



# Russian Military Capability in a Ten-Year Perspective – 2016

Gudrun Persson (ed.)

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## Abstract

The Russian Armed Forces are developing from a force primarily designed for handling internal disorder and conflicts in the area of the former Soviet Union towards a structure configured for large-scale operations also beyond that area. The Armed Forces can defend Russia from foreign aggression in 2016 better than they could in 2013. They are a stronger instrument of coercion than before.

This report analyses Russian military capability in a ten-year perspective. It is the eighth edition. A change in this report compared with the previous edition is that a basic assumption has been altered. In 2013, we assessed fighting power under the assumption that Russia was responding to an emerging threat with little or no time to prepare operations. In view of recent events, we now estimate available assets for military operations in situations when Russia initiates the use of armed force.

The fighting power of the Russian Armed Forces is studied. Fighting power means the available military assets for three overall missions: operational-strategic joint inter-service combat operations (JISCOs), stand-off warfare and strategic deterrence. The potential order of battle is estimated for these three missions, i.e. what military forces Russia is able to generate and deploy in 2016. The fighting power of Russia's Armed Forces has continued to increase – primarily west of the Urals.

Russian military strategic theorists are devoting much thought not only to military force, but also to all kinds of other – non-military – means. The trend in security policy continues to be based on anti-Americanism, patriotism and authoritarianism at home. Future generations are being trained into a patriotic spirit, and there is a wide array of different school and youth organizations with a mission to instil military-patriotic values in the younger generations. Opportunities to change the policy to a more Western-friendly approach have diminished. This will be the situation Russia finds itself in whether Vladimir Putin continues as a president or not.

The share of military expenditure in Russian GDP has increased from 3.6 per cent in 2005 to 5.4 per cent in 2015. This is the result of the political will to prioritize military expenditure over other items in public spending. At the same time, the implementation of the State Armament Programme has improved the Russian arms industry's prospects of playing a substantial role in the ongoing rebuilding of Russian military capability for the next decade.

Key words: air force, air defence, armed forces, defence industry, domestic policy, exercises, equipment, foreign policy, ground forces, military capability, military doctrine, military expenditure, military thinking, national security strategy, naval forces, nuclear weapons, procurement, security policy, Putin, R&D, Russia, Shoigu, State Armament Programme.

## Sammanfattning

Rysslands Väpnade styrkor utvecklas från att främst vara organiserade och tränade för att hantera interna oroligheter och konflikter i det forna sovjetområdet mot en organisationsstruktur som kan hantera storskaliga operationer även utanför detta område. 2016 har Väpnade styrkorna större förmåga att försvara Ryssland från utländsk aggression än under 2013. Ryssland har därmed ett mer kraftfullt militärt tvångsmaktsverktyg än tidigare.

I denna rapport analyseras rysk militär förmåga i ett tioårsperspektiv. Det är den åttonde utgåvan. En förändring i denna rapport jämfört med den förra är att ett grundläggande antagande har ändrats. 2013 bedömde vi den ryska militära handlingsfriheten utifrån förutsättningen att Ryssland skulle svara på ett uppkommet hot vilket skulle ha givit lite eller ingen tid till förberedelser. I ljuset av de senaste årens utveckling, bedömer vi de tillgängliga resurserna för militära operationer utifrån antagandet att Ryssland tar initiativet till att använda militärt våld.

Rysslands militära handlingsfrihet analyseras avseende tre övergripande uppgifter: operationer med försvarsgrensgemensam strid, fjärrstrid och strategisk avskräckning. Den ryska militära handlingsfriheten, dvs. de militära förband Ryssland kan avdela för att lösa dessa uppgifter har fortsatt att växa – särskilt väster om Ural.

Ryska militärstrategiska tänkare ägnar mycket uppmärksamhet åt inte enbart militär styrka, utan även åt en mängd andra – icke-militära – medel. Den säkerhetspolitiska utvecklingen fortsätter att präglas av anti-amerikanism, patriotism och ett auktoritärt politiskt system i Ryssland. Framtida generationer ska uppfostras i patriotisk anda, och det finns ett stort antal olika ungdomsorganisationer vars syfte är att ingjuta militär-patriotiska värderingar i de unga. Möjligheterna att förändra politiken i en mer västvänlig riktning har minskat. Detta är läget som Ryssland befinner sig i oavsett om Vladimir Putin fortsätter som president eller inte.

Försvarsutgifternas andel av BNP i Ryssland har ökat från 3,6 procent år 2005 till 5,4 procent 2015. Det är ett resultat av ett politiskt beslut att prioritera försvarsutgifter före andra utgiftsposter i budgeten. Samtidigt genomförs det statliga beväpningsprogrammet i högre utsträckning. Däremed har den ryska försvarsindustrins utsikter att spela en viktig roll för rysk militär förmåga förbättrats under de kommande tio åren.

Nyckelord: flygvapen, FoU, det framtida kriget, försvarsbudget, försvarsindustri, försvarsutgifter, inrikespolitik, kärnvapen, luftförsvar, marinstridskrafter, markstridskrafter, materiel, militärdoktrin, Putin, Ryssland, Sjojgu, statliga beväpningsprogrammet, säkerhetspolitik, utrikespolitik, Väpnade styrkorna, övningar.

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Any remaining errors are our own.

Stockholm, December 2016

Gudrun Persson, deputy research director, editor





## Acronyms and Abbreviations

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AC	Army Corps	
AFADA	Air Force and Air Defence Army	
AIFV	armoured infantry fighting vehicle	
ALCM	air-launched cruise missile	
APC	armoured personnel carrier	
AShM	anti-ship missile	
bbl	barrels of oil	
BRICS	Brazil, Russia, India, China and South Africa	
C3	command, control and communications	
C4ISR	command, control, communications, computers, intelligence, surveillance and reconnaissance	
CAA	Combined-arms Army	
CAST	Centre for Analysis of Strategies and Technologies	
CBR	chemical, biological and radiological (protection)	
CIS	Commonwealth of Independent States	
CIS-EMO	Commonwealth of Independent States – Election Monitoring Organization	
CPI	Consumer Price Index	
CSTO	Collective Security Treaty Organization	
DOSAAF	Volunteer Society for Cooperation with the Army, Aviation, and Navy	<i>Dobrovolnoe Obshchestvo Sodeistviia Armii, Aviatsii i Flotu</i>
DTRA	Defense Threat Reduction Agency (US)	
EEU	Eurasian Economic Union	
e-o-p	end of period	
EU	European Union	
EU-28	the 28 members of the EU	
FSB	Federal Security Service	<i>Federalnaia sluzhba bezopasnosti</i>
FSO	Federal Protection Service	<i>Federalnaia sluzhba okhrany</i>
FTP	Federal Target Programme	<i>Federalnaia tselevaia programma</i>
GDP	gross domestic product	

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GLCM	ground-launched cruise missile	
GLONASS	global navigation satellite system	<i>Globalnaia navigatsionnaia sputnikovaia sistema</i>
GOZ	State Defence Order	<i>Gosudarstvennyi oboronnyi zakaz</i>
GPV	State Armament Programme	<i>Gosudarstvennaia programma vooruzheniia</i>
GUSP	Main Directorate for Special Programmes of the Russian President	<i>Glavnoe upravlenie spetsialnykh programm Prezidenta RF</i>
ICBM	intercontinental ballistic missile	
IMF	International Monetary Fund	
INF	Intermediate Nuclear Forces (treaty)	
JISCO	joint inter-service combat operation	
JSC	Joint Strategic Command	
KBMTO	major Combat Support Service base	<i>kompleksnyi baz materialno-tekhnicheskogo obespecheniia</i>
LACM	land-attack cruise missile	
MBT	main battle tank	
MChS	The Ministry of the Russian Federation for Civil Defence, Emergencies and Elimination of Consequences of Natural Disasters	<i>Ministerstvo RF po delam grazhdanskoi oborony, chrezvychainym situatsiiam, i likvidatsii posledstviu stikhiinykh bedstviu</i>
MD	military district	
ME	total military expenditure	
MER	Ministry of Economic Development	<i>Ministerstvo ekonomicheskogo razvitiia RF</i>
MFA	Ministry of Foreign Affairs	
MLRS	multiple-launch rocket system	
MoD	Ministry of Defence	<i>Russia's MoD unless stated otherwise</i>
MRB	motor rifle brigade	
MRO	modernization, renovation and overhaul	
MTO	Combat Support Service	
MVD	Ministry of the Interior	<i>Ministerstvo vnutrennykh del</i>
KBMTO	major combat support service bases	<i>kompleksnye bazy materialno-tekhnicheskogo obespecheniia</i>
NATO	North Atlantic Treaty Organization	
NGO	non-governmental organization	
OMON	Mobile Special Purpose Units	<i>Otriady mobilnye osobogo naznacheniiia</i>

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OSCE	Organization for Security and Co-operation in Europe	
PMC	private military company	
PPP	purchasing power parity	
PR China	People's Republic of China	
R&D	research and development	
RBK	RosBiznesKonsulting	
RHB	Russia Behind the Headlines	
RIC	Russia, India and China	
RMC	Russian Military Capability in a Ten-Year Perspective	
Rosrezerv	Federal Agency for State Reserves	
Rosstat	Federal Statistics Service	
RUB	rouble	
SAM	surface-to-air missile	
SCO	Shanghai Cooperation Organization	
SIPRI	Stockholm International Peace Research Institute	
SKR	Investigative Committee of Russia	<i>Sledstvennyi komitet RF</i>
SLBM	submarine-launched ballistic missile	
SLCM	submarine-launched cruise missile	
SNA	System of National Accounts	
SOBR	Special rapid-reaction units	<i>Spetsialnye otriady bystrogo reagirovaniia</i>
SRBM	short-range ballistic missile	
SSBN	nuclear-powered ballistic missile submarine	
SSM	surface-to-surface missile	
SVR	Foreign Intelligence Service	<i>Sluzhba vneshnei razvedki</i>
TA	tank army (formation)	
UAV	unmanned aerial vehicle	
USD	US dollars	
VOSO	movement control system	<i>Voennye soobshcheniia</i>
VPK	Military-Industrial Commission	<i>Voennaia-promyshlennaia komissiiia</i>
WEO	World Economic Outlook	



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# 1. Introduction

Gudrun Persson

Since the last assessment of Russian military capability in a ten-year perspective, Russia has annexed the Crimean Peninsula and launched a military aggression towards the east of Ukraine. Furthermore, Russia has started a military operation in Syria, the first out-of-area operation since the Soviet Union disintegrated.

This development caught the West to a large degree by surprise, but has since attracted a growing interest in Russian military capability. At FOI such studies have been produced since 1999. This study is the eighth edition.

## 1.1 Purpose and outline of the study

Russia's aggressive international actions over recent years speak of a considerable military capability. Or do they? The purpose of this study is to assess Russian military capability in a ten-year perspective. The two main research questions are: What is the fighting power of the Russian Armed Forces in 2016? and What are the societal preconditions for generating military capability in the ten-year perspective?

Military capability can be studied in a number of ways. We have chosen to use the Russian definitions as a starting point. Military capability or power (*voennaia moshch*), according to the Russian definition, requires much more than purely military resources. It is the sum of the overall strength of the country as a whole: "the state's material and spiritual (*dukhovnye*) possibilities as well as its military policy" (Ministry of Defence 2016). In addition, the military organization of the state (*voennaia organizatsiia gosudarstva*) is described as "a set of military and law enforcement agencies and management bodies, as well as military-political, military economic, and military science, and other institutions for military activities, and military officials who safeguard the security interests of the country" (Ministry of Defence 2016). Another key term is fighting power (*boevaia moshch*) which is defined as "one of the most important parts of the state's military capability". It includes – amongst other things – the number and quality of the Armed Forces, military readiness, and the serviceability of the equipment (Ministry of Defence 2016). As will become clear in chapters 2 and 3, we assess those parts of Russia's Armed Forces' fighting power.

Thus, fighting power concerns the Russian Armed Forces, whereas military capability concerns the strength of the country. Social phenomena affect military capability, as any armed force is a reflection of its society. We suggest that for Russia the most important preconditions for its military capability are security policy, defence spending and domestic defence industrial capacity. Security policy is a wide topic, which is why we have chosen to focus on domestic, military security and the view of future war, as well as foreign security. These

are three areas of security policy that are the most relevant for assessing future military capability. In contrast to previous assessments there is no separate chapter for defence policy in the present report, since that is now included in the chapter on security policy (cf Hedenskog et al. 2013). There are several benefits for this, not least that the policy of patriotism is now analysed in one chapter only. Furthermore, by having only one chapter on security policy, the domestic factor in defence and foreign policy – so evident for the past four years – is made clear.

*Russia initiates  
the use of armed  
force*

A major change in this report compared to the previous assessment is that a basic assumption has been altered. In 2013, we assessed fighting power under the assumption that Russia was responding to an emerging threat with little or no time to prepare operations. In view of recent events, we now estimate available assets for military operations in situations when Russia *initiates* the use of armed force. The assessment reflects the potential order of battle when Russia chooses to launch a combat operation – *allowing time* for discreet preparations. This makes it impossible to compare chapters 2 and 3 in this report with Chapter 2 in the previous assessment.

In Chapter 2 Fredrik Westerlund and Johan Norberg, with contributions by Carolina Vendil Pallin and Roger Roffey, provide a basis for assessing the current fighting power by outlining the Armed Forces' assets for three overall missions: joint inter-service combat operations, stand-off warfare and strategic deterrence. The basis for the assessment is widened by a discussion on manning levels and the Logistics and Rear Service. The authors give an account of exercise activity and combat operations in order to bring to light conceptual and moral factors that affect the fighting power of the Armed Forces. The Russian National Guard, formed in 2016 on the basis of forces from several ministries, is also examined.

On that basis, Fredrik Westerlund and Johan Norberg assess the fighting power of the Armed Forces in Chapter 3. They estimate the potential order of battle for the three missions, i.e. what military forces Russia is able to generate and deploy in 2016.

Security policy is a fundamental factor when it comes to assessing Russia's military capability in a ten-year perspective. In Chapter 4 Jakob Hedenskog, Carolina Vendil Pallin and Gudrun Persson identify the dominant trends in Russian security policy. They analyse the main goals pursued, the main threats to national security and how the political leadership aims to meet these challenges. Russia's views of contemporary military conflict and future war are outlined.

In Chapter 5 Susanne Oxenstierna presents an analysis of Russia's economic growth and discusses how the priority being given to defence in public spending has evolved. The size and growth of military expenditure are strategic factors for building military capability, and it may be assumed that increases in military spending enhance the development of stronger capability. Oxenstierna examines the defence budget and total military expenditure. In a ten-year perspective growth of GDP is expected to be weak-to-moderate and any increase in military

expenditure will depend on the political will to continue to give priority to defence in public spending.

In Chapter 6 Tomas Malmlöf, with contributions by Roger Roffey, focuses on which arms systems and platforms the defence industry will be able to produce for the Armed Forces up to 2026. Although its performance has improved in recent years, the real challenges for the defence industry in the next decade consist of the transition into production of new systems, import substitution and catching up with the West in science and technology.

Finally, in Chapter 7 Gudrun Persson discusses Russian military capability in a ten-year perspective, based on the results of the preceding chapters. All the authors have contributed to the chapter. The chapter attempts to synthesize the findings and to draw conclusions in a longer time perspective.

## 1.2 Delimitations

The discussion in the chapters on security policy, military expenditure and defence industry capacity is limited to aspects that have a bearing on Russian military capability. Other aspects of security policy and the defence industry as such have been left out or touched upon only briefly. We do not analyse arms exports and the Russian economy in general is not discussed in detail here.

Furthermore, the assessment of fighting power is restricted to the ability to generate assets for the three specific missions. This means that several aspects of Russian military capability have not been addressed here. For instance, Russia's capability to carry out peace operations and irregular warfare is not assessed. Russian cyber- and electronic warfare capabilities, although of growing importance, are also not discussed. We also omit so-called hybrid warfare since it contains many other components, such as the use of informational means. Some of these issues have been covered in other FOI reports. We analyse the general political will in Russia regarding when and how to use military force, as this is an important precondition for building future military capability, but we do not consider possible actual plans for war against any specific country. Furthermore, the probability of an armed conflict involving Russia is not assessed in this study. We do not assess other countries' military capability, nor do we compare the fighting power of their armed forces with that of Russia's.

For most of the chapters, the collection of material ended in early September 2016.

## 1.3 Sources

This report is based on open sources, both Russian primary sources and the secondary literature on a wide range of topics. Discussions with Russian scholars and representatives of Russian institutions have also been an important part of the research.

*The importance  
of examining  
the sources*

Thorough interrogation of the sources is the very foundation of this assessment. This is essential, not least in view of developments during the past few years. Trying to assess Russian military capability on the basis of open source information was never easy, and it has not become easier. During the past ten years there has been a tendency to try to increase the secrecy surrounding the Russian Armed Forces, the defence budget, and the defence industry. This is not necessarily new or unexpected, but the tendency towards secrecy has accelerated after the illegal annexation of Crimea. There is every reason to treat published official figures with caution. It is clear that this kind of data has been used for many years by officials to achieve certain objectives. For instance, former Minister of Defence Sergei Ivanov later admitted that he was presented with three different figures for the total number of the Armed Forces: “When I arrived at the Ministry of Defence [in 2001], no one could give me the real number of the Armed Forces. There were three different figures: the official, the real one, and some other figure” (Baranets & Sungorkin 2013).

During the reforms of former Minister of Defence Anatolii Serdiukov, numbers were highlighted to show the need for change; there was a focus on problems in need of a solution. In contrast, under Sergei Shoigu, there is now a clear tendency to use data to show progress and achievements.

Furthermore, the Russian political leadership has achieved even tighter control over the media and the internet. This has led to an atmosphere of suspicion, a sense of randomness, and a considerable degree of self-censorship.

Relying on Russian official figures, open doctrines, and public statements also entails the risk of becoming an amplifier of the official message. That would mean a risk of assessing Russian military capability not as it is, but as the Russian political and military leadership would want the world to believe it is. We are aware of this, and have tried whenever possible to cross-check our data, applying all the academic tools at our disposal. Therefore each chapter contains a discussion on sources.

#### 1.4 The work process

The immediate work behind this report, from planning to the final report, started with a workshop in September 2015. The outline and a draft schedule were presented. The next workshop took place in January 2016, when the authors presented synopses for each chapter. The first drafts were reviewed at seminars in April 2016. Chapter 2, on the Russian Armed Forces in 2016, was reviewed by Jörgen Elfving, Lt Col (ret.); Chapter 3, on Russian fighting power in 2016, by Karlis Neretnieks, Maj.-Gen. (ret.); Chapter 4, on security policy, by Kjell Engelbrekt, Professor, Swedish Defence College; Chapter 5, on Russian military expenditure, by Ulf Jonsson, Senior Researcher at FOI; and Chapter 6, on the Russian defence industry, by Dr. Martin Lundmark, Deputy Research Director at FOI.

In September 2016, the final drafts of the chapters were reviewed during a three-day review seminar series with external experts in order to ensure the quality of the product. Chapter 2 was reviewed by David Glantz, editor-in-chief, *Journal of Slavic Military Studies*; Chapter 3 by Jacob Kipp, Professor, University of Kansas; Chapter 4 by Roy Allison, Professor, Oxford University; and chapters 5 and 6 by Julian Cooper, Professor, Birmingham University.

After the seminars the authors revised their chapters again and the Introduction and the final chapter were reviewed separately. The English texts were language-edited and copy-edited by Eve Johansson, UK, and translated into Swedish by the authors, before final layout and approval of the report.

We have made several research trips to Moscow in 2014–2016. The Swedish Embassy in Moscow, including the Defence Department, repeatedly arranged programmes for these trips. In addition, we have attended several academic conferences in Moscow, and visited the Centre for Analysis of Strategies and Technologies (CAST).

FOI's Russia Studies Programme has long experience and the advantages of continuity in assessing Russia's military capability in a ten-year perspective. All the researchers have decades of experience researching various aspects of Russian history, contemporary politics, the economy, and the Armed Forces. This provides a solid basis of an assessment at a time when unpredictability prevails.

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## 2. Russia's Armed Forces in 2016

Johan Norberg and Fredrik Westerlund, with contributions from  
Carolina Vendil Pallin and Roger Roffey and maps by Per Wikström

In 2014–2016, Russian forces occupied Crimea, waged war in eastern Ukraine and intervened in the Syria conflict, with major regional ramifications. Russian military exercises and drills have increased in scope and frequency. Russian military aircraft and ships have exhibited more reckless or aggressive behaviour, not least in the Baltic Sea area. The likelihood of a conflict with Russia involving military force has increased, and with that the need for knowledge on the fighting power of Russia's Armed Forces.

