of escalation sparking a potential conflict between Russia and NATO is likely to be increased due to recent developments; eroding global arms control architecture such as the demise of the INF treaty; and troop deployments during exercises, including other Russian air and maritime activities.

//
Russia is expected to continue focusing on the differences amongst the members of the Alliance to challenge NATO cohesion.

//



Although it is impossible to predict any potential Russian aggression, increased resiliency and risk-reduction measures are required to counter possible non-kinetic operations, including the influence of ethnic Russian minorities.

2.2 INCREASED PERCEPTION/ SENSE OF CONTAINMENT

14. Since the collapse of the USSR, regardless of the declarations of shared interests and the Russia-West partnership, NATO enlargement and the US/Western presence in the areas of the former Soviet Union contributed to the creation of the Russian sense of containment. The US and the West periodically highlighted concerns over Russian attempts to re-establish influence over areas generally referred to as the near abroad. Although the major thrust of Russian initiatives are mostly related to the Belarus, Ukraine or Moldova concerns were also voiced about Russian efforts to reintegrate Central Asia into a Moscow-centred political system, mostly through Eurasian Economic Union integration.

15. By the late 1990s, Russian foreign policy under Foreign Minister, later Prime Minister, Primakov was explicitly oriented toward establishing such a system, in part to counter what Moscow viewed as US attempts to isolate it and preclude its re-emergence as a major regional and even world power. Russian National Security strategy indicates Moscow's perception of the US and its Allies attempting to contain the Russian Federation in order to limit its exertion of political, economic, military and informational pressure.

16. Inside the Kremlin, there is a long-standing and entrenched sense of inferiority and resentment towards the West, rooted in the aftermath of the Cold War and post-Cold War re-ordering. NATO still is viewed by Russian elites as the way the 'Warsaw Pact' was perceived, and NATO's eastward expansion and encroachment into former Soviet Bloc countries only reinforced this view. Moscow judged the intervention in Iraq and Libya as regime change veiled as humanitarian operations and perceives the goal of the West as Russian regime change. At the very least, Russia believes the West is set on not allowing Russia a seat at the table on the world stage.

17. The shift from the multi-ethnic 'Soviet people' towards an equally multi-faceted Russian (rossiiskii) national identity gained momentum with the collapse of the USSR. There are important differences between the various strands of Russian nationalism, such as 'statists/imperialists' who are focused on the maintenance of a large and strong state and have been far less concerned with ethnic interests and racial purity. On the other hand, there are the 'ethno-nationalists' who are mostly concerned for ethnically defined Russian people (russkil). Ethno-nationalists are more concerned for ethnically defined Russian people, less for the Russian state. There is a tendency

to shift from rossiiskii to russkil. Until the 2011 mass demonstrations, it was difficult to link public support for Putin's leadership and the role of Russian nationalism in the society.

18. Putin has successfully exploited the illegal annexation of Crimea by addressing both nationalistic sentiments: showing the strength of the Russian state and reaching out to the primarily ethnic Russian population. The illegal annexation of Crimea was sold to the Russian people in starkly nationalist language. A clear reaction to the Euromaidan revolution, Putin adopted and used Russian nationalistic rhetoric and his popularity reached 85-87% levels within Russian population.

19. Russia-West relations have plunged to their lowest levels since the Cold War due to recent developments such as Russia's illegal annexation of Crimea, actions in the Eastern Ukraine and involvement in the war in Syria. The allegations of Moscow's meddling in the 2016 U.S. presidential elections and attempts to interfere in European elections have increased these concerns. Belarus is also a potential area of Russian interest, as it is seen by Moscow as a region that cannot be allowed to break away from Russian influence. Any move by Ukraine or Belarus to build closer ties to the West will most likely be seen by Moscow as a red line that cannot be crossed.

IMPLICATIONS

a. **Increased nationalism and ascendancy of Russian identity.** Russian nationalism is largely a reaction to the breakup of the Soviet Union and is expected to continue over the next two decades. Since 2012, and in particular with the illegal annexation of Crimea in 2014 and the following Russian aggression in Eastern Ukraine, nationalism and national identity questions have moved to the top of the political agenda in Russia. Putin is expected to continue to harness nationalist sentiments in the population and exploit these sentiments for his own purposes. These nationalist movements are also expected to continue driven by the desire for acquisition of Russia's role as a great power.

b. **Re-establishment of a buffer zone by regaining influence over post-Soviet states.** Russia's leadership has focused on recreating a buffer zone at its borders against the West since the early 1990s, immediately after the fragmentation of the Soviet Union. The heavy-handed responses to the unrest in the North Caucasus (Chechnya and later Dagestan, Ingushetia, or Kabardino-Balkaria) to dismiss the secessionist attempts in its inner abroad, war with Georgia, and finally illegal annexation of Crimea and destabilization of Eastern Ukraine clearly indicate Russia will continue to seek re-establishment of a buffer zone in its near abroad. As long as Russia's 'zero-sum game' understanding continues, it will struggle to preserve influence in Eastern Europe, Caucasus and Central Asia through diplomatic pressure,

covert economic dominance and regional integration efforts.

c. **Development and demonstration of military capabilities.** Due to increasing tensions between Russia and the Alliance, NATO has expanded its presence near Russia's borders to reassure its eastern members, a build-up Russia has described as a threat to its security. Russian leadership used these developments to support their narrative for expanding conventional and nuclear military capabilities to justify increased defence spending while social security and pension systems are struggling. Russian Defence Minister Sergei Shoigu stated in 2019 that the military received more than 1,000 warplanes and combat helicopters, and over 3,700 tanks between 2012 and 2018. The sense of containment is expected to drive Russian defence spending and demonstrate new military technologies to overcome their perceived feeling of inferiority.

20. **Leveraging religion and Russian speaking population.** The West is seen as an imposing threat with strong allies, whereas Russia stands alone and is lacking alliances of any significance. Putin opportunistically uses this 'Besieged Fortress' mentality, by framing Russia not just as a state, but a civilization which is under attack. This nationalistic mentality is expected to be used to justify external and internal actions of the state, including the right of Russia to take military action pre-emptively to quell any conflicts outside of its borders. There is evidence this mentality is popular amongst some Orthodox Christians. A survey result suggests that Russia is widely viewed by the region's Orthodox Christians as an important counterweight to Western influences and as a global protector of Orthodox and ethnic Russian populations. However, developments in Ukraine, specifically the separation of the Ukrainian Orthodox Church, will continue to present a challenge for the Russian narrative.

2.3 INCREASED CENTRALIZATION OF STATE POWER

21. The worldview presented by Putin includes the following beliefs that are widely accepted by the Russian population:

'Russia is a great power, and the West is hostile to it; the supreme leader is the only source of authority and the pillar of the right state order; the state is omnipotent, and its citizens depend on it - people see themselves as part of the state's power; and Russia has a special path, which in and of itself ostensibly provides the justification for national pride.'

When Putin took the office of President in 2000, he made his intentions clear, stating that 'the public looks forward to the restoration of the guiding and regulating role of the state to a degree which is necessary.' These domestic measures have

increasingly been correlated with progressively assertive Russian foreign policy engagements and Russia's deteriorating relationship with the West.

22. Putin's 'power vertical' creates an environment of competition and loyalty. Technocrats are provided positions in return for their loyalty to the President, and this enables him to maintain a tight grip on control in the 'rule-by-law' state. Military Doctrine, the National Security Strategy, and the Foreign Policy Concept provide guidelines, but strategic decisions are made by the elite circle concentrated around the president and are focused on the primary objective of keeping the ruling class in power.

23. Although Putin seemingly has mastered the balance between loyalty and competition needed to achieve the power vertical, this top-down leadership is inherently unstable. Those who serve the president are never quite sure when an order is mandatory or is merely a quickly-made decision that can be ignored without repercussions. Fairness is an elusive concept, as some are given leeway or rewarded for unseen reasons while others are removed. While Putin's last constitutional term in office is coming to an end, Russia's parliament approved constitutional amendments that could allow Putin to remain in power until 2036 by resetting his presidential tenure after 2024. In July 2020, these constitutional amendments were backed by Russian citizens in a public vote.

IMPLICATIONS

a. **Exploitation of a value system that is based on centralization, order and domestic stability.** Putin and the governing elite are expected to increase focus on regime survival by concentration of power in 'firm hands' using traditional methods. To achieve this goal, the regime will continue to use the entire repressive machine of the state security system, courts and prosecutors, as well as the institutions that affect mass socialization and public opinion – the media, educational system, culture and the Church.

b. **Increasing adverse effects on foreign policy.** The growing weakness of the Putin regime and the decline in public trust and support after the 2008/09 economic crisis increased concerns for regime survival. The geopolitical motives for Russia's intervention into the Ukrainian crisis were precipitated by internal reasons. An authoritarian narrative has been increasingly fuelled by animosity, diverting attention from Russian domestic problems such as social injustice and a stagnating economy, an ageing population and old/crippling infrastructure. These attempts are expected to continue to reflect NATO and the West as the enemy of Russia while Crimean Consensus is over and Putin's popularity reaches historically low levels.

“
Putin opportunistically uses this 'Besieged Fortress' mentality, by framing Russia not just as a state, but a civilization which is under attack.
”

//
Moscow makes no effort at hiding its ongoing information warfare campaign, as stated in the Russian Foreign Policy Concept; the country will attempt to develop '...its own effective ways to influence foreign audiences' by using new information and communication technologies.

//

2.4 USE OF HYBRID WARFARE TOOLS AS PART OF INSTRUMENTS OF NATIONAL POWER

24. General Gerasimov's article, 'The Value of Science is in the Foresight,' states that 'In the 21st century, we have seen a tendency toward blurring the lines between the states of war and peace. Wars are no longer declared, and having begun, proceed according to an unfamiliar template.' The idea of 'indirect and asymmetric methods' in the article has mostly been interpreted as hybrid war by Western strategy/policy pundits. On the other hand, the Russian military views hybrid war as a Western concept and believes the West has been using hybrid warfare against Russia. While Gerasimov might be talking about something different than the Western notion of the hybrid warfare, nevertheless his views highlight the use of non-military and military means in war, leveraging all means of national power to achieve political objectives and seeing war as more than a military conflict. The International Institute for Strategic Studies (IISS) defines hybrid warfare as:

"The use of military and non-military tools in an integrated campaign designed to achieve surprise, seize the initiative and gain psychological as well as physical advantages utilising diplomatic means; sophisticated and rapid information, electronic and cyber operations; covert and occasionally overt military and intelligence action; and economic pressure. Although the Russian military claims otherwise, Russian activities can clearly be labelled as hybrid warfare."

25. The Russian view of future operational environments looks similar to Western thinking such as increasing use of autonomous/robotics systems and high-precision weaponry; greater requirement for interoperability and civil military cooperation; potential surge in urban operations; and significant growth in grey zone activities. Although there are similarities in the current assessments of the environment, the Russian approach to potential problems appears to be very different from the Western approach, particularly the involvement of the whole state apparatus as well as non-state actors, including private hacker groups.

26. Russia has been testing unconventional means to counter hostile indirect and asymmetric threats at a ratio of 4 to 1 to conventional military measures. These non-military measures include economic sanctions, disruption of diplomatic ties, and political and diplomatic pressure. The important point is that while the West considers these non-military measures as ways of avoiding war, Russia considers these measures as war and warfare conducted simultaneously in all physical environments and in the information space. Non-military measures are expected to be increasingly employed using all available means in the Russian hybrid toolbox. However, the maintenance and

development of military capabilities is expected to remain as a national priority.

27. Russia used information operations and malware campaigns as tools of foreign policy aimed at shaping the geopolitical landscape. Moscow makes no effort at hiding its ongoing information warfare campaign, as stated in the Russian Foreign Policy Concept; the country will attempt to develop '...its own effective ways to influence foreign audiences' by using new information and communication technologies. Russia's state-sponsored media, such as Russia Today (RT), broadcasts from Berlin, Paris, London and Washington D.C., and is now available in English, Arabic, French, Spanish, German, Italian, Japanese and Chinese. While some members of the Alliance have been taking certain measures against these media outlets, currently there is no unified NATO policy dealing with Russian malign influence.

28. Moscow and its proxies will continue to ramp up their disinformation campaigns against the West. As technology advances, the tools and methods of this information warfare will only get more sophisticated. Manipulation of internet site algorithms will connect more users unknowingly to fake social media accounts and websites aimed at exploiting social biases. The integration of natural language processing, sentiment analysis and artificial intelligence will only make these campaigns more effective and harder to detect.

29. Deep fakes, or videos with superimposed images and synthesized audio, will allow Moscow to manipulate the truth in an even more believable method. Fake or replicated websites of trusted news sources with deep fakes will cause many to second guess who and what to believe. Paradoxically, any attempt by the West to stop this disinformation could be seen as censorship and increase privacy concerns that will be further exploited by malign state and non-state actors.

30. Russian influence operations primarily follow a dual-track strategy. First, focusing on manipulation and dominance of strategic sectors by exploiting their weaknesses. Second, seeking ways to reduce trust in democracy from within by deepening political divides and cultivating relationships with extreme political parties (notably nationalists, populists and Eurosceptic groups) and Russian sympathizers. In March 2020, the EU External Action Service reported that Russia continued disinformation activities to amplify divisions, sow distrust and chaos, and exacerbate crisis situations and issues of public concern during the COVID-19 crisis.

31. Russia also attempts to use other means such as economic coercion, weapon sales and energy supply to create a fracture/wedge in the West. Oil and gas are by far the most effective pressure points used in these influence operations. For example, when Armenia was considering joining the EEU in 2015, Russia's state-owned

Gazprom offered a lower price on gas sold to the country as an incentive. Russia's energy supply can be used as a 'carrot' or a 'stick,' as seen most recently in the construction of the Nord Stream II gas pipeline project. The offshore natural gas pipeline from Vyborg, Russia to Greifswald, Germany bypasses the traditional transit countries of Ukraine, Slovakia, Czech Republic, Belarus and Poland. Opponents see the shift in supply lines as an attempt to influence the Eastern European nations without disrupting the supply of energy to Western Europe. The loss of income from transit tariffs alone is estimated to cost Kyiv over \$2 billion. Besides discounted oil and gas exports, Moscow also employs preferential trade arrangements, strategic investments, debt relief, and financial bailouts as economic tools to gain influence over its neighbours.

IMPLICATIONS

a. **Paralyzing NATO decision-making.** Traditional understanding of war and peace and delineation of strategic, operational and tactical levels of decision-making will be blurred, resulting in challenges for making decisions at the political level, especially in an environment requiring consensus. Russian attempts to use military force under the Article 5 threshold by leveraging gaps and seams will require timely decisions. Therefore, the actions that might trigger NATO to invoke Article 5 will increasingly become vague and further exploited by Russian coercive actions or disinformation campaigns exploiting grey zones.

b. **Exploitation of national biases.** The Kremlin's sanctioned information operations are targeting the West's ability to determine fact from fiction in an effort to complicate decision-making. These actions will aim to influence the general public, elections and increasing support of populism/political parties in the Euro-Atlantic region. Trust of democratic institutions will be reduced, and Alliance cohesion and its relations with strategic partners such as the EU will be challenged. The public within the Euro-Atlantic Nations will be targeted continuously, and these attacks are expected to be conducted simultaneously with any potential Russian military actions.

c. **Increasing energy and economic interdependency.** The EU is one of the most important energy markets as a major importer of oil, natural gas, uranium and coal from Russia. As a result, security of supply and demand is the most important aspect of European-Russian relations that are dominated by their energy interdependence. The high level of dependency to Russia has brought up a concern related to energy supply. This concern is likely to remain one of the most critical aspects for maintaining prosperity and the Western way of life for NATO and EU countries, as well as a national security concern for those member countries highly

dependent upon a single energy source. Reducing dependency over the next two decades could on the one hand decrease Russia's warfare toolbox and the ability to use these resources to coerce and influence; conversely, Russia could become more isolated and aggressive.

d. **Increased civil-military collaboration and strategic awareness.** The use of traditional and social media as part of the Russian information struggle is expected to continue. Russian efforts to undermine trust between people and their governments in the West, and more importantly confidence in political and economic systems, are expected to continue. In this context, recognizing that the exploitation of cyber space is also expected to continue, strategic awareness should be raised by increasing collaboration and inter-agency coordination.

2.5 RUSSIA AND NON-STATE ACTORS - AN INCREASINGLY COMPLEX RELATIONSHIP

32. With the collapse of the Soviet Union, international Non-Governmental Organizations (NGOs) flooded into Russia, using their platforms as a way to influence the nascent Russian Federation's system and society to support Westernization efforts. As a part of civil society, supported by Western donors, NGOs were aiming to promote reforms and democratization efforts. However, Russian governments responded to these initiatives with scepticism and their reactions to NGOs changed dramatically. Initial concerns were directed on NGO activities as to whether they were in compliance with the objectives stated in their founding documents. In an attempt to increase scrutiny, in January 2006, Putin signed the NGO Law that introduced a new requirement for foreign NGOs to notify the Federal Registration Service on their financial transactions. In his Munich Security Conference speech in 2007, Putin expressed his views on NGOs, suggesting that they are financed by foreign governments to interfere in election campaigns and to exert influence on Russia and post-Soviet space.

33. While Putin emphasized the importance of building a strong civil society, his vision was at odds with the Western view of the organizations representing the public's interests. Putin's vision for Russian civil society is one which is fully integrated into overall governance frameworks, both representing the interests of citizens while reinforcing state authority. To achieve this vision and to strengthen national sentiment by emphasising the greatness of the Russian state and the heroic history shared by its multinational people, Putin allocated ample resources to support so-called organizations that are aligned with his view of civil society. Russia's leadership was also attempting to use the traditional, conservative values as the common denominator of the people. In this context, the Russian Orthodox Church,



//
Russia is expected to continue to use every means including state-sponsored non-state actors to maintain national unity notwithstanding the prohibitive costs of exploiting identity politics, suppressing opposition and countering Western influence.

//

gained more political power over the last decade by influencing legal changes, and now enjoys the relatively stable respect of the people, making its support for state policies valuable.

34. Russia has become an active member of global institutions such as the International Monetary Fund (IMF), the G-8, from which Russia has been suspended since 2014, the G-20 and the World Trade Organization (WTO). In forums where Russia is already recognized as an important power, such as in the UN Security Council, it has sought to maintain the exclusivity of those groupings. Russia has also established special relationships with the EU and NATO. However, these relationships have significantly degraded since Russia's illegal annexation of Crimea. While Russia sees NATO as a threat, it views the EU as one of its key political and economic partners and will seek to promote intensive, sustained and long-term cooperation with it.

35. Russia views itself as an autonomous vector of power and sees multilateralism as a means to extend its influence. It has created or strongly supported Russia-friendly multilateral frameworks and organisations that allow its own national interests and strategic national priorities to be realised. These non-state actors include the Commonwealth of Independent States (CIS), Collective Security Treaty Organisation (CSTO), the Eurasian Economic Union (EAEU) and the Shanghai Cooperation Organisation (SCO). Russia works closely with China in organizations that challenge international liberal world order, reduce Western influence and threaten security and prosperity of the members of the Alliance and its partners.

36. Russia is one of the biggest energy-producing countries in the world. Most of Russia's largest energy companies, including global giants such as Gazprom, Rosneft and Lukoil, operate primarily in the oil and gas industry with interests across the full length of the oil and gas supply chain. Additionally, Rosatom or its subsidiaries, such as JSC Rusatom Energy International, markets Russian nuclear technologies to the world, including the West. In addition to these major energy companies that are controlled by the government and the political elite, debt arrangements, cash flows generated by migrant workers, joint enterprises and investments are used as tools to assist in achieving Russian foreign policy objectives.

37. Although private security and military organisations are prohibited by law in Russia, a 2016 legislative change allows soldiers to participate in military operations in international peacekeeping and security duties, as well as for anti-terrorism operations outside Russian territory. Russia has also used 'patriotic hackers' to launch cyberattacks such as the denial-of-service attacks in Estonia in 2007, in Georgia in 2008, and in Ukraine since 2014. These cyber-attacks and

attempts to interfere in Western elections are likely to continue to increase and non-state actors, such as state supported hacker groups, will play an important role. Finally, Russia-based organised criminal groups and networks have been used for fund-raising to finance active measures that influence target audiences' perception, control and dominate information space while supporting criminal activities such as money laundering, smuggling and even assassinations.

IMPLICATIONS

a. **Increased pressure on Western NGOs.** The 2015 National Security Strategy names foreign NGOs, financial operators and even individuals as actors trying to destroy the unity and territorial integrity of Russia, to destabilise its domestic political and social situation, to incite a 'colour revolution,' and to harm the religious and moral values of Russia. The recent expansion of the Foreign Agent Law of 2012 and the Russian Undesirable Organizations Law of 2015 gives prosecutors the extrajudicial power to declare foreign and international organizations 'undesirable' in Russia and shut them down. Russia is expected to continue to increase pressure on foreign and Western-funded NGOs by establishing legal restraints. The crackdown and political pressure on NGOs will also be used as part of general attempts to suppress domestic dissent.

b. **Increasing identity politics supported by state-sponsored NGOs.** The idea of a Russian-led civilisation based on the Russian language, Orthodox Christianity and conservative values will continue to be used to influence Russia's domestic audience and the Russian speaking population in its near abroad. The Russian Orthodox Church is one of the most important aspects of Russian national identity in the public consciousness; as an institution, it enjoys significant support among Russians. Public opinion polls consistently rank the Russian Orthodox Church as the second most trusted institution after the president. Thus, the Russian public will continue to view it favourably and the Church is expected to maintain its ideological role and help to create social cohesion. Russia is expected to continue to use every means including state-sponsored non-state actors to maintain national unity notwithstanding the prohibitive costs of exploiting identity politics, suppressing opposition and countering Western influence.

c. **Selective Engagements with International/Multilateral Organizations (IOs/MOs).** Russian relationships with the IOs/MOs will continue to be based on a selective engagement approach that aims at bolstering Russia's prestige in a global context and supporting Putin's domestic and foreign policy objectives. For example, Russia continuing to depict NATO as a threat supports Putin's increasingly authoritarian regime while

developing a dialogue with the EU aligned with its economic, social and political realities.

d. **Exploiting Russia-Friendly Multilateral Organizations.** Russia will continue to lead and/or support friendly multilateral organizations such as EAEU, CSTO, and SCO. Russia will also seek to maintain the exclusivity of its role in the UN and OSCE. In other cases, however, in cooperation with a rising China, Russia will continue to challenge IOs/MOs that are foundations of the international liberal world order.

e. **Increased use of energy resources and state-owned enterprises.** Russia has been increasingly using its energy resources and state-owned enterprises in support of its foreign policy objectives and as part of its hybrid strategy tool set. This allowed Putin's regime to increase its influence over the internal politics of its neighbours and successfully create a wedge between Western countries. Increased corruption is expected to be more strongly associated with the state-owned enterprises. Additionally, the relationships between state-owned enterprises, politicians/high-ranking civil servants and oligarchs/business executives with criminal backgrounds is expected to create opaque and complex conditions limiting effective response options from the West.

f. **Asymmetric use of non-state actors exploiting the information domain.** Russian asymmetric methods will increasingly include non-state actors in the cyber domain. Utilizing artificial intelligence, data analytics, and new information and communication technologies, Russian influence operations are expected to be more effective in NATO and European countries, Western Institutions and International Organizations, such as the OSCE and the UN. These cyber tools and measures are cost-effective and difficult to trace back to Russia.

g. **Increased potential for the use of private military and security companies (PMCS).** PMSCs are expected to be responsible for protecting critical infrastructure outside Russian territory, such as the oil and gas networks. However, the Russian government might use PMSCs to execute anti-terrorism operations and support Russian interests, such as the Russian private military company MAR's involvement, in so-called humanitarian transportation in Eastern Ukraine. Using private military organisations could cover Russia's direct involvement in potential foreign operations requiring military assistance, such as in Venezuela, Libya, Syria and Eastern Ukraine.





HUMAN THEME

1. For every country, demography follows certain natural patterns which in turn affect the future of those same demographics: the size of the population, the ways in which the population changes through the balance of births and deaths, and its internal population distribution and redistribution. The economy, the environment, the state and society will in turn affect population size, distribution and the rate of change. This normal cycle was broken for Russia following the significant loss of life it endured during the First and Second World Wars. Russia has been shaped by tragedy, suffering and hardship and has shown the ability to use its surge capacity in times of emergency.