The aim of this chapter is to provide a basis for assessing the fighting power of Russia's Armed Forces in 2016. In this report, fighting power denotes the available military assets for three overall missions: operational-strategic joint inter-service combat operations (JISCOs), stand-off warfare and strategic deterrence. Chapter 3 then estimates the potential order of battle – comparable to the Russian notion *gruppировка voisk (sil)* – for these three missions. When assessing fighting power – *boevaia moshch* – our interpretation of the term considers the physical, conceptual and moral factors underpinning it.<sup>1</sup> Physical factors describe the current Table of Organization and Equipment (TOE, comparable to the Russian notion *boevoi i chislennyi sostav*). Conceptual factors, the way military assets are used, can be deduced from exercises and combat operations as well as military doctrine and force disposition. Information about moral factors – such as quality of commanders, morale and military organizational culture – is here limited to observations from exercises and combat operations, which is not enough to assess these factors properly. Moral factors can also change quickly. Our assessment of fighting power therefore mainly rests on physical and conceptual factors.<sup>2</sup>

*A basis for  
assessing fighting  
power*

Our description of the factors constituting fighting power is limited to aspects that pertain to the three chosen missions. A JISCO denotes the use of different branches and services to control territory. Stand-off warfare here is the capability to strike enemy targets at distances of over 300 kilometres (km), i.e. beyond the operational depth of a JISCO. These two missions are the main aspects of the use of armed force, which is a primary task of the Armed Forces according to the Russian Ministry of Defence (MoD). Another primary task is strategic deterrence (Ministry of Defence 2016a). In the West, this entails the military prevention of wars, both large-scale and regional and possibly even local (Sheehan 2010: 177–179). In Russia, strategic deterrence also includes containment and coercion and is applicable in both peace and war (Bruusgaard 2016). All three missions may be accomplished with both conventional and nuclear forces.

<sup>1</sup> It should be noted that the term “fighting power” is used with different meanings elsewhere: see for instance van Creveld, Martin (1981) *Fighting Power*, Westport, Conn., Greenwood Press, where the term is used exclusively for moral factors.

<sup>2</sup> For more details, see Chapter 1 and Appendix A2.1 Conceptual Terminology

In the report, we separate the three missions for analytical purposes. In reality, Russia is likely to combine them.

*Delimitations*

The focus on these three missions means that other issues relevant for fighting power are not addressed here. As stated in Chapter 1, other kinds of operations, including so-called hybrid warfare, are not discussed in this report. Nevertheless, the assets the Armed Forces could contribute to a hybrid warfare operation are largely the ones described here. Our assessment includes primarily nominally standing forces belonging to the MoD, although Russia continues to develop its mobilization system including cadre units, sometimes linked to standing units. Lacking detailed information on a mass-mobilization organization (see section 2.6), we restrict our scope to standing forces.

Armed forces belonging to other Russian ministries, services and agencies are only briefly outlined in relation to forces that can contribute to military operations by covering rear areas or pacify conquered territory. The assessment, and thus the description of factors underpinning it, includes, with few exceptions, developments up to mid-2016. Planned development and future capabilities are discussed in the assessment of the future fighting power of Russia's Armed Forces (see Chapter 7).

*Sources about the Armed Forces*

The background knowledge for this report was accumulated at FOI since its first assessment of Russian military capability in 1999, especially the previous analysis from 2013 (Carlsson et al. 2013). Our main official source was the Russian MoD website. From 2013 onwards, the MoD gradually increased its control over information regarding the Armed Forces. In 2014–2016, no independent source provided verifiable and detailed information on the Armed Forces. Presumably, most information available emanated from the MoD or organizations under its control and reflected how it wants the Armed Forces to be perceived.

The MoD provided general information about the Armed Forces, but little detail about commands, units, and locations in a systematic way. For that, we used four main secondary sources: the IHS Jane's database (2016a-c), the International Institute for Strategic Studies (IISS) *The Military Balance 2016* and the websites <http://www.warfare.be> and <http://www.milkavkaz.net>. None of these four account for their sources. IHS Jane's and the IISS are established commercial research enterprises. Where the two websites are concerned, lack of clarity about who really was behind them reduced their credibility. Notably, [warfare.be](http://www.warfare.be) went offline in the summer of 2016 without explanation. Additional secondary sources included the Moscow Defence Brief, the US Navy Office of Naval Intelligence and the website <http://navy-korabel.livejournal.com>. The Russian military press has provided additional information. It probably has close contact with the Russian MoD and largely reflects the views of the latter. In view of this, we have treated information from secondary sources in the same way as official MoD statements.

Regarding the online sources, [warfare.be](http://www.warfare.be), [www.milkavkaz.net](http://www.milkavkaz.net), IHS Jane's database and [www.navy-korabel.livejournal.com](http://www.navy-korabel.livejournal.com) seemed to be updated regularly.

The two former often had unclear time references, especially on unit level. Organizational changes, especially in the Ground and Aerospace Forces, were ongoing in 2014–16. It was thus impossible to establish the organization of the Armed Forces with total accuracy at any particular time. The tables and maps in this report result from summarizing and balancing the various sources into an assessed structure in 2016.

We have tried to compare different sources to avoid corrupted data causing errors in the description of available military assets and thus in the ensuing analysis of fighting power. However, the risk that information may be planted or incorrect cannot be eliminated, and we caution the reader to bear this in mind.

What are the Armed Forces' assets for JISCOs, stand-off warfare and strategic deterrence in 2016? As a basis for assessing fighting power in Chapter 3, this chapter begins by discussing overall command and control of the Armed Forces' military operations (section 2.1). After this conceptual issue follows a description of physical factors: the organizational structure and key platforms of the Armed Forces in general (section 2.2), the nuclear forces (section 2.3), the stand-off warfare units (section 2.4) and the chemical and biological defence forces (section 2.5). The base for the assessment is widened by discussing manning levels (section 2.6) and the Logistics and Rear Services (section 2.7). We outline major exercises and combat operations (section 2.8) to illuminate moral and conceptual factors affecting fighting power. Finally, we briefly outline other armed forces that may support military operations (2.9).

*Outline of the  
chapter*

## 2.1 Command and control of operations

Command and control here refers to the assessed command structure for war-time combat operations, not the peace-time formal hierarchy of agencies. According to the Russian Federation Constitution (1993: Article 87), the president is the supreme commander-in-chief, and thus ultimately responsible for Russia's military operations. As illustrated in Figure 2.1, there are military support structures for the chain of command for combat operations on strategic, operational and tactical levels. In addition, civil-military co-ordination occurs on each level.

The commander-in-chief is supported by the Defence Ministry including the general staff and the National Defence Management Centre. It was established in 2014 by the MoD to coordinate a national war effort including military operations supported by other ministries, services and agencies (Ministry of Defence 2016b). The MoD also supports a war effort by providing overall operational planning for all forces (Ministry of Defence 2016c). The chief of the General Staff has central operational command of the Armed Forces, supported by the General Staff (Ministry of Defence 2016c) and in particular its Main Directorate for Operations, which is responsible for strategic and operational planning and operational command of the Armed Forces (Ministry of Defence 2016d).

The Airborne Forces, nuclear forces and the Military Transport Aviation are under central command.

At the regional level, five Joint Strategic Commands (JSCs), operational-strategic in nature, command forces in operations in potential war theatres (*teatr voennykh deistvii* in Russian). A war theatre denotes air and land territories of a continent with adjacent seas where strategic-scale military operations take place. The mission to be accomplished determines whether an operation is strategic, operational or merely tactical.<sup>3</sup>

The MDs support operations and develop and sustain forces. In the summer of 2016, the Western MD was split into two parts on the MD map on the Russian MoD's official website: the Western MD and the Northern Fleet, the latter covering the Kola Peninsula and adjacent areas to the east and islands in the Russian Arctic (Ministry of Defence 2016e). Prior to this there were two JSCs in the Western MD, the Western JSC and the Northern JSC (*Rossiiskaia gazeta* 2014). We found no formal decision or statement supporting this change. Our maps reflect the change, but in tables of equipment and units the Western MD and the Northern Fleet are treated as one.

Below the JSCs, higher-level large formations (*obedineniia*), operational in nature, coordinate forces from different services. Such formations could be either combined-arms armies (CAAs) from the Ground Forces or from the Northern, Baltic and Black Sea fleets, each of which has inter-service force groups of ground forces roughly equal to a CAA. The commanders of JSCs and CAAs are supported by brigade-size command and control support units that ensure that communications work and that command structures can operate in the field.<sup>4</sup>

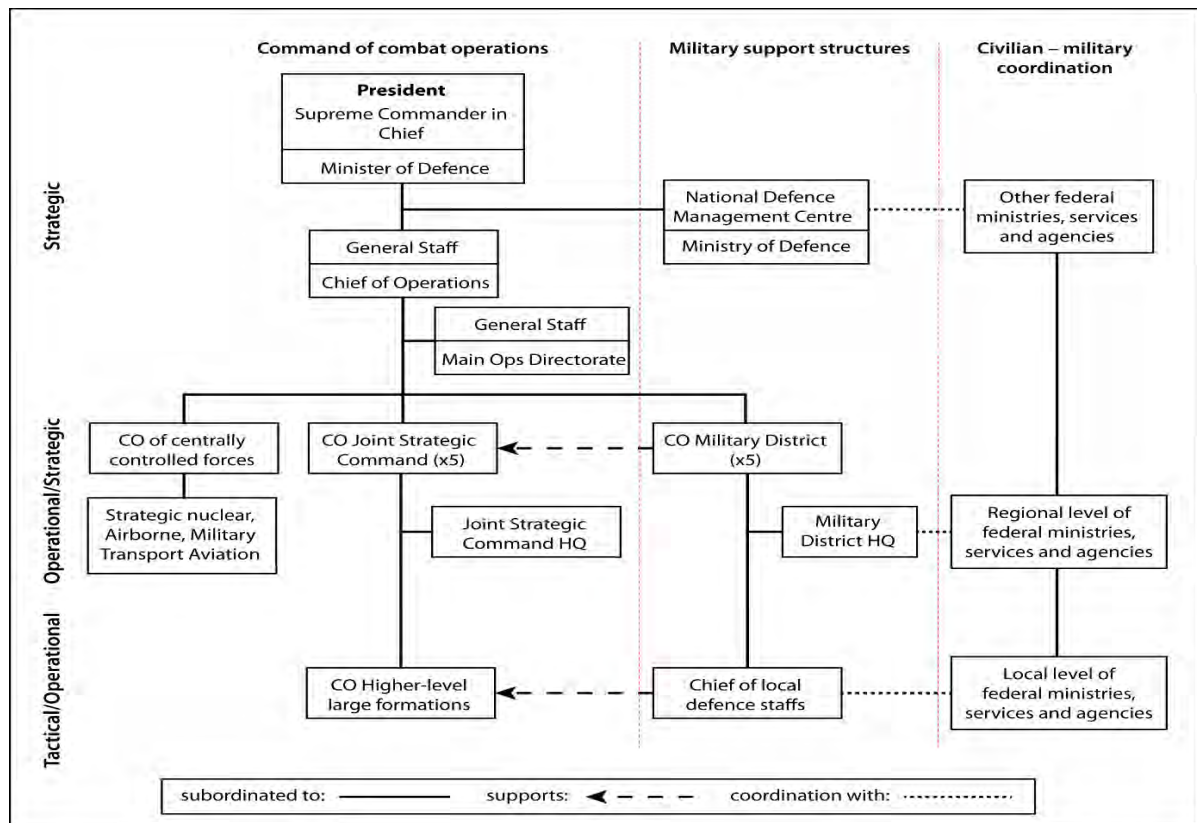
Exercises, especially the Russian Armed Forces' annual strategic exercises (see section 2.8), enable both command structures, formations and units under the MoD to regularly train large-scale JISCOs including inter-agency coordination (Norberg 2015: 61). Russian forces regularly exercise with forces from Russia's allies, but the contribution to the fighting power of Russia's Armed Forces is marginal. Also, Figure 2.1 shows that civil-military coordination exists at all levels. It has been an element in major exercises, covering for example efforts of regional authorities to sustain forces mobility and sustainability in operations and mobilization efforts (Norberg, 2015: 35; see also section 2.8).

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<sup>3</sup> The authors are grateful to Col (Ret.) David Glantz for pointing this out.

<sup>4</sup> See also Appendix A2.1 Conceptual terminology.

**Figure 2.1** The assessed chain of command for combat operations



**Sources:** The Constitution of the Russian Federation (2016); Ministry of Defence 2016b-e; and Ramm (2016).

**Abbreviations:** CO = commanding officer, HQ = Headquarters; Ops = Operations.

## 2.2 Branches and arms of service

This section focuses on the Armed Forces’ assets needed for three types of military operations: JISCOs, stand-off operations and strategic deterrence. The aim is therefore not to give a comprehensive description of all forces and units, but to provide a TOE in order to make an assessment about the functions required for the operations.<sup>5</sup> Figure 2.2 outlines how colours represent different JISCO functions in the tables and on maps in this report.

**Figure 2.2** Selected functions for JISCOs

Function
Command, control and communications (C3)
Manoeuvre
Fire support
Mobility
Sustainability

<sup>5</sup> See also Appendix A2.2 for an overview of the branches and services in the Russian Armed Forces.

### 2.2.1 The Ground Forces

The Ground Forces (*Sukhoputnye voiska*) are the Armed Forces' biggest branch of service. Their overall mission is to repel enemy aggression on land and protect Russia's territorial integrity. When war looms they should be able to raise readiness and mobilize additional resources to fight together with other services and arms of the Armed Forces. The Ground Forces have eight arms of service: motor rifle, tank, artillery and missile (denotes surface-to-surface missiles, SSMs), air defence (surface-to-air missiles, SAMs), reconnaissance, engineer, chemical, biological and radiological protection (CBR) and signal troops (Ministry of Defence 2016f). The Ground Forces' higher-level (operational) large formations are ten CAAs, one tank army and two Army corps, their TOE usually tailored to particular missions. The focus here is on units for five basic functions for a ground force-centric JISCO. Units usually have a fixed TOE.

The core function is operational and tactical manoeuvre, the ability to take, hold or deny terrain. Forces for this are primarily motor rifle and tank units. There are four support functions. First, fire support, e.g. artillery, rocket artillery, SSM, SAM and anti-tank units, strike at enemy forces in support of the manoeuvre. CBR units, a brigade per MD and a regiment per CAA, have (in addition to providing protection against primarily chemical and radiological substances) a flame-thrower capacity, which here makes them a part of the fire support function. Second, command, control and communications (C3) supports the officer commanding the operation and ensures the coordination of the functions, a task for C3 support brigades and communications brigades. Third, mobility ensures that forces can get to the area of operation and overcome obstacles such as rivers or minefields. For this, the Ground Forces have Railway and Engineer troops. Finally, sustainability support units ensure that a force can fight after using its intrinsic equipment and supplies. In addition to a network of supply stores and repair workshops across Russia, the Ground Forces also have logistics brigades to supply forces in the field.



**Table 2.1** Estimated nominally available Ground Forces formations and units

<b>Military District</b> <sup>(a)</sup>	<b>East</b>	<b>Central</b>	<b>South</b>	<b>West</b> <sup>(b)</sup>
<b>Command &amp; control support formations</b>				
C3 support brigades	6	3	3	4
Communications brigades	1	1	1	
<b>Higher-level operational formations</b>				
Combined-arms armies	4	2	2	2
Tank armies				1
Army corps	1			1
<b>Lower-level tactical formations</b>				
<b>Manoeuvre formations</b> <sup>(c)</sup>				
Motor rifle divisions	1			1
Motor rifle brigades	10	6	9	8
Tank divisions				1
Tank brigades	1	1		2
<b>Fire support formations</b>				
Artillery brigades <sup>(d)</sup>	4	3	2	3
Surface-to-surface missile brigades	3	3	2	3
Surface-to-air missile brigades <sup>(e)</sup>	3	3	2	3
CBR brigades	1	1	1	1
<b>Mobility support formations</b>				
Railway Troops brigades	2	3	2	3
Engineer brigades <sup>(f)</sup>	1	1	1	3
<b>Sustainability support formations</b> <sup>(g)</sup>				
Logistics brigades	4	2	2	2
Brigade equipment stores <sup>(h)</sup>	8	3		2
<b>Bases abroad</b>				
Motor Rifle brigades		1	4 <sup>(i)</sup>	

**Sources:** *Jane's World Armies* (2016); IISS (2016) "Chapter Five: Russia and Eurasia" in *The Military Balance 2016*, Abingdon, Routledge for the International Institute for Strategic Studies, IISS: 190–200; the websites <http://www.warfare.be> (2016) and <http://www.milkavkaz.net> (2016).

**Abbreviations:** C3 = command, control and communications; CBR = chemical, biological and radiological (protection).

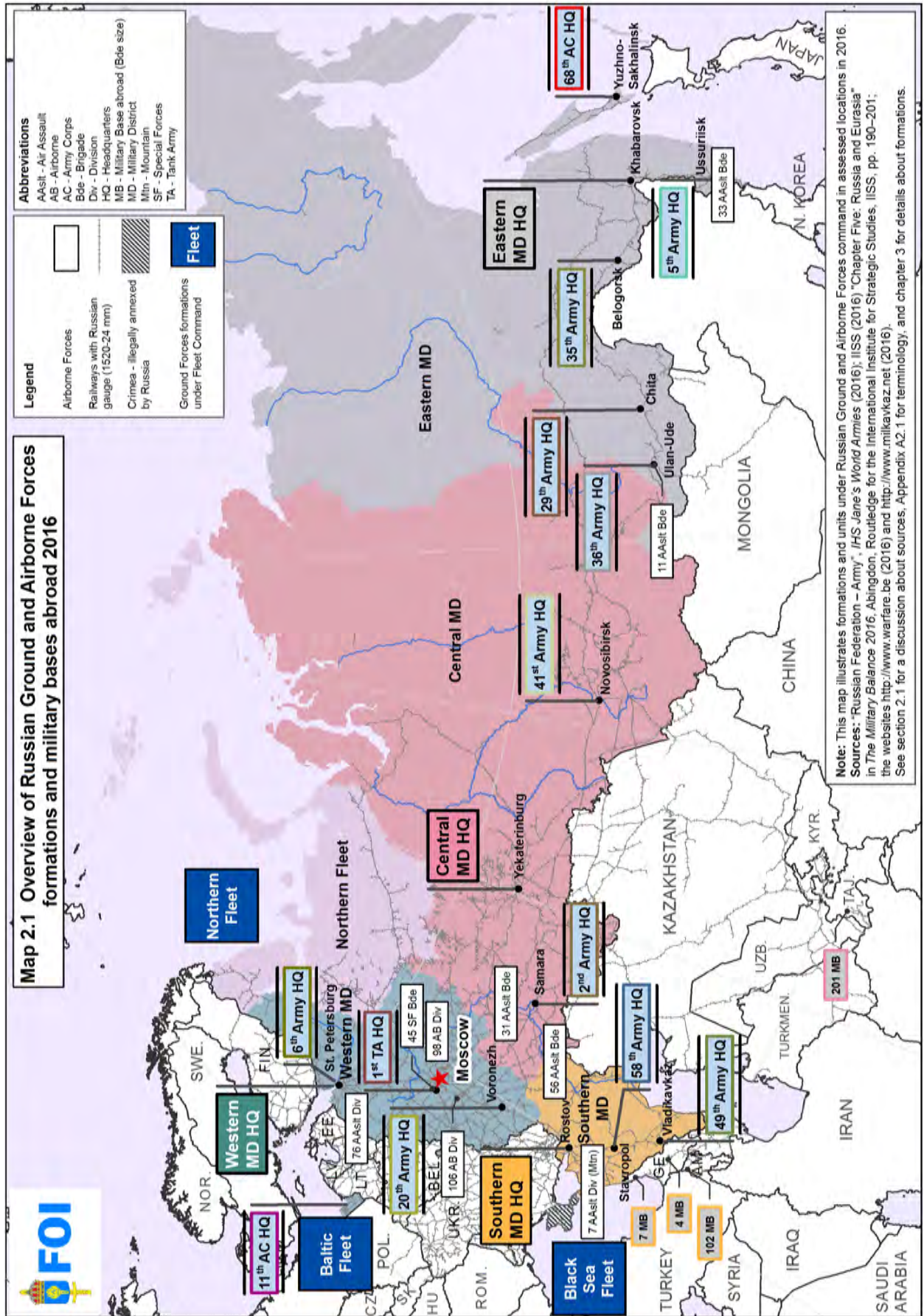
**Notes:** See also Appendix A.2.1 Conceptual Terminology. We do not add up the nominal number of brigades. The sum of formations of different functions says little about actual fighting power. The point for operations is that different functions exist and how they are combined. Furthermore, adding up nominally available units also overlooks combat readiness.

(a) Nominally available brigades and above; not units being formed in 2016 or reconnaissance units. (b) Includes both Western MD and Northern Fleet units; not reflecting the new MD map on the Russian MoD website mentioned in section 2.1. (c) A division usually has two manoeuvre regiments, each with three to four battalions and support units. Manoeuvre formations here are subordinated to a higher-level formations or and MD; see the maps in Chapter 3. (d) Artillery, multiple launch rocket systems (MLRS) and anti-tank units; additional capacity exists in some divisions' artillery regiments. (e) Ground Forces' air defence (AD) denotes units belonging to Ground Forces higher-level formations with primarily short- and medium-range surface-to-air (SA) missiles and must be distinguished from the Aerospace Forces' AD Divisions with medium- and long range SA-missiles. Ground Forces divisions have additional AD assets in their intrinsic air defence regiments. (f) The CBR-brigades have heavy flame-throwers and are therefore counted as fire support units. (g) Including pontoon bridge brigades. (h) Each MD has several equipment and supply stores and maintenance depots. Included here are only logistics brigades and equipment stores for designated manoeuvre units. (i) Based on warfare.be and IISS (2016). (j) Includes Russia's three bases in the South Caucasus and the 126th Coastal Defence Brigade, Crimea.

Table 2.1 outlines the number of higher-level operational formations (armies) and lower-level tactical formations (divisions/brigades) for the different functions in each military district. Map 2.1 shows the locations of higher-level operational formations across Russia and shows that there are at least two higher-level all-arms formations in each MD. Together they outline that each MD holds nominal assets for operations with two higher-level operational formations with lower-level formations from all four support functions.

In 2016, the most common manoeuvre unit was the motor rifle brigade (MRB). It usually comprised some 3 000–4 000 servicemen and around 100 main battle tanks (MBTs), armoured personnel carriers (APCs) or armoured infantry fighting vehicles (AIFVs). Its core was three or four motor rifle battalions, the manoeuvre function, plus units for fire support, command and control, mobility and sustainability. In 2013, two brigades were upgraded into divisions consisting of two manoeuvre regiments with three or four manoeuvre battalions in each plus support units. In 2015, the MoD announced plans to create another three divisions, but as of August 2016 these were not ready integrated units. A key reason for creating them was probably to increase the capacity for offensive operations. According to one source around half of the MRBs included some 220–240 AIFVs/APCs – 90–100 more than in 2014 (warfare.be 2014; 2016) – possibly indicating these brigades' expansion into divisions, each with two motor rifle regiments.





### 2.2.2 The Aerospace Forces

The overall task of the Aerospace Forces (*Vozdushno-kosmicheskie sily*)<sup>6</sup> is to defend Russia's central political and military command functions, key areas and installations and own forces against external aggression through air and space, strike enemy objects and forces with both conventional and nuclear weapons, and support combat operations of other forces. It has three arms of service (Ministry of Defence 2016g).

First, the Air Force (*Voенno-vozdushnye sily*) includes various air units. The Long-Range Aviation with strategic bombers and the Military Transport Aviation, with medium and heavy transport aircraft, are under central command. The Frontal Aviation, with attack aircraft to support other forces, and Army Aviation with transport and attack helicopters, are a part of the Air Force but operationally subordinated to the Joint Strategic Commands. There are also specialised functions such as base protection and metrological support (Ministry of Defence 2016g).

Second, the Space Forces (*Kosmicheskie voiska*) monitor space for potential threats to Russia such as incoming ballistic missiles and should be prepared to counter them. Third, the MoD website lists the Air and Missile Defence Forces (*Voiska protivovozdushnoi oborony i protivoraketnoi oborony*) as an arm of service but gives no detail. Their tasks and functions are listed under the Air Force (Ministry of Defence 2016g).

In 2013, the Russian MoD replaced the Air Force three-tier organization Air Force and Air Defence Command – major Air Base – subsidiary Air Base implemented in 2009–2011 with the traditional designations Air Force and Air Defence Army – Air Corps/Division – Regiment (Pukhov 2016). Our sources include both old and new designations, i.e. both air bases and divisions/regiments. The organization and the number of aircraft or service personnel did not change significantly, although the network of airfields was expanded (Pukhov 2016) and some new units were set up, often with one air regiment per operational airfield (Prushinsky 2015).

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<sup>6</sup> In August 2015, the Air Force (including the Air Defence Forces) and the Aerospace Defence Forces merged into a new branch of service, the Aerospace Forces.

**Table 2.2** Estimate of nominal aviation units and aircraft and Air Defence formations

Military District Aircraft category (types of aircraft)	Eastern		Central		Southern		Western <sup>(a)</sup>	
	Units	No. of a/c	Units	No. of a/c	Units	No. of a/c	Units	No. of a/c
<b>Command, control and communications</b>	1 AA		1 AA		1 AA		2 AA <sup>(b)</sup> 1 AMDA	
<b>C2 and radar a/c</b> (A-50, Il-80/82) <sup>(c)</sup>							1 reg	25
<b>Fighter/multi-role</b> (MiG-25/29/31/35 Su-27/30/35)	2 reg	110	2 reg	50	3 reg	120	3 reg + 1 sqn	160
<b>Fighter-bomber</b> (Su-24/34)	2 reg	80	1 reg	35	2 reg + 2 sqn	110	1 reg + 1 sqn	60
<b>Ground attack</b> (Su-25)	2 reg	70	½ sqn <sup>(d)</sup>	5	2 reg	80	½ sqn <sup>(e)</sup>	5
<b>Attack helicopters</b> <sup>(f)</sup> (Mi-24/28/35; Ka-52)	3 sqn	75	1 sqn	30	6 sqn	95	4 sqn	80
<b>Air defence</b> <sup>(g)</sup>	3 div		2 div		2 div		5 div <sup>(h)</sup>	
<b>Transport aircraft</b> <i>light/medium</i> (An-12/26/72/140/ 148, L-410, Tu-134/154)	1 reg + 1 sqn	30	1 reg	20	1 reg	15	1 reg	20
<b>Transport aircraft</b> <sup>(c)</sup> <i>Heavy</i> (An-124/22, Il-76)			1 reg	27	1 reg	27	3 reg	42
<b>Helicopter - transport</b> <sup>(f)</sup> (Mi-8/26)	5 sqn	80	2 sqn	50	5 sqn	90	4 sqn	110
<b>Tankers</b> <sup>(c)</sup> (Il-78)							1 reg	18

**Sources:** *Jane's World Armies* (2016); IISS (2016) "Chapter Five: Russia and Eurasia" in *The Military Balance 2016*, Abingdon, Routledge for the International Institute for Strategic Studies, IISS: 190–200; Prushinsky, Alexei (2015) "Russian Air Strength: the Latest Look", CAST, Moscow Defence Brief, #6: 5–9; the websites <http://www.warfare.be> (2016) and <http://www.milkavkaz.net> (2016).

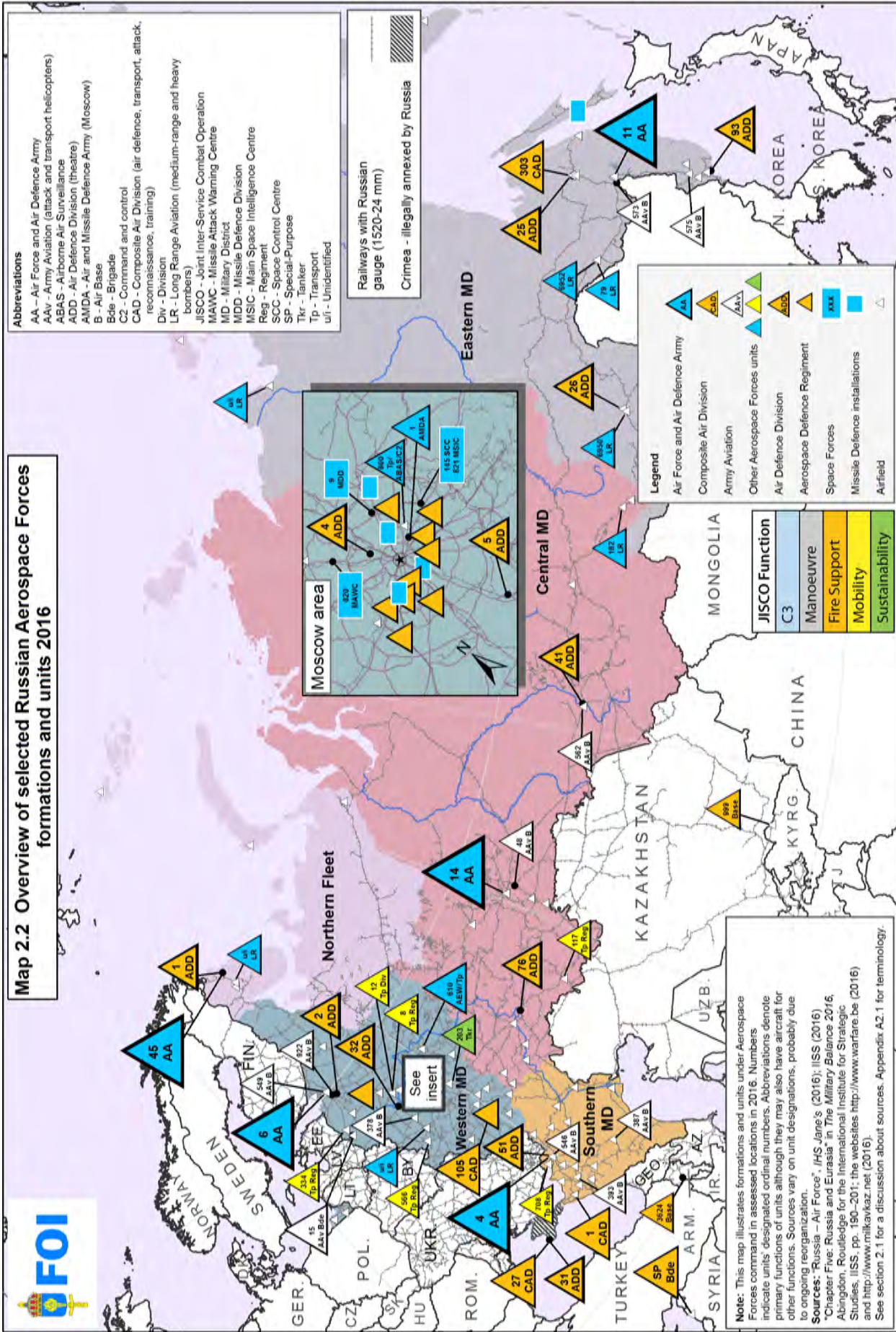
**Comment:** *Jane's* and Prushinsky account for units, but not the number of aircraft. The IISS gives the number of aircraft per MD and describe units generally. The websites provide both unit numbers and number of aircraft. Estimated numbers of aircraft in 2016 are an average from *The Military Balance* and [www.warfare.be](http://www.warfare.be), rounded off to the nearest five. We include selected Naval Aviation units, but omit Long-Range Aviation and special aircraft and do not assess serviceability here. Sources differ on the 2009–2011 reform names of units or the Soviet names reintroduced in 2013 – squadron, regiment, division and army. We use the latter.

**Notes:** (a) Includes both Western MD and Northern Fleet units and does not reflect the changed MD map on the Russian MoD website mentioned in section 2.1; (b) includes the Western MD's 6th AA and the Northern Fleet's 45th AA; (c) under Aerospace Forces' central command; (d) part of the 999th Air Base in Kyrgyzstan; (e) part of the 279th Carrier Based Fighter Regiment; (f) Army Aviation bases have transport and attack helicopters; estimates include helicopters from several bases; squadrons in the Western MD includes an Army Aviation brigade; (g) Air Defence (divisions) denotes units with primarily long-range SAMs, the still most common S-300 and its modifications (NATO reporting name SA-10/12/20/23), and the gradually introduced S-400 (SA-21); (h) two divisions belong to the 1st ADMDA protecting Moscow.

**Abbreviations:** AMDA = Air Defence and Missile Defence Army (Moscow region); AA = Air Force and Air Defence Army; a/c = aircraft; div = division; reg = regiment; sqn = squadron.

As seen in Table 2.2, Russia has deployed aircraft and helicopter units to be able to operate in all potential war theatres with all types of the selected six categories of military aircraft: fighters, fighter-bombers, ground attack and transport aircraft, and attack and transport helicopters. Defence Minister Sergei Shoigu claimed that this enabled the Aerospace Forces to establish self-sufficient Air Force operational groups able to carry out core role tasks (Ministry of Defence 2016h). Map 2.2 outlines the locations of Air Force as well as air and missile defence units and illustrates the priority the Moscow region has in air defence.





In the ongoing operation in Syria the Russian Special Purpose Air Brigade (*Aviatsionnaia brigada osobennogo naznachenii*) coordinated operations with air assets operating from Russia, such as an A-50 air surveillance aircraft. The campaign included several arms of the Aerospace Forces: the Frontal Aviation (attack aircraft), Long-Range Aviation, Army Aviation and Military Transport Aviation (Pukhov 2016).

### 2.2.3 The Navy

The Navy's overall task is to wage combat on the oceans and the seas and in coastal waters. It is able to strike enemy objects and forces with both nuclear and conventional weapons and take part in JISCOs with other services. The Navy has four service branches (*rod sil*): surface ship forces, submarine forces, naval aviation and coastal defence forces, the latter comprising naval infantry and coastal missile and artillery forces (Ministry of Defence 2016i). There is one Naval Infantry brigade and one coastal defence brigade each in the Northern, Baltic and Black Sea fleets and two Naval Infantry battalions in the Caspian Flotilla. The Pacific Fleet's two base areas, Vladivostok and Kamchatka, have one Naval Infantry and one coastal defence brigade each. As seen on Map 2.3, the Navy has five higher-level force formations: four fleets and a separate flotilla located where Russia has access to the seas (IISS 2016: 191–194; <http://www.warfare.be>). Three Navy fleets have joint inter-service force groups (see Map 2.3)

**Table 2.3 Assessed combat-capable Russian Navy assets for support to JISCO 2016**

VESSEL TYPE	Support to JISCO				Fleet				
	LACM	MLRS	AD	Mobility	Northern	Baltic	Black Sea	Caspian	Pacific
<b>Submarines</b>	x				1		4		
<b>Surface vessels</b>									
<i>Aircraft carrier</i>			x		1				
<i>Cruisers</i>			x		2		1		1
<i>Destroyers</i>			x		1	1			1
<i>Frigates</i>	(x)		x				3 (a)	1	
<i>Corvettes</i>	x						2	3	
<i>Corvettes and smaller vessels</i>		x						8	
<i>Landing ships</i>		x		x	4	5	6		4
<i>Utility landing craft</i>				x	2	5	1	6	2

**Sources:** *Jane's World Navies* (2016); IISS (2016) "Chapter Five: Russia and Eurasia" in *The Military Balance 2016*, Abingdon, Routledge for the International Institute for Strategic Studies (IISS): 190–200; ONI (2015) "The Russian Navy – A Historic Transition", December: 16; the websites <http://www.warfare.be> (2016), <http://www.milkvkaz.net> (2016) and <http://navy-korabel.livejournal.com>, all as of June 2016.

**Comment:** We compared nominally available assets to <http://www.navy-korabel.com> to assess combat readiness.

**Abbreviations:** AD = air defence; JISCO = joint inter-service combat operation; LACM = land-attack cruise missile; MLRS = multiple-launch rocket system.

**Note:** (a) The three Black Sea Fleet frigates are estimated to only support a JISCO with AD. The two Grigorovich class frigates may carry Kalibr LACM but are likely only to be armed with anti-ship missiles, since smaller vessels cannot fill this role.

The Navy can support a JISCO on land mainly by protecting against attacks from the sea. Many ships' sensor systems can contribute to situational awareness and some can provide fire support with land-attack cruise missiles (LACMs), SAMs or artillery, and either multiple-launch rocket systems (MLRS) or the ships' own guns. Table 2.3 includes submarines and corvettes and notes vessels with LACMs, SAMs and MLRS. Furthermore, the Navy can support a JISCO by landing Naval Infantry units, a seaborne manoeuvre.

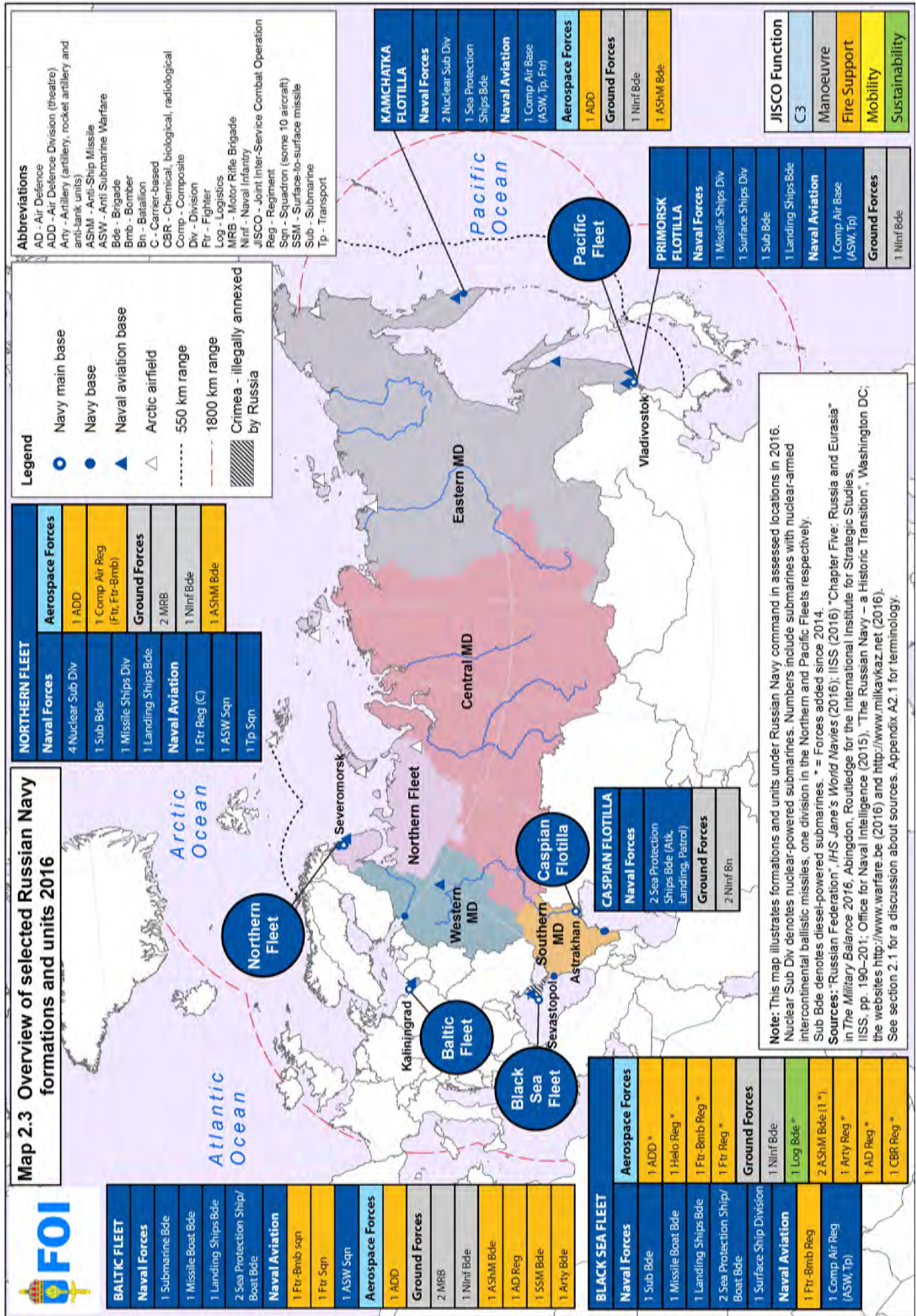
A key Navy mission is to protect Russia's sea-based strategic nuclear forces. The Navy also provides a layered defence against attacks from the seas. The forward defence engages enemy long-range weapons and their launchers. For this, the Navy has anti-ship and anti-submarine missile-armed nuclear submarines or major surface combatant ships and aircraft operating up to some 1 800 km from Russia's shores. Within some 550 km, the Navy can also deploy smaller surface combatant ships and diesel submarines (see Map 2.3). Distances are not exact limits for the ships and submarines mentioned, but mere indications of ranges for their main tasks. The shore is defended by coastal defence anti-ship missiles and mines as well as Naval Infantry and Ground Forces under Navy command (ONI 2015: ix-x). Naval Infantry units have also been used as spearhead infantry forces, for instance in the wars in Chechnya, Georgia in 2008, and Ukraine in 2014, and they also participated in the Syria operation launched in 2015.

#### 2.2.4 The Airborne Forces

The Airborne Forces (*Vozdushno-desantnye voiska*) are a service arm of the Armed Forces. They use airborne landings to attack enemy rear areas to disrupt command, control and communications, or mobilization and deployment of reserves, or to destroy land-based stand-off high-precision weapons and supplies. Another role is to deploy to defend an operation's flanks or key regions or to open new directions of advance. They have a high level of readiness (Ministry of Defence 2016j). Their estimated personnel strength is some 34 000–45 000 servicemen (IISS 2016: 195; IHS Jane's 2016a; Bartles & McDermott 2014: 52).

As seen on Map 2.1 (above) the Airborne Forces are mainly located in Western Russia. There are four divisions with two manoeuvre regiments and support units in each: two airborne (106th Tula; 98th Ivanovo) and two air assault (7th Novorossiisk; 76th Pskov). There are also four air assault brigades (11th Sosnovy Bor; 31st Ulianovsk; 56th Kamyshin; 83rd Ussuriisk) and one special-purpose (*spetsnaz*) brigade (45th Kubinka). The Airborne Forces are at the core of Russia's evolving rapid reaction forces (McDermott 2015a) and played a key role in Russia's seizure of Crimea in 2014 (Bartles & McDermott 2014).





### 2.2.5 The Strategic Missile Forces

The Strategic Missile Forces (*Raketnye voiska strategicheskogo naznacheniiia*) are an arm of service of the Armed Forces. Their mission is nuclear deterrence of aggression and destruction of strategic enemy targets. In 2016, the Strategic Missile Forces comprised a force command and three missile armies, with a total of 12 divisions (Ministry of Defence 2016k). They are equipped with both road-mobile and silo-based strategic nuclear missiles. The composition of the warheads and intercontinental ballistic missiles (ICBMs) is described in Table 2.4. Command and control issues are discussed in the following section, together with the other nuclear forces.