2. A massive loss of life during World War II, which resulted in the death of more than 25 million Russians, might be one of the main reasons for the population decline in Russia. The resulting low birth rate during the 1940s led to a lower replacement rate in the 1960s, referred to as the 'echo of war.' Additionally, from the collapse of the Soviet Union in 1991 to nearly 20 years later in 2010, the harsh economic environment contributed to a downward population trend through a sharp increase in the male death rate. As a result, the population decline in Russia was defined as a demographic crisis. Russia is expected to continue to face demographic challenges that put pressure on the economy and on military recruitment due to the lower birth rates and other factors of the 1990s.

3. The most intensive urbanization in Russia took place between the 1960s and 1980s. The rise of the Soviet Union as an industrial power

was strongly associated with the rapid urbanization and transformation of the labour force, including migration and population redistribution. During this period, Russia experienced perhaps the most rapid movement of population to cities of any major region in history and also some of the most significant long-distance internal migrations of any country. By the 1990s the urban population reached 73%, and this has changed only slightly over the last two decades. Urbanization has been closely associated with rapid industrialization, modernization, and social change; however, it was also characterised by enormous variance between the regions.

4. The Russian President has methodically consolidated power into a vertical structure with himself at the top and centre through orchestrating and rigging elections, and arresting opponents and changing laws, allowing the Kremlin to appoint regional governors just prior to the presidential election in 2018. Putin used the illegal annexation of Crimea and the escalation of the Ukrainian crisis to change the character of the Russian regime that has acquired the elements of emergency powers. The governing body gained the authorities to execute extraordinary measures leaving less room for political manoeuvring. These developments have resulted in decreasing effectiveness of democratic institutions in Russia.

5. There is little transparency and accountability in the day-to-day workings of the government. Decisions are adopted behind closed doors by a small group of individuals whose identities are often unclear and announced to the population

//

Russia is expected to continue to face demographic challenges that put pressure on the economy and on military recruitment due to the lower birth rates and other factors of the 1990s.

//



after the fact. The sudden removal of government officials sends out signals of weakness and fear. Russian leadership was especially concerned with the 'colour revolutions' in Georgia, Ukraine, and Kyrgyzstan, where, as alleged by Russia, Western NGOs and foreign funded Russian NGOs played a central role.

6. President Putin's approval ratings over the past fifteen years has correlated with the public's view of the country's economic performance, access to services such as health and education and their satisfaction with the social security. However, the pension system had to be adapted due to a decrease in Russia's working population. In September 2018, thousands of people across Russia joined protests against government plans to raise the pension age. Moscow listened to those demands. Taking responsibility for the first time, President Putin promised to soften the unpopular measure, highlighting it as a financial necessity. Putin announced improved child benefits for low-income families, however the planned budgeted sequestration may affect its implementation.

7. Based on a recent poll of Russians 18-24 years of age, 41% stated they wish to live abroad, far under the global average of 57%. However, this number jumps to 65% when analysing just young Russians working in the Information Technology (IT) sector. Authorities responded to this problem by improving tax regulations for IT companies. With less Russians available to attend IT schools, Russia has begun to market itself as a higher education destination, specifically targeting potential students in former Soviet states and China. Despite this shortage in IT schools, Russia also sees the benefit of sending their brightest abroad, with the intent for them to learn, return, and contribute to the modernization of the waning economy.

3.1 CHANGING DEMOGRAPHICS: DEMOGRAPHIC DECLINE, AGEING, GENDER IMBALANCE AND UNCONTROLLED MIGRATION

8. While the world population is projected to grow, Russia's population is expected to decline from 143.9 million to 135.8 million by 2050. Russia's demographic decline is not new, nor unique. What is new and unique is the scope and the effects of such population crisis, a previously unprecedented phenomenon for an urbanized, literate society not at war. The combination of high mortality, low fertility and an ageing population indeed threatens Russia's economic development, its social stability and potentially its security. Declining health care conditions, bad habits (smoking, diets and alcohol abuse), poor education and family formation trends (56 divorces for every 100 marriages) lie behind

these trends.

9. Concerns over the demographic decline were reflected in Russian National Security Strategy, where it states 'raising living standards, improving the population's health, and ensuring the country's stable demographic development' as one its national interests and strategic national priorities. When measured in 1994, the mortality rate for males between the ages of 15-64 had doubled in comparison to that of 1986. Many connect the increase in male mortality to rampant alcoholism, a surge in suicide and poor health care. This decline in the 'Ruskiye' or Russian people was addressed by President Putin in his 2006 state of the nation address and again in 2011 by at that time Prime Minister Putin, when he pledged 1.5 trillion roubles (\$54 billion) to address the declining birth rate. Thus, the recent uptick in fertility rates may be credited to Putin's efforts, with the economic turnaround in the early 2000s contributing to improved standards-of-living. However, the Total Fertility Rate (TFR) is still below the needed 2.1 child-to-woman replacement rate. While the population seems to have stabilized since 2009, the trend of a natural population decline is not expected to change.

10. Russia's ageing population is also contributing to its demographic decline. The median age has risen from 33 in 1991 to 39 in 2018, and is projected to be 44 by 2035. This results in a shrinking workforce, and according to Russia's Economic Minister, the nation will lose 800,000 working-age people every year, resulting in a loss of 4.8 million workers by 2025. In an attempt to counter this trend, Moscow launched several initiatives to provide subsidies to parents who were under the poverty level. These parents would receive a one-time payment for each child, and those with more than one child were eligible for help with their mortgage. The flagship project is so called "maternity capital" (given only once for a second, third or more child born or adopted). Additional support is projected for numerous families and for these living under the poverty level. Several types of benefits have been introduced as part of anti-crisis measures during COVID-19 pandemic, some of them are to be maintained in the future. In addition to financially motivating Russians to have more children, Moscow attempted to bring home ethnic Russians from former Soviet Bloc countries and the near abroad. In 2017, the Russian Parliament passed a law that permitted anyone who spoke Russian and had connections to Russia or any of the former Soviet Bloc countries to become a citizen.

11. Records show that women have outnumbered men in Russia for more than a century. The 1897 census showed a ratio of 49%

male to 51% female, and, as stated above, wars and the collapse of the Soviet Union only contributed to furthering the disproportion. A recent Russian Federal State Statistics Service (Rosstat) report put the total population for 2018 at 146.9 million living in Russia, with 68.1 million males (46%) and 78.8 million females (54%), or about 85 men for every 100 women. For those 34 years and younger, there are slightly more men than women, but from 35 years and up, the distribution shifts with an ever-increasing imbalance to almost 2.4 women for every man older than 70 years. Russia's relatively large gender imbalance contrasts with the global trend. Many of the world's developed countries do have slightly more women compared to men, however, as a percentage of the world population, women have steadily decreased since 1960 and are outnumbered by men worldwide by a ratio of 101.8 men for every 100 women.

12. **Moscow faces a difficult dilemma.** On one hand, it wishes to insulate the Russskiye and their Slavic culture and strict Orthodox Christian ways. On the other hand, it is a multi-national state, which faces a demographic crisis and needs an influx of people to sustain its workforce and economy into the future. With a shrinking workforce, Russia has had to look elsewhere for workers to fill its manufacturing, retail and service sectors. According to the UN, Russia is the third largest destination for immigrant workers with over 11 million foreigners working and living in the country. Some estimates have the migrant population making up more than 15% of the workforce. Many of these immigrants stay in Russia for years, but few are offered visas. This allows Russia to reap the economic benefits of cheap labour without having to provide any of the social services such as education and healthcare.

13. An increase in immigration can help to offset the loss of the Russian workforce, but with complex or non-existent policies, most migrants will choose to stay only temporarily or will make no effort at assimilating into Russian society. Many Russians, specifically those under the poverty level and in unskilled jobs, may see the arrival of more immigrants as a threat to their way of life, not only from the perspective of potential job loss, but from the growth of Central Asian and predominately Muslim communities in places where Russian centres-of-life once thrived.

IMPLICATIONS

a. **Reduced workforce will decrease productivity and have adverse effects on economic development.** Several factors have direct impacts on decreasing the workforce such as ageing, births being below population replacement rates, low male life expectancy and lower retirement age compared to many Western countries. The

number of working-age Russians was projected to fall 12% between 2012 and 2025. This 12% decrease would translate into a GDP that is 7% lower than it would be if the labour force were to remain stable. The productivity of the Russian workforce is among the lowest of the world's major economies. If increased, labour productivity would have a direct impact on the Russian economy by raising living standards.

b. **Gender imbalance worsening demographic decline.** Although the life expectancy of a Russian male has improved from the 1990s, it still falls well short of that of a Russian female, 68 years compared to 78 years. The 10-year gap in life-expectancy is one of the widest variances in the world. Compounded by a fallen fertility rate trend over the 20th Century, the current population picture should be considered as a long-term crisis for Russia. Gender imbalance, especially in the older age groups, is expected to continue over the next two decades. Furthermore, women's retirement age is five years earlier than men's, which places a significant burden on the pension system.

c. **Uncontrolled migration resulting in ethnic, religious and cultural tension.** Most immigrants come from former Soviet states in Central Asia, while others come from China, India, Pakistan, North Korea and Vietnam. Many immigrants in Russia report mistreatment, discrimination, and encounters with xenophobic attitudes, and according to the Levada Center, 66% of Russians support tighter controls on immigration. With increasing immigration from Central Asia, and with a higher birth rate as compared to Russians, Muslims are on track to become one third of the population by 2050. Russia has a long and varied history of both acceptance and marginalization of Muslims, but with the growing population, Moscow will be forced to take the shifting demographic into consideration when determining future domestic and foreign policies.

d. **Constraints on future Russian military capabilities.** Russia should be able to find and recruit sufficient personnel to maintain the current size of its military forces through 2024. However, it will likely face higher costs for military recruitment due to declining military-age population. Russia may also face labour shortages, higher social spending due to a lower working age population. Decline in the number of military-age population is likely to result in greater competition for personnel to recruit into the military over the long-term. Lack of sufficient manpower will have direct impact on recruitment for the military. Russia's demographic decline will likely make recruitment more expensive and could lead to lower than desired physical standards.

//

Russia may also face labour shortages, higher social spending due to a lower working age population and greater competition for personnel to recruit into the military.

//



3.2 INCREASING URBANIZATION

14. The urbanization trend could be characterised by an increase in the urban population and a rapid growth in large cities. Russia's urbanized population growth halted abruptly with the collapse of the Soviet Union. However, the UN estimates suggest that there will be a moderate level increase between 2018 and 2050. While Russia's population is projected to decline, the UN projection suggests that the urbanization rate likely will continue to rise, with potentially more than 83% of the nation living in urban areas by 2050. Future urbanization in Russia will increasingly occur in the larger cities.

15. Russia suffers from a poorly managed urban transition and continues to experience difficulties such as pollution, albeit the Soviet system achieved a high rate of urbanization that supported industrialization. The Communist regime believed that collectivization would improve agricultural productivity and would produce grain reserves sufficiently large to feed the growing urban labour force. The anticipated surplus was to pay for industrialization. These collectivization policies abusing rural resources for funding industrial investments were extremely harmful. Rural real incomes were weakened by the impact of collectivization. Urbanization was supposed to support the economic growth continuously. However, economic efficiency considerations and locating individuals based on their desires were often ignored in favour of political and military objectives that also aimed to ensure dispersed industrialization. These actions ignoring fundamental market requirements left many cities exposed with the collapse of the Soviet Union, resulting in significant spatial restructuring.

16. Russia, with a measured territory over 17 million square kilometres, is the world's largest country. The need for a larger population in such a vast country and achieving a four-tier hierarchical inter-settlement infrastructure system have been an enduring requirement for Soviet and Russian policymakers. Additionally, the return migration in the post-Soviet era reflects a return to more conventional urban patterns: the Russian far north does not seem destined to have very large cities. Based on official census data, Moscow and St. Petersburg are the largest and most important cities with a population 12.5 and 5.5 million respectively. Unofficial estimates are much higher especially for Moscow. Novosibirsk is the third largest city with a population of 1.7 million. Additionally, the lack of medical facilities, especially in rural areas, is contributing to outflow from rural to urban areas where social services are perceived as being better.

17. There is no formal analysis of the extent to which population movements to and from

Russia's cities had taken place and whether they were forced, quasi-voluntary or voluntary. However, the following describes the differences in population flow between federal districts that resulted in an increase at the macroregional level:

- there was high growth in migration in the Central, North-Western and Southern Federal Districts;
- the outflow of population changed to a slight and insignificant inflow in the Ural District;
- in the North Caucasus there was an outflow of population;
- the outflow rate in the Volga and Siberian Federal Districts was not high; and
- there was a massive population outflow from the Far East.

IMPLICATIONS

a. The deepening contradictions between the capital, large cities and periphery. The existence of services, employment opportunities, location of government bodies and more developed social infrastructure will continue to attract entrepreneurs, investors and migrants. The redistribution of population from rural areas, small and medium cities to large ones will increase the polarisation of the economy, leaving few incentives for rural areas. The weakening of population in rural areas reduces the efficiency of the entire settlement system.

b. Increased demand for a clean and healthy environment with comfortable living conditions in large cities. As the populations in Russia's urban centres increase, the challenges of managing air and water quality, availability of water, waste disposal and high energy consumption will be exacerbated. Many Russian cities already struggle or fail to meet the demands of their residents. Without increased funding from Moscow and improved urban planning, many of these cities will be stressed beyond capacity, leaving many unemployed and unable to afford housing.

c. Geo-strategically important areas will be depopulated. The Russian Far East, North Caucasus and areas near the Arctic Circle that are important for energy production and supporting military installations are expected to see population outflow towards North Western, Centre and the Southern Federal Districts. The new Russian strategy aiming to provide additional impetus to support geo-strategically important regions of the country is expected to reduce regional socio-economic differences. However, these programmes and strategies lack required funding to create necessary incentives for population movement.

3.3 DEFICIT OF DEMOCRATIC GOVERNANCE

18. The 1993 Russian Constitution established a strong presidency with the power to dismiss and appoint the prime minister, pending parliamentary confirmation. As with his past elections, President Putin's campaign for a new six-year term in 2018 benefited from advantages including preferential media treatment, numerous abuses of incumbency, and procedural irregularities during the vote count. While a deficit of democratic governance is not new, Putin had initiated changes in the constitution that strengthen presidential power. These changes have created conditions for Putin to extend his grip on power allowing him two more terms as president, however, with the constitutional changes he is likely to remain as president, or significantly influence political decision-making, until 2036.

19. Eliminating rivals or altering legal mechanisms to maintain the ruling party's grip on power historically have been sources of instability and civic upheaval, as seen most recently in Belarus. The multiparty system is managed carefully by the Kremlin, which tolerates only superficial competition with the dominant United Russia party. Opposition politicians and activists are targeted frequently with fabricated criminal cases and other forms of administrative harassment that are apparently designed to prevent their participation in the political process.

20. The country's leadership also is intertwined closely with powerful economic oligarchs, who benefit from government patronage in exchange for political loyalty and various forms of service. The power and influence triangle, based on criminal networks between political elite, oligarchs and state-owned enterprises, especially those in the energy sector, lacks transparency and breeds corruption that spans out of Russia into the West. These networks include politicians at all levels, intelligence and security officials, oligarchs, prominent companies, state-owned enterprises and organized criminal elements. There is little motivation to control the interconnections between organized crime, oligarchs and administration. Corruption is the connecting tissue on which these networks operate and Russian leadership has effectively utilized them to increase its domestic and international influence.

IMPLICATIONS

a. **Increased use of the cyber domain to control populations.** In May 2019, the Russian 'sovereign internet' law was signed by President Vladimir Putin as a security measure to protect Russia in the event of an emergency or foreign

threat like a cyber-attack. Russia has been actively supporting defining international norms for cyber activity on the basis of state sovereignty. The 'sovereign internet' law provides a legal basis for increased surveillance and allows the government to control population. This will increase state control over the internet and will allow government to legitimize censorship and strict monitoring of citizens.

b. **Targeted repression and coercion of political and social groups.** Purging generals of interior ministries and using regional governors as scapegoats for corruption or to ensure loyalty may succeed in short-term regime stability, but these issues have long-term adverse effects. Censorship and political pressure are expected to decrease basic freedoms. This might result in democratic deficiency, erosion of the ideological foundations of the political regime and growing public discontent/disaffection on issues such as pension reform and an ineffective/underfunded healthcare system.

c. **Decreasing role of opposition and failing of political institutions.** Opposition politicians and activists are targeted frequently with fabricated criminal cases and other forms of administrative harassment. The government's surveillance capabilities have increased significantly in recent years which could enable it to monitor the activities and personal communications of activists, journalists, and opposition members. The electoral system is designed to maintain the dominance of the United Russia Party. Frequent changes in the laws and the timing of elections ensures that their preferred candidates have maximum advantage and opposition candidates have little chance of success in appealing these decisions or securing a level playing field. Recent approval of constitutional changes indicate that political institutions are less likely to function to limit Putin's grip on power.

3.4 GROWING PUBLIC DISCONTENT AND PUBLIC PERCEPTION

21. In the first three months of 2019, Russians had protested en masse 429 times. More than a third of these protests focused on social issues such as rising waste removal fees, benefit cuts and the raising of the pension age. This is almost twice the number of social protests as compared to 2018, and unlike previous years, more of these protests are being held in smaller towns across the country. Other rallies have focused on anti-corruption, defrauded investors and censorship. In April 2018, over 13,000 turned out to protest the blocking of Telegram Messenger by Russian State Media who claimed the application was used to coordinate terrorist attacks. From July to September of 2018, more than 200,000 Russians took to the streets to voice their concern over the retirement-age hike (60 to 65 for men and 55 to 60 for women). Reports

“

Corruption is the connecting tissue on which these networks operate and Russian leadership has effectively utilized them to increase its domestic and international influence.

”

//
Polls have shown a link in popularity of Putin and displays of hard power abroad.
//

state that nearly 1,000 protestors were arrested, the majority of whom were under the age of 25.

22. After the collapse of the Soviet Union, the Russian healthcare system was severely affected by budget cuts and the whole system was close to a total collapse. Despite the large number of hospitals and a huge army of medical doctors, they were not able to provide people with an acceptable level of health care services. This was due not only to a continued lack of funds, medical and technical equipment and supplies, but also ineffective organization of health care delivery services. While the quality of services and their accessibility remained quite low, life expectancy at birth remained low until 2005. However, there has been a steady increase since then. While Russia continues to pursue major reforms in the healthcare system, systemic flaws have been observed such as a lack of sufficient funds to materialise desired changes.

23. With over 80% of the college-age population (18-22 years-of-age) enrolled in a tertiary school, and more than half of those aged 25-64 holding a tertiary degree, Russia is one of the most educated countries in the world. By comparison, the enrolment rate for tertiary schools in Germany, France and the UK are 68%, 64% and 59% respectively. Despite this higher rate of education, faced with sanctions, unfavourable exchange rates, and lower revenues, Russia has cut funding of education by 8.5% since 2014. As a result, many universities have been shut down or have merged with others.

24. Many Russians have decided to leave their country in hopes of finding better opportunities abroad and escaping what they see as an increasingly oppressive political climate. Since 2000, between 1.6 and 2 million Russians have emigrated elsewhere. Those who emigrated prior to 2012 state primarily economic reasons for leaving, while an increasing number of those who left after 2012 state the lack of rights and freedoms as a 'pushing' force behind their emigration. Researchers at the Russian Presidential Academy of National Economy and Public Administration (RANEPA) report that about 40% of the 100,000 Russians who emigrate each year hold a higher education degree and one third of those asked have no intention of returning to Russia.

IMPLICATIONS

a. **Domestic drivers of increasingly assertive foreign policy.** When viewed from the West, 2014 marks a watershed moment for a significant change in Russia's foreign and security policy, primarily through the country's external assertiveness. However, Russia's domestic political, societal, economic and even cultural transformation present profound challenges. These

domestic changes might drive Russia to follow a more assertive, even aggressive foreign policy.

b. **Russian unity is challenged.** The Russian National Security Strategy presents a Russia focused on increasing its influence and prestige while cementing its national unity. Public support is perceived to be the most important indicator for the government and its economic, social and foreign policy. Demonstrations and social reactions are seen as threats to national security and Putin will increase efforts on strengthening the internal unity of Russian society, ensuring social stability, interethnic accord and religious tolerance, eliminating structural imbalances and modernizing the economy.

c. **Loss of a skilled Russian workforce.** Brain drain, or the migration of the country's highly educated and skilled professionals, compounded with wavering support of the government, will put Russia's future at risk. Higher salaries, better funding and greater freedoms abroad will pull away more of Russia's best and brightest, causing long-lasting repercussions on the country's capacity for future innovation and growth.

3.5 INCREASED ROLE OF TRADITIONAL AND SOCIAL MEDIA FOR PROPAGANDA AND SOCIAL ENGINEERING

25. As the number of Russian people who get their news from the internet increases, Moscow will continue to tighten its grip on the flow of information. To maintain control of the population, the Kremlin's propaganda machine will push out state-sponsored messages to counter any negative sentiment or flood the information space with alternatives to dilute the message. With the recent signing of the 'National Internet Law,' Moscow may find it easier to control the narrative. The law will enable the development of an independent internet, allowing for a complete disconnect of the Russian internet from the World Wide Web. The Kremlin states that this is to protect the national network from external threats and to ensure continued, uninterrupted service, however, this law follows an earlier legislative move to jail anyone who insults the government or spreads fake news.

26. Confronted with the brain drain challenge and the increasing unpopularity of its domestic policies, the Kremlin clearly understands the threat of losing the loyalty of Russia's youth. Movements such as Yunarmia focus on the history and pride of Russian military strength to secure the allegiance of the young and impressionable. Polls have shown a link in popularity of Putin and displays of hard power abroad. The Russian president's popularity reached its highest point in 2008, during the war with Georgia and in 2014, after the annexation of Crimea. Although Russians may show a strong and

stoic face to the world, polls show that most agree that economic and domestic problems are a greater threat than external forces.

27. Moscow has taken what some see as a disturbing approach to stemming the tide of embittered youth and civil unrest. The 'Yunarmia,' or Young Army, is a movement started in 2016 by the Russian Ministry of Defence. According to its website, the group claims its membership is over 550,000 strong, consisting of both boys and girls between the ages of 11 and 18. The group has opened several schools dedicated to the movement in Russia, and is establishing branches abroad in Armenia, Tajikistan, and Abkhazia. The stated goals of the Yunarmia movement are to teach history, national and cultural traits, physical exercise, and support of the elderly and veterans. While on the surface this appears wholesome, this organization is a nationalist youth movement with paramilitary undertones.