## 2.3 Nuclear forces

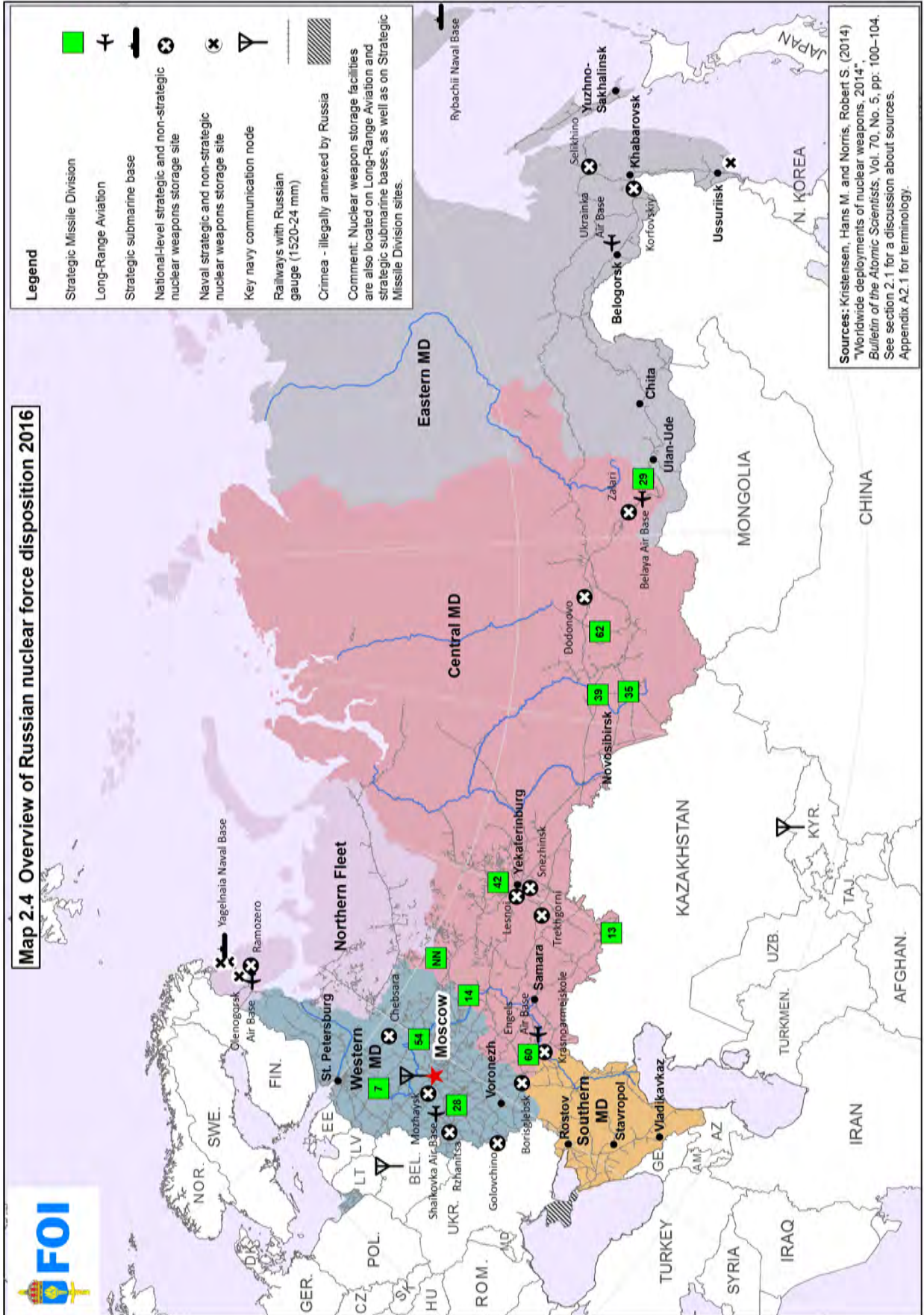
Russia's strategic and non-strategic (tactical) nuclear forces provide strategic deterrence and complement conventional forces in joint operations and stand-off warfare. In the absence of a generally accepted definition, non-strategic nuclear weapons here refer to nuclear weapons not covered by strategic arms control agreements. The arsenal is in the midst of a broad modernization, reflecting the government's conviction that the nuclear forces are indispensable for Russia's security and status as a great power (Kristensen & Norris 2016: 125).

### 2.3.1 Strategic nuclear forces

In 2016, the strategic nuclear forces were estimated all in all to comprise approximately 80 000 servicemen, including Aerospace Forces and Navy personnel (IISS 2016: 189). The strike forces are divided into ground, air and naval units, the nuclear triad. The main element is the Strategic Missile Forces. They have higher readiness, all-weather capability and a more robust command and communication system as well as the largest number of delivery vehicles and warheads (Yesin 2012).

The naval element is the strategic nuclear-powered ballistic missile submarines (SSBNs) within the Northern and the Pacific Fleet. When submerged, the submarines are difficult to track and destroy, making them the main nuclear counter-strike asset. They are however vulnerable before deployment to sea and the command and control conditions are less reliable while on patrol. The Long-Range Aviation constitutes the air component and consists of two main bases in Ukrainka and Engels with strategic and medium-range bombers. It is the most flexible leg of the triad, being able to deliver both strategic and sub-strategic nuclear as well as conventional weapons (Yesin 2012). The locations of the divisions of the Strategic Missile Forces as well as naval and air bases are detailed on Map 2.4.





There are uncertainties regarding Russia's strategic arsenal, due to lack of transparency; less information than before is released through strategic arms control treaties. In 2016, about 1 800 strategic warheads were estimated to be deployed on some 500 launchers (Kristensen & Norris 2016: 125; Podvig 2016a), similar to the 2013 arsenal. In 2016, almost half of the ICBM force consisted of modern missile systems. Older submarine-launched ballistic missiles (SLBMs) continue to be replaced, increasing the number of SLBMs. The number of deployed warheads has increased even more, due to the six-warhead Bulava SLBM replacing older missiles carrying three warheads. The ageing strategic bomber fleet is continuously being upgraded and has been preserved at some estimated 60 deployed aircraft, but there is a growing uncertainty regarding numbers. For the number of delivery vehicles of the respective types and the distribution of the warheads, see Table 2.4. Strategic deterrence and the roles of nuclear weapons in Russian policy are discussed in Chapter 4, section 4.4.3.

### 2.3.2 Non-strategic nuclear weapons

The uncertainty regarding Russia's non-strategic nuclear weapons is considerable. In early 2016, Hans Kristensen and Robert Norris (2016: 131) estimated approximately 2 000 non-strategic warheads to be in service, similar to previous years (Carlsson et al. 2013: 35). All non-strategic warheads are estimated to be kept in central storage facilities, separate from their launchers (Kristensen & Norris 2014: 102). There are storage facilities in all MDs except for the Southern MD, which has two central storage facilities just outside it (see Map 2.4).

Regarding the number of operationally assigned non-strategic nuclear warheads, we continue to rely on Igor Sutyagin's (2012; 2016) estimates, despite its uncertainties (Carlsson et al. 2013: 35). In late 2016, he estimated the operational force – i.e. warheads assigned to available delivery systems – to be between 1 081 and 1 380 non-strategic nuclear warheads, an increase since 2012 of between 18 and 28 per cent. Some 900 additional warheads were estimated to be in service but not operationally assigned (Sutyagin 2016). We would maintain that the nuclear warheads for air and space defence are probably of little military significance and that a high proportion of the naval warheads has only a narrow military use, being dedicated to anti-submarine warfare (Carlsson et al. 2013: 35). These and warheads for coastal defence missiles may be regarded as defensive nuclear weapons.

**Tabell 2.4 Estimated Russian strategic nuclear forces as of early 2016 (those deployed in italics)**

	Russian designation	NATO designation	Launchers	Year deployed	Warheads x yield (kilotons)	Total no. of warheads
<b>ICBMs</b>	RS-20V Voievoda	SS-18-M6 Satan	46	1988	10 x 500/800 (MIRVs)	<b>460</b>
	RS-18	SS-19-M3 Stiletto	20	1980	6 x 400 (MIRVs)	<b>120<sup>1</sup></b>
	RS-12M Topol	SS-25 Sickle	90	1988	1 x 800	<b>90<sup>2</sup></b>
	RS-12M1 Topol-M	SS-27-Mod1 (mobile)	18	2006	1 x 800?	<b>18</b>
	RS-12M2 Topol-M	SS-27-Mod1 (silo-based)	60	1997	1 x 800	<b>60</b>
	RS-24 Yars	SS-27-Mod2 (mobile)	63	2010	4 x 100? (MIRVs)	<b>252</b>
	RS-24 Yars	SS-27-Mod2 (silo-based)	10	2014	4 x 100? (MIRVs)	<b>40</b>
	RS-26 Yars-M	SS-27-Mod? (mobile)	–	(2016)	3 x 100? (MIRVs)	–
	<b>Total ICBMs</b>			<b>307</b>		
			<b>?</b>			<b>~600</b>
<b>SLBMs</b>	RSM-50	SS-N-18 M1 Stingray	2/32	1978	3 x 50 (MIRVs)	<b>96</b>
	RSM-54 Sineva	SS-N-23 M1	6/96			<b>384</b>
	RSM-56 Bulava	SS-N-32	5/80	2007	4 x 100 (MIRVs)	<b>320</b>
			3/48	2013	6 x 100 (MIRVs)	<b>288</b>
<b>Total SLBMs</b>			<b>11/176</b>			<b>768</b>
			<b>8/128</b>			<b>~560<sup>3</sup></b>
<b>Bombers</b>	Tu-95 MS6	Bear H6	27	1984	6 x AS-15A ALCMs or bombs	<b>162</b>
	Tu-95 MS16	Bear H16	30	1984	16 x AS-15A ALCMs or bombs	<b>480</b>
	Tu-160	Blackjack	13	1987	12 x AS-15B ALCMs, AS-16 SRAMs or bombs	<b>156</b>
	<b>Total bombers</b>			<b>~70</b>		
			<b>~60</b>			<b>670</b>
<b>Total</b>			<b>~550</b>			<b>~2 600</b>
			<b>&lt;495</b>			<b>~1 800</b>

**Source:** Kristensen & Norris 2016: 126, 130.

**Notes:** Some additional 2 800 retired strategic and non-strategic warheads were estimated to be awaiting dismantlement.

1 Pavel Podvig (2016b) assumes that the RS-18 missiles are kept in their silos without nuclear warheads, as was the Soviet practice.

2 Kristensen and Norris acknowledge that the number of deployed RS-12M Topol missiles may be lower due to additional regiments being retired. Podvig (ibid.) estimated the number for these missiles at 72 as of January 2016.

3 Podvig (2016c) estimated the number of deployed SLBM warheads to 704 on 10 operational SSBNs, as of January 2016.

4 The bomber weapons are kept in storage, not deployed on the aircraft. Kristensen and Norris estimate that only a couple of hundred weapons are present at the two bomber bases – as does Podvig (2016d) – with the remainder in central storage facilities.

**Abbreviations:** ALCM = air-launched cruise missile; ICBM = inter-continental ballistic missile; MIRV = multiple independently targetable re-entry vehicle; SLBM = submarine-launched ballistic missile; SRAM = short-range attack missile; SSBN = strategic nuclear-powered ballistic missile submarine.

Russia possesses a growing number of offensive non-strategic nuclear weapons. Sutyagin (2016) estimates that in mid-2016 there were 156–200 operationally assigned warheads for ship-launched cruise missiles, an increase of 50 per cent since 2012. The number of operationally assigned warheads for the Tochka-U and Iskander-M short-range surface-to-surface missile systems has almost doubled to 248–372 warheads according to Sutyagin (2016), who also holds it possible that warheads still are operationally assigned to heavy artillery units. Kristensen and Norris (2016: 132) do not mention artillery but ascribe merely some 140 warheads to the Tochka-U and the Iskander-M missiles. Finally, according to Sutyagin (2016), the Air Force operates several kinds of aircraft and a total of 264 operationally assigned warheads and another 36 for naval fighter-bombers. This also differs significantly from Kristensen and Norris' (2016: 131) estimate of approximately 570 warheads. Even with the lower estimates, the number of operational warheads is significant. The marked increase in offensive non-strategic nuclear weapons noted by Sutyagin is mainly due to the deployment of Kalibr and Iskander-M LACMs.

Regarding the distribution of warheads between Russia's Military Districts, Sutyagin's reports are the only available sources. Still, almost half of the operationally assigned warheads are located in the Western MD (Table 2.5). However, the arsenal of the Southern MD has more than tripled since 2012, increasing from 87–103 to 287–369 operationally assigned warheads, surpassing the Eastern MD. The increase mainly consists of new offensive weapons, such as LACMs and warheads for Iskander- M and fighter-bombers. Noting that the increase in offensive non-strategic nuclear forces has been at least one and a half time faster in the western parts of Russia, Sutyagin (2016) concludes that Russia is rapidly improving its ability to wage offensive nuclear war in Europe. However, the warheads assigned to the Air Force may well be used against targets in any direction and the long-range LACMs can hit targets thousands of kilometres away.

Table 2.5 Russian operational non-strategic nuclear forces 2016: delivery vehicles and assigned warheads per forces and Military Districts

Military District Delivery mean	Eastern Units Warheads	Central Units Warheads	Southern Units Warheads	Western/Northern Fleet Units Warheads	Total warheads
<b>Air Defence and Space Forces</b>	-	-	-	80 missiles	80
A-135 (ABM-3 Gazelle)	10 battalions	16 battalions	6 battalions	46 battalions	0-78
S-300/-400 (SA-10/20/21)	7 battalions	7 battalions	4 battalions	14 battalions	0-14
S-400 (SA-21)	0-10	0-2	0-6	0-14	0-27
<b>Total</b>	<b>0-17</b>	<b>0-18</b>	<b>0-10</b>	<b>80-140</b>	<b>80-185</b>
<b>Air Force</b>	-	1 regiment (17 a/c)	-	2 regiments (24 a/c)	68
Tu-22M3 (Backfire) [AS-4 missiles]	0-10	34	-	1 regiments (22 a/c)	18
Su-24M (Fencer D) [AS-11 and AS-13/-18	0-7	18	2 regiments (28 a/c)	2 regiments (34 a/c)	36
Su-34 (Fullback) missiles and bombs]	1 regiment (24 a/c: 14 Su-24M and 10 Su-34)	18	2 regiments (40 a/c)	36	90
<b>Total</b>	<b>18</b>	<b>52</b>	<b>72</b>	<b>122</b>	<b>264</b>
<b>Navy</b>	2 subs	-	13+2 warships	6 subs	156-200
LACM [SS-N-21, Kalibr 3M14T/-K]	164 missiles	-	126 missiles	256 missiles	34
AShM [SS-N-2c, -9, -12, -19, -22]	n.a.	-	n.a.	n.a.	81
ASW and air defence	42	-	-	1 regiment (20 a/c)	24
Shore-based aviation NDBs	1 1/3 regiment (18 a/c)	32	-	3 battalions	6
Coastal defence missiles [SSC-1B, -3, -5]	3 battalions	6	1 regiment (3+ a/c)	1 regiment (12 a/c)	18
Air-to-surface weapons	-	-	-	-	36
<b>Total</b>	<b>115</b>	<b>0</b>	<b>159-203</b>	<b>215</b>	<b>489-533</b>
<b>Ground Forces</b>	-	1 brigade	2 1/3 brigade	1 brigade	12-18
Tochka-U (SS-21) ballistic missile	3 brigades	12-18	56-84	3 brigades	72-108
Iskander-M (SS-26) missile	10 battalions	24-36	-	3 battalions	0-6
Nuclear artillery [2A36, 2S5, 2S7, Tyulpan]	0-20	-	-	-	0-26
<b>Total</b>	<b>72-128</b>	<b>36-54</b>	<b>56-84</b>	<b>84-132</b>	<b>248-398</b>
<b>TOTAL</b>	<b>205-278</b>	<b>88-124</b>	<b>287-369</b>	<b>501-609</b>	<b>1 081-1 380</b>

Source: Sutyagin (2016).  
**Abbreviations:** a/c = aircraft; ASHM = anti-ship missile; ASW = anti-submarine warfare; LACM = land-attack cruise missile; n.a. = (figures) not available;  
 NDB = nuclear depth bombs; SAM = surface-to-air missile; sub = submarine.



## 2.4 Stand-off warfare units for the Western war theatre

Several units within the Armed Forces can nominally contribute to stand-off warfare operations, i.e. they comprise weapon systems able to strike at distances beyond 300 km. Both conventional and non-strategic nuclear weapons – to a large degree delivered by the same launchers – can be used. Such weapon systems are primarily found within the Navy and the Long-Range Aviation, but also in the Ground Forces.<sup>7</sup> For the Western war theatre, the main assets are drawn from the Western MD. However, some units deployed in other MDs have been included, due to the range of launchers or weapon systems. The estimated stand-off warfare assets for the Western war theatre in 2016 are detailed in Table 2.6

In the Northern Fleet, the new Yasen class nuclear-powered multipurpose attack submarines carry up to 40 Kalibr long-range submarine-launched cruise missiles (SLCMs). There are also medium-range anti-ship missiles on the aircraft carrier *Kuznetsov*, the Kirov class and Slava class cruisers and the Oscar II class nuclear-powered guided-missile submarines. These missiles could also be employed against land-based targets (Sutyagin 2012: 45).

In recent years, the Black Sea Fleet has acquired the capability to hit targets in the Western war theatre. It has received Varshavianka class submarines with Kalibr SLCMs and Buian-M class corvettes, carrying the surface-vessel version of the Kalibr. In addition, the new frigate *Dagestan* and the Buian-M class corvettes of the Caspian Flotilla could strike targets in the south-eastern parts of the Western war theatre with Kalibr missiles.

### *Ground Forces*

Regarding naval non-strategic nuclear stand-off warfare, the above-mentioned platforms are estimated to carry several nuclear warheads each (see Table 2.6). There is also the exclusively nuclear Granat long-range SLCM carried by the Akula, Sierra II and Victor III class nuclear-powered attack submarines of the Northern Fleet (Sutyagin 2012: 44).

The only stand-off weapon system within the Ground Forces is the Iskander-M missile system, with a range of some 450 kilometres. In the Western MD, there are three Iskander-M brigades, each with three missile battalions. The Iskander-M can fire both ballistic and cruise missiles. A battalion may have eight missiles carried in pairs on its four launchers and another eight on reloader vehicles for a second salvo within 30 to 60 minutes. The Iskander-M is probably also nuclear-capable, and Sutyagin (2016) estimates there to be between 12 and 18 non-strategic nuclear warheads per brigade assigned for each type of missile.

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<sup>7</sup> Both the Navy and the Air Force have a number of attack-missile systems with ranges of 100–300 km, some of which are estimated to be nuclear-capable. These have not been considered here, even though they may strike targets beyond 300 km from the front line. The reason is that this requires the firing platform to cross the front line, exposing itself to enemy weapon systems with a range of less than 300 km. Arguably, these weapons therefore do not qualify as stand-off weapons. Attack aircraft such as the Su-24M and Su-34, as well as other weapon systems on naval vessels, have consequently not been considered here.

**Tabell 2.6 Estimated stand-off warfare assets for the Western war theatre in 2016**

Launcher	Unit	In operation	Weapon system	Nominal range	Nuclear warhead	Conventional warhead	
<b>Surface vessels in Northern Fleet, Baltic Fleet and Black Sea Fleet (Caspian Flotilla)</b>	Adm. Kuznetsov (Project 11435)	Ships	1	Granit (SS-N-19) AShM	600 km	3	12
	Modified Kirov class (Project 11442)	Ships	1	Granit (SS-N-19) AShM	600 km	3	20
	Slava class (Project 1164)	<i>Ships</i>	2	Bazalt (SS-N-12) AShM	600 km	2	16
	Modified Gepard class (Dagestan)	<i>Ships</i>	(1)	Kalibr (SS-N-30A) LACM	2 500 km	8	8
	Buian-M class (Project 21631)	Ships	2 (3)	Kalibr (SS-N-30A) LACM	2 500 km	8	8
	Victor III class (Project 671RTM)	Subs	1	Granat (SS-N-21) SLCM	3 000 km	4	-
	Sierra II class (Project 949A)	Subs	2	Granat (SS-N-21) SLCM	3 000 km	8	-
	Akula class (project 971)	<i>Subs</i>	2	Granat (SS-N-21) SLCM	3 000 km	8	-
	Oscar II class (Project 949A)	Subs	2	Kalibr SLCM	2 500 km	n.a.	n.a.
	Yasen class (Project 885)	Subs	1	Kalibr (SS-N-30A) SLCM	2 500 km	16	40
<b>Submarines in Northern Fleet, Baltic Fleet and Black Sea Fleet</b>	Varshavianka class (Project 636)	Subs	4	Kalibr (SS-N-30A) SLCM	2 500 km	4	4
	Lada class (Project 677)	Subs	-	Kalibr (SS-N-30A) SLCM	2 500 km	n.a.	n.a.
	Iskander-M (SS-26)	Battalions	9	SRBM/GLCM	450 km	4 to 6	8+8
	Upgraded Tu-160	Aircraft	10	Kh-101 ALCM	5 000 km	-	12
<b>Long-range aviation</b>	Upgraded Tu-95MS	Aircraft	27	Kh-101 ALCM	5 000 km	-	8
	Non-upgraded Tu-160	Aircraft	3	Kh-555 ALCM	3 000 km	-	12
	Non-upgraded Tu-95MS	Aircraft	30	Kh-555 ALCM	3 000 km	-	6
	Tu-22M3	Regiments (aircraft)	3 (41)	AS-4 ALCM (land-attack) AS-4 AShM	600 km	28	-
					600 km	6	3 per a/c

**Sources:** Sutyagin (2012, 2016); <http://www.navy.korabel.livejournal.com> (2016); Kristensen & Norris (2016: 130); Carlsson et al. (2013: 61); and Table 6.2.