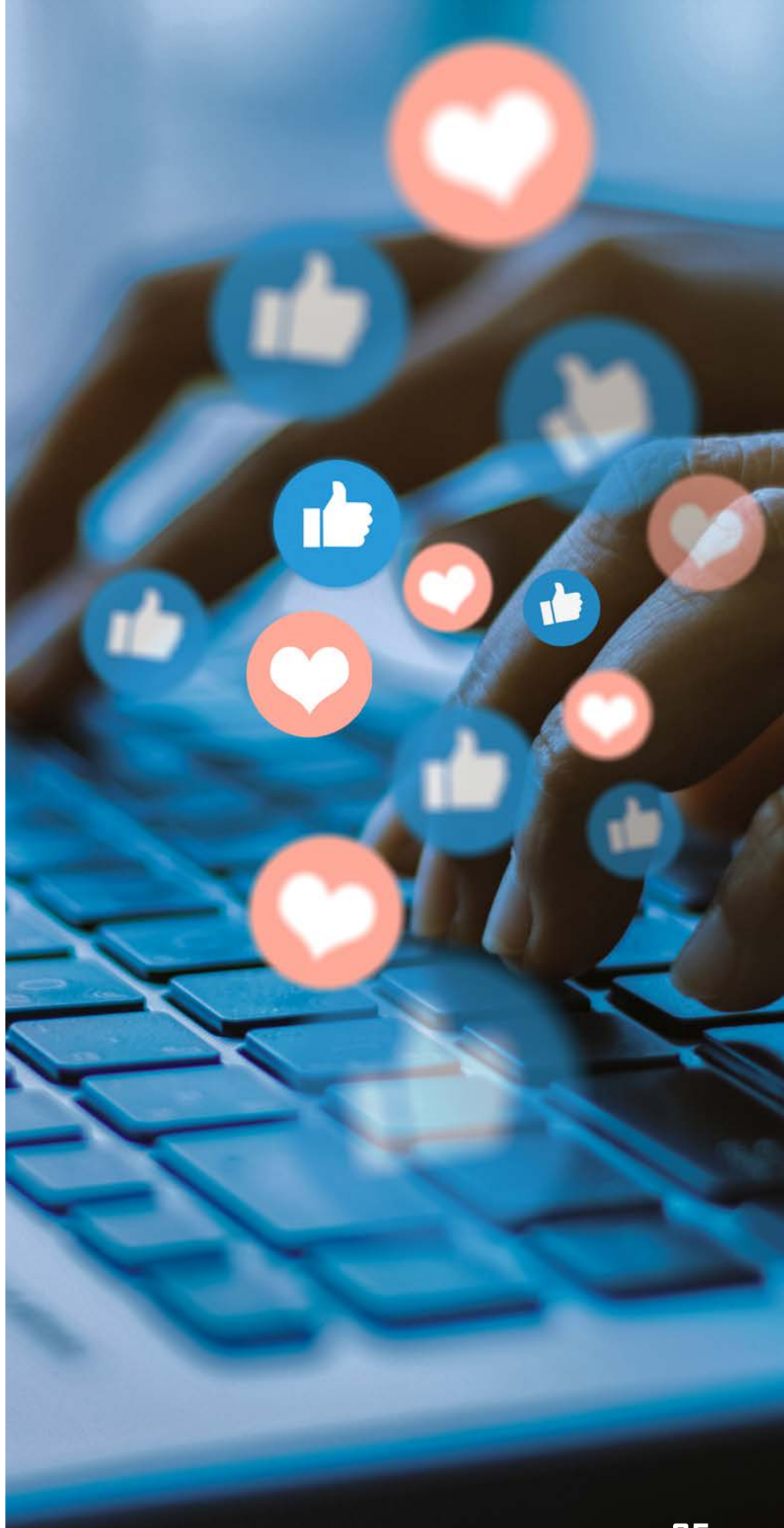
IMPLICATIONS

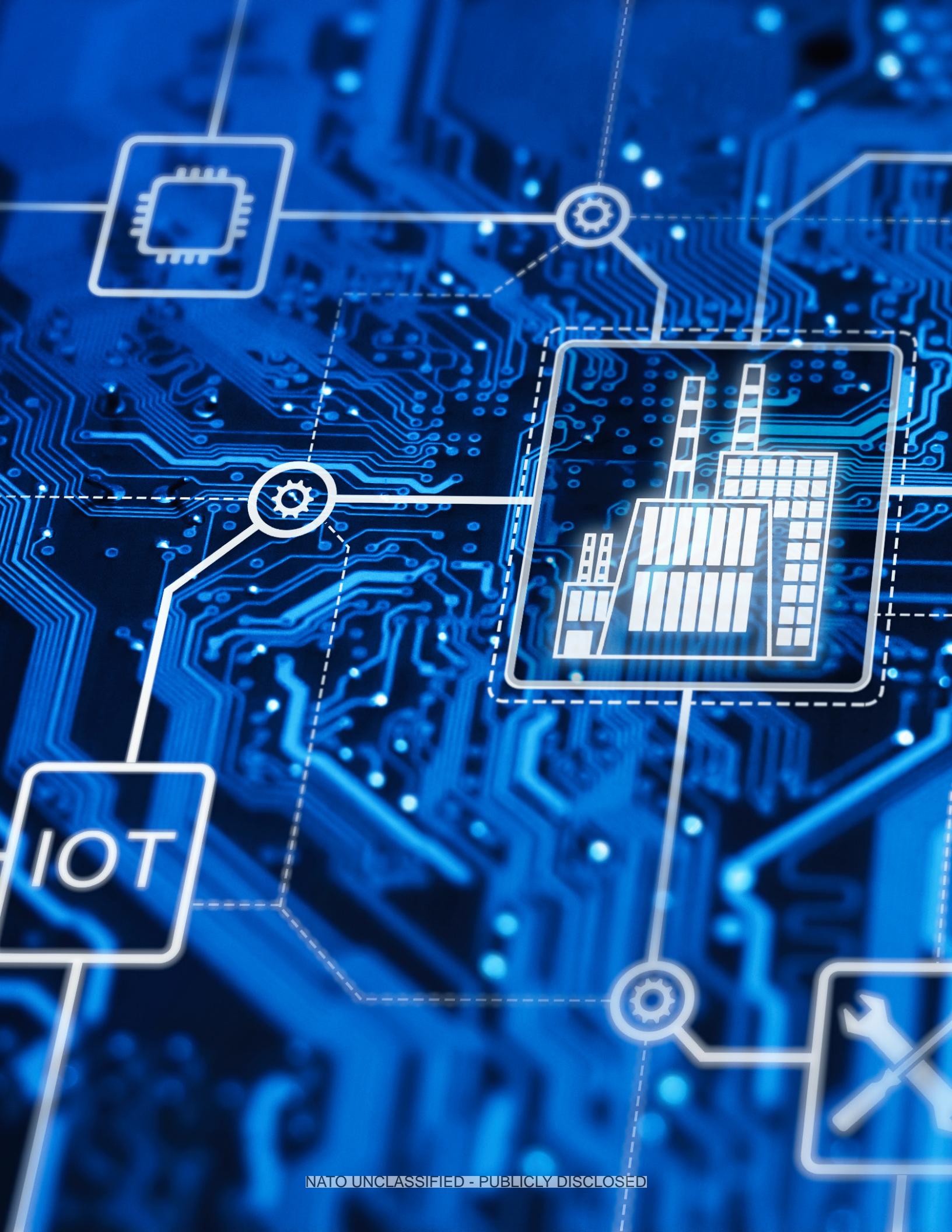
a. **State influence and control population.**

While government claims that the internet law aims to ensure that Russia keeps functioning if the West 'attacks' and cuts the country off from the world-wide-web, this law allows government to increase its control and enable censorship and suppression of opposition. Additionally, state control of network infrastructure will be used to influence public perception and will allow the government to cut off the country's Internet from the rest of the world.

b. **Using anti-Western sentiment to support Russian unity.** President Putin's approval ratings increased significantly following the illegal annexation of Crimea. The ratings correlate with the increase in aggressive, anti-western sentiment evidenced by the polls conducted by Levada Center. The anti-Western, anti-US sentiment is also a reflection of growing separation from the West. On the other hand, attempts to use hard power abroad to consolidate domestic support could backfire on Moscow if the current social and economic situation does not improve for the Russian people.

c. **Grooming targeted population.** By capturing the hearts and minds of young Russians, Moscow is ensuring those who are at their most influential age are in allegiance to their leadership and are trained and ready for armed service in the protection of the motherland. The Kremlin has successfully promoted the group by pulling in celebrity spokespersons with various backgrounds such as cosmonauts, Olympic athletes and TV personalities. These attempts are likely to increase the militant tone that pervades ordinary people's conversations and aligns with Russia's use of anti-Western sentiment to shape and strengthen national identity.





TECHNOLOGY THEME

1. Breaking free from the legacy of Soviet era science and technology (S&T) comes at a high cost for Russia. Especially since many S&T sectors have been impacted by international sanctions and foreign direct investments (FDI) have fallen since 2014. While Russia's ability to catch up with Western modern technology and scientific innovation is being questioned, the Kremlin views that Russia does not need to be technologically superior to the West; technology only needs to be 'good enough' for Russian needs. Russia has focused on using existing technology and salvaging small-steps, niche scientific breakthrough in targeted sectors in order to deny and deter its competitors asymmetrically and unconventionally. Russia seeks to offset Western superiority in one area by creating capabilities in another area where it holds comparative advantages. In this sense, Moscow knows it cannot outmatch the West and China in terms of S&T investment, but can only hope to narrow existing gaps and selectively bridge them with asymmetric tools.

2. Another key factor in Russia's S&T sphere is the prevalence of the defence industry as the main driver for research and development (R&D) and innovation. Military R&D has had an overriding priority for years at the detriment of state funding for civilian innovation. Russia spends at least 30% to 40% of total R&D funding for military and defence applications. This is much higher compared to 2.8% in Germany, 6.4% in France,

16% in the UK, but not as high as 50% in the U.S. The military industry represents about 70% of the high-tech output in Russia, and the firms and companies linked to the Russian military industry represent over half of the total scientific and engineering workforce.

3. In terms of S&T production, Russia remains an important player in the following key areas: military technologies; the civilian and military nuclear industry, software development and communication tools. The energy sector is also a driving force of innovation, although now to a lesser extent because of the lack of access to Western technology and structurally low energy prices.

4. Russian S&T suffers from numerous and clearly identified structural hurdles and deficiencies, such as a lack of funding and brain drain, that remain largely unaddressed. The absence of genuine innovation is even publicly acknowledged at the most senior level in the Kremlin. Although Russian S&T is far from lacking ideas and talent, it critically lacks the modern building blocks of successful scientific innovation.

5. Money in the form of FDI is structurally impossible to obtain from the West under current sanctions, and capital investment from Russia is limited. This is compounded by the absence of venture capitalism initiatives in innovative technologies and other 'Silicon Valley models.' Russian innovation is not R&D-driven, nor is it investment-led, but rather depends on production



Russia has focused on using existing technology and salvaging small-steps, niche scientific breakthrough in targeted sectors in order to deny and deter its competitors asymmetrically and unconventionally.





cost. This limits the pace of scientific research and production levels.

6. Another critical issue relates to the absence of effective state management in the S&T sector. This entails ageing research infrastructure, outdated legal and regulatory frameworks, inefficient state response, red tape and administrative hurdles, and of course endemic corruption and vested interests. As a legacy from the Soviet era, R&D and production remain fully separated in Russia, especially in the defence-industrial sector, commonly referred to as the OPK, with little incentive to bridge the gap between design and manufacturing.

7. Finally, as dual-use technology is becoming ever more critical today, and as the Russian military industry is now trying to turn some of its production to the civilian sector, R&D and innovation are increasingly thought of in these terms in Russia. One of the main issues, however, is the absence of collaboration and spin-offs between civilian R&D and the military industry. This makes any form of convergence between military and civilian production virtually impossible, compounded by the high level of state control over military-industrial production and the absence of a vibrant small and medium-size enterprise sector in the civilian and dual-use sectors.

8. Specific to the military industry, innovation and production are impacted by long-term deficiencies, notably the lack of economic efficiency and labour productivity, complicated procurement patterns and price-formation for state defence orders, quality control and production volumes, unreliable subcontractors affecting the whole production chain and endemic corruption.

9. These issues have led to a deterioration of R&D levels and overall efficiency of the S&T sector, in what could be argued to be 'degraded science,' compared to the 1990s both in quantity and quality. This can be, for instance, traced in the falling number of R&D patents filled by Russia over the past two decades.

10. The Russian S&T sector is no different than in the West. Innovation may not always bring direct results, but this does not mean that R&D is unsuccessful. All of this does not mean that Russia cannot reach critical levels of scientific innovation and quickly adapt to technological challenges when necessary. An example is Russia's revamping of its space industry with the creation of GLONASS, and how it created a full-fledged military-industrial

base in the drone industry in less than a decade. However, more often than not, the scientific base rests on Soviet legacy and foreign technology rather than indigenous breakthrough technology.

4.1 THE ORGANIZATION OF R&D AND S&T INNOVATION IN RUSSIA

11. Many of Russia's current state programs regulating S&T development are coming to an end in 2020. The state program 'Development of Science and Technology 2014–2020' covers fundamental R&D, industrial developments, scientific cooperation, and education, among other sectors. Furthermore, the state program 'Developing Russian industry and making it more competitive 2012–2020' covers dual-use R&D applications specifically in the industrial sector. The Russian government will therefore need to update existing programs in order to meet the challenges of the new decade and beyond.

12. Fundamental R&D and innovation in Russia is, and will likely remain in the coming years, a highly centralised and state-driven endeavour. Existing S&T 'centres of excellence' can be divided into two categories: those with a primary civilian and dual-use purpose on the one hand, and those serving the military-industrial complex on the other. In the civilian and dual-use sectors, Russian universities are likely to remain the main attractors of talent and expertise of Russian scientific innovation. The Academy of Science is a prime example because it is becoming increasingly linked with the OPK. On the contrary, Russia's 'technopolis' approach, for instance Skolkovo and Academgorodok, will probably prove to become unsustainable models. Skolkovo, Russia's attempt at creating a Silicon Valley from the ground-up, has suffered from many financial backlashes and corruption scandals, while Academgorodok has so far experienced over a decade of delay in its opening.

13. As mentioned, defence and security-linked S&T are driving forces of Russian scientific innovation. Since the 2010s, Russia has rethought its approach to military technology and R&D in order to streamline and centralise existing efforts. The first attempt is embodied by the establishment in 2012 of the Foundation for Advanced Research (FAS). Often dubbed the 'Russian DARPA,' its budget and accomplishments so far are nowhere near competing with its American counterpart. The FAS has an annual budget of about 70 million dollars in real terms, and currently finances less

than 50 R&D projects with military and dual-use applications. Known R&D priorities prior to 2020 included information technology, AI and sensors, biosystems, breakthrough technology including nanotech and quantum computing and smart weapons. By 2030, the FAS seeks to become a key player in innovative defence technology and advanced weapon systems. However, it is too early to know whether the Foundation will achieve genuine results and transform R&D into actionable technology and innovation in the coming years.

14. On top of the FAS, 12 Scientific Centres were created under the supervision of the Ministry of Defense in 2013, in order to streamline military applications of existing and new R&D. This is heavily linked with Moscow's willingness to mitigate the impact of sanctions and accelerate import substitution programs in the OPK. The Centres are directly attached to the armed forces and divided by thematic areas: naval technology, aerospace, electronic warfare, communications, breakthrough technology, medical applications. Activities of the Centres are mostly classified, and it is too early to anticipate concrete results from existing R&D.

15. In 2018, the decision to establish the Era Military Innovation Technopolis represents a dual approach to military R&D, taking lessons from the existing technopolis projects in Russia like Skolkovo, but purely for military technology applications. Completion is scheduled for 2020, with likely delays affecting its timely opening. Era will seek to foster military-civilian cooperation for military and dual-use S&T innovation projects and aims to bridge the gap between pure R&D and hardware for the armed forces. Two main challenges can already be identified. R&D cycles are likely to be too long to cope with innovation in other spheres, notably in the information technology (IT) and big data sectors, thus making potential applications less relevant. Secondly, the announced presence of major OPK state corporations and consortia such as Rostec are likely to turn Era into a rigid system plagued with administrative hurdles.

IMPLICATIONS

a. **Striking the balance of Russian innovation.** Russia's ability to foster innovation in the S&T sector should neither be under-estimated nor over-estimated. Russia's ability to deliver actual innovation and scientific breakthrough is still constrained by the highly-centralised, ever so Soviet approach to R&D, and a tendency to reproduce

errors from the past regarding technopolis. These trends are likely to impact Russia for the short and medium terms.

b. **Lack of investment limits future innovation.** Lack of capital investment and an inability to embrace 'venture capitalism thinking' in the S&T sector also constrain the potential for R&D. There is therefore little chance that Russia will genuinely scale up and achieve major scientific breakthroughs in the short term. Before this happens, Russia needs to bridge the growing technological gap in basic applied robotics, microelectronics and semiconductors, software design, and information technology, among others. These sectors are impacted by international sanctions and pressing Russia for time and money. Constraining Russia's S&T sector through sanctions therefore represents a credible and effective attrition strategy.

4.2 INCREASING FOCUS ON ARTIFICIAL INTELLIGENCE DEVELOPMENT

16. A promising sector for Russian advanced R&D, and a priority for the Kremlin, is the development of narrow artificial intelligence applications for military and dual-use purposes. After president Putin's famous announcement in 2017 that whomever 'becomes the leader in [AI] will be the ruler of the world,' Russia released its AI strategy until 2030 in October 2019, outlining research priorities and applications for the coming years. Compared to peer competitors, the AI sector is critically underfunded and nowhere near American and Chinese budgets.


17. AI developments are in the hands of major state corporations such as Rostec and Rosatom, with so far little interaction and spinoffs between the civilian world and the military industry. Most Russian technological universities and technopolis are working on AI projects. In the civilian and dual-use sectors, AI-enabled systems are linked to image and speech recognition and face recognition for social control purposes, as well as for healthcare industry purposes. In the military sphere, priority is given to AI applications for signal intelligence, electronic warfare, autonomous systems, combat aircrafts, as well as on AI applications in improving logistics through automated material support system for military units.

18. Russia has a wide understanding of what AI means. Similar to the West, discussions occur regarding conceptual differences between



Putin's famous announcement in 2017 that whomever 'becomes the leader in [AI] will be the ruler of the world.'





AI/machine learning and automation. What would be considered autonomous or computer-assisted in Western technology very quickly becomes 'AI-driven' for Russian scientists. This is, for instance, the case with announcements regarding 'AI-assisted' air defence systems for fire-control solutions, combat aircraft or autonomous systems. Russia also announced working on artificial neural networks for military purposes.

19. In the coming years, a National Centre for Artificial Intelligence might be created to streamline existing R&D efforts. Fostering genuine AI achievements will remain limited by the usual hurdles in Russian S&T: a lack of access to capital investment; brain drain; corruption; and the centralised nature of the system. As AI developments cannot be achieved without constant evolutions in IT, big data, supercomputing and microelectronics, there is little hope for Russia to achieve major breakthroughs in this sector in the coming years, especially as the gap with the West and China will widen. Considering the level of interest and investment in this sector, incremental innovation is bound to happen in the coming years.

IMPLICATION

Targeted innovation in the AI sector. The Russian MOD and its military-industrial sector are working together better than they have in decades. While weaknesses may remain in their scientific and industrial base, Russia is capable of achieving AI breakthroughs in targeted sectors, especially in the military sphere. This could prove a challenge for NATO, especially regarding inroads in AI-enabled systems for ISR, electronic warfare, and autonomous systems. The links between AI-assisted tools and electronic warfare are of particular concern and should be observed closely should deterrence capabilities be required to match Russian developments in these sectors.

4.3 BREAKTHROUGH TECHNOLOGY AND ADVANCED R&D

20. The Kremlin has been investing massively in breakthrough technology for military and dual-use applications for more than a decade. Russia is cognisant of the need to project itself in the 'race' for technological superiority in certain segments, but current it does not possess clear comparative advantages in advanced R&D.

21. The use of cryptography, mostly under the aegis of the FSB-led Cryptography Academy, in military and computer security is improving.

Russia is participating in the 'quantum computing race' and has been working on applied quantum technology since the mid-2010s, including photonics and quantum cryptography. Additionally, nanotechnology with applications in the energy industry and the defence sector has obtained a lot of official attention.

22. Russia is also investing time and effort in developing supercomputers with links to AI, although R&D depends heavily on access to Western technology to achieve results. In 2019, Russia only had two supercomputers in the top 500 list and they were unlikely to be using such processing power for military applications at that time. Nevertheless, the need for faster computing power for the development of applied AI to the military sphere might foster greater investment in the future. With foreign capital investment lacking, these trends are unlikely to change in the coming years.

IMPLICATION

Russia might increase R&D and innovation cooperation with China. As Russia is pressed for results and achievements in this perceived 'technological race,' and considering the aforementioned constraints, the Kremlin might be tempted to increase its level of cooperation with China. Technology transfer and R&D cooperation could take place between Russia and China, not only in the civilian and dual-use industry, but also in the military industry and in sensitive areas. For Russia, such cooperation would bridge the know-how and innovation gap, and bring tangible results. Russia declared its intent to partner with China in space exploration, so it would not be surprising to witness bilateral cooperation in strategic missile, advanced systems such as hypersonics, interoperability and anti-submarine warfare, and even joint military R&D in critical breakthrough technology. This would prove detrimental to NATO's interests and overall security, as well as Western technological superiority altogether.

4.4 HYPERSONIC MISSILE AND ADVANCED DELIVERY VEHICLES/SYSTEMS

23. Under the current state armament program (GPV 2027), Russia is investing in new strategic and hypersonic delivery systems. Several projects, dubbed 'Doomsday' or 'Deathstar' systems, were unveiled in 2018 and consistently are presented as Russia's high-tech endeavour in the realm of advanced strategic delivery systems,

including hypersonics. The existence or usefulness of such systems, however, is questionable. This is especially relevant since part of Russia's 'shock and awe' therapy against the West is indeed to showcase these systems on the world stage before actually deploying them into active service.

24. Russia is aware that it might be lagging behind technologically in the long term 'hypersonic race' and is therefore seeking to bridge the rhetoric gap by testing its indigenous systems before the US and China test theirs. This resulted in concern in the United States that it is lagging in the development and deployment of hypersonic weapons. It is too early to judge who is ahead.

25. Several systems need to be watched in particular, including the Yu-71 Avangard (SS-X-31) hypersonic boost-glide system. Avangard is not a game-changer or a major leap ahead in existing ICBM delivery, though, as it only can be applied to specific strategic missions like pre-emptive strikes. Avangard development and deployment has been included in the current procurement cycle until 2027, but contrary to official statements, it is unlikely to enter active service without further testing, and even then, unlikely to come in massive numbers due to production cost and limited industry output.

26. Another system currently undergoing active testing in the armed forces is the air-launched semi-ballistic short-range missile Kh-47M2 Kinzhal carried by adapted MiG-31K interceptors. The Kinzhal is supposed to serve primarily as a standoff strike weapon against missile defence and air defence systems. In the future it could be mounted on Su-57 5th generation fighters, depending on when they enter service, but it is unknown whether it will be procured and deployed under GPV 2027.

27. Russia is working on a nuclear-powered subsonic cruise missile, the 9M730 Burevestnik (SSC-X-9 Skyfall). Stemming from age-old Soviet research in nuclear-powered propulsion, the system serves the limited purpose of strategic second-strike capabilities, making it a cumbersome and expensive payload delivery mechanism compared to existing systems. However, Burevestnik could serve the dual purpose of demonstrating superior technology to the West as well as being a 'technological demonstrator' for other dual-use and military propulsion systems.

IMPLICATION

Targeted deployment of advanced delivery systems. On top of constant sabre-rattling around Russia's 'Wunderwaffe' delivery systems, the

OPK shortly will be deploying niche capabilities in hypersonic and semi-hypersonic systems. NATO needs to make strategic consideration of the implications of hypersonic delivery systems. This may require doctrinal and posture adaptations to match Russian ambition and intent.

4.5 MILITARY ROBOTICS AND AUTONOMOUS SYSTEMS

28. Feeding the logic of a 'contactless war' coined in several recent Russian doctrinal documents, the development of autonomous weapon systems and platforms is deemed a priority in terms of R&D and production. In less than a decade, Russia has gone through an automation revolution when it comes to military robotics. Placed under the supervision of the Foundation for Advanced Research, it is supervised directly by the Military-Industrial Commission, the highest military-technical decision-making organ in Russia. Autonomous systems are covered by two federal programs, the 'Program for the development of military robotics until 2025' and the 'Concept for the deployment of robotised systems until 2030.' Furthermore, the Ministry of Defence established a Robotics R&D and Experimental Centre in 2015, outlining research priorities in the sector.

29. Autonomous systems in Russia can be divided into two main priorities: unmanned aerial vehicles (UAVs) and unmanned ground vehicles (UGVs). Aerial drones greatly benefited from the 'wake-up call' of the war with Georgia in 2008, when the Russian armed forces discovered the need for force multipliers for ISR operations and target acquisition for ground artillery support. In a decade, Russia has now structured an indigenous military-industrial base for basic ISTAR drones, with thousands of units now in active service across all army branches. Russian UAVs have gained combat experience from operational use in Syria and Ukraine.

30. UAVs will continue to increase the quality and scope of their basic missions for ISR and artillery spotting/target acquisition in the short term. Upgraded systems of existing models will enter service in the coming years with increased range. Medium-intensity short-range bombing missions are likely to become an integral part of UAV deployments. Swarm drones are also being studied although it is unlikely that they will be deployed before the 2030s. Swarm technology will be part of aerial support systems and once deployed will have the power to exhaust missile



Swarm technology, once deployed, has the power to exhaust missile defence systems in the tactical domain and will be part of aerial support systems, which could become a concern for NATO.





defence systems in the tactical domain.