**Comments:** All weapon systems with an operational range that allows them to strike targets in the Western war theatre are included in this table, thereby encompassing units belonging to other military districts than the Western MD. AShMs (in italics) may be used to strike land targets, but are here considered to be used primarily for naval targets. Sutyagin (2016) estimates that the frigate Dagestan and the Buian-M class ships are assigned eight to 12 nuclear warheads each, but as only eight can be carried onboard, the lower figured has been used here. Regarding Varshavianka class submarines, a load of four Kalibr missiles has been assumed, since land attack is not their primary role. Admiral Gorshkov (Project 22350) and Admiral Grigorovich (Project 11356P/M) class frigates, though fitted with Kalibr launch systems, are assumed to be exclusively devoted to naval warfare and thus only carry the AShM version of the Kalibr.

**Abbreviations:** ALCM = air-launched cruise missile; AShM = anti-ship missile; GLCM = ground-launched cruise missile; LACM = land-attack cruise missile; n.a = (figure) not available; SLCM = submarine-launched cruise missile; subs = submarines; SRBM = short-range ballistic missile.

*Long-Range  
Aviation*

Last but not least there are the units within the Long-Range Aviation, which could be made available to the Western JSC. The newly-procured Kh-101 long-range air-launched cruise missile (ALCM) is fitted with a conventional warhead and is carried by upgraded Tu-160 and Tu-95MS strategic bombers. There is also the Kh-555 conventional long-range ALCM warhead, carried by all Tu-160 and Tu-95MS. The Long-Range Aviation also has Tu-22M3 long-range bombers armed with the medium-range AS-4 missile. The AS-4 comes in anti-ship and anti-radar as well as nuclear versions. According to Sutyagin (2016), an estimated 28 non-strategic nuclear warheads are assigned to each regiment for land-attack purposes while another six are assigned for anti-ship strikes.

*Support functions*

For a successful stand-off strike, systems for intelligence gathering, target acquisition and guidance over long distances are necessary. The Russian GLONASS satellite positioning system provides navigational support for missiles during their flight path to the target. Russia lacks long-range reconnaissance drones and has few reconnaissance satellites. This may limit the scope for long-range missiles to fixed, predetermined targets and make battle-damage assessments difficult.

## 2.5 Chemical, biological and radiological protection troops

Russia's chemical, biological and radiological (CBR) protection troops exist primarily in Ground Forces formations in units all across Russia. They exercise to be part of large-scale operations. Russian military planners clearly envision that CBR troops have a role to play in armed conflicts and take the threat of weapons of mass destruction seriously. Russian policy on CBR protection covers handling military threats, the proliferation of weapons of mass destruction and the prevention of emergency situations at facilities with dangerous substances (Winfield 2014). Putin has ordered the Security Council to assess Russia's readiness for a nuclear, chemical or biological disaster in peacetime and wartime, and if needed stockpile protective equipment (*Independent* 2015). Responsibilities have been redistributed between the MoD, the Federal Security Service (FSB, *Federalnaia sluzhba bezopasnosti*) and the Ministry of the Russian Federation for Civil Defence, Emergencies and Elimination of Consequences of Natural Disasters (MChS, *Ministerstvo RF po delam grazhdanskoi oborony, chrezvychainym situatsiiam, i likvidatsii posledstviu stikhiinykh bedstviu*). The MChS' CBR Services cover protection of the population near sites for chemical weapons destruction or other dangerous industrial sites and support in limiting the spread of epidemics. The FSB uses CBR services for anti-terrorist purposes (Petrov 2008).

The MoD uses the CBR Troops in military actions or for large-scale disasters such as Chernobyl (Ministry of Defence 2016). The CBR Troops are subordinated to the Ground Forces. Their overall task is to reduce Russia's own forces' losses in operations in CBR-contaminated environments. More specifically, CBR Troops are to:



- conduct CBR reconnaissance, detection/identification, and assess the degree of contamination and impact;
- protect structures and units against the use of weapons of mass destruction;
- decontaminate weapons and equipment, buildings, other objects, and personnel;
- reduce the visibility of the own troops using smoke screens; and
- cause losses to the enemy by using flame-incendiary means (Ministry of Defence 2016l).

CBR Troops' units exist at both formation and unit levels in the ground forces. In 2014, the CBR Troops were organized into four CBR brigades, one for each MD, and ten CBR regiments, one for each CAA (Russian Defence Policy 2015), as seen in Table 2.7 and on maps in chapter 3. In addition, there are company or platoon-size CBR units in most of the Army's brigades. The CBR regiments are army-level, rather than MD-level, assets due to the growing role of heavy flame-thrower systems, each regiment having 300–600 personnel and 100–200 pieces of equipment (Russian Defense Policy 2015). The CBR Troops exercise regularly, conducting 100 exercises of their own in 2015 (RIR 2015). They have also been subjected to surprise inspections (Norberg 2015: 41, 53), like the rest of the Russian Armed Forces, and participated in the Armed Forces annual strategic exercises such as Vostok-2014.

**Table 2.7** Overview of CBR units

<b>Military District</b>	<b>Unit</b>	<b>Subordinated to</b>
<b>Eastern</b>	16 CBR Brigade	Eastern Military District
	25 CBR Regiment	5 Combined-arms army
	35 CBR Regiment	35 Combined-arms army
	26 CBR Regiment	36 Combined-arms army
	19 CBR Regiment	29 Combined-arms army
<b>Central</b>	29 Separate CBR Brigade	Central Military District
	7006 Equipment/ repairs store	Central Military District
	2 CBR Regiment	2 Combined-arms army
	10 CBR Regiment	41 Combined-arms army
<b>Southern</b>	28 Separate CBR Brigade	Southern Military District
	2728 Equipment/ repairs store	Southern Military District
	40 CBR Regiment	58 Combined-arms army
	39 CBR Regiment	49 Combined-arms army
<b>Western</b> <sup>(a)</sup>	27 Separate CBR Brigade	Western Military District
	20 CBR Regiment	20 Combined Arms Army
	465 CBR Battalion	20 Combined-arms army
	6 CBR Regiment	6 Combined-arms army
	10 CBR Battalion	6 Combined-arms army

**Sources:** *Jane's World Armies* (2016); IISS (2016) "Chapter Five: Russia and Eurasia" in *The Military Balance 2016*, Abingdon, Routledge for the International Institute for Strategic Studies, IISS: 190–200; the websites <http://www.warfare.be> (2016) and <http://www.milkavkaz.net> (2016).

**Note:** (a) Includes both Western MD and Northern Fleet units; not reflecting the new MD map on the Russian MoD website mentioned in section 2.1. Maps in chapter 3 outline the units in each war theatre.

**Abbreviations:** CBR = chemical, biological, radiological (protection).

## 2.6 Manning levels

Recruiting and retaining soldiers and junior officers has been singled out as one of the major problems facing the Russian Armed Forces (Carlsson et al. 2013: 37–41; Hakvåg 2016). According to official figures presented by the MoD, however, plans for recruitment of contract soldiers were more than fulfilled from about 2013. Fewer dodged conscription or asked to do alternative service and competition to be admitted to the military educational institutions increased. Moreover, not only the quantity but also the quality of both conscripts and contract soldiers increased (Ministry of Defence 2014; Glotov 2016; Tonkoshkurov 2015). Possible explanations would be that living conditions, pay and benefits (see Chapter 5) attract young men to the military, that military prestige has increased and that safety has improved. Programmes for military-patriotic training have probably also contributed to an increased interest in serving and some recruits arrive with relevant skills (see Chapter 4). The number of positions (*shtatnaia chislennost*) of military servicemen in the Armed Forces in 2016 was 1 million men (Presidential Decree No. 329, 2016) and, according to the MoD, the number of contract soldiers (356 000) will again exceed that of conscripts (about 307 000) in 2016 (Table 2.8). The Armed Forces according to the official figures were then about 910 000–930 000 men strong if the target number of 50 000 non-commissioned officers (*praporshchiki* and *michmany*, but not sergeants, who are included among the contract soldiers and conscripts) is added (Nikolskii 2015). In other words, the target for 2016 of 93 per cent manning was overall met.

**Table 2.8 Manning of the Armed Forces 2013-2020**

	2013	2014	2015	2016	2017 (t)	2018 (t)	2019 (t)	2020 (t)
Officers*	200 000	200 000	200 000	200 000	220 000	220 000	220 000	220 000
NCOs**	50 000	50 000	50 000	50 000	50 000	50 000	50 000	50 000
Contracted***	220 000	295 000	352 000	356 000	425 000	NA	NA	500 000
Conscripts****	303 000	308 000	297 000	307 000	NA	NA	NA	250 000
Manning level (sum of above)	773 000	853 000	899 000	913 000	NA	NA	NA	NA
Manning level according to MoD	820 000	910 000	920 000	930 000	1 000 000	1 000 000	1 000 000	1 000 000

**Sources:** Oxenstierna 2013: 111; Lavrov 2015: 17–18; Ministry of Defence 2014, 2015; Nikolskii 2015; Presidential Decree (2016) No. 139 and No. 503; RIA Novosti 2016a; Prezident Rossii 2015.

**Notes:** (t) target numbers from the MoD.

\* The number of officer positions was 220 000. According to *Nezavisimaia gazeta* in 2016, this target was met to 92% in 2015 and Nikolai Pankov, deputy minister of defence, was quoted as saying that this was “unprecedented”. This percentage should be treated with caution (it is the same as the official figure given for personnel of the entire AF), but Nikolskii (2015) put the number for 2015 at 198 000. It is thus safe to assume that there were about 200 000 officers in 2015 and probably also in 2016 (and there were probably fewer in 2013–2014). In the table, the figure 200 000 officers has thus been used as approximate number for the period 2013–2016. After that, the target (220 000) is used.

\*\* The number is approximate (Nikolskii 2015).

\*\*\* The numbers of contract soldiers are official MoD figures.

\*\*\*\* The cohorts of 18-year olds will not increase until 2020 and the number of conscripts will probably be 250 000–300 000 in the next few years.

Caution is called for. Table 2.8 builds in the main on MoD numbers and statements. Certain statistics are no longer published and the increased state control of the media makes MoD figures difficult to verify. The surge in contract recruitment in 2012–2014 (Table 2.8) took place before lower real incomes made contract wages more competitive and also before the annexation of Crimea, after which public opinion became markedly more positive towards military service and the Armed Forces as whole. It is also worth noting that Putin underlined in December 2015 that mechanically fulfilling planned contract numbers must not result in lower quality (Nikolskii 2015). Health has not improved generally in the population at large (Svynarenko 2015: 36–46) and hazing has not disappeared (Sivkova & Kazakov 2014; Mokrushin 2015; Svynarenko 2015: 31). The possibility to sign up for shorter contract periods (up to a year) to be introduced by amendment in legislation in October 2016 (State Duma 2016) also suggests that recruitment of contract soldiers was less successful than official numbers indicated.

Certain units are given higher priority than others when it comes to recruiting personnel and it is reasonable to assume that the arms and troops that receive most of the contract soldiers (see Table 2.9) are also the ones that have fewer vacancies generally. Russia will probably, in spite of the small cohorts, retain a mixed manning system, not least since 90 per cent of those who sign up for contract service have done military service previously (Tonkoshkurov 2015).

**Table 2.9 Numbers of contract soldiers within the different arms and troops of the Armed Forces**

Arms/troops	Share of contract soldiers	Note
Ground Forces	48% contract soldiers	15th Brigade fully manned with contract soldiers (Ekho Moskvyy 2013). By 2021 the target is just over 80% contract soldiers and one to two brigades in each MD should be 100% contract-employed.
Navy	80% on surface ships in certain fleets; 100% on submarines	Also naval infantry probably with a high ratio of contract soldiers.
Aerospace Forces		Mentioned as the arm with the one of the highest ratios of contract-employed.
Airborne Troops	More than half manned by contract soldiers by mid-2015. Total numbers in August 2016 were 45 000 men, promised to increase by 3 000 contract soldiers before the end of 2016.	31st Brigade fully manned by contract soldiers (Ekho Moskvyy 2013). 10 battalions manned by contract soldiers only as well as reconnaissance battalions; one out of three battalions will be manned by conscripts only.
Strategic Missile Troops		Mentioned as troops with the one of the highest ratios of contract-employed.
Special Forces (including GRU)		Mentioned as units with the one of the highest ratios of contract-employed.

**Sources:** Lavrov 2015: 18; Elfving 2016: 105; RIA Novosti (2015a; 2015b); RIA Novosti (2016b; 2016c); TASS (2015). According to Col Gen Viktor Goremykin, in 2013 only the 15th and 31st brigades were fully manned by contract soldiers (Ekho Moskvyy 2013).

**Abbreviations:** GRU = Main Directorate for Intelligence (Glavnoe razvedovatelnoe upravlenie) of the General Staff

In 2012–2013, the first initiative was taken to reintroduce a mobilization system (Federal Law No. 288-FZ, 2012). The mobilization system is two-tiered: First there is a “human reserve” (*liudskoi rezerv*), which consists of soldiers and sergeants who were encouraged to sign reservist’s contracts when they left active service. These will receive money monthly and be called up to regular mobilization and tactical exercises. The exact numbers and funding for the system are unclear, but in 2015 probably still fewer than 5 000 had signed such contracts. Second, there is a large body of men referred to as “human resource” (*liudskoi resurs*), who have done military service. They are still obliged to serve if they are mobilized, but will not receive compensation or be called up for training and exercises (Lavrov 2015: 18–19; Tonkoshkurov 2015; Presidential Decree No. 370, 2015). In theory, the “human resource” could consist of millions of men who have gone through military training as conscripts (Table 2.10), but the numbers are likely to be much lower (in 2011, the then chief of the General Staff, Nikolai Makarov, gave the number 700 000 men: *RIA Novosti* 2011).

**Table 2.10 Numbers of conscripts in the Russian Armed Forces 2006-2016 (thousands)**

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*	Total
<b>Conscripts</b>	248	267	352	576	550	355	293	303	308	297	307	3 849

**Sources:** Lavrov 2015: 16; Presidential decrees 2016 No. 139; 2016 No. 503; 2015 No. 493; 2007 No. 1311; 2007 No. 419; 2006 No. 1048; 2006 No. 276.

\* For 2016, the assumption is that around 300 000 men will be conscripted.

The human reserve is often described as an experiment conducted with the aim of establishing the routines for calling up a larger reserve in the event of war, when mobilization has been declared. To begin with, the aim was to create a reserve of about 5 000 servicemen (Mukhin 2015). These plans were, however, not implemented until 2015 and the system was first tried out in June 2016 during a surprise inspection. As in the past, the mobilization system will consist of bases for storing and upkeep of weapons and equipment tied to a plan for generating manpower to create newly-mobilized lower-level formations or units. Furthermore, a command for the reserve has been established in each MD. In the surprise inspection in June 2016, “battalions for territorial defence” (*batalony territorialnoi oborony* – BTOs) were created – cadre units in peacetime that can be called up quickly when needed. The focus is thus on territorial defence – a task that the Rosgvardiia also has (see section 2.9). It is thus worth noting that the Rosgvardiia also took part in the exercise (Kofman 2016; Mikhailov 2016).

## 2.7 Sustainability

The Combat Support Services’ (Materialno-tekhnicheskoe obespechenie, MTO) supplies to the armed forces range from new equipment and repairs to feeding, clothing and housing personnel. A network of some 330 stores and depots for all services (Safronov 2016), such as the major MTO bases (Kompleksnye Bazy MTO, KBMTO), can support large-scale Ground Forces-centric JISCOs in or near Russia. The Navy has both bases and supply ships, such as tugs, tankers, and rescue and repair ships, to support operations at sea. The Aerospace Forces depend primarily on air bases, but also exercise erecting field air bases.

Table 2.11 outlines the combat support service structure: each MD has a major logistics base within it and each CAA has an MTO brigade with subunits for transport of materiel and supplies of fuel, water, food, requisites for field repairs and the management of all transport. According to <http://www.warfare.be>, the 20th Army's MTO brigade had the following battalions: transport (2), pipeline (1), traffic control (1), field repairs (2), a company for delivering fuel and one for delivering water, and a field bakery. Ground Forces divisions and brigades also have MTO battalions.

**Table 2.11 MTO formations in Military Districts and Ground Forces higher-level formations**

<b>Military District</b>	<b>Formation / unit</b>	<b>Subordinated to</b>
<b>Eastern MD</b>	3804 KBMTO	Eastern Military District
	101 MTO Brigade	5 Combined-arms army
	103 MTO Brigade	35 Combined-arms army
	102 MTO Brigade	36 Combined-arms army
	104 MTO Brigade	29 Combined-arms army
<b>Central MD</b>	3794 KBMTO	Central Military District
	105 MTO Brigade	2 Combined-arms army
	106 MTO Brigade	41 Combined-arms army
<b>Southern MD</b>	3791 KBMTO	Southern Military District
	78 MTO Brigade	58 Combined-arms army
	99 MTO Brigade	49 Combined-arms army
	133 MTO Brigade	Black Sea Fleet
<b>Western MD <sup>(a)</sup></b>	3783 KBMTO	Western Military District
	51 MTO Brigade	6 Combined-arms army

**Sources:** *Jane's World Armies* (2016); IISS (2016) "Chapter Five: Russia and Eurasia" in *The Military Balance 2016*, Abingdon, Routledge for the International Institute for Strategic Studies: 190–200; the websites <http://www.warfare.be> (2016) and <http://www.milkavkaz.net> (2016).

**Note:** (a) Includes both Western MD and Northern Fleet units; not reflecting the new MD map on the Russian MoD website mentioned in section 2.1.

**Comment:** No source notes a separate MTO brigade in the 1st Tank Army. Each of its divisions has an MTO battalion, which seems little. Such a formation probably requires its own MTO brigade to ensure operational sustainability. Maps in chapter 3 outline the units in each war theatre.

**Abbreviations:** KBMTO = major Combat Support Service base; MD = Military District; MTO = Combat Support Service

In 2015, the Armed Forces transported some 2 million servicemen and 4.5 million tons of materiel. The Movement Control (Voennye soobshcheniia, VOSO) service organizes the Armed Forces' railway, air and river and sea transport (Ministry of Defence 2015). A network of representatives at railway stations, airports, and sea and river ports coordinates transport with the MDs, fleets and higher-level formations (Studopedia.ru 2015). The VOSO exercised transport of forces across Russia in relation to the Tsentr and Union Shield operational exercises in 2015 (Ministry of Defence 2015). Exercises show an increasing role for civilian agencies and authorities for mobility and logistics (Norberg 2015: 35).

## 2.8 Exercises and combat operations

Military exercises and combat operations indicate how forces are employed. They may also reveal the quality of commanders and troop morale. Since our previous report, the Armed Forces have performed both massive exercises and comprehensive combat operations. Apart from developing capabilities, exercises and surprise inspections can demonstrate fighting power, and combat operations can show coercive capabilities and thus contribute to strategic deterrence. This applies in particular to non-nuclear forces (Bruusgard 2016: 16–18).

### 2.8.1 Exercises and surprise inspections

*Annual strategic exercises and surprise inspections*

Overall, Russian military exercises in 2011–2016 focused on large-scale JISCOs, i.e. launching and waging interstate wars, with a possible use of nuclear weapons. Exercises involved all branches of service and arms, and all military districts, but not necessarily each and every unit. Two types of exercises are relevant here: annual strategic exercises and major surprise inspections (also called snap exercises).<sup>8</sup>

Annual strategic exercises rotated between the MDs and gave Russian forces opportunities to train where they may have to fight. Exercises involved all the branches of service and arms from the MD hosting them with reinforcements from other MDs or centrally controlled forces. They also involved ministries, services and agencies involved in defence such as the Interior Troops or FSB units, reflecting the Russian notion of military organization (*voennaia organizatsiia*; see also section 2.9).

Large-scale exercises were opportunities for commanders and their staffs to deal with the complexity and friction of a JISCO. Sometimes a parallel exercise for a joint inter-service force elsewhere in Russia accompanied the annual strategic exercises, enabling the central level to train for command and control of two simultaneous operations. Table 2.12 shows that the stated size of strategic exercises grew significantly between 2011 and 2016.

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<sup>8</sup> This section summarizes Norberg (2015). Assessments about exercises in 2015–mid-2016 are based on summary observations about the existence of exercises, but not a similar analysis about their scale and scope.



Surprise inspections (*vnezapnye proverki*) test combat readiness and indicate how quickly forces can go from routine peacetime activities to carrying out operational tasks and were used throughout the Armed Forces. Major surprise inspections test forces from more than one branch of service or arm, often a whole MD. Subsidiary surprise inspections involved either units or service branches Table 2.12 shows that the Armed Forces have used surprise inspections since 2013 to systematically improve combat readiness. They train for the transition from peace to war.

**Table 2.12 Strategic and parallel exercises and MoD reported number of participants and surprise inspections, 2011–2016**

Year Ex type	2011	2012	2013	2014	2015	2016*
<b>Strategic (ex name)</b>	Tsentr 12 000	Kavkaz 8 000	Zapad 12 000–70 000	Vostok 100 000–155 000	Tsentr 95 000	Kavkaz 125 000
<b>Parallel (ex area)</b>	Western MD/ Belarus 7 000	Kola/Barents Region 7 000	Kola/Barents Region 2 500		Western MD/ Belarus 8 000	
<b>Surprise inspections</b>			1 Major 11 Subsidiary	3 Major 15 Subsidiary	2 Major 20 Subsidiary	4 Major 20 Subsidiary

\* Up to 1 September 2016.

**Sources:** Norberg (2015); press releases from the Russian MoD, 2015–2016.

**Abbreviations:** ex = exercise, MD = Military District.

The large-scale surprise inspection in the Western and Central MDs before Russia seized Crimea in February 2014 indicates the size of and logistics for a JISCO. MTO support for this force included eight trains and transport aircraft moving personnel, equipment and the distribution of 150 tons of ammunition and missiles. Personnel from three MTO brigades set up nine field bases with food and hygiene facilities and 50 field repair units. Some 500 fuelling vehicles dispersed at 20 refuelling stations along axes of advance and in assembly areas. Supply ships and tanker aircraft distributed 22 000 tons of fuel. MTO field kitchens and bakeries fed the forces (*Oruzhie Rossii* 2014). Russia's Armed Forces can thus amass and supply a force going into a JISCO in a few weeks.

Since March 2014, Russia has conducted an unprecedented number of exercises and surprise inspections involving strategic and non-strategic nuclear forces (Durkalec 2015: 13). The simulated use of nuclear weapons, mainly by strategic bomber aircraft, has characterized Russian strategic military exercises since 2000 (Sokov 2014).

*Nuclear force  
exercises*

Several surprise inspections have included both strategic and non-strategic nuclear-capable weapon systems. In late October 2013, two ICBMs, two SLBMs, three ALCMs from Tu-95MS strategic bombers as well as an Iskander-M and three Tochka-U short-range ballistic missiles were launched on the same day (Ministry of Defence 2013). During a March 2015 large-scale surprise inspection in western Russia, the Armed Forces deployed Iskander-Ms

to the Kaliningrad Oblast and Tu-22M3 bombers to Crimea, while Tu-22M3, Tu-160 and Tu-95MS bombers performed missions in the Arctic (Durkalec 2015: 13–4). On 30 October 2015, SLBMs, Topol ICBMs and ALCMs from Tu-160 strategic bombers as well as a ship-based Kalibr and an Iskander cruise missile were launched (Podvig 2015).

The nuclear triad has also carried out additional drills. A surprise inspection of the strategic nuclear forces in March 2014 involved 10 000 servicemen from more than 30 units. Two months later, Topol ICBMs, Sineva SSBNs and six ALCMs were test-launched during an exercise. In late 2014, Russia test-fired a Topol-M and Bulava and Sineva SSBNs, while strategic bombers conducted long flights (Durkalec 2015: 13–15). Road-mobile ICBM units conduct large-scale exercises each winter and summer. The 2015 winter exercise involved 20 regiments from six divisions. That year's summer exercise was even larger, involving 30 regiments, including silo-based ICBMs (Kristensen & Norris 2016: 129). A large surprise inspection of the Strategic Missile Forces in February 2015 comprised 30 regiments in 12 Russian regions (Durkalec 2015: 13). Strategic submarine combat patrols have increased after 2013 (Durkalec 2015: 12–13). Pavel Podvig (2016e) finds it "likely that Russian submarine activity today is at its highest level since the early 1990s".

*Stand-off warfare exercises*

The ALCM, Kalibr and Iskander missile launches during nuclear force surprise inspections also exercised stand-off warfare. In addition, a live-fire drill in 2014 involved coordinated strikes with Iskander-M ballistic missiles and ALCMs from strategic bombers (Durkalec 2015: 13).

## 2.8.2 Combat operations in Ukraine

The Crimea operation in 2014 showed Russia's ability to plan and prepare an operation to ensure initiative and surprise – a skilful use of special forces and elite units, and the advantage of having a military base in the operational area. Russia met no armed resistance, so the operation says little about the Armed Forces' fighting power.

In Donbas, Russia fought Ukraine primarily by equipping, training and organizing rebel forces. Russian officers probably even planned and commanded these forces' all-arms operations (McDermott 2015b: 22, 26–7). When needed, Russian regular forces deployed for certain missions (Westerlund & Norberg 2016). Massive artillery fire, combining different munitions for devastating effect, supported armoured units' manoeuvres. The integration of different arms – such as tanks, infantry, artillery and air defence – in this low-density battlefield took place in battalion- or company-level tactical groups (Potomac 2016). According to the website <http://www.milkavkaz.net> rebel forces had some 265 MBTs and AIFVs and at least 270 artillery pieces (Milkavkaz.net 2016). Very strong fire support for the manoeuvre and the tactical group concept indicates how Russian forces may fight elsewhere. Russia's ambition to deny its involvement (McDermott 2015b: 25, 28) probably prevented it from using air power.



### 2.8.3 Combat operations in Syria

Russia's military intervention in Syria is its first real combat operation outside the former Soviet Union area and the largest air operation abroad since the Afghan War. It officially commenced on 30 September 2015. By 14 March 2016, the Russian Air Force had performed more than 9 000 combat missions, according to Defence Minister Shoigu. Noting that the Armed Forces had accomplished their task, President Putin ordered the main part of the forces to be withdrawn from Syria (Prezident Rossii 2016). By late April 2016, another 500 air combat missions had been flown and in total some 29 000 targets had been hit according to the Ministry of Defence (2016m).

Initially, 32 combat aircraft and 17 helicopters deployed to Syria, and additional aircraft carried out strikes from bases in Russia and later Iran, such as Tu-22M3 medium-range bombers and Su-34 fighter-bombers (Ministry of Defence 2016n). By February 2016, the deployment had increased to 40 combat aircraft and more than 21 helicopters (Pukhov 2016: 211). The average number of sorties in October up to December 2015 was 60 per day, with a maximum of 189 sorties on 24 December (Gorenburg 2016). For most aircraft deployed in Syria, a sortie rate of two per day was kept up over time (Gressel 2016). In mid-March 2016 some aircraft were withdrawn, including all 12 Su-25 ground attack aircraft. The latter were however replaced with modern Mi-28N and Ka-52 attack helicopters and the remaining force in Syria thereby equalled its size at the start of the operation.

Russia also launched many cruise missiles. Forty-four Kalibr LACMs were fired from the frigate *Dagestan* and three Buian-M class corvettes in the Caspian Sea, and another seven from a Varshavianka class submarine and two Buian-M class corvettes in the Mediterranean Sea. Strategic bombers launched 97 ALCMs (Pukhov 2016: 213; Ministry of Defence 2016o). The Long-Range Aviation had performed some 180 air combat missions by April 2016 (Ministry of Defence 2016m), including a 16-hour and 13 000-kilometre mission circumnavigating western Europe to fire cruise missiles from the Mediterranean Sea (Åtland et al. 2016: 47).

The operation's ground force element included several thousand servicemen with T-90A tanks, Msta-B 152-mm howitzers, Smerch MLRS, TOS-1A heavy flame throwers and Buk-M2 and Pantsir-S1 air defence systems.<sup>9</sup> By March 2016, at least one Iskander-M short-range missile launcher had been deployed (Binnie 2016). Soldiers came from Spetsnaz units, the 810th Naval Infantry Brigade, the 7th Air Assault Division and the Ground Forces (Sutyagin 2015; Pukhov 2016: 211). The Ground Forces protected the Russian bases and trained local forces, but probably also took part in fighting (Åtland et al. 2016: 30–32). Russia's operation in Syria showed a capability to deploy and sustain ground, sea and air units far away from Russia. The massive air and sea transports from Russia, however, suffered little risk of being attacked. The Russian Navy

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<sup>9</sup> This figure does not include some 500–1 500 heavily armed Russian mercenaries and volunteers deployed by Russian private military companies (Åtland et al. 2016: 15).

transported personnel, equipment and supplies and provided air defence and cruise missile strikes. Il-76 and An-124 heavy transport aircraft were used extensively: in September to December 2015 alone, three An-124s performed a total of 113 sorties from Russia to the Hmeymim airbase (Pukhov 2016: 212).

## 2.9 Other armed forces

In Russia, a substantial number of troops and armed special units do not belong to the Armed Forces and are not controlled by the Ministry of Defence. These troops have mainly domestic tasks, but they are also part of Russia's military organization (*voennaia organizatsiia*). The Interior Troops of the Rosgvardiia in particular have as one of their key tasks "territorial defence", and both the FSB and the Rosgvardiia receive conscripts (Federal Law No. 226-FZ, 2016; Falaleev 2016b). Together with services such as the Main Directorate for Special Programmes of the Russian President (GUSP, *Glavnoe upravlenie spetsialnykh programm Prezidenta Rossiiskoi Federatsii*) and the MChS, they are designated roles when it comes to mobilization. The MChS is one of the few ministries that state how many men are included in its forces, the Rescue Military Units (formerly the Civil Defence Troops).

Forces relevant here are those that have been assigned an explicit role in the territorial defence of Russia and can make a significant contribution to a JISCO (Table 2.13). For a JISCO, units from the Interior Troops essentially serve to free up the Armed Forces' units from certain tasks, thus enabling them to focus on war fighting. One way to do this is to protect installations, communications and rear areas of an operation against sabotage units, which falls within the Rosgvardiia's task of territorial defence. In a JISCO near Russia's borders, the Border Troops may also support the operation. It is also worth noting that forces from other ministries regularly take part in exercises of the Armed Forces (Norberg 2015: 34–35).

The numbers are imprecise, but Russia probably has some 400 000 troops (Table 2.13) in addition to the Armed Forces at its disposal. This number does not include the police, guards of official buildings and similar personnel with light firearms. It does include troops that can be more heavily armed as well as special units. Their use is primarily for domestic purposes (see Chapter 4), but for example the Border Guard Service have units based abroad in Armenia, Abkhazia and South Ossetia, and the FSB Alpha and Vypel units have reportedly taken part in Russia's operations in Donbas (McDermott 2015b: 37).

The Interior Troops, together with the other special units that were transferred from the Ministry of the Interior (MVD) to the Rosgvardiia in 2016, are organized in seven districts (the same as the federal districts) with territorial formations and units in each of the 85 regions of Russia (*RIA Novosti* 2016d) – including a Rosgvardiia brigade on Crimea, set up in September 2016 (*Interfax* 2016). In September 2016, the Rosgvardiia stated that about 85 per cent of its equipment was "modern" and that the upgraded armoured personnel carrier BTR-82B would be delivered to units in 2017 (*RIA Novosti* 2016e). Map 2.5

shows Border Troops assets and Interior Troops units and locations and their approximate strength across Russia.

**Table 2.13 Russian troops and forces belonging to ministries and services other than the MoD**

Ministry/service/agency	Troops/armed units	Note
Federal Security Service (FSB)	Border Troops (140 000–160 000 men) Special Forces about 4 000 men	Examples of special units Alpha and Vypel
Federal Service of the National Guard (formerly under the Ministry of the Interior, MVD) <i>Total number 340 000*</i>	Interior Troops (140 000–170 000 men, incl. special-purpose units OSN) Special purpose forces: OMON and SOBR (30 000–45 000 men)	OMON – 208 units ( <i>otriady</i> ) SOBR – 87 units ( <i>otriady</i> ) OSN – about 15 units ( <i>otriady</i> ) (examples of OSNs: Vitiaz and Rus)
<i>Federal Protection Service (FSO)</i>	<i>Armed units of 10 000–30 000 men</i>	
<i>Ministry of Civil Defence, Emergencies and Disaster Relief of the Russian Federation (MChS)</i>	<i>Rescue Military Units (formerly Civil Defence Troops; about 22 000 men)</i>	
<i>Chief Directorate for Special Programmes of the Russian President (GUSP)</i>	<i>Unknown number</i>	
<i>Foreign Intelligence Service (SVR)</i>	<i>Unknown number</i>	<i>There have been rumours of a special unit (Zaslou)</i>
<b>Total:</b>	<b>345 000–415 000 men</b>	

**Sources:** Falaleev 2016a; IISS (2016); Roffey 2016: 36; RIA Novosti 2016f; Rustamovaia, Mikhailova & Makutinaia 2016; Vendil Pallin 2006.

**Comment:** Armed forces in italics are assessed as not available for a JISCO.

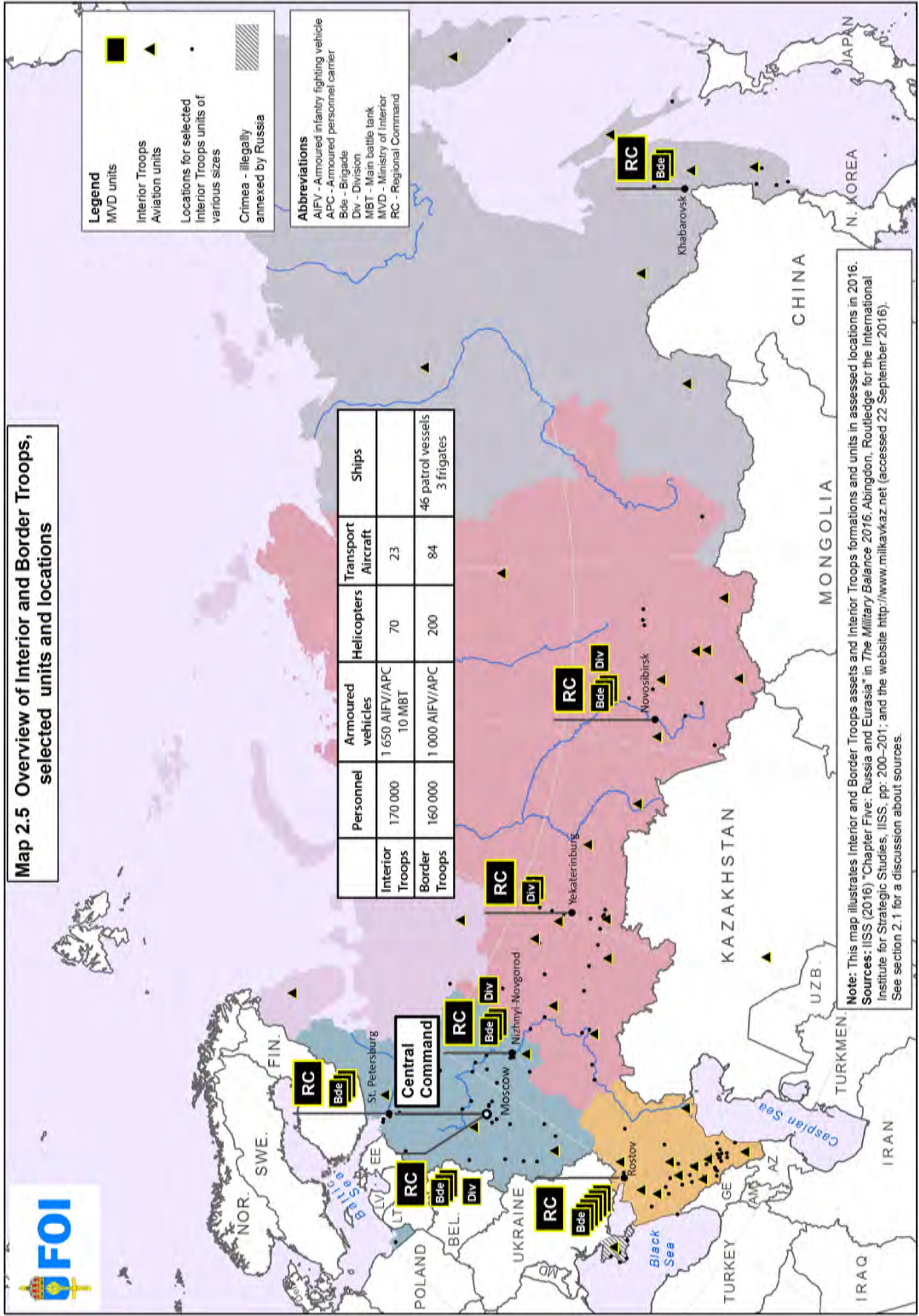
**Notes:** IISS (2016) The Military Balance gives the total number of paramilitaries as 489 000, but that includes the Railway Troops (20 000) and the troops belonging to the Federal Agency for Special Construction, both subordinated to the MoD, but separate from the Armed Forces. However, these are not included here as they are treated as part of the logistical organization for the Armed Forces in chapters 2 & 3. Furthermore, *The Military Balance* lists 55 000 as belonging to the “Federal Communications and Information Agency”, which probably refers to the Service for Special Communications and Information, most of which has been part of the FSO since 2003. \* The Police Guard Service (Vnevedomstvennaia okhrana, OVO) was transferred from the MVD to the Rosgvardiia. They are not troops or special units and could be one of the reasons why the numbers for the Rosgvardiia do not add up. On 20 September 2016, about 163 000 people were transferred to the Rosgvardiia, as were functions such as monitoring the selling and buying of weapons, the OVO and units from the Federal State Company (FGUP) Okhrana.

**Abbreviations:** OMON – Mobile Special Purpose Units (Otriady mobilnye osobogo naznacheniiia); OSN – special units (Otriady spetsialnogo naznacheniiia); SOBR – Special Rapid Reaction Units (Spetsialnye otriady bystrogo reagirovaniia).

In addition to the forces and units subordinated to the so-called power ministries, there are a number of militias that are endorsed by Russia's political leadership such as the Cossacks and other militias (*druzhiny*). Again, these forces are mostly used for domestic purposes, but they have also featured as "volunteers" in Ukraine.

*Militias and PMCs* There is little information available on the role of private military companies (PMCs) in Russian military operations. In 2012, Putin supported the idea of PMCs answering a direct question in the Duma (RIA Novosti 2012) and there have been reports that at least one PMC was used by Russia in Syria, the "Wagner Group", with a training base in Molmino (Rozhdestvenskii et al. 2016; Volzhskii 2015).

In sum, Russia's Armed Forces have gained additional personnel, new weapon systems and more experience through exercises and combat operations. How does this translate into fighting power? That is the subject of the next chapter.





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### 3. The Fighting Power of Russia's Armed Forces in 2016

Fredrik Westerlund and Johan Norberg, with maps by Per Wikström

Based on the development of the Russian Armed Forces, the aim of this chapter is to gauge the current fighting power of the Armed Forces, in order to contribute to the assessment of Russian military capability in a ten-year perspective. We achieve this by assessing the available military assets, i.e. potential order of battle, for the three overall missions – land-centric joint inter-service combat operations (JISCOs), stand-off warfare and strategic deterrence – outlined in the introduction to Chapter 2. What forces are Russia's Armed Forces able to generate and deploy for these three missions in 2016?

Essentially, we analyse the preconditions for generating forces to launch one or more operations in potential Russian war theatres (*teatr voennykh deistvii*). This refers to the land territories of a large part of a continent and adjacent seas as well as the air space above, in which a force grouping carries out strategic-scale operations. The size and scope of a war theatre depends on the size and scope of a military conflict and is therefore always unique.

It should be noted that operational success depends on factors not included in our analysis, such as the specific environment, the adversary, allies and other contextual elements (Ministry of Defence UK 2011: section 4–1). Instead of likely operational success, we assess putative fighting power, i.e. the general capacity and not the specific application (cf. Freedman 2012: 21). Assessing actual fighting power requires war gaming, which is outside the scope of this study. Our assessment of the potential order of battle may however serve as a point of departure for war-gaming exercises. Furthermore, the three missions discussed here represent only parts of the Armed Forces' fighting power, albeit important parts.

In *Russian Military Capability in a Ten-year Perspective – 2013*, we assessed fighting power under the assumption that Russia was responding to an emerging threat, with little time to prepare operations. In view of recent events, we now find it more relevant to estimate available assets for military operations in situations when Russia *initiates* the use of armed force. Russia's military operations in Ukraine and Syria were preceded by few telling signs, despite military preparations weeks, probably even months, before the start of operations. Our current assessment therefore reflects the potential order of battle when Russia chooses to launch a combat operation, allowing time for inconspicuous preparations. The analytical focus on assets for launching an operation does not imply a short-war bias. We assume that an armed conflict may arise swiftly but do not know its duration, acknowledging that it may be protracted.

*Assessing fighting  
power*

Our aim is to make a balanced estimate of the Armed Forces' fighting power. Where JISCOs are concerned, we assess the potential order of battle in 2016 both with initially available forces and after reinforcements. For stand-off warfare, we estimate the potential order of battle in the Western war theatre, under the assumption that capabilities in other war theatres are similar. Strategic deterrence operates on the global and inter-regional level, and is therefore assessed for the Russian Federation as a whole. Russian strategic deterrence through military means rests on the strategic nuclear capability as well as the capability for stand-off warfare and JISCOs.

In our 2013 assessment (Carlsson et al. 2013), ground manoeuvre brigades were our analytical focus. Other parts of a JISCO – Navy and air units as well as Ground Forces support functions – were not detailed and were assumed to be adequate. In this report, the expanded analysis includes these. The JISCO discussed here is based on Russian annual strategic exercise patterns. It is land-centric, i.e. about Ground Forces formations fighting to take and hold territory with the support of different types of Ground Forces units as well as Aerospace Forces and Navy units (see Norberg 2015). Russia deployed such a force to support its operations in Ukraine in 2014.

*Outline of the chapter*

Our assessment of Russia's Armed Forces' fighting power is based on the structure and composition of the Armed Forces outlined in Chapter 2 and on assumptions and estimates. The first four sections focus on the potential order of battle for a JISCO. First we estimate reinforcement constraints, i.e. identify units that are non-redeployable due to the geographical disposition of forces across Russia, and make assumptions on the minimum contingency force to be left in a war theatre (section 3.1). Second, we estimate the number of combat-capable units among the nominally available forces and their readiness for operations (section 3.2).

The assessment of the potential order of battle for a JISCO *with initially available forces* is made separately for the five main war theatres: the Eastern, the Central Asian, the Southern, the Western and the Arctic war theatres (section 3.3). Each of them is centred around the geographic locations of Russia's five Joint Strategic Commands (JSCs) and their corresponding Military Districts (MDs). The forces present in each MD, as a result of the overall force disposition, make up an initial response force in case of contingencies. In addition, we estimate the potential order of battle for a JISCO *with reinforcements* that can be deployed into any of the war theatres in the light of reinforcement constraints, combat readiness, and Russian exercises and combat operations (section 3.4).