31. The civilian sector is looking at the development of UAVs very actively, mostly for the surveillance of remote energy infrastructure and pipelines as well as for the protection of critical national infrastructure. Arctic exploration, for dual-use purposes, is likely to see development of autonomous systems in the medium term.

32. Russia will continue to develop UGVs covering a wide variety of missions. Autonomous urban vehicles for demining operations have been tested in Syria successfully, including the remote-controlled mine-clearing Uran-6, and are now deployed in the armed forces. Urban combat ground vehicles (UCGVs) are in the development phase but are suffering from technological setbacks as many problems exist in terms of automation, autonomy and range, and overall effectiveness. Due to these constraints, the use of UCGVs is limited to perimeter defence and low-intensity operations.

IMPLICATION

Increased presence of Russian autonomous systems across the battlespace. NATO needs to be prepared for the consequences of the increased presence of Russian UAVs and UCGVs, as well as Electronic Warfare (EW) systems as a systematic force multiplier. NATO needs to develop innovative ways to contest Russia's inroads in the use of autonomous systems in increased ranges of missions.

4.6 ELECTROMAGNETIC WARFARE CAPABILITIES

33. Russia realises the importance of using EW capabilities as an asymmetric response to perceived Western military and technological superiority. In over a decade, progress in this direction has been significant, with EW systems at the heart of Russia's modern warfare capabilities. As with autonomous systems, EW systems have benefited from lessons learned from operational deployments in Syria and Ukraine.

34. The creation of two specialised EW research and production firms in 2009 has enabled many pieces of EW equipment to be deployed actively in the armed forces, e.g. Krasukha-4 interference stations and Murmansk-BN coastal and ship-based interference complexes.

35. The setup of designated EW troops inside the armed forces, especially for ground forces, complements technical advances. Specialised

EW brigades were created and placed under the authority of the Directorate of the Chief of Staff of EW troops, alongside specialised EW units for anti-drone warfare. The Directorate was itself set up at the brigade level in 2017. Russia's EW strategy in the short term is to increase procurement and training efforts, integrate existing and new systems both in quality and quantity and link it with Command and Control (C2) capabilities at the tactical-operational level. Furthermore, thanks to advances in modern C2 and command, control, communications, computers and intelligence (C4I), EW operations will be increasingly integrated in a single operational environment.

36. The deployment of EW capabilities is occurring alongside the strengthening of air defence and area denial (A2AD) capabilities. Russia now operates multi-layered four-dimensional A2AD systems that contest the battlespace and increase the cost of entry into such an environment. The electromagnetic realm, as an additional operational layer, is now systematically factored as a paramount parameter for military operations. This role is likely to increase in the years to come, especially in Russian thinking around the initial period of war. A major unknown for Russia, however, is how effective these systems are against peer- and near-peer competitors as these EW platforms have a lot of shortcomings and gaps in certain capabilities.

IMPLICATION

Increased reliance on EW systems. With increased C2 integration, new systems will enter service in the short term, giving Russia an undeniable asymmetric edge in area denial and the creation of more complex contested environments. NATO will have to invest significantly in its own EW capabilities to counter this challenge. Although Russian EW capabilities have not been tested against peer competitors, the armed forces have acquired a comprehensive database of Western EW signatures, which could provide a technological advantage.

4.7 DEVELOPMENTS IN AUTOMATED COMMAND & CONTROL SYSTEMS

37. Modern C2 capabilities are the heart of Russia's military reform. The objective is to structure automated C2 from the strategic to the tactical level. The National Defence Control Centre (NDCC), Russia's centralised C3I centre, was created in 2014 with a goal to centralise existing systems under one structure. It aims to bridge potential

gaps and avoid duplication of efforts. Priority is given to the development of ISR capabilities to achieve the Russian equivalent of network-centric warfare under a unified information environment. The first automated C2 systems were tested during combat operations in Syria in 2015. In the coming years, provided sufficient innovation takes place, AI-assisted tools will probably be increasingly deployed within automated C2 systems. This will greatly improve the speed of decision-making at the strategic, operational and tactical levels.

38. At the tactical level, Russia is developing a Joint Battlefield Information System, integrating data from sensors. A 'Tactical Joint Battle Command' system is also being developed on the basis of the Strelet reconnaissance system. This aims to centralise reconnaissance data, target designation, and allow for communication in real time to feed this information to the centralised C2 system. In the short term, further integration of existing systems will increase the level of efficiency and response of the Russian armed forces. These includes the Azart tactical mobile radio-communications system and the ISBU combat-control information system.

IMPLICATION

Western decision-making system is continued to be challenged by Russian C2. As automated and centralised C2 systems come online, the Kremlin will increase intelligence gathering capabilities and accelerate decision-making at the tactical, operational and strategic levels. It is important to identify now potential areas where NATO needs to invest to maintain a decisive advantage in decision making.

4.8 BRAIN DRAIN AND ISSUES LINKED TO SCIENTIFIC EDUCATION IN RUSSIA

39. The strong legacy of Soviet academic and scientific education is not enough to boost Russian S&T into the 21st century and the quality of their human capital is now under question. Russia is experiencing a shortage of skilled and qualified engineers and scientists, leading to employment issues and many positions left vacant. This is also linked to the decrease in levels of higher and vocational scientific education since the 1990s. On top of technological impediments, a genuine human capital leap will be needed to project the Russian scientific and engineer community into proper innovation.

IMPLICATION

Russian science is likely to continue to suffer from talent exodus and brain drain. Due to a lack of prospects, incentives and motivation, scientists will continue to choose to work abroad instead of in Russia. This trend will most likely impact overall productivity in the S&T sector and limit innovation.

4.9 INCREASED USE OF CYBER DOMAIN AND CYBER TOOLS

40. Cyber activities are not only an enabler for grey zone operations and information manipulation, but also a key factor of social control and state security. The 2016 Russian Information Security Doctrine clearly outlines how the state needs to manage internet activities and the cyber domain in general. For this reason, Russia is increasing its oversight on the internet, by following a divided and fragmented internet protocol, splinternet, as opposed to Western countries that are supportive of a single global internet.

41. On the defensive side, the "splinternet" was created to ensure the protection of critical infrastructure from a state-sponsored cyber-attacks. It is worth noting here that Russia does consider the media as critical infrastructure; and state control of the cognitive domain is a key priority for the Kremlin as it seeks to maintain control over the Russian population. The Russian internet, known as 'Runet,' has now become a closed space tightly regulated by the state. New technologies have been developed, notably regarding big data analytics and AI-assisted tools.

42. On the offensive side, the cyber domain facilitates Russian intelligence collection activities, cyber-attack against adversary owned critical infrastructure and, most importantly, strategic-level influence operations. Moreover, Russian grey zone information manipulation operations need to be understood as preparation of the environment. Cyber operations encompass a blend of targeted information manipulation operations, election manipulation, and overall interference in the political and media sectors of target countries. Russian tools for such grey zone operations have been refined and the weaponization of information through social media engineering has been intensifying, with no signs of letting up.

43. Information manipulation tools do not work in isolation in the media environment, but instead work in synergy to maximise their effects in the cyber and physical realms. Russian efforts

“
Moscow's grey zone operations in the media sphere generally do not create new societal cleavages or negative trends, but merely reinforce them and manipulate social norms.
”



are consistent, unified and tailored to the target audience. Russia's narrative and message in such campaigns have been refined over the years but remain defined along the same ideological baseline: anti-western and anti-American values; promotion of an anti-liberal and anti-globalisation agenda; promotion of traditional values; and denunciation of the morally corrupt Western system, etc.

44. Desired effects vary from swaying public opinion on divisive issues, influencing political developments, reinforcing pre-existing cognitive biases, etc. Russian information manipulation operations seek to saturate the media field in order to amplify existing negative messages. Through audience recruitment, Russian efforts provide a feed-back loop amplifying existing Western divisive content. Moscow's grey zone operations in the media sphere generally do not create new societal cleavages or negative trends, but merely reinforce them and manipulate social norms.

45. Social media engineering operations have been professionalized with the help of a network of internet bots, troll farms such as the infamous Internet Research Agency controlled by Yevgeny Progozhin and paid content amplifying each other's effects. They are responsible for spreading divisive content, fake news and disinformation through targeted messaging on social media platforms. These methods are considered cheap and effective, as they exploit loose regulations and policies from platforms like Facebook, Twitter and YouTube.

46. Another evolution of Russian information manipulation campaign is the presence of state-sponsored propaganda media outlets in target western countries. Outlets such as Russia Today (RT) and Sputnik are now considered by sections of the general public as credible sources of information on world affairs. Such outlets are now part of the media landscape in France, Germany, Greece, the UK and elsewhere. The presence of Russian propaganda outlets in the middle of credible, mainstream media platforms tends to blur the border between journalism and fake/alt-news.

47. In the context of the Kremlin's far abroad reassertion, Moscow has been trying to exert its negative digital and social media influence in target foreign countries further afield. Established patterns of information manipulation campaigns against Western audiences have been replicated in Latin American, African, and Asian countries. However, their effects seem to be, at least for now,

rather limited.

48. Russian social media engagement in Latin America seems to focus on bringing Russian diaspora groups together through Facebook and VKontakte. Furthermore, Russia's diplomatic and military involvement in the political crisis in Venezuela in 2018-2019 was accompanied by extensive media and social media coverage. This was done with the aim to prop up Nicolas Maduro's image, leverage the Kremlin's influence and overall increase the amount of anti-U.S. rhetoric in Venezuela.

49. Russian information manipulation campaigns are assisted by systematic cyber destabilisation, mainly cyber-espionage, attacks and manipulation. Moscow counts on the lack of western willingness to attribute cyber operations directly to Russia and on the lack of potential consequences.

50. Although the Russian military has been slow to embrace cyber operations across all military domains, cyber operations increasingly are factored into military planning and operations, notably through the creation of a several cybersecurity science companies within the armed forces, and the first 'cyber troops' in 2014. State security and military agencies work synergistically, with clear division of labour, to carry out a swath of offensive cyber operations. Engineering and planting deep fakes from synthetic imagery and videos to bot-operated fake social media accounts is a new trend in Russian cyber warfare operations. An upcoming concern is the potential use of AI-assisted tools for cyber operations and information warfare operations, notably regarding facial recognition software, against which the West remains poorly prepared.

IMPLICATIONS

a. **Fight fire asymmetrically.** Western countries are generally ill-equipped to operate and fight in the grey zone. A lack of legal consensus and decisive attribution hampers a timely and unified response. NATO needs to work together with other international organizations/institutions and to adapt to this mounting challenge and adjust its legal, normative and procedural requirements. A common political position is necessary in order to establish mechanisms that create a whole of government response to this emerging threat. Updating military doctrines and rules of engagement to grey zone operations can follow.

b. **Increase internal cyber resilience.** Cyber resilience should be based on NATO's minimum guidelines for civil preparedness, notably the baseline requirement for civil communication systems. A further consideration could begin with education aimed at increasing support for media-literacy projects, fact-checking courses and combating fake news, as well as basic critical thinking and cyber-hygiene skills.

4.10 MAINTAINING INVESTMENT IN THE SPACE INDUSTRY AND SPACE TECHNOLOGY

51. The primary constraints affecting the Russian space industry are the lack of capital investment, the scramble for state budget, and limited access to advanced Western technology. Innovation in the Russian space sector will not come without a massive funding increase. Apart from the Soviet legacy of launch services, Russia does not have much to offer in order to leverage modern space capabilities.

52. In addition, the space industry is affected by the following: the space sector has completely failed to tackle endemic corruption in the industry; it has also not been able to fully budget the construction of a new generation of Soyuz capsules or a new family of spacecrafts; it has not addressed the numerous delays in the completion of the Russian orbital segment of the International Space Station (ISS). The ISS has avoided the sharp deterioration of political relations between Moscow and Washington, with Roscosmos and NASA operating the station since 2011. However, the future of this cooperation is uncertain beyond 2030 as the ISS is nearing the end of its life by that time.

53. Adopted in 2016, Russia's 'Federal Space Program 2016-2025' outlines key priorities for the space industry. Due to constrained budgets, **Moscow has abandoned purely scientific space exploration projects including manned missions**, in order to focus on Russia's comparative advantages, namely launchers and communication satellites. With less launch vehicles, and uncertainty regarding new systems available soon, there are risks that Russia's good track record of launch services might be tarnished in the coming years, especially when facing private international space companies. When it comes to communication satellites, the 2025 federal plan sets to increase the constellation of communications satellites from a current 32° to 41° orbital longitude in order to increase

broadcasting considerably.

54. The Vostochny Cosmodrome in eastern Russia was completed in 2016, thus removing Russia's historic dependency on the Baikonur Cosmodrome in Kazakhstan. Russia's intention to have new launchers available before 2021 appears to be unlikely. Meanwhile, future deep-space exploration and technological innovation will have to wait beyond 2025 and the current federal program includes a potential new manned mission to the Moon and lunar probes. The space industry was heavily recentralised in mid-2018. Yet further plans to dismantle Roscosmos into the military industry would heavily, and probably negatively, impact the course of Russian space innovation.

55. Roscosmos and the national space industry are unfit for the privatisation of space services or the arrival of private commercial activities in space. Several 'space tourism' projects do exist on paper but concrete plans have not been able to be brought to the table, mainly for lack of financing.

56. GLONASS represents one of Russia's space success stories. It increasingly is employed for military operations, a trend that is likely to continue in the coming years. The fleet has been instrumental in military operations in Syria. For the past few years, Russia has been using its orbital assets increasingly as a tool of grey zone operations against Western interests and others. For example, the number of 'space intercepts' has increased with Russian assets aggressively approaching Western and other geostationary satellites in order to test intelligence and EW capabilities and intercept data transmissions. This trend, honed by Russia's innovative approach to space as a genuine operational domain of war, is likely to increase in the coming years. As such, orbital capabilities are seen increasingly in dual-use terms in Russia.

57. The Kremlin is using its satellites and space assets to increase electronic intelligence gathering. Russian offensive and counter-space capabilities include electromagnetic warfare assets aimed at disrupting satellite communications and navigation directly from space. Russia also has been strengthening its fleet of spy satellites with advanced remote-sensing capabilities for dual-use purposes and anti-satellite warfare.

58. Despite these many constraints, space is likely to remain a key S&T sector in Russia because the armed forces rely on Roscosmos



Russian offensive and counter-space capabilities include electromagnetic warfare assets aimed at disrupting satellite communications and navigation directly from space.



and its launch services to send military and spy satellites into space, alongside developments in ICBM technology and the use of the GLONASS satellite constellation for military purposes. However, under these circumstances, the Russian space industry can only hope to conserve and retain existing legacy capabilities and not project itself into modern S&T innovation.

IMPLICATION

Increasingly assertive space policy. After the fall of the Soviet Union and the deployment of the GLONASS constellation, Russia feels relatively emboldened to undertake grey zone operations in space by using its orbital assets, especially anti-satellite (ASAT) capabilities. As a relatively uncharted operational domain of war, space is increasingly understood in dual-use terms by the Kremlin. This represents an additional challenge for NATO to not only counter Russia's use of space in the grey zone but also find innovative and asymmetric means of deterrence against Moscow. This is also a great concern regarding the weaponization of space.

4.11 LEGAL AND ETHICAL CONCERNS

59. The place of AI-assisted tools and automation in the civilian and military world are fuelling active legal and ethical debates in Russia. Expert debates around the use of autonomous systems point out the need to first and foremost define the vast array of circumstances around automated decisions, while preserving human decisions as the ultimate safeguard, especially for military decisions. Discussions also focus on the potential for tactical errors happening because of unpredictable autonomous and AI-assisted platforms. Regulatory frameworks for the use of UAVs and military robots have recently been created. The objective, in the short term, is to unify doctrinal concepts around military robotics.

60. Recent evolutions of Russia's military thinking, especially tactical applications, impact discussions on legal and ethical areas. 'Future warfare' in Russia increasingly is designed around initial period of war preparations and information dominance. The aim is to win the initiative through non-contact superiority. This requires innovation in the sphere of computer science and information technology, cyber activities, electromagnetic warfare, precision-guided munitions, and military robotics, which remain current R&D priorities.

These developments are aligned with the 'strategy of limited action,' formalising the pre-emptive neutralisation of threats, and the need for increased C2 and overall readiness.

61. It appears that Russia's military command has a general unwillingness and unease to utilize AI and limit the delegation of decision-making by machines, especially ones that have 'humans out of the loop.' In the case of fully automated systems, human control and oversight are deemed paramount before engaging any lethal decision. AI-assisted autonomous systems are therefore not designed to become fully autonomous, at least for the time being. This position is not entirely disconnected from the emerging consensus in the international community over such matters.

62. Normative discussions in Russia also relate to arms control and the breakdown of the Intermediate Range Nuclear Forces (INF) Treaty. There are few chances envisaged for the New Start Treaty that is expected to be renewed after 2021. Moscow and Washington have now moved beyond Cold War strategic engagements, thus paving the way to a different set of foreign policy behaviour and signalling.

IMPLICATIONS

a. **Limited ability to hold Russia to account.** Recent developments around arms control, at the strategic level, and the use of PMSCs and cyber operations at the tactical level are worrying. For NATO, this makes attribution even more complicated. Russia will keep looking for innovative ways to increase the level of plausibly deniable actions and tests against NATO coherence and unity, as well as promote strong, state-sponsored and anti-West counter narratives. In terms of strategic systems, a bolder Russia will require adaptations in deterrence dynamics and a strong unified counter-narrative.

b. **Adapt arms control to emerging technologies.** Whatever the Kremlin's endgame might be, Russia has been calling to renew the New START Treaty. However, existing arms control treaties do not respond to the issues stemming from new technologies. There might be an opportunity now for the Alliance to start discussions with Russia, as long as doing so aligns with Alliance values, on the impact of emerging technologies on future deterrence dynamics.



2020



OIL PRICE



ECONOMICS / RESOURCES THEME

1. Russia's economy has been in a period of long-term stagnation since the 2015/16 economic crisis. The World Bank's baseline scenario suggests that Russian GDP is expected to contract by 6 % in 2020 due to the COVID-19 crisis. Although some positive momentum is expected to appear in 2021 and 2022 respectively, GDP growth levels in 2022 would have barely caught up to pre-pandemic levels. While the GDP growth is expected to average close to 1.5% over the next few years, which is low considering Russia's level of economic development, the impact of COVID-19 has increased uncertainty over the long-term. The Russian economy was expected to remain stable as long as the long-term average price of oil remains above \$50. However, the collapse of the agreement between Saudi Arabia-led OPEC and Russia on oil production levels and increased uncertainty about demand pushed oil prices down to \$20 a barrel. Russia will be affected by an oil price war and a contraction of global demand due to the COVID-19 pandemic. Should oil prices remain at current levels over a few years, this will have economic and social impacts with consequences on Putin's popularity. Additionally, structural problems such as chronic corruption, lack of institutional reforms and non-conformity to market requirements are expected to remain over the long-term and will restrain Russia's GDP growth rates.

2. Real GDP growth in Russia surpassed expectations in 2018, reaching 2.3%, mostly due to one of the effects from energy construction. Forecasted growth of 1.2% in 2019 and 1.8% in

2020 and 2021 reflect a more modest outlook. There are three main indicators behind that prediction. Gas production is estimated to remain around the 2017/2018 levels until 2050, while oil production is likely to fall below the 2017 level. Demographic change is also affecting the economy immensely with a steady decrease of people in the labour market due to decreasing birth rates, aging population and emigration of skilled workers. That puts additional stress on future government funding for pension and social services. Lastly, private businesses that should drive the economy struggle with restrictive state requirements in contrast to the big government-owned or -supported companies that lack efficiency.

3. Based on the OECD Better Life Index, Russia ranks better than average on education and skills, but ranks poorly in subjective well-being, income and wealth, and jobs and earnings. The average Russian household net-adjusted disposable income per capita is well below the Organisation for Economic Co-operation and Development (OECD) average, ranking 33 of the 40 nations studied. Although the poverty rate has decreased from over 30% in 1992, to just over 13% in 2018, experts project that based on estimated GDP growth rate below 2%, the rate will most likely stay in double figures through 2024. When the percentage of the population living near the poverty level is considered, the rate more than doubles to almost 30% of Russians. Economic stagnation in Russia, paralleled with the slowdown of oil-driven economies, is expected to continue to affect GDP.



Russia will be affected by an oil price war and a contraction of global demand due to the COVID-19 pandemic.





5.1 SLOW ECONOMIC GROWTH

4. The Russian economy fell into recession in 2015. Both the International Monetary Fund (IMF) and the Russian Ministry of Economy also take a sober view of Russia's medium-term growth prospects. After the recession in 2015, the IMF projected a modest recovery in 2016 followed by trend line growth of 1.5% per annum over the next several years, far below the 6.9% average annual growth rates of the boom years. The IMF World Economic Outlook update reduced Russia's growth forecast for the third time in 2019 to 1.1% from the previous 1.6%. The costs of renationalization, corruption, regulations and laws that impair the operations of businesses, and Western sanctions have combined to reduce economic output and slow recovery in Russia. Western economic sanctions forced Russia to be prepared for economic shocks by increasing financial reserves to roughly \$600 billion in gold and hard currency over the last decade. COVID-19 and the global economic crisis will further lower Russia's growth expectations.

5. While the Russian unemployment rate appears to be comparatively good at 4.9%, the number could be deceiving. Russian law protects employees from being let go during difficult economic times; employers can simply cut wages until better times return. Ultimately, only long-term economic growth can improve the standard of living for Russians, but this requires more freedom for small and medium-sized enterprises to innovate and grow, a more diversified economy, and changes to the social contract, none of which Moscow appears willing to provide.

IMPLICATIONS

a. **Lack of resources and current state of economy does not hamper political and military ambitions.** As anywhere else in the world, Russia's resources are seen as strategic in order to fulfil its foreign policy goals. Nearly 50% of its tax revenue originates from the oil and gas sector. Due to its limited ability to influence the world economy, the oil and gas reserves play a vital role in the Russian domestic economy and are one reason for Russia's enhanced Arctic activities. Because of the dependency on world market prices for resources, the country tries to compensate for the potential trade gap through accumulation of foreign currency and takes measures to keep its foreign debt small. Since internal measures such as tax increases and budget alterations can increase the defence budget by 20% without heavy implications for the domestic economy (20% increase corresponds to just 0.5% of GDP), there is an assumption that Russian foreign policy and actions are not directly hampered by the current economic situation. In the short-term, Russia is not expected to alter foreign

policy and its aggressive external actions due to the currently stagnating economy.

b. **Potential for social unrest.** Russia lately has seen an increased number of protests in different parts of society. It has to be stressed that there is not one main cause the population is rallying behind. The 'social contract' of taking care of the everyday life of the population while people abdicate from political engagement is not working anymore due to social, economic and demographic reasons. Although existent and tolerated up to a certain level, social unrest will not likely change the course of action of the Russian government in the near future due to the state's ability to suppress protests and opportunities it has to influence public opinion.

c. **Vulnerability to external changes/sanctions.** There were two sets of Western sanctions imposed on Russia to force it to comply with the Minsk accord, the first set after the annexation of Crimea and the second set after the Russian involvement in the conflict in Eastern Ukraine. Although the sanctions seem to work on a practical level, such as prohibiting trade, financial flows and investments, hampering their economic and technical advancements, the results are inconclusive. Predominantly, this is because it forces Russia to conduct its own research in technology and diversify within its own military-technical complex of state companies. That happens without any Western insight through scientific or industrial exchange of information. Secondly, the sanctions appear to work against the society and not against the ruling elite. This fact, despite some social unrest, could unify the population against a 'common enemy.' Third, due to the nature of some sanctions as permanent and inevitable, they can be seen as an attempt to invoke regime change and not behavioural change within Russia. The West lacks a unified strategic vision on the purpose and duration of sanctions necessary to result in a correction of Russia's foreign policy actions.

d. **Sanctions and state of economy incentivizes Russia-China cooperation.** Russia and China share the same key interest of replacing the current international system based on liberal norms with one that respects the interests of great powers. The increased cooperation with China is a logical, currently convenient step for Russia. Due to the tensions with the West and the sanctions, Russia needed to diversify its economic approach towards the East, to redirect commercial flows and develop new partnerships. These encompass finance, redistribution of oil and gas flow, as well as common resource exploration in northern Russia and the Arctic. Due to China's increasing economic and military position of power, in the region and

worldwide, the cooperation will last as long as it serves China's interest. That being said, from the Russian perspective the current state of the Russia-China cooperation indicates at least some mitigation of Western sanctions and moderate economic growth in the future.

5.2 INCREASED INEQUALITY

6. Russia's long history of feudalism, from which it rapidly transitioned into totalitarianism and then again into oligarchic state capitalism, left little room for a tradition of individual property rights. Corruption is still seen as a typical characteristic of the Russian culture of governance. The oligarchic system of today can be distinguished between three groups. The inner circle is comprised of Putin's long-time associates in the current administration. The second group is associated with the security and oil sector around the big conglomerates such as ROSNEFT and ROSTEC. The third group still benefits from the connection to pre-Putin administrations. Due to the 'carrot and stick' policy of the Putin administration, they can still conduct business as usual; they are virtually unhampered by the imposed sanctions. The state guarantees contracts, especially in big infrastructure or energy sector projects and the oligarchs do not interfere in politics.

7. According to the 2018 Corruption Perception Index, Russia ranks 138 of 180 countries with a score of 28 points of 100, with corruption widespread in the Russian public sector (i.e. Russia ranked 135 out of 180 with a score of 29 in 2017). There is a strong connection between loss of wealth and the corruption that occurs in the system; the closer a company is to an official in the administration, the better protected the company's assets and investments are. The state's restrictive policy on investments of foreign actors and suspicions of a potential political influence already hampered economic development in the past. That alone, without regard to the imposed sanctions on the Russian economy, is the reason for the real loss in GDP growth and overall wealth.

8. Unequal living standards in Russia have their roots in the years after the collapse of the Soviet Union. Fiscal policies and corruption are just a few reasons for the extreme gap in the wealth distribution in Russia today. In 2017, the wealthiest 10% of society owned 87% of the country's wealth; no other major economy is so unequal in its wealth distribution. But there are also vastly different standards of living by regions within Russia. A 2018 European parliament report stated that:

"...socioeconomic inequalities are exacerbated by huge regional inequalities: in 2016, per capita GDP in the oil- and gas-rich Arctic Nenets region was €70,000, 43 times higher than in

the impoverished North Caucasian region of Ingushetia (€1600). By contrast, the income gap between the wealthiest and poorest regions in the United States and Germany is 5.0% and 2.4% respectively."

Those discrepancies also originate from the different levels of and access to health services and education between the regions.

IMPLICATIONS

a. **Oligarchs and elites are still key stakeholders in the economy.** Corruption and enrichment of a few privileged with close ties to government officials will continue to be an essential part of the Russian economy. The Russian elite act nearly unchallenged in the country's economic system. Conflicts with the West and Western sanctions have not hampered their businesses extensively. The regime compensates losses internally to keep the few wealthy and in power to support its own agenda. As long as Oligarchs refrain from getting involved in the political agenda, they can maintain their status quo. In addition, the state ensures compliance through fiscal measures and investment guidelines for government officials to keep investments out of the control of foreign actors. The Regime has no reason to fear any challenges from the Oligarchs. Therefore, Western countries have to watch closely and monitor any Russian attempt to gain influence through globalised economic ties and partnerships with the respective Russian individuals as well as state companies.

b. **Economic pressure increases likelihood of social unrest.** The government has to increase its efforts in 'expectation management' of its population, especially in the major cities. Although the population stands relatively united behind the idea of a strong Russia, able to act independently from the West in its sphere of interest, they still feel the pressure from the stagnating economy. Less disposable income, an unpopular but long overdue pension reform and increasing unequal living conditions within the country are increased drivers for social unrest. If the government is not able to keep its social promises of a stable system, with at least stable living conditions, and progress in its fight against corruption, the likelihood of protest will not only increase in metropolitan areas but in smaller cities countrywide.

c. **Regime change due to internal pressure is unlikely.** President Putin and his government will continue to try to utilize protest whenever suitable to demonstrate improvement and concessions to the people as long as their demands do not affect the stability of its power base. Although the internal pressure is mounting up

“
Corruption and enrichment of a few privileged with close ties to government officials will continue to be an essential part of the Russian economy.”



due to corruption and distrust in some branches of government, the changes, if any, are only minor and the level of oppression just rises. Therefore, the stagnating economic situation is unlikely to cause regime change.

5.3 RESOURCE DEPENDENT ECONOMY

9. The volatility of hydrocarbon revenues presents risks for countries whose budgets depend on them, especially if their economies and finances are not resilient. Making up more than half of exports and providing 40% of the nation's revenue, oil and gas are the main sources of Russia's economy. When oil prices fell from \$115 to \$60 per barrel in the second half of 2014, the rouble depreciated 59% in comparison to the US dollar. Because most of their consumer goods, especially food, are imported, Russians are highly vulnerable to these market fluctuations. As oil prices drop, the cost of daily necessities increases, and Russian's standard of living falls.

10. Russia is the world's third largest oil producer behind the United States and Saudi Arabia and is the second largest producer of natural gas behind the US. After the shale oil boom in the US, American oil flooded the market causing a decrease in the price per barrel. To counter this impact, the Organization of Petroleum Exporting Countries (OPEC) and their coalition partners, including Russia, agreed to cut production until the Spring of 2020. However, decreasing demand due to the impacts of COVID-19 on global economies resulted in a major fall in oil prices. After Moscow's refusal of Saudi Arabia's proposed production cuts in a March 2020 meeting in Vienna, Riyadh responded with a price reduction and a massive increase in oil output. The collapse of the OPEC+ deal and the decrease in oil prices have hit Russia's financial markets and currency, leading to a sharp drop in the rouble versus the U.S. dollar. Today's economic crisis is a result of the COVID-19 pandemic, but the economic impact on Russia is being worsened by the simultaneous oil-price war that will degrade Russia's growth expectations.

11. Moscow will continue to rely on oil and gas to fuel the Russian economy well into the future, and with the promise of vast resources in the Arctic, it may be capable of maintaining current levels of production. However, as evidenced in the hard times endured between 2014 and 2015, a commodities-based economy is extremely vulnerable to market fluctuations, and although financial reserves are close to \$500 billion, it is unclear whether Moscow can afford another large bail-out. Although the market for petroleum will continue for decades, the concern over the environmental cost is growing worldwide and

will affect exports and gains from the oil and gas business.

IMPLICATIONS

a. **Look for new markets and partners in Central Asia.** Recent tensions between Russia and the West highlight Russia's growing ties with Asia, particularly China. Before the Ukraine crisis, this pivot to Asia had more to do with Moscow's assessment that Asia will be the major source of future economic growth. Russia has always been invested to engage in Central Asian supranational institutions in contradiction to the existing Western politico-economical institutions. Russia has approached new partners and markets in the east since 2000. Intentions for an increased economic and political cooperation with Central Asian countries and most importantly China are a logical conclusion based on the country's current state of the economy and its rather modest perspective. Institutions such as the Eurasian Economic Union are supposed to open new markets for Russia and enable access to Chinese investments. It is questionable if that course will be successful due to Russia's self-perception as a hegemonic power in Central Asia and the occurring soft resentment by its partners in the region.

b. **Partnership and outreach to China.** Geographic proximity between Russia's vast reserves of oil and gas and China's huge market creates a natural synergy that has seen China become Russia's second largest trading partner in recent years. Recent tensions between Russia and the West highlight Russia's growing ties with Asia, particularly China. Russia seeks Asian, especially Chinese, investment to open up new sources of oil and gas, which will in turn allow it to play a larger role in regional security and diplomacy. Economic ties are the basis for the deepening Sino-Russian partnership, while Beijing has also provided important diplomatic support as the West has sought Russia's isolation. Russia and China are cooperating on economic as well as in military areas. Russia's geostrategic realignment of its economic relations poses no threat to the West per se. In the past, Russia had always tried to substitute stagnating trading relations with a stronger focus on the East, more or less successfully. However, if those efforts undermine the effectiveness of Western sanctions up to the point where they are not correcting Russia's behaviour at all, then the sanction mechanism has to be re-evaluated.

c. **Successful China-Russia partnership dependent on relations with the West.** Cooperation between Russia and China has deepened in areas dominated mostly by Russia, such as gas and oil exports, Chinese investments in Russia, the Eurasian Economic Union, as well as the delivery of military goods and the execution

of military exercises. The increased military cooperation between Russia and China is varied and complex and will continue to benefit both states. Although some experts foresee the Russian role in this partnership as that of China's 'junior partner,' the clear political will of both governments for reciprocal close cooperation cannot be underestimated. Russian and Chinese cooperation will continue to be successful unless it ceases to be beneficial for one of the parties. Success will be measured not only by Russian actions, but by the state of the relationship between China and the West. Furthermore, Russian desire to export hydrocarbons to China did not stop Russia from investing into new pipelines to Europe, such as Nord Stream 2 and TurkStream.

5.4 INCREASED INTERDEPENDENCY WITH EUROPE/EUROPEAN MARKETS

12. Although Russia's actions required a response on the international political level and concluded in economic and political sanctions, Russia still remains a natural partner and strategic player for the EU. The Russian and European markets are too connected and intertwined.

13. Russia is the EU's fourth largest trading partner and the EU is Russia's largest trading partner, with a two-way trade in goods value of €253 billion in 2018. Due to the large and recently increasing value of oil and gas imports from Russia, the EU's trade deficit with Russia (€83 billion in 2018) is only second to the EU's trade deficit with China. EU-Russia bilateral trade in goods peaked in 2012, dropping by 44% between 2012 and 2016 from two-way €339 billion in 2012, to €191 billion in 2016. In 2017, trade increased by 21%. In 2018, EU exports to Russia remained stable, whereas EU imports from Russia increased by 16%. Due to sanctions, the overall EU exports to Russia were 31% lower in 2018 than in 2012, with agri-food exports 42% lower.

14. The EU is by far the largest investor in Russia. According to the Central Bank of Russia, the total stock of foreign direct investment in Russia originating from the EU approached €235.2 billion in 2018. Nevertheless, the share of investments originating from the EU in the total FDI stock in Russia has been decreasing: e.g. from 73% in 2014, to 64.7% in 2018. Overall inflow of direct investments in Russia from abroad fell to \$8.8 billion in 2018 – a three-fold decline as compared with figures from 2017, while outflow of investments from Russia in the same period constituted 31.9 billion dollars (36.8 billion dollars in 2017).

15. Russia is the largest oil, gas, uranium and coal exporter to the EU. Likewise, the EU

by far is the largest trade partner of the Russian Federation. With more than a quarter of Europe's oil and almost half of its gas coming from Russia, European leaders are in a precarious position. Although Moscow may make decisions that do not align with the values of the West, Europe cannot afford to cut ties for fear of going dark. Cheaper energy will continue to keep Europe and Russia interdependent, which may have advantages in keeping lines of communication open when truly needed.

IMPLICATIONS

a. **Continuation of oil and gas exports to build relations and maintain influence.** The European demand for oil and gas will increase rather than stagnate in the future due to the shrinking European reserves as well as the steady supply, thus far, from Russia and the Middle East. Furthermore, the change from fossil- or nuclear energy to more environmentally friendly resources for energy is costly and there is no common European approach so far. Russia will therefore continue to play a vital role in the supply of hydrocarbon resources to the countries of the EU. It is able to mitigate the competition through its existing and future transportation network as well as through price modification as the Russian state is the main shareholder in the nation's big oil and gas companies. Therefore, Russia will be able to maintain its influence through the export of oil and gas mainly to the EU. Security of supply is likely to remain as a concern for NATO nations.

b. **Dependence on Western/European markets.** Although oil and gas exports play a vital role for Russia, there are additional fields where Russia is dependent on trade with the EU. Machinery, transport equipment, medicines, chemicals and other manufactured products are just a few examples of imported goods by Russia. Although efforts have been made, the Russian Industry is still not capable of compensating those imports through its domestic industrial capacity. High product quality and safety standards make imports from the EU currently unavoidable. EU-Russian economic relations are deeply connected and Russia cannot afford to jeopardize the steady source of state revenue as well as European investments in its economy. Russia will continue to balance economic relations with its external ambitions. The state of the Russian economy and the availability of alternative markets will continue to indicate the level of aggression of Russia's foreign policy.

//
EU-Russian economic relations are deeply connected and Russia cannot afford to jeopardize the steady source of state revenue as well as European investments in its economy.

//



ENVIRONMENT THEME

1. Climate change and natural disaster trends are expected to continue to gain prominence as the global climate system evolves at a pace few predicted. Temperature rise and weather volatility will have a profound impact upon agriculture, energy security and global trade. As the largest country on the planet, Russia is both rich in natural resources and biodiversity and therefore highly susceptible to the potential shifts in the climate system. The Russian Federation can no longer afford to ignore the threats it faces from changes to the global environment. As a result, environmental management and policy reform will need to be adopted by Moscow if future environmental security implications are to be resolved. Failure to address these security concerns could have far reaching security consequences on a national and global scale.

2. In the post-Soviet Union era, Russia commenced with a programme of environmental reform: recognizing the need to modernize industry; upgrade natural resource extraction and manage environmental systems; as well as instigating recovery from outdated, potentially hazardous procedures. But, in order to implement reform successfully, the Russian Federation required an economically viable model. As the economy failed and sanctions took effect, the intent to initiate environmental reform also receded. Throughout the Putin era the economy has remained subordinate to political reinforcement. As a direct

consequence, environmental regulation and management principally has been marginalized in favour of short-term economic results. Despite signing a number of international and bi-lateral environmental agreements and the Ministry of Economic Development accelerating climate policy, implementation has seen limited results, constrained by the associated economic paralysis. The Russian Federation is likely to remain an active participant in international regulation, given its relative position of strength in terms of global emissions. Notwithstanding, Russia can ill-afford to ignore the increasing impact of climatic change especially given the potential impact upon both internal and national security. The risk of unforeseen/unintended consequences increasingly is becoming probable if climate change continues to go unchecked. Furthermore, the spectre of corruption and profiteering also impinges upon the ability of the Russian Federation to bring about large scale environmental and resource management reform required to reverse the trends of climate change. Internationalized corruption for short term economic gain, poor enforcement, and the muzzling of civil society render the state largely incapable of resolving arguably its most significant environmental challenge: illegal and unregulated resource use.

3. As the impact of climatic systems change becomes increasingly prolific, food and water security, resource exploitation and



As the impact of climatic systems change becomes increasingly prolific, food and water security, resource exploitation and infrastructure are the three biggest concerns for the Russian Federation.





infrastructure are the three biggest concerns for the Russian Federation. This is underpinned and potentially accelerated by the uncertainty and non-linear characteristics surrounding climate change; externally the rhetoric from Moscow is that of opportunity, especially in regards to the Arctic. The reality is perhaps a more challenging dialogue with serious concerns over infrastructure, water and food security and migration.

6.1 INCREASING PACE OF CLIMATE CHANGE

4. Climate change is viewed as both a threat multiplier and growth opportunity within the Russian Federation. According to the 2018 Intergovernmental Panel on Climate Change Report, by 2050 the average global temperature is likely to rise by between 1° Celsius and 2° Celsius. In Russia, temperatures are rising at twice the global rate, with the most profound impact being felt in the northern territories. The result of a continued rise in surface temperatures, particularly in the north, will be significant changes to Russia's physical environment. Extreme weather changes have the ability to inflict widespread damage and both degrade and threaten agricultural and living conditions, which in turn may impact migration. Such changes may not directly drive human, political and economic instability in a country the size of Russia, but they are likely to increase internal tension with the potential to influence and possibly destabilize the wider security environment in areas such as the Arctic. As the impact of climate change becomes increasingly palpable, the associated security concerns are reinforced by complex, conflicting and occasionally contradictory outcomes; what is deemed as a negative or positive consequence is far from understood. Increased industrial and technological support from China may provide resilience in the near term; Russia needs the support and commensurately China requires the resources to enable the Belt and Road Initiative. To what extent their relationship manifests over time is subject to debate, but perceived encroachment upon Russian sovereignty may yet prove to be a point of tension and Russia is expected to maintain a cautious approach.

5. Sea ice reduction, melting permafrost, increased flooding, soil erosion, pollution of air and water resources and forest fires are becoming increasingly common place, and how Russia responds will be critical. Russia faces a multitude of national climate and environmental

challenges that both threaten political stability but also create opportunity. Non-linearity of climate and environmental change is key. Most of these challenges facing Russia are the same for other northern European and North American nations, yet for Russia the scale and impact of climate change is difficult to comprehend and to predict which perhaps alludes to their perceived ambivalence.

IMPLICATIONS

a. **Increased demand for awareness and long-term resilience.** The inability to deal with changes to the climate system, implement reform and respond to crisis may have a significant impact both internally, upon the perceived legitimacy of the Russian Federation, and externally with far-reaching and destabilizing influences beyond neighbouring states. Non-linear consequences are therefore of paramount importance; the implications of not keeping up with changes may see an increase in unwanted access, competing national demands for resource and infrastructure, and an ecosystem that is no longer able to support the population. To avoid such fundamental damage, Moscow will be required to increase environmental awareness, improve resilience and find high-tech solutions. All of these factors will have financial implications in terms of investment, and in turn, will test Russian governance and stability. Importantly, management of the environment will stretch beyond more conventional, short-term, western political systems and election cycles. This may yet prove to be a strength for an entrenched regime, asserting Moscow and allowing the Federation to meet these environmental challenges more adequately than European states.

b. **Adapting governance to tackle environmental conditions.** Russia may adopt different regional and national approaches in order to tackle future climate and environmental challenges, potentially ceding (limited) regional power by out-sourcing devolved governance to address specific environmental and economic issues. This is only likely to manifest through regional elites, as a direct attempt to pacify civil discourse or be seen to be acting in response to public anxieties. As changes take effect, Moscow can expect pressure to increase and with it the requirement to conduct ongoing risk assessment and deliberate adaptation by both local and federal government. Notwithstanding, despite global shifts in attitude towards wholesale climate and environmental issues, social mobilization and

activism in Russia to affect environmental change remains unlikely in the short term or sporadic at best.

6.2 INCREASED STRESS ON FOOD AND WATER SECURITY

6. Food production, water management and the energy sector are likely to feel the immediate effects from climate change primarily through unpredictability in established weather patterns. Temperature increases may yet prove to be positive in the long term, but the wider bearing upon functioning ecosystems is yet to be fully understood; fish stock migration, species decline, and soil degradation will all have unforeseen consequences that may not yield the scale of dividend reflected in the rhetoric coming from the Kremlin. As the climate system evolves, Russia will need to consider addressing climate and environmental stressors such as access, resource competition, and man-made and natural disasters as their impact will increasingly shape how nations think and respond.

7. Technological developments and infrastructure investment will play a major role in improving food production and water management. Conversely, failure to maintain environmental awareness and adaptation may lead to increased costs, security issues and potentially set the conditions for infectious disease and contagion. Above all, food security is likely to become a particular concern, with half of Russia's food estimated to be imported and the ability of Russia to rely upon traditional sources of sustainment potentially under threat from changing climatic conditions. The region of Volga has long been the primary area for food production; temperature rises here may have a severe impact upon Russia's ability to produce grain to meet the demand. Technological adaptation and crop resilience will be key if the increasing probability of weather volatility and large-scale natural disasters are expected with increased frequency. Furthermore, the importance of Arctic fish stocks and access to them will become of increasing importance to Russia. Not only will maritime eco systems change as temperatures rise and invasive fish species migrate north, but this is expected to herald an increase in the amount of illegal and unregulated fishing, which in turn has the potential to create tension.

IMPLICATION

Food and water security will increasingly influence Russian policy and decision making.

Climate change will continue to act as a threat multiplier with the potential for interconnected natural disaster scenarios, ranging from dramatically rising sea levels, migration, wild fires, infrastructure collapse, and acidification of the ocean. All have the ability to negatively impact food production, water management and to a lesser extent, the energy sector. These effects will be felt acutely in Russia if it fails to address them; it is already a net importer of food commodities. The risk to national stability and potentially European security is therefore significant. As a result, the ability to sustain food production and manage water sources will remain an ongoing national security issue for Russia.

6.3 INCREASING INFRASTRUCTURE FRAGILITY

8. Increased expansion and access into the northern territories and the Arctic will lead to increasing scales of investment if Russia is to overcome future environmental changes successfully. Permafrost melt, increased temperatures, shifts in the Gulf Stream and Arctic Ocean access will present significant challenges to the integrity of critical horizontal and vertical grade infrastructure, such as transportation and communications systems. Much of the view from Moscow is one of optimism, fuelled by hydrocarbon potential together with buoyant energy prices. Yet, the reality of exploiting such resources from both on land and from the maritime-shelf will require either considerable new infrastructure, maintenance or replacement of critical infrastructure and skilled labour to support it.

9. Permafrost melt is going to cause significant damage to existing supply routes and infrastructure: roads, rail, oil and gas pipelines. The risk of damage to essential economic infrastructure is significant. Nevertheless, as the world's largest exporter of natural gas, it is expected that Russia will invest heavily in critical infrastructure in order to overcome permafrost melt. The precise extent to which thawing takes place and to what level of consistency remains uncertain; consequently, permafrost melt will make northern Russia no more inhabitable over the next two decades and in some cases it will become increasingly uninhabitable. CO2 release, black carbon footprint and methane may yet act as accelerants that will have a significant constraint upon usable real-estate. In addition, the exposure of contagious disease such as anthrax and bubonic plague will also pose problems to inhabited areas and potential relocation sites as permafrost recedes.

“
Russia faces significant infrastructure challenges as the impact of permafrost thawing and sea ice melt is realised.
”

//
Hydrocarbons account for around 60% of Russia's export revenues and will remain the mainstay of the economy for some time.

//

IMPLICATIONS

a. **Significant investment in critical infrastructure systems.** Russia faces significant infrastructure challenges as the impact of permafrost thawing and sea ice melt is realised. Yet, it is not alone in the requirement to find solutions to land management, potential relocation and infrastructure upgrades alongside other Northern hemisphere nations. To exploit the opportunity provided by improved access into the Arctic and the continental landmass, Russia will need to fund significant investment to overcome both the physical changes in the environment and the logistical challenges associated with the vast distances involved. Given the recognized difficulties of operating in the northern territories and the Arctic, NATO and the west should not be surprised by Chinese offers to step in with strategic investments to fill the apparent void.

b. **Increased expenditure - decreasing timescale.** Exploration and developmental lead times in the region are historically long in order to surmount the physical environment. With a rapidly changing and potentially volatile physical space, the lead times for development will need to decrease; typically, 10+ years is required for major infrastructure even in relatively stable financial and climatic circumstances.

6.4 MAINTAINING ENERGY SYSTEMS

10. Russia will remain a significant global supplier of hydro-carbons, but it continues to make steady progress expanding the role of nuclear energy; this serves both as a future means of national energy assurance by moving away from hydro-carbons and as a growing credible export alternative. Accordingly, interdependency with European energy markets is likely to remain extant and so with it, energy supply will remain a tool for influence and coercion by the Russian Federation. For Moscow to realise continued growth potential, new investment in the electricity sector is required to take into account modernisation work at thermal power plants, the construction of remote energy facilities and development that can withstand significant changes to the climate system. The expansion of nuclear programs comes with obvious environmental risk, especially with aging or redundant systems, and certainly nuclear environmental incidents recognise no borders. Given such challenges, and Russia's historical record with disposal and catastrophe,

the international community has often expressed concern with nuclear expansion. There are, however, examples of clean-up projects such as in Andreyeva Bay, the world's largest spent nuclear fuel dump, that highlight cooperation with NATO nations in order to protect the Arctic environment.

11. The ambition and ability of Russia to introduce environmental and natural resource management reform has been constrained by two primary factors. Hydrocarbons account for around 60% of Russia's export revenues and will remain the mainstay of the economy for some time. However, trends in global energy consumption suggest that hydrocarbons will claim a declining share of the energy mix in the years to come. At the same time, financial and technical challenges weigh on Russia's production capacity, suggesting that hydrocarbons may be an increasingly unreliable source of revenue in the long term. As a consequence, EU dependency upon Russia's natural resources, as well as hydro-carbon sales to Asian markets are key contributing factors in delaying long term energy sector reform and the introduction of efficient technologies. Secondly, the impact of international sanctions coinciding with a drop in global oil price has depressed Russian fiscal revenue and increased dependency on the European market. Lack of energy sector and environmental reform is further exacerbated by a dysfunctional private sector, which in turn has led to poor, arguably nil, foreign investment to improve structures and introduce safer, greener technologies. Sanctions are undoubtedly forcing closer ties with China, creating technology dependence on areas environmental protection and resource exploration, potentially isolating Russia from instigating industrial reform. Paradoxically, therefore, cessation of sanctions and the ability to trade competitively could potentially see an improvement in infrastructure and support programs, resulting in commensurate uplift in environmental safety and sustainability.