Thereafter assets for stand-off warfare – both conventional and non-strategic nuclear – in the Western war theatre are assessed (section 3.5). Together with the assessments of forces for a JISCO, and the strategic nuclear capability, the strategic deterrence capability is assessed (section 3.6), and section 3.7 presents our conclusions on the Armed Forces' fighting power in 2016.



### 3.1 Force disposition and reinforcement constraints

Which units may not be available as reinforcement in other war theatres? Our estimate of reinforcement constraints relies on a number of assumptions. First, we presuppose that no part of Russia will be left undefended. Each war theatre will most likely retain the necessary assets for a minimal JISCO. We assume that to be:

- One Ground Forces formation, with at least three manoeuvre brigade equivalents as well as one brigade each for command, control and communications, artillery, air defence and logistics.
- At least two squadrons of fighter-bombers and fighter aircraft respectively as well as an air defence division.
- All Army Aviation helicopters, which are primarily tactical assets and are assumed to remain in their MDs, allowing for attack aircraft to be redeployed to other war theatres.
- All Navy units, in order to provide fire support and manoeuvre with Naval Infantry.

In addition, we assume that one Airborne forces division will be kept as a strategic reserve, and could be deployed to support a minimal JISCO in a contingency situation. We have revised our 2013 assessment that significant military assets belonging to the Eastern MD were unlikely to be redeployed elsewhere. In view of Eastern MD forces being deployed for the operation in Ukraine (see e.g. Sutyagin 2015), we now assume that there are no additional restrictions on reinforcements from the Eastern MD.

A second assumption is that some units are not available for redeployment due to geography. This is a result of the disposition of forces, illustrated in Map 2.1. The forces in Russia's military bases abroad – two in Georgia, one in Armenia and one in Tajikistan – are assumed to be available only for operations in their respective war theatres. The same goes for geographically isolated units: the 11th Army Corps in Kaliningrad, the de facto joint inter-service formation on Crimea, and units in Kamchatka, as well as the 68th Army Corps on Sakhalin and the Kurile Islands. Navy units are also limited by geography. It is possible to send vessels between different fleets – as has occurred on several occasions in the past – but any operationally significant redeployment of ships and submarines would be a tell-tale sign of an impending operation. We assume that Navy units mainly remain with their home formations in order not to lose the initiative element of surprise and the. Non-redeployable units are presented in italics in our overview of units available for a JISCO (Tables 3.1a-b below).

Finally, we assume that Russia's transport system is adequate for larger force deployments and does not restrict reinforcements between different war theatres, at least for redeploying up to a couple of army-size formations. Russia has both strategic and tactical transport assets and the Movement Control Service (Voennye soobshcheniia, VOSO) to ensure that such transport needs are handled properly with adequate support from civilian agencies (see Chapter 2,

section 2.7). Operationally significant transport of Ground Forces units requires Russian-gauge railways. Beyond that, a ground-centric Russian JISCO must rely on road transport or access to other railways.

Russia's combat operations in Syria testify to Russian capability to perform out-of-area operations. In particular the Air Force exhibited a high operational tempo and level of serviceability for aircraft and crews, according to Ruslan Pukhov (2016: 214). The Russian forces displayed significant endurance, due to logistics running more smoothly than many anticipated (Åtland et al. 2016: 47; Gorenburg 2016; Gressel 2016). In this case, Russia has overcome its traditional reliance on railway infrastructure and greatly enhanced its use of sea and air lines of communications (McDermott 2015). Mark Galeotti (2016) however points out that in Syria Russia fought an enemy that had only minimal capacity to close sea or air supply routes.

### 3.2 Assessing combat-capable units and readiness

How many Armed Forces units were combat capable and ready to be deployed to a JISCO in 2016? The Russian Ministry of Defence (MoD) *Encyclopaedia* (Ministry of Defence RF 2016a) stipulates that a unit has full combat capability (*boevaia sposobnost*) if at least 75 per cent of the personnel and equipment are serviceable. Below 74 per cent it is partly combat capable; below 30 per cent, it is not combat capable. We see no reason to adopt other criteria than the MoD for establishing whether a unit is combat capable. There are no available systematic figures on manning levels and serviceability of equipment on unit level, but we assume that general figures for all of the Armed Forces and for each branch of service reflect unit-level conditions.

Regarding personnel, MoD figures focus on increasing numbers of recruited contract soldiers and cadets and the size of the draft of conscripts. The MoD's silence about retention rates makes net assessments difficult. We assume that stated MoD manning levels in 2016, around 90 per cent (see section 2.6), reflect the reality. In short, all nominally available units in Chapter 2 had sufficient personnel in 2016 to be combat capable.

Defence Minister Sergei Shoigu stated in August 2016 that the serviceability of equipment in Air Force units was 63 per cent, in Air Defence units 96 per cent, in the Space Forces 98 per cent, in the Navy 76 per cent and in the Ground Forces around 94 per cent (Ministry of Defence RF, 2016b). On the basis of these official equipment serviceability figures we estimate that two thirds of all nominally available Air Force units (aircraft and helicopter units) are combat ready. For Navy units, we rely instead on the assessment of combat-capable vessels in the previous chapter (see Table 2.3). Serviceability in other forces is above 90 per cent according to official figures and therefore we assume all these units to be combat capable.

Readiness means not only manning and equipment serviceability. Exercises provide an opportunity to turn a group of servicemen into a functioning unit,

able to carry out assigned tasks in an operational context. Surprise inspections contribute to raising readiness levels. Russian exercises and surprise inspections are of such a scale and scope (see section 2.8) that it seems safe to assume that units and formations can adequately perform their part of a JISCO and that command structures can handle the complexities of such operations. Furthermore, the inter-service coordination within the Armed Forces in the Syria operation showed that a regional joint inter-service command improved the speed of decision making (Gorenburg 2016). It also provided experience of using new weapons systems and operational and tactical concepts, as well as experience of operation logistics (Åtland et al. 2016: 39). However, the experience gained in Syria is probably of limited use in a JISCO facing an opponent with modern weapons systems and trained regular forces (cf. Gressel 2016).

**Table 3.1a Assessed combat-capable ground forces as well as MVD formations and units available for JISCOs**

JISCO function	Eastern war theatre	Central Asia war theatre	Southern war theatre	Western war theatre	Arctic war theatre
C3	<i>Eastern JSC</i>	<i>Central JSC</i>	<i>Southern JSC</i>	<i>Western JSC</i>	<i>Northern JSC</i>
<b>Ground Forces</b>					
C3	<i>1 C3 support brigade</i>	<i>1 C3 support brigade</i>	<i>1 C3 support brigade</i>	<i>1 C3 support brigade</i>	
	<i>1 communications brigade</i>	<i>1 communications brigade</i>	<i>1 communications brigade</i>		
	<b>5 C3 support brigades</b>	<b>2 C3 support brigades</b>	<b>2 C3 support brigades</b>	<b>2 C3 support brigades</b>	
Manoeuvre <sup>(a)</sup>	<i>1 combined-arms army (3)</i> <i>1 army corps – Sakhalin (3)*</i>	<i>1 combined-arms army (3)</i>	<i>1 combined-arms army (3)</i> <i>1 combined-arms army – Crimea (1)*</i>	<i>1 combined-arms army (3)</i> <i>1 army corps – Kaliningrad (2)*</i>	<i>1 combined-arms army (2)</i>
	<b>3 combined-arms armies (7)</b>	<b>1 combined-arms army (3)</b>	<b>1 combined-arms army (5)</b>	<b>1 combined-arms army (4)</b> <b>1 tank army (5)</b>	
Airborne Forces <sup>(b)</sup>	<b>2 air assault brigades</b>	<b>1 air assault brigades</b>	<b>1 air assault division</b> <b>1 air assault brigade</b>	<b>2 air assault divisions</b> <i>1 air assault division</i>	
Fire support	<i>1 artillery brigade</i>	<i>1 artillery brigade</i>	<i>1 artillery brigade</i>	<i>1 artillery brigade</i>	
	<i>1 SAM brigade</i>	<i>1 SAM brigade</i>	<i>1 SAM brigade</i>	<i>1 SAM brigade</i>	
	<b>3 Artillery brigades</b>	<b>2 Artillery brigades</b>	<b>1 Artillery brigade</b>	<b>2 Artillery brigades</b>	
	<b>3 SSM brigades</b> <b>2 SAM brigades</b> <b>1 CBR brigade</b>	<b>3 SSM brigades</b> <b>2 SAM brigades</b> <b>1 CBR brigade</b>	<b>2 SSM brigades</b> <b>1 SAM brigade</b> <b>1 CBR brigade</b>	<b>3 SSM brigades</b> <b>2 SAM brigades</b> <b>1 CBR brigade</b>	
Mobility	<b>2 railway troops brigades</b> <b>1 engineer brigade</b>	<b>3 railway troops brigades</b> <b>1 engineer brigade</b>	<b>2 railway troops brigades</b> <b>1 engineer brigade</b>	<b>3 railway troops brigades</b> <b>3 engineer brigades</b>	
Sustainability	<i>1 logistics brigade</i>	<i>1 logistics brigade</i>	<i>1 logistics brigade</i>	<i>1 logistics brigade</i>	
	<b>3 logistics brigades</b>	<b>1 logistics brigade</b>	<b>1 logistics brigade</b>	<b>1 logistics brigade</b>	
Int. Troops	<b>2 brigades</b>	<b>3 divisions + 2 brigades</b>	<b>6 brigades</b>	<b>2 divisions + 9 brigades</b>	N/A

**Source:** Chapter 2, section 2.2.

**Comments:** Units here detailed for a war theatre are, for simplicity, those that are dislocated within the main corresponding MD, even though all these units do not belong to the MD. Units in italics are not available for redeployment. They are either needed for a “minimum JISCO” in the war theatre or geographically locked in their locations (marked\*). Assets in bold are available for redeployment. Numbers in brackets denote the number of manoeuvre brigade equivalents.

**Notes:** (a) One manoeuvre division counted as two brigades; Naval Infantry listed as manoeuvre in table 3.1b; (b) we count air assault divisions and airborne divisions as equals, despite their slightly different operational use.

**Abbreviations:** CBR = chemical, biological and radiological (protection); C3 = command, control and communications; JSC = Joint Strategic Command; Int. = Interior; MVD = Ministry of the Interior (Ministerstvo Vnutrennykh Del); N/A = not applicable; SAM = surface-to-air missile; SSM = surface-to-surface missile.

Table 3.1b Assessed Aerospace Forces and Navy formations and units available for JISCOs

JISCO function	Eastern war theatre	Central Asia war theatre	Southern war theatre	Western war theatre	Arctic war theatre
<b>Aerospace Forces</b>					
C3 (a)	11 <sup>th</sup> AFADA HQ	14 <sup>th</sup> AFADA HQ	4 <sup>th</sup> AFADA HQ	6 <sup>th</sup> AFADA HQ	45 <sup>th</sup> AFADA HQ
Fire support	2 fighter/multi-role sqns (20)	2 fighter/multi-role sqns (20)	2 fighter/multi-role sqns (20)	2 fighter/multi-role sqns (20)	2 fighter/multi-role sqns (20)
	2 fighter-bomber sqns (20)	2 fighter-bomber sqns (23)	2 fighter-bomber sqn (20)	2 fighter-bomber sqns (20)	2 fighter-bomber sqns (20)
	5 attack helicopter sqns (50)	2 attack helicopter sqns (20)	6 attack helicopter sqns (60)	7 attack helicopter sqns (75)	7 attack helicopter sqns (75)
	5 fighter/multi-role sqns (55)	1 fighter/multi-role sqn (14)	6 fighter/multi-role sqns (60)	9 fighter/multi-role sqns (87)	9 fighter/multi-role sqns (87)
	3 fighter-bomber sqns (35)		5 fighter-bomber sqns (55)	2 fighter-bomber sqns (20)	2 fighter-bomber sqns (20)
	5 attack sqns (47)		5 attack sqns (54)		
	1 air defence division (b)	1 air defence division	1 air defence division	3 air defence divisions (c)	1 air defence division
	2 air defence divisions	1 air defence division	1 air defence division	1 air defence division	
Mobility	1 medium tpt a/c sqn (10)	1 medium tpt a/c sqn (14)	1 medium tpt a/c sqn (10)	1 medium tpt a/c sqn (14)	1 medium tpt a/c sqn (14)
	5 tpt helicopter sqns (55)	3 tpt helicopter sqns (34)	6 tpt helicopter sqns (60)	7 tpt helicopter sqns (75)	7 tpt helicopter sqns (75)
	1 medium tpt a/c sqn (10)	2 heavy tpt sqns (18)	2 heavy tpt sqns (18)	3 heavy tpt sqns (28)	3 heavy tpt sqns (28)
<b>Navy</b>					
C3 (b)	Pacific Fleet HQ	Caspian Flotilla HQ (d)	Black Sea Fleet HQ	Baltic Fleet HQ	Northern Fleet HQ
Manoeuvre	2 naval infantry brigades	½ naval infantry brigade	1 naval infantry brigade	1 naval infantry brigade	1 naval infantry brigade
Fire support LACM Air Defence (e)		3 corvettes 1 frigate	4 submarines 2 corvettes		1 submarine
	1 destroyer 1 cruiser		1 cruiser 3 frigates	1 destroyer	1 aircraft carrier 2 cruisers, 1 destroyer
MLRS (f)	3 landing ships	8 corvettes	5 landing ships	3 landing ships	4 landing ships
	4 landing ships 2 landing craft	6 landing craft	6 landing ships 1 landing craft	5 landing ships 5 landing craft	4 landing ships 2 landing craft

Source: Chapter 2, section 2.2.

**Comments:** Units in *italics* are not available for redeployment. They are either needed for a "minimum JISCO" in the war theatre or geographically locked in their locations (marked\*). Assets in bold are available for redeployment. Numbers in brackets denote the number of aircraft or helicopters. We list Aerospace Forces in squadrons of ten aircraft or helicopters in each to enable comparisons. Nominally available Aerospace Forces assets have been reduced by one third to mirror estimated combat capability (section 3.2). We assign formations/units to the Arctic war theatre based on location, i.e. within the Northern Fleet. Notes: (a) Aerospace Forces and Navy HQs denote their complete command and control structures including mobile HQs; (b) Air Defence divisions refer to Aerospace Forces units with long range SAMs; (c) Air Defence divisions around Moscow (2) and St Petersburg (1) are likely to remain; (d) the Caspian Flotilla can provide support in both the Southern and the Central Asian war theatres; (e) cruisers provide air defence with ship-based theatre SAMs (S-300F; SA-N-6), destroyers and frigates provide short-range air defence, i.e. ship-based SAMs with a 50–70 km range, SA-N1 and SA-N-7; (f) the landing ships *Ropucha* and *Aligator* are listed for two functions: fire support (MLRS) and mobility.

**Abbreviations:** a/c = aircraft; AFADA = Air Force and Air Defence Army; C3 = command, control and communications; LACM = land-attack cruise missile; MLRS = multiple launch rocket system; SAM = surface-to-air missile; sqn = squadron; tpt = transport.

The Armed Forces' combat-ready units available for a JISCO in 2016 are summarized in Tables 3.1a-b, with non-redeployable units separately accounted for. Table 3.1 shows which combat-ready formations and units are deployed in each war theatre in peacetime. It illustrates that there are sufficient initially available assets in each war theatre to launch a JISCO, as discussed in section 3.3 below. It also allows us to assess the assets available for a JISCO with reinforcements, which we do in section 3.4.

### 3.3 Initially available assets in each war theatre

Russia's peacetime force disposition, detailed in Chapter 2, is what Russia would have initially available for operations in each war theatre, without any redeployments. A war theatre covers Russian territory and neighbouring countries. Operations in a war theatre may be conducted by more than one JSC, but for simplicity we here estimate the initially available assets of the primary JSC in each war theatre. Furthermore, we assume that the JSC would initially assume command over the forces belonging to the corresponding MD.

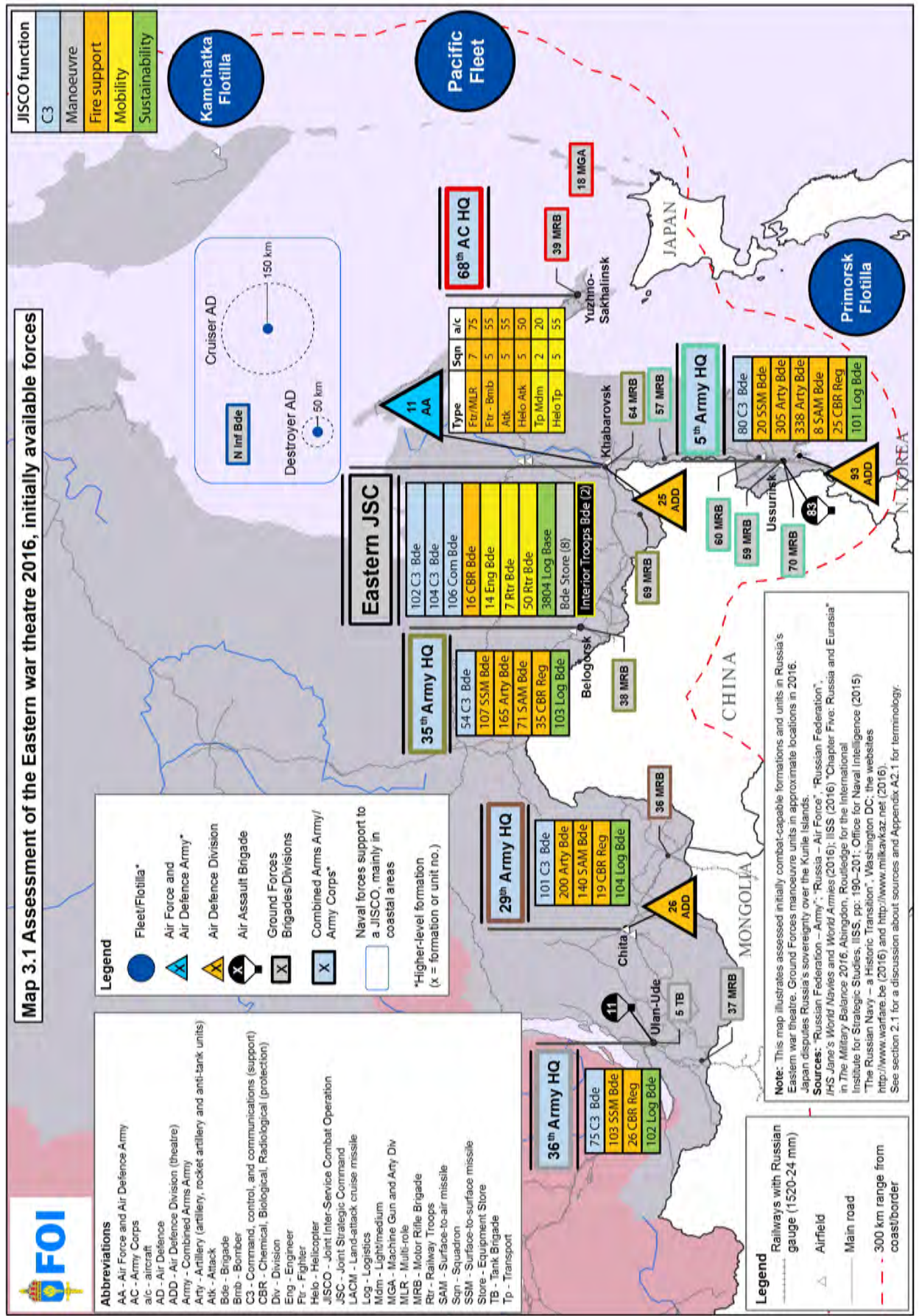
#### 3.3.1 The Eastern war theatre

The Eastern war theatre covers Russia's Far East, Mongolia, China and the Pacific Ocean, as outlined in Map 3.1. The map shows the Eastern MD's five Ground Forces formations, four Combined-arms Armies (CAAs) and – on Sakhalin – one Army corps, as the core of potential JISCOs. They have 11 manoeuvre brigades – ten motor rifle and one tank brigade – and a composite artillery/infantry division tailored to the Kurile Islands. In addition, there are two air assault and two Naval Infantry brigades in the Eastern MD. Each CAA has support brigades for command and control, fire support and sustainability. The easternmost CAAs, the 35th and 5th, are stronger in manoeuvre units and in fire support than the 36th and 29th CAAs, but the latter two provide command, control and communications (C3) capability to handle units from other MDs or units based on the Eastern MD's eight brigade equipment stores. The CAAs lack mobility support brigades of their own. The two Railway Troops brigades and one Engineer brigade belong to the JSC. The JSC lacks mobile sustainability support units such as logistics brigades of its own. Russian-gauge railways are limited and the vast area of the Eastern war theatre. Railways facilitate operationally significant east–west transport within Russia, but abroad there are few such tracks.

The Pacific Fleet's cruiser and ten submarines can support a JISCO with land-attack cruise missiles (LACMs). In coastal areas, the cruiser and a destroyer can provide support with air defence and manoeuvre support with a landing operation with one of the Naval Infantry units. Aerospace Forces fire support includes some seven fighter/multi-role squadrons, five fighter-bomber squadrons, five attack helicopter squadrons and three air defence divisions. Air units can operate from at least ten airfields. In addition, Su-25 units practised using highways as temporary runways in 2014 (Ministry of Defence RF 2014). The Interior Troops' paramilitary support would be based on two brigades.