IMPLICATION

Continued expansion of the Russian energy sector. Compliance to international nuclear legislation and safety protocols remains paramount if Russia wishes to be seen as a responsible actor. Equally, compliance affords Russia a favourable counter balance to increasingly hostile narratives elsewhere. European dependency upon Russian hydro-carbons complicates the political dynamic across Europe and NATO. Furthermore, Russia is

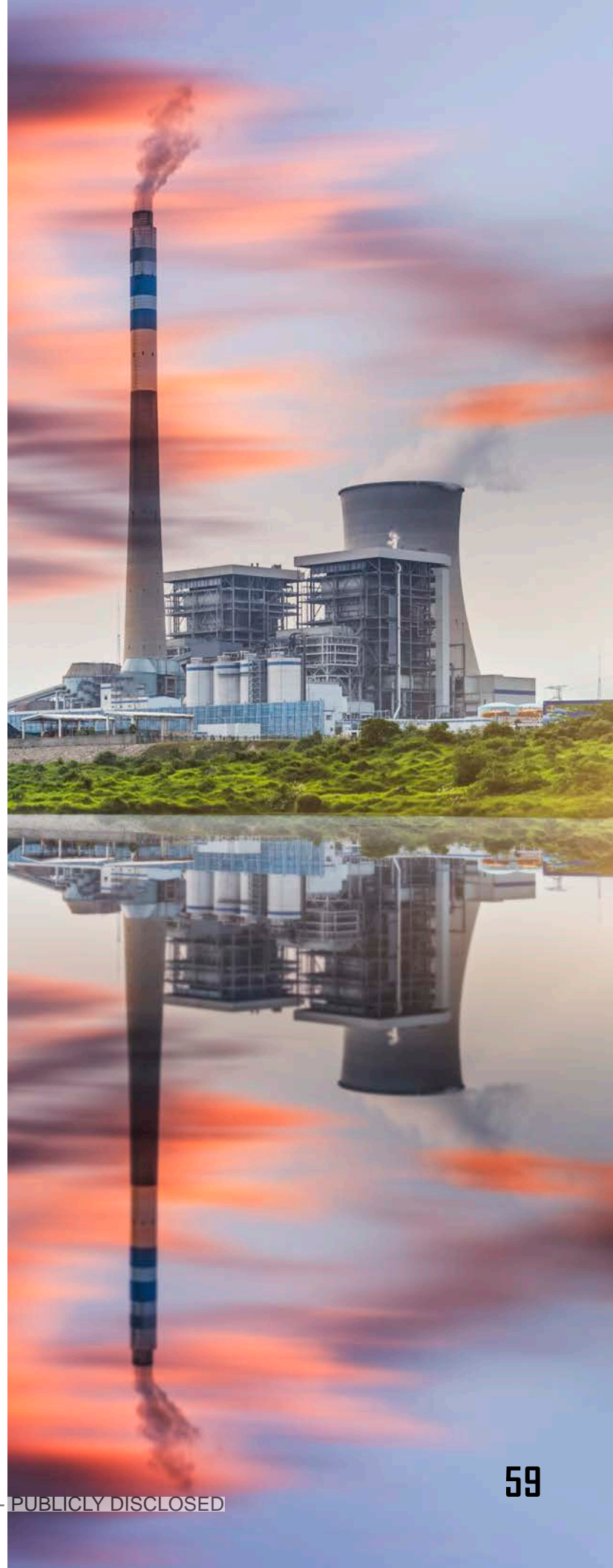
likely to continue to exploit this seam, but Moscow also recognizes the associated financial risk in doing so. In addition, the International community has concerns over how the increasing burden from the disposing of spent fuel will be managed and how the Russian Federation might react to future emergencies and the reconstitution of aging reactors.

6.5 THE EFFECTS OF WASTE ON THE ECOSYSTEM

12. Despite the geographical scale of Russia, dangerous waste storage, disposal and pollution are both ongoing and growing concerns for Moscow. Poor control measures, criminality and lack of corporate responsibility all contribute to a troubling picture. Persistent oversight and lack of governance could have significant consequences for both the wider global environment and domestically in more densely populated areas, whereby poor management is particularly detrimental to health. It is also anticipated that hazardous waste and dumpsites in low-lying areas that are susceptible to sea level rise, and in areas where significant permafrost melt is likely, will be a major accelerant to pollution. Water quality and a rise in global demand will intensify the importance of preserving Russia's water system. Given its sheer physical mass, it is not beyond comprehension that Russia could become a global leader in waste management systems and alternatives, provided there are economic incentives to do so.

IMPLICATION

Russia will need to adopt a proactive approach to protecting its own eco-systems. The combined impact of pollution with a rapidly changing climate system could cause significant detrimental consequences to Russian agricultural production and in the worst-case scenario force the collapse of recognized ecosystems. Accountability must be improved to protect rural and urban ecosystems, but this is unlikely to remain high on the agenda of the Russian Federation until a critical tipping point or significant man-made environmental catastrophe forces action.





POSSIBLE FUTURE SCENARIOS

Baseline Futures: Russia 2045

1. There are an infinite number of ways the future might play out in a country/region influenced by any number of trends or strategic shocks/black swan events that cannot be foreseen or anticipated. These variations of the baseline future are fuelled by numerous signals varying in strength indicating minor to profound changes in the region. Describing future scenarios is not an attempt to predict the future, but provides scenarios that can serve to inform NATO policies and plans with respect to the developments in Russia and its relations with China and the West. Considering the trends laid out in the respective chapters covering political, human, technology, economic/resources and environmental themes, the following describes the most likely scenario for Russia from a Euro Atlantic Perspective in 2040.

2. As has been described in this report, there are significant outcomes for what Russia's political standing in the world will be and how it will implement foreign policy in the foreseeable future. The relationship between Russia and the West, the EU and NATO will be heavily influenced by its strategic ambitions, the continuation of the present regime, global markets and the development of the Russia and China cooperation.

3. Russia will likely struggle with a combination of its proclaimed position and global ambitions in the world and its ability to influence outcomes at global and regional levels. The effects of the sanctions imposed by the West will continue to hinder economic growth and endanger the

social contract within the state. Conversely, the impacts of sanctions have yet to force Russia to become a more responsible actor in the eyes of the international community.

4. The predominance of hydrocarbon interdependency has three key effects. Firstly, the high-level of dependency on Russian fossil fuels complicates creating a unified position in the West. Secondly, Russia will continue to use energy resource sales as a coercive influence upon energy dependents (customers). Thirdly, the profits made by hydrocarbon sales are the only tangible source of funding social, technological and environmental development and defence spending in Russia, making it vulnerable to market fluctuations.

5. Demographic decline will remain a critical concern and demographic change will be affected by several factors. The deepening contradiction between the capital, cities and the periphery will continue to fuel social grievance. The aging population and an outflow of intellect (brain drain) will continue to stress the skilled workforce with decreased numbers. Failing to address and fund social welfare, such as pensions and healthcare, endangers the continuation of the existing social contract and expected living standards. The government will continue to use anti-Western rhetoric and fuel nationalism to cover these social shortcomings.

6. Political, human and economic trends will all be increasingly influenced by the pace of climate change. Above all, food/water security, maintaining energy systems and infrastructure fragility will

//
Russia will likely struggle with a combination of its proclaimed position and global ambitions in the world and its ability to influence outcomes at global and regional levels.

//



pose serious implications for national security in Russia for many years to come. The outlined trends illustrated in this report, form the baseline of a future Russia up to 2040 and beyond. It is important to present the potential confluence of trends that are likely to shape the future.

7. Presented below are three scenarios identifying potential trends and associated implications. The scenarios have been broken down into positive, neutral, and negative outcomes, from the point of view of NATO. These scenarios may help those who are making decisions now to make better choices about the future. The variations of the baseline describe potential deviations that might influence Russia's future, its relationship with the West and implications for Euro-Atlantic security. None of these variations should be seen in isolation.

Scenario 1: Global Power Shift

A sustained and prolonged shift in global power is underway, driven by the economic rise of China and its ambitions to secure access to vital resources and dominate its region. The shift has been given a boost by the asymmetric economic impact of the 2008-09 financial crisis, the inward-focused orientation of the US under the Trump administration and the asymmetric impact of the COVID-19 outbreak. In a little over three decades, the world has gone from a bipolar power structure, in which the US confronted the Soviet Union, to a multipolar structure, where US and China are major diplomatic and economic powers and Russia is a country of reduced significance. As this shift continues to play out over the next two decades, what social, political and economic pressures will Russia face and how will it respond?

Positive outcome: Russia succeeds in maintaining its unity while keeping its ambition at bay to create an alternative world order in which the US no longer holds the dominant role. China and the US continue to contest the economic sphere, where Russia's options are limited by long-term weaknesses, including an ageing and shrinking population, continuing dependence on oil and gas—with oil in particular a commodity of declining importance in global markets—and profound deficiencies in the business environment. However, China's focus on economic security and its reticence to take on a global diplomatic role leave room for Russia to manoeuvre in this space, attempting to establish itself as a counterbalance to the US and NATO and retain limited influence on the global scene.

This outcome would see Russia continuing to play a limited international role, a role for which it is currently vying through proxy battles in, for example, Syria, Ukraine, Libya and Yemen. This might lead towards greater collaboration with the US and

NATO on the global stage, while China continues to rise as an economic power and increases its influence in Central Asia.

This positive outcome for Russia complicates the picture for NATO in some areas. But in general, we contend that it is to NATO's advantage to see a stable Russia, because instability and decline are likely to accentuate Russia's sense of victimhood and evoke an aggressive and unpredictable response. Thus, here, and generally throughout our scenarios, outcomes positive to Russia maintaining its unity are also considered positive to NATO.

If Russia can maintain its limited influence on the world stage, that could help balance China's global influence. Hitherto, Russia has been a conservationist power struggling against Western attempts to change the status quo. By 2040, the Western powers may come to share this desire to protect a status quo challenged by China, and may find more common cause with Russia. As Russia's relations with Europe are much deeper than its relations with China, and although a powerful Russia will always defend its interests in what it sees as a challenge from the West to its independence and territorial influence, Western powers may find it to be an ally in curbing China's reach.

Neutral outcome: Russia's increasing weakness leaves it with little option but to accommodate itself to China's sphere of influence, becoming in effect a 'little brother' to China's dominant global presence. This outcome would be deeply unpalatable for Russia's leadership, and the regime would go to some lengths to avoid it. However, the magnitude of the challenges Russia faces over the coming decades may leave it with no choice, and whether by design or by default, it may find itself able to prosper only on China's terms. Russia would use the prospect of a deeper relationship with China as leverage to extract concessions from the West. In these circumstances NATO members could find themselves in the difficult position of having to accede to Russian demands or lose Russia to China's orbit.

Negative outcome: Above all, Russia fears irrelevance as the US and China contest for global dominance, which is one reason why it is willing to expend resources on proxy adventures distant from its 'near abroad.' As its economic weight declines, its capacity to project global influence may also wane, sapping its capacity to act as a global power. Russia shorn of its global role would be a novel prospect, and one at odds with the country's sense of identity, manifested both in its people and in the strategic vision of its leadership. Under these conditions, the social contract between the people and their leaders would break down, with the potential either for increased autarchy or mounting social unrest.

This would curb Russia's expansionist capacity, a development that NATO might welcome in the short term. But failure on this scale would also replace the relatively stable Russia NATO currently finds on its doorstep with a chaotic and unpredictable neighbour, and one that feels increasingly besieged by the West.

In an alternative version of the negative outcome, Russia may exploit spaces left by the reorientation of US foreign policy towards Asia as it seeks to contain China's rise—a trend already underway. While America's economic relations with Russia are limited, Europe's dependence on Russian gas supplies and closer integration in other markets means it cannot disengage to the extent the US can. In these circumstances, Eastern Europe would receive less US/Western attention and would become a more fruitful target for Russian influence, sowing division within Europe and NATO as a whole. NATO already faces internal tensions and divisions, and with American attention elsewhere could find itself prey to Russian grey zone activities—operations such as use of unmarked military forces that lie between the strictly legal and demonstrably illegal—on its own territories.

Scenario 2: Future Russian Regime

Vladimir Putin has held power, either directly or by proxy, since 2000, and has reinstated the country's top-down political command structure known as the 'power vertical.' Changing term limits and switching power between the presidency and the premiership, depending on which post he holds, he has defied early expectations that he would cede power to a successor according to the constitution he inherited. The 4 July 2020 constitutional reform would allow him, in theory, to hold on to power until 2036, health and political desires permitting (by no means certain). However, by 2040, Russia will have transitioned to new leadership. What will Russia's post-Putin regime look like, and how might it change the country's positioning relative to NATO?

Positive outcome: The increasing pressures of a failing economy as Putin's grip on power fades persuade his successors to embrace an alternative model. The stakeholders in 'Putinism'—particularly the so-called Siloviki (members and former members of the state security apparatus) and the oligarchs created in the post-Soviet chaos—either lose influence or swing their weight behind the new model. Russia's traditionally conservative population, worn down by a steady decline in living standards, accepts the need for a new direction. New leaders concentrate on improving the business environment, attracting foreign direct investment, cleaning up the banking sector, reducing the

dependency on oil and gas production and increasing investment in R&D to revive Russia's economy. Russia aligns its foreign policy more closely with NATO interests and seeks to build bridges with Europe and the US.

The key assumption under this scenario is that Russia's current path is unsustainable, and that some resolution of this contradiction will inevitably occur. The situation is analogous to the collapse of the Soviet Union, when what had appeared to be stable suddenly was not, and change was possible where stasis had previously appeared inevitable. However, among the possible profiles of the post-Putin era, this appears the least likely. In fact, it is hard to see how it could come about. No Russian leader has succeeded in aligning the country with Western liberal principles, and few have tried. Conservatism runs deep in the Russian population—among the rising generation even more than in the veterans of the Soviet era. However, the current economic model leads into a blind alley and the administration shows little sign of getting to grips with the deep challenges it faces. Russia faces a stark choice between fundamental reform and continued decline.

Neutral outcome: Russia continues to put off catastrophe amid an increasingly strident foreign policy and weak economy. Under Putin, the country has put off an economic reckoning for two decades. It may continue to do so for some time to come, under Putin or his successor. Russia is bound by a series of constraints which together make a substantial shift in policy hard to bring about. But Russia has many challenges and advantages. It occupies a vast and diverse landmass, strategically positioned between the established markets and power centres of the West and the rising power in the East, and is able to leverage this location to extract concessions from both sides. It boasts a nuclear arsenal and formidable conventional forces, and a seat on the UN Security Council. It is favoured by deep reserves of natural resources, including oil and natural gas, and has a long history of global influence upon which to draw. These strengths provide considerable resilience, and despite the mounting challenges it confronts, the state may be able to persevere with its current model for many years to come, though it is unlikely to prosper doing so.

Instead, Russia will lose ground on the global stage as other economies advance more quickly, reducing its share in global trade and GDP. In these conditions, Mr Putin's successor will face an even broader array of challenges than Putin already has. The next leader is unlikely to enjoy Putin's high (though declining) levels of popularity and will have to work harder to maintain the support of the

//
NATO already faces internal tensions and divisions, and with American attention elsewhere could find itself prey to Russian grey zone activities.

//



administration's traditional allies. Declining living standards will test public support too, reinforcing the recourse to a grand nationalist narrative that rallies popular support and gives the administration legitimacy. A successor will be more anti-western and nationalist than Putin, and pursue Putin's policy direction with even more vigour. Liberal reformists will remain marginalised in the political system, and many will follow colleagues into foreign exile. Russia will become a louder and more troublesome antagonist to the West as its economic decline deepens.

Negative outcome: Authoritarianism deepens in response to rising political dysfunction. An ailing Putin hangs on to power, wrong-footing rivals by playing one prominent figure off against another and using the prospect of succession to keep his closest collaborators from defecting. However, his health declines (he has already exceeded the average life expectancy for Russian males), and his demise finds the country in a severely weakened position and without a clear successor or succession mechanism. A new leader struggles to hold together the Putin-era power coalition and battles to maintain his authority before a disaffected population. The economy, burdened by corruption and inefficiency, falls into a deep malaise, denying the administration the resources with which to address growing protests and failing confidence. The regime's focus turns to consolidating the national resistance economy, with self-sufficiency becoming an even higher priority than it already is.

Demographic trends continue unabated, leaving the country with a sharply reduced workforce supporting an older population and denying the state vital fiscal resources. Innovation ceases, while a hostile West maintains crippling sanctions on the regime. Military investment declines, leaving the country reliant on asymmetric and grey-zone tactics, which Russia unleashes to shore up domestic support. Tracking of nuclear materials becomes haphazard. Restive regional administrations become more resistant to central authority and the threat of separatist violence rises—whether in the form of increased activity in areas such as Chechnya and North Ossetia where violence is already endemic, or new outbreaks of separatism in regions such as Tatarstan and Yakutia. An increasingly vulnerable state lashes out at foreign enemies, raising the stakes for NATO as it seeks proportionate responses and increasing instability in Russia's immediate neighbourhood and its 'far abroad.'

Scenario 3: The Future of Energy

The relative importance of hydrocarbons in the global energy mix continues to decline. Developed states are achieving greater efficiencies in energy

use, reducing energy demand per unit of GDP, and switching increasingly towards renewable energy sources to fulfil their needs. Emerging technologies such as fusion energy and electric cars promise to bring further reductions in demand for fossil fuels. Developing markets will continue to drive demand for fossil fuels as they catch up with western standards of living, so the net impact on the demand for hydrocarbons is a matter of conjecture. Mounting evidence of human-related climate change is a major driver of the shift to decarbonisation of the energy mix and this will intensify as the effects of climate change on livelihoods become more evident. If global warming is to be capped at 1.8°C as agreed under the Paris Accords, CO₂ emissions will be required to drop from 33 billion tonnes in 2018 to less than 10 billion tonnes by 2050, according to estimates from the International Energy Agency (IEA). How will changing energy markets affect Russia, whose hydrocarbons exports account for around 13% of the world total and are responsible for 60% of exports and 50% of budget revenues?

Positive outcome: Russia succeeds in adapting its energy sector to exploit new opportunities as world demand shifts, sustaining export and fiscal revenues and boosting economic growth. While oil is unlikely to remain a reliable staple for the economy, Russia has other advantages in this sector. It hosts the world's largest gas reserves (19.8% of the proven world total) and is likely to see ready markets in Asia and Europe for many years to come. Long-term investments in pipeline capacity to supply the European market have proven controversial in the US, with the Trump administration strongly opposed to what it sees as tacit European support for the Putin regime, but Europe's gas dependence suggests it will remain a faithful customer. At the same time, Russia is also investing in supporting Asian markets. For example, energy giant Gazprom is building a liquefied natural gas (LNG) plant on Sakhalin Island in Eastern Siberia. Sakhalin-2 will be one of the world's largest integrated, export-oriented oil and gas projects and Russia's first offshore gas plant, ideally positioned to supply LNG to China and other Asia-Pacific countries.

Global warming, which threatens livelihoods and habitats around the world, may also bring land areas into production that were previously out of bounds and Russia could be a beneficiary. Melting permafrost and rising sea levels pose a threat to Russian industry and infrastructure in its far north, but could also open up vast new areas to economic exploitation and clear Arctic shipping routes connecting the country with promising export markets. Russia is warming faster than the planet as whole on average, and the government will be forced to mitigate the negative impact on

health, industry and livelihoods (though the Putin administration does not accept that human activity is the cause). Melting permafrost will also require retooling of the existing oil industry to operate in the warmer environment. However, the impact could be offset in part at least by easier access to Arctic reserves that would otherwise have remained uneconomical.

The positive scenario would be enhanced by greater diversification of the economy, away from mineral resource extraction and non-tradable sectors, a path extolled by generations of Russian leaders but shunned in practice. Diversification would free Russia's economy from the wild price swings that characterise commodity markets and provide a more reliable source of employment, foreign exchange and fiscal revenues.

Neutral outcome: Russia remains dependent on the hydrocarbons sector in a shrinking global market, condemning it to sustained decline. Russia's oil sector faces many challenges, some connected to the country's general economic difficulties and some specific to the sector itself. Oil exploration and development is an investment-intensive industry, with the pay-off often coming many years after the outlay. As conventional reserves are depleted, it also requires access to advanced technology if marginal reserves are to be exploited profitably. Russia is challenged in both areas, with a cash-strapped state in a weak position to support domestic industry and international sanctions driving away potential foreign investors and locking out critical technology.

Russia's oil industry faces long-term decline for as long as sanctions remain in place, and since these are a response to policy positions the leadership will find difficult to relinquish, such as the annexation of Crimea and military involvement in Ukraine, they are unlikely to be lifted for some years to come.

In these circumstances an undiversified Russian economy becomes subject to volatile energy markets, with its fortunes largely determined by global energy consumption patterns. To the degree that the world turns away from fossil fuels, Russia finds its budget constrained by falling hydrocarbons revenues, with a knock-on impact on its ability to sustain economic growth and fulfil its investment agenda. Even under this scenario, Russia's ability to sustain hydrocarbons output will depend on overcoming the barriers imposed by western sanctions, leaving the country increasingly dependent on Chinese investment.

Negative outcome: Russia fails to diversify and its hydrocarbons sector atrophies through lack of investment, weighing on the state's capacity to meet its economic targets. Russia must invest

in exploiting new energy reserves to replace its declining traditional fields. To do so it must either persuade western powers to remove sanctions, which may require concessions that the leadership would consider humiliating, or find alternative sources of investment and know-how, which may mean offering equally unpalatable concessions to China. If it is unable to replace reserves and adapt its energy sector to changing world conditions, or to find alternative drivers of growth, it is likely to face a relentless decline in revenues, ultimately rendering its economic model unsustainable.

In these circumstances, it becomes harder for Russia to achieve its ambition of consolidating its relevance and influence on the world stage. Where influence is shifting from the incumbent superpower to the rising one, Russia risks being squeezed out of the picture and finding itself with little leverage in global affairs. As in the previous scenarios, a weakened Russia with no clear way forward may become increasingly unpredictable and aggressive as the regime turns to increasingly repressive methods to maintain its authority.

At the extreme, under any of these scenarios, Russia's territorial integrity comes into question. Separatist tensions may flare and a weaker centre would be less able to counteract those pressures. The result might be a gradual (or sudden) weakening in the glue that holds the federation together, with regions such as Chechnya, Tatarstan, Ural or Siberia breaking off, de facto or de jure, from the rump Russian state. This, during the transition to a new status quo at least, would be a strongly negative scenario for NATO, with the risk of unrest or warfare on its borders and control over Russia's nuclear arsenal removed from central government control and fragmented among a collection of actors with questionable competence and varying degrees of hostility towards the West.

“
Russia's aggressive actions are likely to continue to be driven by its global ambitions and increased sense of containment.
”



NATO UNCLASSIFIED - PUBLICLY DISCLOSED

CONCLUSIONS

1. Russia's aggressive actions are likely to continue to be driven by its global ambitions and increased sense of containment. Using unconventional means and hybrid warfare tools, Russia will continue to interfere in foreign elections, attempt to destabilise Western democracies and undermine European and Atlantic institutions. Russia is expected to seek to alter the status quo, to contest NATO and to change the international world order in its favour. Russia is also likely to continue the development of its military capabilities designed to deny access in times of crisis and to challenge NATO's ability to operate uncontested.

2. Sharing similar conservative values (national unity, sovereignty, more authoritarian) and aligning national interests allow Russia and China to further expand their strategic relationship. While the prospect for a formal Russia-China Alliance is far-fetched, the relations will likely grow in trade, economy, oil and gas industry, technology investment such as 5G, and advance military and intelligence cooperation, including equipment sales. The opening of the Arctic and China's BRI initiative might deepen this complex partnership. Russia-China relations will continue to carry strategic importance and will be shaped by each country's interactions with the West, in particular with the United States.

3. Increased centralization of state power, providing foundation for the power vertical, may not be sustainable as economic, social and demographic challenges are increased. Urbanization, declining workforce and deepening contradictions between the large cities and urban areas might also fuel public discontent and disaffection. While Russia needs Western financial and technical support to accomplish reforms, it continues to reflect/depict the West/NATO as a rival. Putin is likely to extend his grip on power beyond 2024, maintaining NATO and the West as an imposing threat.

4. Russia will continue to focus on using existing technology and taking incremental steps to develop niche scientific capability in targeted areas such as artificial intelligence, hypersonic weapons and delivery systems, and military robotics. Russia will continue to use the cyber domain and cyber tools in order to deny and deter its competitors asymmetrically and unconventionally. Information manipulation and social media engineering are likely to increase to garner political outcomes.

5. There are an infinite number of ways the future of Russia might be influenced by any number of trends or events that cannot be foreseen or anticipated. This report provides possible scenarios out to 2045 that are focused on Global Power Shift; Future Russian Regime and the Future of Energy that are included in strategic foresight reporting for the first time. The variations for each scenario are depicted as positive, neutral or negative for NATO.

6. Finally, Russia is likely to continue to challenge Euro-Atlantic security and stability by assertive actions close to NATO borders and violating Allied airspace including the High North and the Arctic. These challenges will continue to be accompanied by grey zone activities such as hybrid actions, attempts to interfere in election processes using widespread disinformation campaigns and malicious cyber activities. In order to meet the challenges and risks emanating from Russia, the Allied Nations need to develop an in-depth understanding of the way Russia approaches the competition space to identify Russia's strength and weaknesses. Then, NATO should continue to adapt its military capabilities, strategies, and develop plans across the Alliance in line with a 360-degree approach to security. As Russia will continue to target and challenge Euro-Atlantic security and stability, Alliance cohesion is paramount to combat these Russian forceful threats.

// NATO should continue to adapt its military capabilities, strategies, and develop plans across the Alliance in line with a 360-degree approach to security.

//

APPENDIX A

SUMMARY OF 5 THEMES, 30 TRENDS, AND 71 IMPLICATIONS FOR NATO

THEMES	TRENDS	IMPLICATIONS
POLITICAL	1. Russian attempts to regain and maintain great power status.	<ul style="list-style-type: none"> a. Challenges to Alliance cohesion. b. Disruption of the liberal world order and Western democratic structures. c. Increased Russian influence through political, military and economic relations including arms sales. d. Increased Russian cooperation with China. e. Increased potential for miscalculation and escalation to conflict.
	2. Increased perception/sense of containment.	<ul style="list-style-type: none"> a. Increased nationalism and ascendancy of Russian identity. b. Re-establishment of a buffer zone by regaining influence over post-Soviet states. c. Development and demonstration of military capabilities. d. Leveraging religion and Russian speaking population.
	3. Increased centralization of state power.	<ul style="list-style-type: none"> a. Exploitation of a value system that is based on centralization, order and domestic stability. b. Increasing adverse effects on foreign policy.
	4. Use of hybrid warfare tools as part of instruments of national power.	<ul style="list-style-type: none"> a. Paralyzing NATO decision-making. b. Exploitation of national biases. c. Increasing energy and economic interdependency. d. Increased civil-military collaboration and strategic awareness
	5. Russia and non-state actors – an increasingly complex relationship.	<ul style="list-style-type: none"> a. Increased pressure on Western NGOs. b. Increasing identity politics supported by state-sponsored NGOs. c. Selective Engagements with International/Multilateral Organizations (IOs/MOs). d. Exploiting Russia-Friendly Multilateral Organizations. e. Increased use of energy resources and state-owned enterprises. f. Asymmetric use of non-state actors exploiting the information domain. g. Increased potential for the use of private military and security companies (PMCS).
HUMAN	6. Changing demographics: Demographic decline, ageing, gender imbalance and uncontrolled migration.	<ul style="list-style-type: none"> a. Reduced workforce will decrease productivity and have adverse effects on economic development. b. Gender imbalance worsening demographic decline. c. Uncontrolled migration resulting in ethnic, religious and cultural tension. d. Constraints on future Russian military capabilities.
	7. Increasing urbanization.	<ul style="list-style-type: none"> a. The deepening contradictions between the capital, large cities and periphery. b. Increased demand for a clean and healthy environment with comfortable living conditions in large cities. c. Geo-strategically important areas will be depopulated.
	8. Deficit of democratic governance.	<ul style="list-style-type: none"> a. Increased use of the cyber domain to control populations. b. Targeted repression and coercion of political and social groups. c. Decreasing role of opposition and failing of political institutions.
	9. Growing public discontent and public perception.	<ul style="list-style-type: none"> a. Domestic drivers of increasingly assertive foreign policy. b. Russian unity is challenged. c. Loss of a skilled Russian workforce.
	10. Increased role of traditional and social media for propaganda and social engineering.	<ul style="list-style-type: none"> a. State influence and control population. b. Using anti-Western sentiment to support Russian unity. c. Grooming targeted population.

APPENDIX A

SUMMARY OF 5 THEMES, 30 TRENDS, AND 71 IMPLICATIONS FOR NATO

THEMES	TRENDS	IMPLICATIONS
TECHNOLOGY	11. The organization of R&D and S&T innovation in Russia.	a. Striking the balance of Russian innovation. b. Lack of investment limits future innovation.
	12. Increasing focus on artificial intelligence development	a. Targeted innovation in the AI sector.
	13. Breakthrough technology and advanced R&D.	a. Russia might increase R&D and innovation cooperation with China.
	14. Hypersonic missile and advanced delivery vehicles/systems.	a. Targeted deployment of advanced delivery systems.
	15. Military robotics and autonomous systems.	a. Increased presence of Russian autonomous systems across the battlespace.
	16. Electromagnetic warfare capabilities.	a. Increased reliance on EW systems.
	17. Developments in automated command & control systems.	a. Western decision making system is continued to be challenged by Russian C2.
	18. Brain drain and issues linked to scientific education in Russia.	a. Russian science is likely to continue to suffer from talent exodus and brain drain.
	19. Increased use of cyber domain and cyber tools.	a. Fight fire asymmetrically. b. Increase internal cyber resilience.
	20. Maintaining investment in the space industry and space technology.	a. Increasingly assertive space policy.
	21. Legal and ethical concerns.	a. Limited ability to hold Russia to account. b. Adapt arms control to emerging technologies.
ECONOMICS / RESOURCES	22. Slow economic growth.	a. Lack of resources and current state of economy does not hamper political and military ambitions. b. Potential for social unrest. c. Vulnerability to external changes/sanctions. d. Sanctions and state of economy incentivizes Russia-China cooperation
	23. Increased inequality.	a. Oligarchs and elites are still key stakeholders in the economy. b. Economic pressure increases likelihood of social unrest. c. Regime change due to internal pressure is unlikely.
	24. Resource dependent economy.	a. Look for new markets and partners in Central Asia. b. Partnership and outreach to China. c. Successful China-Russia partnership dependent on relations with the West.
	25. Increased interdependency with Europe/European markets.	a. Continuation of oil and gas exports to build relations and maintain influence. b. Dependence on Western/European markets.
ENVIRONMENT	26. Increasing pace of climate change.	a. Increased demand for awareness and long-term resilience. b. Adapting governance to tackle environmental conditions.
	27. Increased stress on food and water security.	a. Food and water security will increasingly influence Russian policy and decision making.
	28. Increasing infrastructure fragility.	a. Significant investment in critical infrastructure systems. b. Increased expenditure - decreasing timescale.
	29. Maintaining energy systems.	a. Continued expansion of the Russian energy sector.
	30. The effects of waste on the ecosystem.	a. Russia will need to adopt a proactive approach to protecting its own eco-systems.

APPENDIX B

BIBLIOGRAPHY

- Abbasova, Vusala. 'Roscosmos Prepares For 1st Manned Mission To The Moon'. Caspian News, 2019.
- Adamsky, Dimitry. 'Moscow's Syria Campaign: Russian Lessons for the Art of Strategy | Enhanced Reader'. 2018.
- Adamson, David, and Julie DaVanzo. Russia's Demographic 'Crisis': How Real Is It? RAND Corporation, 1997. <https://doi.org/10.7249/IP162>.
- Aggarwal, Vinod K, and Kristi Govella. Responding to a Resurgent Russia: Russian Policy and Responses from the European Union and the United States. Springer Science & Business Media, 2011.
- Appel, James. 'The Short Life and Speedy Death of Russia's Silicon Valley'. Foreign Policy, 2015.
- Appendix - Kommersant Business Guide (118008) – 'We have managed to launch a number of technologically active sectors', 2018, https://www.kommersant.ru/doc/3814084?fbclid=IwAR2SLyZL32sEIKpV9iuBi1RYPGkA_6x7dgUIYfnzONTY-iKeDoi2G64N.
- Arbatov, Alexey. 'Mad Momentum Redux? The Rise and Fall of Nuclear Arms Control'. Survival 61, no. 3 (4 May 2019): 7–38. <https://doi.org/10.1080/00396338.2019.1614785>.
- Aron, Leon. 'Are Russia and China Really Forming an Alliance?' Foreign Affairs, April 2019. <https://www.foreignaffairs.com/articles/china/2019-04-04/are-russia-and-china-really-forming-alliance>.
- Atherton, Kelsey D. 'Flock 93 Is Russia's Dream of a 100-Strong Drone Swarm for War'. C4ISRNET, 2019. <https://www.c4isrnet.com/unmanned/2019/11/05/flock-93-is-russias-dream-of-a-100-strong-drone-swarm-for-war/>.
- Atkinson, Ian. 'Russia Pressing Forward on ISS Expansion'. NASASpaceFlight.com, 2019. <https://www.nasaspaceflight.com/2019/07/russia-iss-expansion/>.
- Azatutyan.TV 'Russia Agrees To Deeper Gas Price Discount For Armenia'. Azatutyan, 2015. <https://www.azatutyan.am/a/26983718.html>.
- Bartles, Charles K. 'Getting Gerasimov Right'. MILITARY REVIEW, 2016.
- BBC News. 'What Is Extinction Rebellion and What Does It Want?' 2019. <https://www.bbc.com/news/uk-48607989>.
- Becker, Charles M, S Joshua Mendelsohn, Kseniya Benderskaya, Human Settlements Programme Staff International Institute for Environment and Development, and Population and Development Branch Staff United Nations Population Fund. Russian Urbanization in the Soviet and Post-Soviet Eras. International Institute for Environment & Development, 2012.
- Bendett, Samuel. 'In AI, Russia Is Hustling to Catch Up'. Defense One, n.d.
- . 'Russian Ground Battlefield Robots: A Candid Evaluation and Ways Forward'. Mad Scientist Laboratory, 2018. <https://madsclublog.tradoc.army.mil/tag/sam-bendett/>.
- Bey, Matthew. 'The Age of Splinternet: The Inevitable Fracturing of the Internet'. Stratfor, 2019. <https://worldview.stratfor.com/article/age-splinternet-inevitable-fracturing-internet-data-privacy-tech>.
- Bierman, Stephen. 'Venezuela Restructuring Heightens Rosneft's \$6 Billion Risk'. Bloomberg, November 2017.
- Bodner, Matthew. 'An Explosion. A Radiation Spike. Evacuations Planned and Canceled. What's Happening in Russia?' Defense News, 2017. <https://www.defensenews.com/global/europe/2019/08/13/an-explosion-a-spike-in-radiation-evacuation-preparations-what-exactly-happened-in-russia/>.
- Brechenmacher, Saskia. Civil Society Under Assault: Repression and Responses in Russia, Egypt, and Ethiopia. Carnegie Endowment for International Peace. Carnegie Endowment for International Peace, 2017.
- Bryjka, Filip. 'Russian "Contractors" In the Service of the Kremlin'. Warsaw Institute, August 2019.
- Bugriy, Maksym. 'Ukraine and Russia Compete in Health Reform'. Eurasia Daily Monitor Volume 14, no. 151 (2017).
- Bukkvoll, Tor, Tomas Malmlöf, and Konstantin Makienko. 'The Defence Industry as a Locomotive for Technological Renewal in Russia: Are the Conditions in Place?' Post-Communist Economies 29, no. 2 (3 April 2017): 232–49. <https://doi.org/10.1080/14631377.2016.1267967>.
- Business Insider. 'Russia Oil Revenue about to Soar'. 2015. <https://www.businessinsider.com/russia-oil-revenue-about-to-soar-2018-5>.
- Cambridge English Dictionary. 'Scenario'. In Cambridge English Dictionary, n.d.
- Carpenter, Michael. 'Senate Armed Services Committee Subcommittee on Emerging Threats and Capabilities March 29, 2017 "Fighting in the 'Grey Zone': Lessons from Russian Influence Operations in Ukraine". 2017.
- Chambers, John. 'Countering Gray-Zone Hybrid Threats - An Analysis of Russia's "New Generation Warfare" and Implications for the US Army'. Modern War Institute, 2016. [moz-extension://16032f5f-139b-4ed4-a8f6-694dedb834ae/enhanced-reader.html?openApp&pdf=https%3A%2F%2Fmwi.usma.edu%2Fwp-content%2Fuploads%2F2016%2F10%2FCountering-Gray-Zone-Hybrid-Threats.pdf](https://www.mwi.usma.edu/wp-content/uploads/2016/10/Countering-Gray-Zone-Hybrid-Threats.pdf).
- Chesenev, Robert. 'Disinformation on Steroids: The Threat of Deep Fakes'. Council on Foreign Relations, 2018.
- Christopher, Paul, Clarke Colin P., Triezenberg Bonnie L., Manheim David, and Wilson Bradley.

'Improving C2 and Situational Awareness for Operations in and Through the Information Environment', 2018.

Churchill, Winston. 'The Russian Enigma'. BBC Broadcast, 1939.

'The Sinews of Peace ("Iron Curtain Speech")'. International Churchill Society, 1946. <https://winstonchurchill.org/resources/speeches/1946-1963-elder-statesman/the-sinews-of-peace/>.

Clem, Ralph S. Research Guide to the Russian and Soviet Censuses. Cornell University Press, 2016.

Climate Action Tracker. 'Russian Federation'. Country Summary, 2020. <https://climateactiontracker.org/countries/russian-federation/>.

CNBC. 'Putin: Leader in Artificial Intelligence Will Rule World'. CNBC, 2017. <https://www.cnn.com/2017/09/04/putin-leader-in-artificial-intelligence-will-rule-world.html>.

Congressional Research Service. 'Pivot to the Pacific? The Obama Administration's "Rebalancing" Toward Asia', 2012.

'U.S. Role in the World: Background and Issues for Congress', 2020.

Conley, Heather A, James Mina, Ruslan Stefanov, and Martin Vladimirov. The Kremlin Playbook: Understanding Russian Influence in Central and Eastern Europe. Rowman & Littlefield, 2016.

Connolly, Richard. 'State Industrial Policy in Russia: The Nanotechnology Industry'. Post-Soviet Affairs 29, no. 1 (1 January 2013): 1–30. <https://doi.org/10.1080/1060586X.2013.778545>.

Connolly, Richard, and Mathieu Boulègue. 'Russia's New State Armament Programme Implications for the Russian Armed Forces and Military Capabilities to 2027', 2018.

Crane, Keith, Shanthi Nataraj, Patrick Johnston, and Gursel Aliyev. Russia's Medium-Term Economic Prospects. RAND Corporation, 2016. <https://doi.org/10.7249/RR1468>.

Dear, Keith. 'Will Russia Rule the World Through AI?: Assessing Putin's Rhetoric Against Russia's Reality'. RUSI Journal 164, no. 5–6 (19 September 2019): 36–60. <https://doi.org/10.1080/03071847.2019.1694227>.

Dobbins, James, Howard J Shatz, and Ali Wyne. 'Russia Is a Rogue, Not a Peer; China Is a Peer, Not a Rogue: Different Challenges, Different Responses', 2019.

Dresen, Joseph F. 'Economic Growth and Environmental Security in Russia', 2011.

EEAS. 'EEAS SPECIAL REPORT: Disinformation on the Coronavirus – Short Assessment of the Information Environment - EU vs DISINFORMATION'. EUvsDisInfo, 2020. <https://euvsdisinfo.eu/eeas-special-report-disinformation-on-the-coronavirus-short-assessment-of-the-information-environment/>.

Egorov, Vitaly. 'The Issues and Challenges of the Russian Space Industry - Part II – SpaceWatch.Global'. spacewatch.global, 2018. <https://spacewatch.global/2018/03/issues-challenges-russian-space-industry-part-ii/>.

Emmot, Robin, and Andrew Osborn. 'Russian Aid to Italy Leaves EU Exposed'. Reuters, 2020. <https://www.reuters.com/article/us-health-coronavirus-russia-eu/russian-aid-to-italy-leaves-eu-exposed-idUSKBN21D28K>.

Eremin, B.M. 'Transfer of Military Technologies to the Energy Sector'. UAV.RU, 2008.

Erlanger, Steven. 'Russia's RT Network: Is It More BBC or K.G.B.?' The New York Times, 2017.

European Commission. 'Russia - Trade', 2019. <https://ec.europa.eu/trade/policy/countries-and-regions/countries/russia/>.

European External Action Service. 'The European Union and the Russian Federation', 2019. https://eeas.europa.eu/headquarters/headquarters-homepage/35939/european-union-and-russian-federation_en.

European Parliament. 'Socioeconomic Inequality in Russia', 2018.

European Political Strategy Centre (EPSC). 'Walking on Thin Ice: A Balanced Arctic Strategy for the EU', 2019.

EUvsDisinfo. 'Three Things You Should Know About RT and Sputnik', 2015.

Faucon, Bernoit, Summer Said, and Oliver Griffin. 'OPEC Agrees to Keep Output-Cut Pact Into 2020'. The Wall Street Journal, 2019. <https://www.wsj.com/articles/opec-reaches-consensus-on-oil-output-cut-pact-11561992296>.

Finch, Ray. 'Young Army Movement'. Military Review, 2019.

Fonseca, Brian, and Vladimir Rouvinski. 'The Russians of Latin America'. Military Review, 2018.

Food and Agriculture Organization of the United Nations (FAO). 'The Future of Food and Agriculture: Trends and Challenges', 2017.

Freedom House. 'Freedom in the World 2019: Russia Country Report'. Freedom in the World, 2020.

Freije-Rodriguez, Aleksandra Posarac, and Apurva Sanghi. 'Can Russia Halve Poverty by 2024?' 2019.

Fridman, Ofer. Russian 'Hybrid Warfare': Resurgence and Politicisation, 2018.

Gabuev, Alexander. 'Imagined Integration: How Russia Can Maintain Its Influence in Central Asia'. Carnegie Endowment for International Peace, 2016. <https://carnegieendowment.org/publications/?fa=63993>.

Gaffey, Conor. 'South African Court Rules Against \$76 Billion Russian Nuclear Plan in Blow for President Zuma'. Newsweek, April 2017. <https://www.newsweek.com/south-africa-nuclear-deal-590035>.

Galeotti, Mark. 'Crimintern: How the Kremlin Uses Russia's Criminal Networks in Europe'. European Council on Foreign Relations, 2017.

Gall, Carlotta. 'Ukrainian Orthodox Christians Formally Break From Russia'. New York Times, 2019.

Gallagher, Sean. 'Why US "Cyber-Warriors" Can't Do Anything about Russian "Cyber-Meddling"'. Ars Technica, 2018.

Gerasimov, Valery. 'The Value of Science in Foresight: New Challenges Demand Rethinking the Forms and Methods of Carrying out Combat Operations'. vpk-news.ru, 2013. <https://www.vpk-news.ru/articles/14632>.

Gomart, Thomas. 'France's Russia Policy: Balancing Interests and Values'. *The Washington Quarterly* 30, no. 2 (April 2007): 147–55. <https://doi.org/10.1162/wash.2007.30.2.147>.

Goudie, Andrew, and David J Cuff. *Environmental Change and Human Society*. Encyclopedia of Global Change. Oxford University Press, 2002.

Gurganus, Julia, and Eugene Rumer. 'Russia's Global Ambitions in Perspective'. Carnegie Endowment for International Peace. Carnegie Endowment for International Peace, n.d.

Henry, Laura A., and Vladimir Douhovnikoff. 'Environmental Issues in Russia'. *Annual Review of Environment and Resources* 33, no. 1 (16 November 2008): 437–60. <https://doi.org/10.1146/annurev.enviro.33.051007.082437>.

Hruby, Jill, Mark Melamed, and Lynn Rusten. 'Russia's New Nuclear Weapon Delivery Systems: An Open-Source Technical Review', 2011.

Intellectual Property Office UK. 'Artificial Intelligence A Worldwide Overview of AI Patents and Patenting by the UK AI Sector', 2019.

Intergovernmental Panel on Climate Change (IPCC). 'AR5 Synthesis Report: Climate Change 2014', 2012.

International Energy Agency (IEA). 'Major Oil and Gas Exporters Face Unprecedented Challenges in Years Ahead, New IEA Study Shows', 2018.

International Energy Agency (IEA). 'Sustainable Development Scenario', 2019.

International Institute for Strategic Studies (IISS). 'Complex Crises Call for Adaptable and Durable Capabilities'. *Military Balance* 115, no. 1 (1 January 2015): 5–8. <https://doi.org/10.1080/04597222.2015.996334>.

Ioffe, Julia. 'Why Many Young Russians See a Hero in Putin'. *National Geographic*, n.d.

IOM, International Organization for Migration. *World Migration Report 2018*. IOM World Migration Report, 2017.

Isachenkov, Vladimir. 'Russian Defense Ministry Boasts About Revived Military Power'. *Military.com*, 2019. <https://www.military.com/daily-news/2019/03/12/russian-defense-ministry-boasts-about-revived-military-power.html>.

Isayev, A.V., V.I. Filatov, V.N. Fyodorov, and A.V. Grevtsov. 'Model for the Automated Material Support Control System for Military Units and Formations of the Strategic Missile Forces amidst the Development of the Material and Technical Support System of the Armed Forces of the Russian Federation'. *Science and Military Security*, 2015.

Jakob Hedenskog, Carolina Vendil Pallin, Bengt-Göran Bergstrand, Märta Carlsson, Per Enerud, Tomas Malmlöf, Johan Norberg, Susanne Oxenstierna, Gudrun Persson, Roger Roffey, Fredrik Westerlund. 'Russian Military Capability in a Ten-Year Perspective – 2019'. Swedish Defence Research Agency (FOI), 2013.

James, Vincent. 'The Future of War Will Be Fought by Machines, but Will Humans Still Be in Charge?' *The Verge*, 2018. <https://www.theverge.com/2018/4/24/17274372/ai-warfare-autonomous-weapons-paul-scharre-interview-army-of-none>.

Jeff, Diamant. 'Orthodox Christians in Central and Eastern Europe Favor Strong Role for Russia'. *Pew Research Center*, 2017. <https://www.pewresearch.org/fact-tank/2017/05/11/orthodox-christians-in-central-and-eastern-europe-favor-strong-role-for-russia-in-geopolitics-religion/>.

Juola, Cristina, Aleksí Päiväläinen, Karoliina Rajala, Laura Solanko, and Ville Tuppurainen. 'Resources of Russia's Defence Industry'. In *Russia of Power*, 2019.

Kanet, Roger E. *Russia: Re-Emerging Great Power*. Palgrave Macmillan, 2007.

Kapoor, Nivedita. 'Decoding the Protests in Russia'. *Observer Research Foundation*, 2019. <https://www.orfonline.org/expert-speak/decoding-protests-russia-53082/>.

Kapustin, Nikita, and Dmitry Grushenvenko. 'A Long-Term Outlook on Russian Oil Industry Facing Internal and External Challenges | Oil & Gas Science and Technology - Revue d'IFP Energies Nouvelles'. *Oil & Gas Science and Technology*, 2019.

Khodarkovsky, Michael. 'Russia's Age-Old Question: Who Are We?' *New York Times*, 2017. https://www.nytimes.com/2017/05/18/opinion/russia-putin-national-identity.html?_r=1.

Kissinger, Henry. 'Henry Kissinger's Thoughts On The Islamic State, Ukraine And "World Order"'. Edited by Scott Simon, September 2014.

Kliman, Daniel, Rush Doshi, Kristine Lee, and Zack Cooper. 'Grading China's Belt and Road', 2019.

Kluge, Janis. 'Mounting Pressure on Russia's Government Budget: Financial and Political Risks of Stagnation', 2019. <https://doi.org/0.18449/2019RP0>.

———. 'Russia's Economy until 2030: Falling Behind'. *Atlantic Community*, 2019.

Kofman, Michael. 'Russia's Avangard Hypersonic Boost-Glide System – Russia Military Analysis'. *Russia Military Analysis*, 2019.

Kolesnikov, Andrei. 'Frozen Landscape: The Russian Political System Ahead of the 2018 Presidential Election'. *Carnegie Moscow Center*. Carnegie Moscow Center - Carnegie Endowment for International Peace, 2018.

Kolomak, E A. 'Assessment of the Urbanization Impact on Economic Growth in Russia'. *Regional Research of Russia* 2, no. 4 (16 October 2012): 292–99. <https://doi.org/10.1134/S2079970512040041>.

Kolsto, Pal. *New Russian Nationalism: Imperialism, Ethnicity and Authoritarianism 2000-2015*.

Edinburgh University Press, 2016.

Konaev, Magarita, and Samuel Bendett. 'Russian AI-Enabled Combat: Coming to a City Near You?' *War on the Rocks*, 2019. <https://warontherocks.com/2019/07/russian-ai-enabled-combat-coming-to-a-city-near-you/>.

Korolenko, Aleksandra V. 'Population Development Trends in Russia and China in the 21st Century'. *Population and Economics* 3, no. 2 (30 June 2019): 45–64. <https://doi.org/10.3897/popecon.3.e37961>.

Koshovets, O., and N. Ganichev. 'Ambiguous Effect of Arms Export on the Development of the Russian High Technology Industry'. *Problemy Prognozirovaniia* 2 (2015).

Kühn, Ulrich. *Preventing Escalation in the Baltics: A NATO Playbook*. Carnegie Endowment for International Peace, 2018.

Kuzmin Andrey, and Osborn Andrew. 'Russian Police Detain Hundreds Protesting against Pension Reform'. *Reuters*, 2018. <https://www.reuters.com/article/us-russia-politics/anti-kremlin-protesters-rally-across-russia-against-pension-age-hike-idUSKCN1LP05A>.

Lanskoy, Miriam. 'The Rise of Kleptocracy: Power and Plunder in Putin's Russia'. *Journal of Democracy* 29, no. 1 (2018).

Laruelle, Marlene. 'How Islam Will Change Russia – Jamestown'. Jamestown Foundation, 2016.

———. 'Russia's Arctic Strategies and the Future of the Far North,' 2015.

Lavikainen, Jyri, Katri Pynnöniemi, and Sinikukka Saari. 'Russia's Foreign Policy'. In *Russia of Power*, 2019.

Lavrov, Anton. 'Russia's GLONASS Satellite Constellation'. *Moscow Defense Brief*, 2019.

Lawler, Dave. 'Russian Parliament Passes Bill That Allows Putin to Rule until 2036'. *Axios*, 2020.

Letki, Natalia. 'Democratic Deficit'. In *Encyclopaedia Britannica*, n.d.

Levada-Center. 'The Most Alarming Problems', n.d.

Library of Congress. 'Collectivization and Industrialization'. *Revelations from the Russian Archives*, 2016. www.loc.gov/exhibits/archives/coll.html.

Lipman, Maria, and Nikolay Petrov. *The State of Russia: What Comes Next? The State of Russia: What Comes Next?* Palgrave Macmillan, 2015. <https://doi.org/10.1057/9781137548115>.

Lo, Bobo. *Russia and the New World Disorder*. Brookings Institution Press, 2015.

Luhn, Alec. 'Rouble's Dramatic Decline Gives Russia an Economic Headache'. *The Guardian*, 2014.

MacFarquhar, Neil. 'Yevgeny Prigozhin, Russian Oligarch Indicted by U.S., Is Known as "Putin's Cook."' *The New York Times*, 2018.

MacroTrends. 'Moscow, Russia Metro Area Population 1950-2020'. MacroTrends. Accessed 10 June 2020. <https://www.macrotrends.net/cities/22299/moscow/population>.

———. 'Novosibirsk, Russia Metro Area Population 1950-2020'. MacroTrends. Accessed 10 June 2020. <https://www.macrotrends.net/cities/22322/novosibirsk/population>.

———. 'Saint Petersburg, Russia Metro Area Population 1950-2020'. MacroTrends. Accessed 10 June 2020. <https://www.macrotrends.net/cities/22365/saint-petersburg/population>.

Maio, Giovanna De. 'Nord Stream 2: A Failed Test for EU Unity and Trans-Atlantic Coordination', *Brookings*. Brookings, April 2019.

Malle, Silvana. 'Economic Sovereignty. An Agenda for Militant Russia'. *Russian Journal of Economics* 2, no. 2 (1 June 2016): 111–28. <https://doi.org/10.1016/j.ruje.2016.06.001>.

Manaev, Georgy. 'Why Are There so Many More Women in Russia than Men?' *Russia Beyond*, 2019. <https://www.rbth.com/lifestyle/330062-why-are-there-so-many-women-in-russia>.

Mankoff, Jeffrey. 'Russia's Asia Pivot: Confrontation or Cooperation?' *Center for Strategic and International Studies*, 2015.

Manuilova, Anastasya. 'Russia Launches Cash Incentives to Boost Birth Rate'. *Global Government Forum*, 2016.

McDermott, Roger. 'Moscow Showcases Breakthrough in Automated Command and Control'. *Eurasia Daily Monitor* 16, no. 164 (2020).

McDermott, Roger. 'Russia's Armed Forces Expand UAV Strike Capability'. *Eurasia Daily Monitor* 16, no. 22 (2017).

McDermott, Roger N. 'Russia's Electronic Warfare Capabilities to 2025: Challenging NATO in the Electromagnetic Spectrum', n.d.

McFaul, Michael. 'The Missed Opportunity of Technological Breakthrough in Putin's Russia'. *Governance in an Emerging New World*, 2018.

McKew, Molly K. 'Putin's Real Long Game'. *POLITICO Magazine*, 2017. <https://www.politico.com/magazine/story/2017/01/putins-real-long-game-214589>.

Meduza. 'Russian Armed CyberForce As a State Creates Military Hacker Squads. Reporting by Daniil Turovsky'. 2016. <https://meduza.io/feature/2016/11/07/rossiyskie-vooruzhennye-kibersily>.

Ministry of Defence Finland. *RUSSIA OF POWER*, 2019.

Ministry of Defence UK. 'Global Strategic Trends'. Ministry of Defence {UK}. *GOV.UK*, 2018.

'MIT Skoltech Program'. Accessed 18 February 2020. <https://skoltech.mit.edu/about>.

Murray, Lori. 'What the INF Treaty's Collapse Means for Nuclear Proliferation'. *Council on Foreign Relations*, 2019.

National Petroleum Council. 'Arctic Potential: Realizing the Promise of U.S. Arctic Oil and Gas

Resources', 2015.

NATO. 'Active Engagement, Modern Defence'. Strategic Concept, 2010. https://www.nato.int/cps/en/natohq/topics_82705.htm

———. 'Article 5'. The North Atlantic Treaty, 1949. https://www.nato.int/cps/en/natohq/official_texts_17120.htm

———. 'Bucharest Summit Declaration'. NATO Publications, April 2008.

———. 'London Declaration'. NATO Publications, 2019.

———. 'NATO Chicago Summit Declaration'. NATO Publications, 2012.

———. PREDICT: Projections and Relevant Effects of Demographic Implications, Changes, and Trends. NATO, 2014.

———. 'SFA Regional Report: North Africa and Sahel'. 2020.

———. 'Strategic Foresight Analysis 2017 Report', 2017.

———. 'The Alliance's Strategic Concept'. NAC-S (99)65. Washington D.C., 1999. https://www.nato.int/cps/en/natolive/official_texts_27433.htm.

Nazarenko, Salla. 'Russia's Internal Development'. In RUSSIA OF POWER, 2019.

Newlin, Cyrus, and Jeffrey Mankoff. 'U.S. Sanctions against Russia: What You Need to Know'. Center for Strategic and International Studies, 2018.

Odynova, Alexandra. 'Putin Signs New "Foreign Agent" Law That Could Help Him Silence Even More Voices', CBS News, 2019.

OECD. 'OECD Better Life Index - Russian Federation'. Better Life Index - Russian Federation. Accessed 19 February 2020. <http://www.oecdbetterlifeindex.org/countries/russian-federation/>.

Official Internet Resources of the President of Russia. 'Decree of the President of the Russian Federation 05.12.2016 r. № 646', 2015. <http://kremlin.ru/acts/bank/41460>.

Oliker, Olga. 'Unpacking Russia's New National Security Strategy'. Center for Strategic and International Studies, 2016.

Organization of the Petroleum Exporting Countries (OPEC). 'Annual Statistical Bulletin', 2013.

Osborn, Andrew, and Vladimir Soldatkin. 'Putin Shake-up Could Keep Him in Power Past 2024 as Cabinet Steps Aside'. Reuters. 2020.

Parfitt, Tom. 'Vladimir Putin Pledges to Spend £32bn on Increasing Russian Life Expectancy'. The Guardian, April 2011.

Partlett, William. 'Mr. Putin's "Rule-by-Law State"'. Brookings. Brookings, 2012. <https://www.brookings.edu/opinions/mr-putins-rule-by-law-state/>.

PBL Netherlands Environmental Assessment Agency. 'Trends in Global CO2 Emissions', 2019.

Perrier, Eléna Morenkova. The Key Principles of Russian Strategic Thinking. 2014 N°22. Institute for Strategic Research of the Ecole Militaire (IRSEM), 2014.

Petrov, Nikolay, and Maria Lipman. The State of Russia: What Comes Next? Springer, 2015.

Polyakova, Alina. 'Weapons of the Weak: Russia and AI-Driven Asymmetric Warfare', 2018.

Popescu, Nicu, and Stanislav Secieru. 'Hacks, Leaks and Disruptions Russian Cyber Strategies', 2018.

Projects - Fpi.Gov.Ru/Projects. Accessed 14 February 2020. <https://fpi.gov.ru/projects/>.

'Putin Approves National Strategy for AI until 2030'. TASS - Russian News Agency, 2019.

'Putin Uses Arms Sales to ASEAN to Increase Russian Standing in Southeast Asia'. ASEAN Today, 2018.

Putin, Vladimir. 'Presidential Address to the Federal Assembly'. 2018.

———. 'Speech and the Following Discussion at the Munich Conference on Security Policy'. Munich Conference on Security Policy. Munich, 2007.

Radin, Andrew, Lynn Davis, Edward Geist, Eugeniu Han, Dara Massicot, Matthew Povlock, Clint Reach. The Future of the Russian Military: Russia's Ground Combat Capabilities and Implications for U.S.-Russia Competition. RAND Corporation, 2019. <https://doi.org/10.7249/RR3099>.

Ragozin, Leonid. 'Russia Wants Immigrants the World Doesn't'. Bloomberg, 2017.

Red Star. 'Vectors of Military Strategy Development', 2019. <http://redstar.ru/vektory-razvitiya-voennoj-strategii/?attempt=3>.

Reddie, Andrew W. 'Hypersonic Missiles: Why the New "Arms Race" Is Going Nowhere Fast - Bulletin of the Atomic Scientists'. Bulletin of the Atomic Scientists, 2020.

Reifschneider, Elise. 'Russia's Relationship with NGO's - Future Foreign Policy'. Future Foreign Policy, 2015.

Ritter, Konrad Von, and Vladimir Tsirkinov. 'A Review of Environmental Assessment Systems : Russian and International Experience', 2003.

Roepke, Wolf-Diester, and Hasit Thankey. 'Resilience: The First Line of Defence'. NATO Review, 2019. <https://www.nato.int/docu/review/articles/2019/02/27/resilience-the-first-line-of-defence/index.html>.

Roffey, Roger. 'Russian Science and Technology Is Still Having Problems-Implications for Defense Research'. Journal of Slavic Military Studies 26, no. 2 (April 2013): 162–88. <https://doi.org/10.1080/13518046.2013.779849>.

Rosenberger, Laura, and David Salvo. 'The ASD Policy Blueprint for Countering Authoritarian

Interference in Democracies', 2017.

Roth, Andrew. 'Russia Cracks down on Spaceport Mega-Project Mired in Corruption'. The Guardian, 2019.

Rouvinski, Vladimir. 'Russian-Venezuelan Relations at a Crossroads', 2019.

Roxburgh, Angus. The Strongman: Vladimir Putin and the Struggle for Russia. I.B.Tauris, 2012.

Rozenfeld, Boris A. 'The Crisis of Russian Health Care and Attempts at Reform'. Rand Corporation. Accessed 14 February 2020. https://www.rand.org/pubs/conf_proceedings/CF124/CF124.chap5.html.

'Russia's Brain Drain on the Rise Over Economic Woes — Report'. The Moscow Times, 2018.

The Guardian. 'Russia Begins Its Largest Ever Military Exercise with 300,000 Soldiers', September 2018. <https://www.theguardian.com/world/2018/sep/11/russia-largest-ever-military-exercise-300000-soldiers-china>.

Russian Federation President. 'The Russian Federation's National Security Strategy 2015', 2015.

'Russian Space Agency Commits Billions of Rubles More to "Oryol" next-Gen Spacecraft', 2021.

'Russians Are Increasingly Protesting Social, Not Political Issues – Study'. The Moscow Times, 2019.

Sanghi, Apurva, Olga Emelyanova, Mikhail Matytsin, Irina Rostovtseva, Katerina Levitanskaya, Eva M. Gutierrez, Yoki Okawa, Peter Stephen Oliver Nagle, and Collette Mari Wheeler. 'Russia Economic Report : Modest Growth - Focus on Informality', 2019.

Sauer, Natalie. 'Russian Draft Climate Law Gutted after Industry Intervention'. Climate Home News, 2019.

Schwartz, Paul. 'Russian Science and Technology: Current State And Implications For Defense'. In The Russian Military in Contemporary Perspective. Strategic Studies Institute and U.S. Army War College Press, 2019.

Shanker, Thom, and Mark Landler. 'Putin Says U.S. Is Undermining Global Stability', 2007.

Shiklomanov, Nikolay I., Dmitry A. Streletskiy, Timothy B. Swales, and Vasily A. Kokorev. 'Climate Change and Stability of Urban Infrastructure in Russian Permafrost Regions: Prognostic Assessment Based on GCM Climate Projections'. Geographical Review 107, no. 1 (1 January 2017): 125–42. <https://doi.org/10.1111/gere.12214>.

Sloan, Stanley R. Defense of the West: NATO, the European Union and the Transatlantic Bargain. Manchester University Press, 2016.

Sly, Liz. 'In the Middle East, Russia Is Back'. Washington Post. 2018.

Spiegeleire, Stephan De, Eline Chivot, João Silveira, Michelle Yueming Yang, and Olga Zelinska. Assessing Assertions of Assertiveness: The Chinese and Russian Cases. The Hague Centre for Strategic Studies, 2014.

Statista. 'Russia: Median Age of the Population from 1950 to 2050'. Statista, 2020. <https://www.statista.com/statistics/275400/median-age-of-the-population-in-russia/>.

Stratfor. 'Russia Pushes to Deepen Ties in Latin America'. Stratfor. Stratfor, April 2014.

Stronski, Paul, and Annie Himes. 'The Return of Global Russia: A Reassessment of the Kremlin's International Agenda'. Endowment for International Peace, 2019. <https://carnegieendowment.org/specialprojects/thereturnofglobalrussia/all/2643?lang=en&pageOn=2>.

Sukhankin, Sergey. 'Russia Introduces EW Spetsnaz to Western Military District'. Eurasia Daily Monitor 14, no. 143 (2017).

———. 'Yunarmia: A Call from the Past, or Farewell to the Future?' International Centre for Defence and Security, 2018. <https://icds.ee/yunarmia-a-call-from-the-past-or-farewell-to-the-future/>.

Szakonyi, David. 'Why Russian Oligarchs Remain Loyal to Putin (Op-Ed)'. The Moscow Times, 2017. <https://www.themoscowtimes.com/2017/12/01/centrifugal-forces-why-russian-oligarchs-remain-loyal-to-the-putin-government-op-ed-a59760>.

Taylor, Brian D. 'Putin's Stability Becomes Russia's Stagnation'. OUPblog, August 2018. <https://blog.oup.com/2018/08/putins-stability-russias-stagnation/>.

The Constitution of the Russian Federation (1993).

The Economist. 'A Warmer Russia - Why Russia Is Ambivalent about Global Warming', 2019.

———. 'The History of Trash Heaps - Rubbish Is Becoming a Political Problem in Russia', 2019. <https://www.economist.com/europe/2019/06/29/rubbish-is-becoming-a-political-problem-in-russia>.

The Federal Law of Shipping on the Water Area of the Northern Sea Route (2012).

The Ministry of Foreign Affairs of the Russian Federation. 'THE FOREIGN POLICY CONCEPT OF THE RUSSIAN FEDERATION'. Посольство России в Великобритании, 2016.

Thomas Timothy. 'Russia's Expanding Cyber Activities: Exerting Civilian Control While Enhancing Military Reform'. In The Russian Military in Contemporary Perspective. Strategic Studies Institute and U.S. Army War College Press, 2019.

Thomas, Timothy L. 'Russian Forecasts of Future War'. Military Review, 2016.

———. 'Russian Military Thought: Concepts and Elements', 2017.

Toucas, Boris. 'Russia's Design in The Black Sea: Extending the Buffer Zone'. Center for Strategic and International Studies, 2017. <https://www.csis.org/analysis/russias-design-black-sea-extending-buffer-zone>.

Transparency International. 'Corruption Perceptions Index 2018', 2019.

Trenin, Dmitir. 'Russia, China Are Key and Close Partners'. Carnegie Endowment for International Peace, 2019.

Trenin, Dmitri. 'Russia's Evolving Grand Eurasia Strategy: Will It Work?' Carnegie Moscow Center. Carnegie Moscow Center - Carnegie Endowment for International Peace, n.d.

Treverton Gregory F., Andrew Thvedt, Chen Alicia R., Lee Kathy, and Madeline McCu. 'Addressing Hybrid Threats', 2018.

Tsygankov, Andrei P. Russia's Foreign Policy: Change and Continuity in National Identity. Fourth. Rowman & Littlefield Publishers, 2016.

UN Water. 'World Water Development Report 2018: Nature-Based Solutions for Water', 2018.

UNESCO. 'Russian Federation Education and Literacy'. Accessed 14 February 2020. <http://uis.unesco.org/en/country/ru?theme=education-and-literacy>.

United Nations Framework Convention on Climate Change (UNFCCC). 'Why Methane Matters', 2014. <https://unfccc.int/news/new-methane-signs-underline-urgency-to-reverse-emissions>.

United Nations Framework Convention on Climate Change (UNFCCC). 'UN Climate Change Annual Report 2017', 2018.

Vice, Margaret. 'Russians Remain Confident Putin's Global Leadership'. Pew Research Center, 2017. <https://www.pewresearch.org/global/2017/06/20/russians-remain-confident-in-putins-global-leadership/>.

Vinjamuri, Leslie. 'American Retrenchment? Consequences for a Future World Order'. Chatham House, 2019.

Volk, Yevgeny. 'Russia's NGO Law: An Attack on Freedom and Civil Society'. The Heritage Foundation, 2006. <https://www.heritage.org/europe/report/russias-ngo-law-attack-freedom-and-civil-society>.

Walker, Shaun. 'Russia Begins Cleaning up the Soviets' Top-Secret Nuclear Waste Dump'. The Guardian, 2017.

———. 'Unequal Russia: Is Anger Stirring in the Global Capital of Inequality?' The Guardian, 2017.

Watts, Jonathan. 'Arctic Wildfires Spew Soot and Smoke Cloud Bigger than EU'. The Guardian, 2019.

Weatherdon, Lauren V., Yoshitaka Ota, Miranda C. Jones, David A. Close, and William W. L. Cheung. 'Projected Scenarios for Coastal First Nations' Fisheries Catch Potential under Climate Change: Management Challenges and Opportunities'. Edited by Juan Carlos Molinero. PLOS ONE 11, no. 1 (13 January 2016): e0145285. <https://doi.org/10.1371/journal.pone.0145285>.

Weeden, Brian. 'Dancing in the Dark Redux: Recent Russian Rendezvous and Proximity Operations in Space'. The Space Review, 2015. <https://www.thespacereview.com/article/2839/2>.

Wemer, David A. 'More and More Russians Are Fleeing Oppression in Russia'. Atlantic Council, 2019.

Wine, Michael. 'YELTSIN RESIGNS: MAN IN THE NEWS; On Top, Still a Mystery: Vladimir Vladimirovich Putin'. The New York Times, 2000.

World Bank. 'Development of Female Population 1960-2018 in the World', 2019. <https://data.worldbank.org/indicator/sp.pop.totl.fe.zs>.

———. 'Life Expectancy Rates of Females in the Russian Federation', n.d. <https://data.worldbank.org/indicator/SP.DYN.LE00.FE.IN?locations=RU&view=chart>.

World Intellectual Property Organization (WIPO). 'The Story of Artificial Intelligence in Patents'. WIPO Technology Trends, 2019. https://www.wipo.int/tech_trends/en/artificial_intelligence/story.html.

World Nuclear Association. 'Nuclear Power in Russia | Russian Nuclear Energy', 2020. <https://www.world-nuclear.org/information-library/country-profiles/countries-o-s/russia-nuclear-power.aspx>.

———. 'Safety of Nuclear Reactors', 2019. <https://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/safety-of-nuclear-power-reactors.aspx>.

World Nuclear News. 'Rosatom Postpones Fast Reactor Project, Report Says', 2018. <https://world-nuclear-news.org/Articles/Rosatom-postpones-fast-reactor-project-report-say>.

Yegorov, Oleg. 'Why Does Russia Have Such a Low Unemployment Rate?' Russia Beyond, 2019.

———. 'Why Is Russia's Population (Relatively) Small and Declining?' Russia Beyond, November 2018.

'Yunarmia'. Accessed 14 February 2020. <https://yunarmy.ru/>.

Yuri Levada Analytical Center. 'Levada-Center'. Accessed 14 February 2020. <http://www.levada.ru/en/>.

Zak, Anatoly. 'Russia Approves Its 10-Year Space Strategy'. The Planetary Society, 2016. <https://www.planetary.org/blogs/guest-blogs/2016/0323-russia-space-budget.html>.

Zubacheva, Ksenia. '5 Russian Space Companies That Could One Day Compete with SpaceX'. Russia Beyond, 2018.

SOURCES AND ACKNOWLEDGEMENTS

- ◇ The Strategic Foresight Analysis (SFA) Regional Perspectives on Russia Report is based on a comprehensive analysis of reports and academic papers produced by numerous Alliance nations, think tanks, international organisations, defence and security industries with an extensive Strategic Foresight Community of Interest. Sources also comprised studies from non-NATO countries, including Russia, and non-NATO agencies. The Russia Report is a synthesis of all these findings and represents an objective analysis of Russia using the SFA methodology of major theme review – Political, Human, Technology, Economics/Resources, and Environment. Workshops and country engagements occurred in Alliance as well as Partner Countries, while multiple interactions with academia, think tanks and international organisations from both within and external to Alliance nations ensured the comprehensive view of the themes, trends, and defence and security implications has a greater than solely Western aspect.
- ◇ The extensive assistance and advice the SFA team received in developing the Regional Perspectives Report on Russia is greatly appreciated. SACT acknowledges the contributions provided by the entire Strategic Foresight Community of Interest and countless others who assisted in the research, drafting, review and comment, and final creation and distribution phases.
- ◇ In order to reduce the overall size of this report, individual footnotes have been removed from respective pages within the report, with a source bibliography provided for reference. However, there is an MS Word version of the report available on the ACT webpage under Futures Work for the complete traceability of where sources and ideas are drawn as well as to provide further discussion/ explanations behind key assumptions.

<http://www.act.nato.int/futures-work>

Strategic Foresight Analysis Team Contact Details:

Strategic Foresight Branch
HQ SACT Strategic Plans and Policy
7857 Blandy Road Suite 100,
Norfolk Virginia USA 23551-2490

<http://www.act.nato.int>



2021

REGIONAL PERSPECTIVES REPORT ON RUSSIA