In sum, the Eastern MD provides assets for a JISCO along its Pacific coast, but only for a joint ground and aerospace forces operation further inland. The relative scarcity of Russian-gauge railways and field units for mobility and sustainability, logistic and engineer brigades support hampers operations outside Russian territory.





### 3.3.2 The Central Asia war theatre

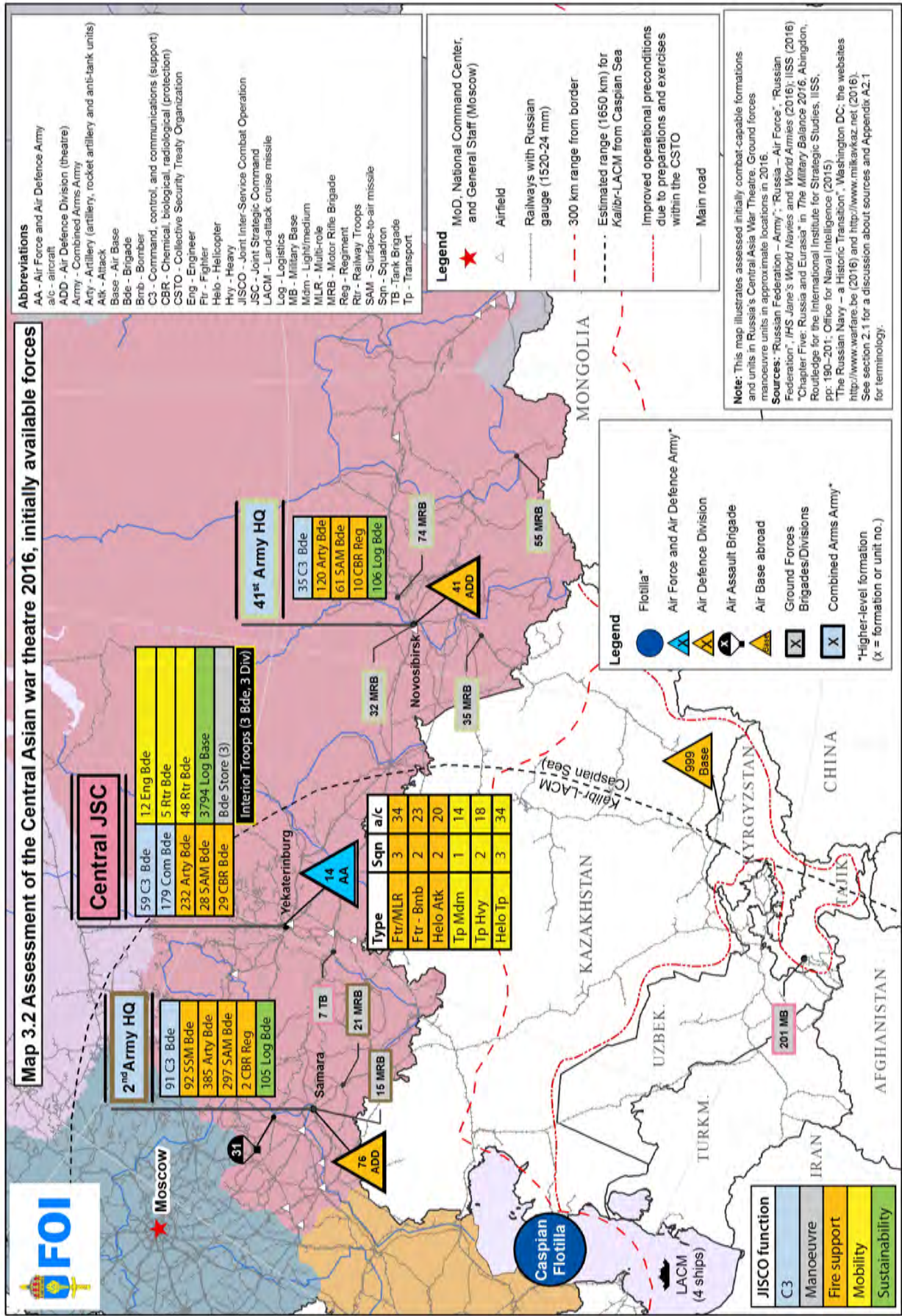
The Central Asia war theatre, outlined in Map 3.2, covers Siberia, the Urals, the five Central Asian republics, Mongolia and north-western China, facing Afghanistan and Iran. Map 3.2 shows the Central MD's peacetime force disposition with two Ground Forces formations, the 41st and 2nd CAAs, as potential cores for JISCOs. They have six motor rifle and one tank brigade. In addition, there is one air assault brigade. Each CAA has support brigades for command and control, fire support and sustainability. In 2016, the General Staff transferred the 23rd and 28th motor rifle brigades (MRBs) from the Central MD to formations in the Western MD. The Central MD's three brigade equipment stores are located in the east. The Central MD thus appears as a strategic reserve and key for supporting force redeployment and operations to the east and west, in addition to an overall responsibility for operations in the Central Asia.

The CAAs lack their own mobility support brigades. The three Railway Troops brigades and one Engineer brigade belong to the JSC. The JSC does not have its own mobile sustainability support units such as logistics brigades. Exercises and planning within the Collective Security Treaty Organization has enabled Russia to prepare administratively and exercise transporting sizeable Russian forces on Russian-gauge railways that stretch across former Soviet republics for operations in the Central Asia war theatre. Russian bases in Tajikistan (Ground Forces) and Kyrgyzstan (a small air unit) provide support points for operations.

Aerospace Forces fire support includes some three fighter/multi-role squadrons, two fighter-bomber squadrons, two attack helicopter squadrons and two air defence divisions. The Navy's role is limited. Along the Caspian Sea coast, the Caspian Flotilla can provide air defence from one frigate and limited manoeuvre support with two Naval Infantry battalions and smaller landing craft. The flotilla's corvettes can fire LACMs for support in most of the war theatre, provided that targeting is adequate. The Interior Troops' support would be based on three divisions and two brigades.

In sum, the Central MD's resources would be stretched to enable more than one JISCOs. The Ground Forces have sufficient resources, but the Navy could do little, and the Aerospace Forces would need reinforcements.





### 3.3.3 The Southern war theatre

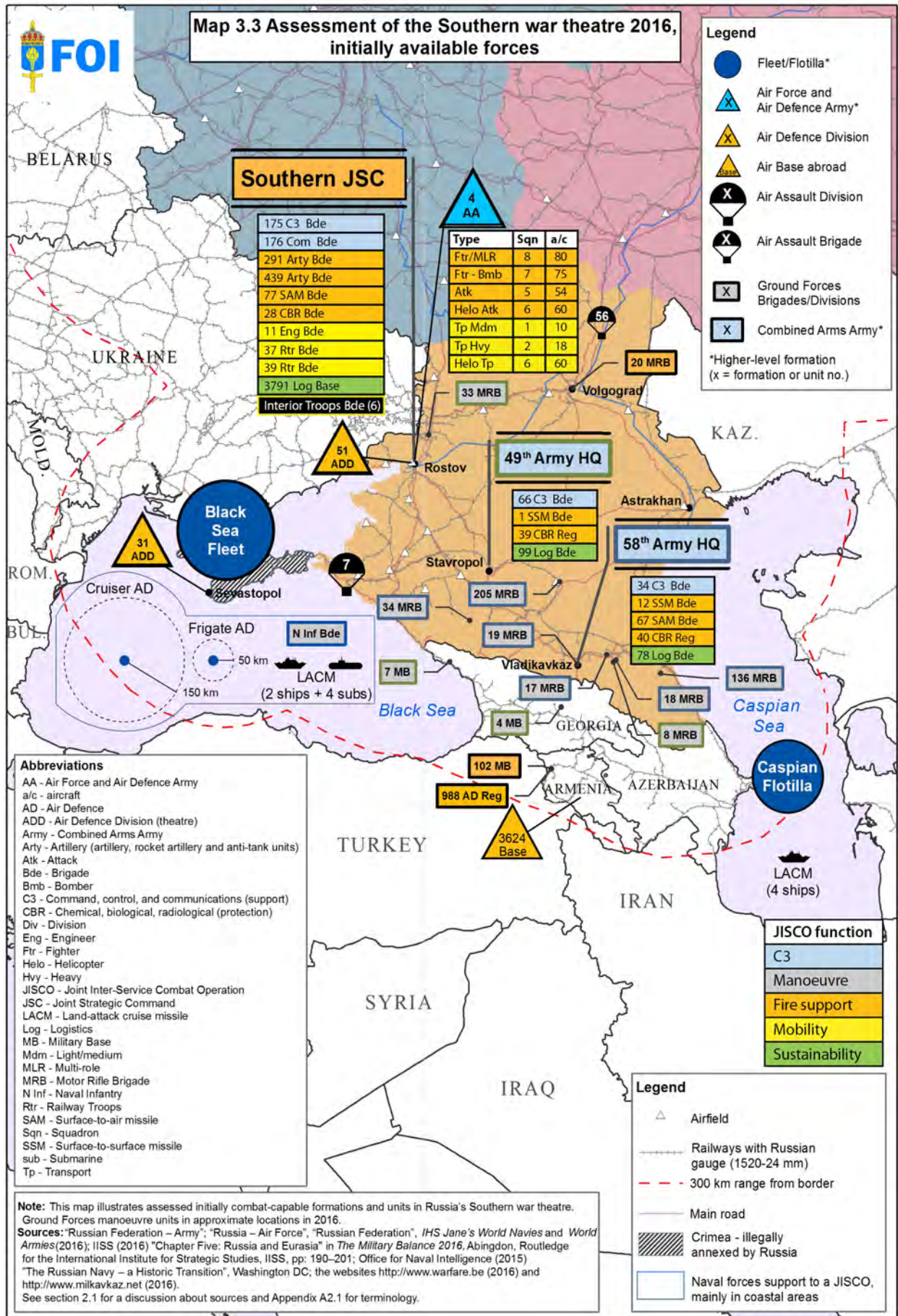
The Southern war theatre covers Russia's North Caucasus and three volatile regions: the South Caucasus, the Middle East and the Black Sea region, including the parts of Ukraine where Russia has had ongoing military operations since 2014. Map 3.3 outlines the war theatre and shows the Southern MD's two Ground Forces formations, the 58th CAA with six MRBs, and the 49th CAA with two MRBs and two military bases, as cores for potential JISCOs. In addition, there are one air assault division and two air assault brigades. On Crimea, the 810th Naval Infantry and one de facto MRB make up the core of a possible joint inter-service force group. Each CAA has support brigades for command and control, fire support and sustainability.

The CAAs lack their own mobility support brigades. Sizeable fire support assets (two artillery and one air defence brigade) and key mobility assets (two Railway Troops brigades and one Engineering brigade) rest with the JSC. The JSC lacks its own mobile sustainability support units such as logistics brigades. Russian-gauge railways across the Southern MD and in adjacent operational areas such as Georgia and Ukraine facilitate transport of major Ground Forces formations on former Soviet Union territory, but not beyond.

For operations in coastal areas around the Black Sea, the Black Sea Fleet can support manoeuvre by landing Naval Infantry and provide fire support with air defence from one cruiser and three frigates. The Caspian Flotilla can support manoeuvre with a battalion-size Naval Infantry landing and limited air defence along the Caspian Sea coasts. Two corvettes and four submarines from the Black Sea Fleet as well as one frigate and three corvettes in the Caspian Flotilla can provide LACM fire support in the entire theatre. Aerospace Forces fire support includes eight fighter/multi-role squadrons, seven fighter-bomber squadrons, six attack helicopter squadrons and two air defence divisions. Air units can operate from some 20 airfields. The Interior Troops' support would be based on six brigades.

In sum, the relatively small Southern MD provides sizeable assets for at least one JISCO, with significant Aerospace Forces and Navy support. The LACM capabilities enable Navy fire support to cover the whole Southern war theatre, provided that targeting is adequate.





### 3.3.4 The Western war theatre

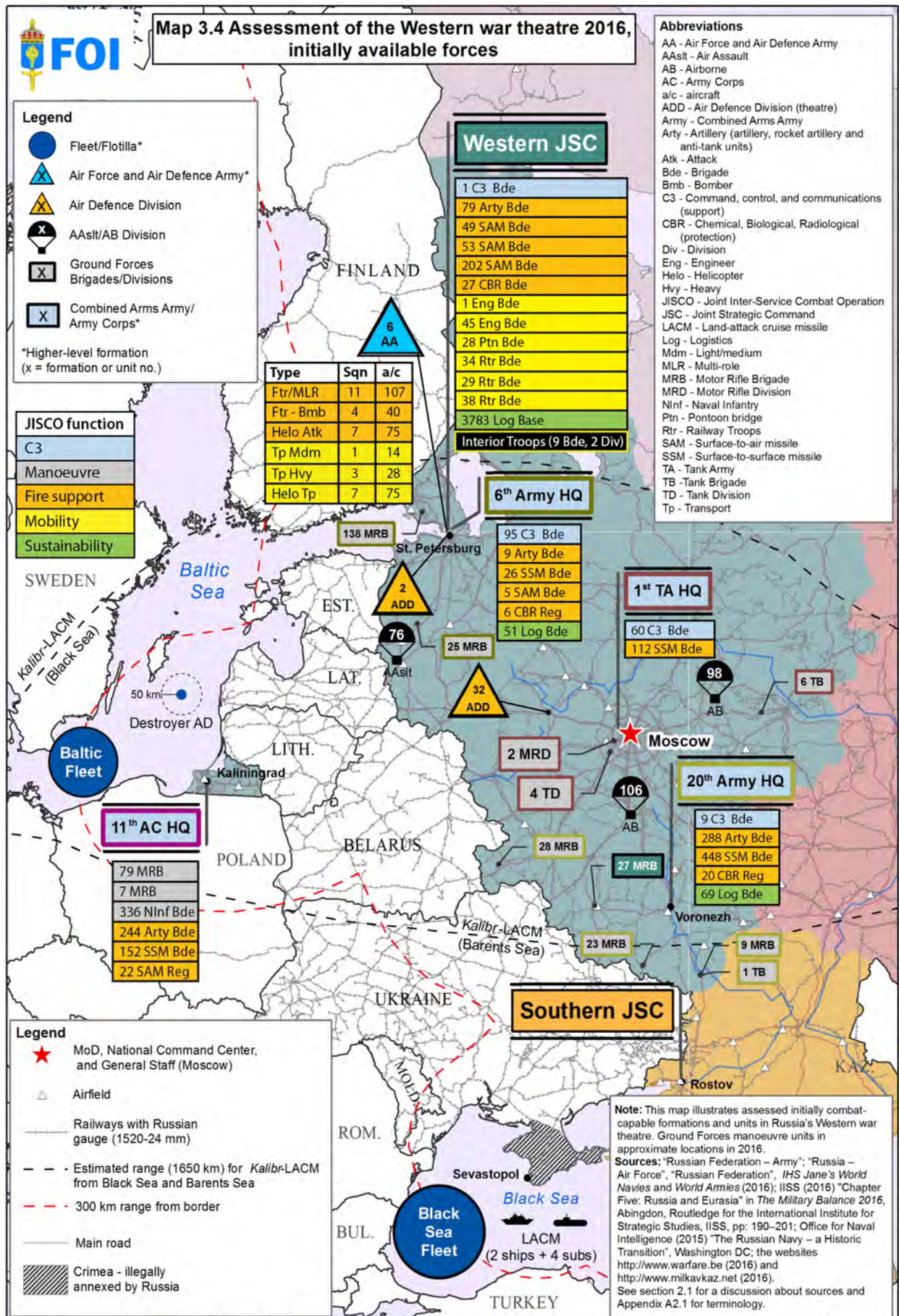
The Western war theatre covers most of Western Russia and its neighbours between the Barents Sea and the Black Sea, as illustrated in Map 3.4. Russia's ongoing war in Ukraine and the ensuing political tensions with the West may explain Russian reinforcements in the Western MD in recent years, such as redeploying two MRBs from the Central MD (see above). Map 3.4 shows the Western MD's peacetime force disposition with four Ground Forces manoeuvre formations, the 1st Tank Army (TA), the 6th and 20th CAAs and the 11th Army Corps (AC), the latter having three manoeuvre brigades all tied to Kaliningrad. The other formations have 12 manoeuvre brigades (or equivalents), four of which are organized into two divisions, probably to ensure stronger offensive capability. In addition, there are three air assault divisions in the Western MD.

Each CAA has support brigades for command and control, fire support and sustainability, but not mobility. The 1st TA does not have its own sustainability field support units, which could potentially impede resource-consuming armoured manoeuvres. The Western MD Ground Forces' mobility support is bigger than those in other MDs: three Railway Troops brigades, two Engineering brigades and one pontoon brigade. This facilitates transport on Western Russia's extensive network of rivers, roads and railways. Russian-gauge railways also stretch into Finland, Estonia, Latvia, Lithuania, Belarus and Ukraine and in some places into Poland and Slovakia, a key favourable condition for a Russian JISCO beyond Russia's borders.

Aerospace Forces fire support is bigger than those in other MDs, probably reflecting concern about NATO's collective air power. The 6th Air Army (AA) has 11 fighter/multi-role squadrons, four fighter-bomber squadrons, seven attack helicopter squadrons and four air defence divisions, two of which primarily defend Moscow. Aircraft and helicopter transport assets are bigger than in other MDs. The Navy's key role would be to support a manoeuvre with the Naval Infantry, primarily in the Baltic Sea, since the Baltic Fleet's air defence is limited to one destroyer. The Interior Troops' paramilitary support would be based on two divisions and nine brigades.

In sum, Western MD resources allow for at least one minimal JISCO – probably two – with significant Aerospace Forces support but a limited role for the Navy.





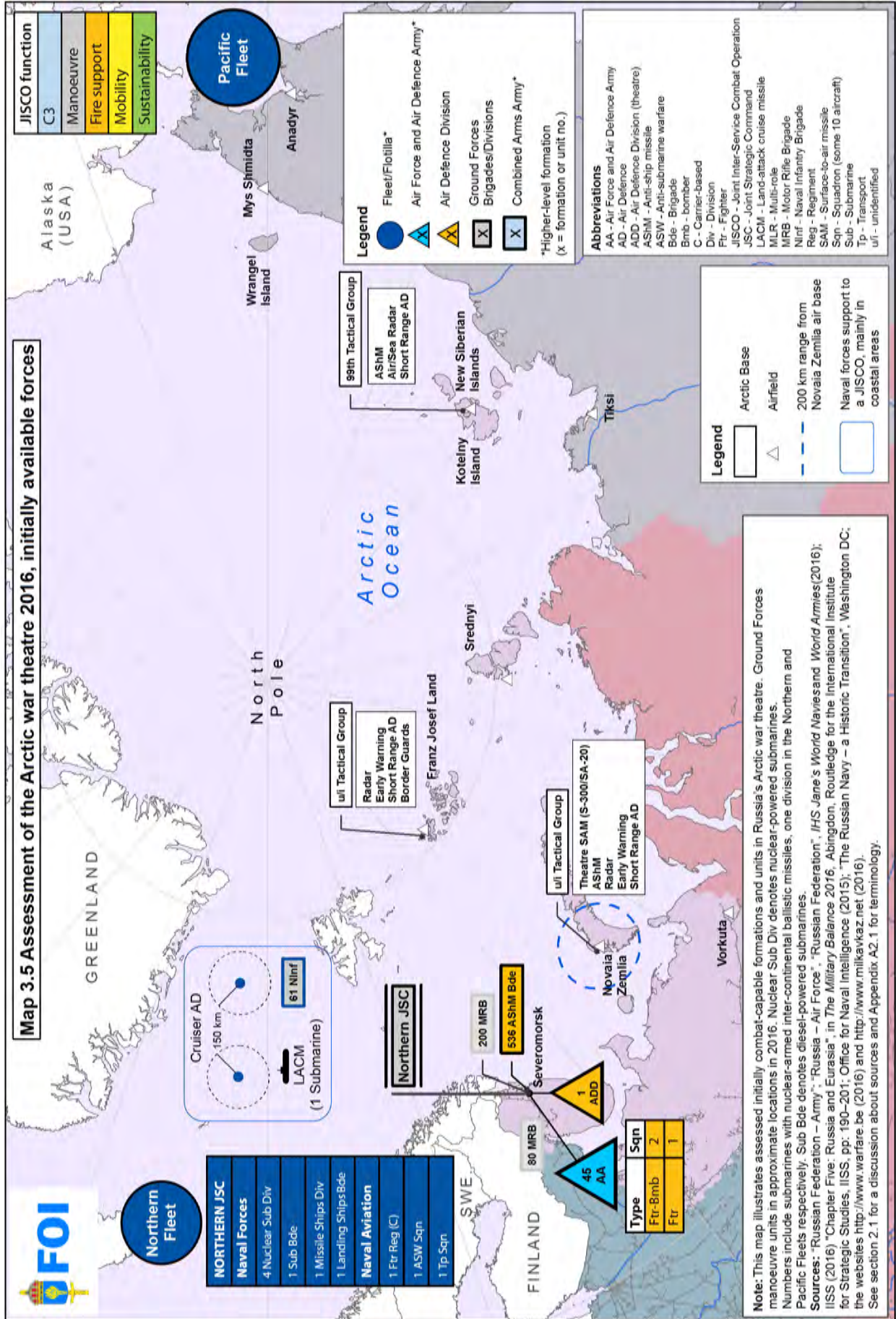
### 3.3.5 The Arctic war theatre

The Arctic war theatre covers the northern parts of Russia and Scandinavia as well as the Arctic Ocean, as outlined in Map 3.5. It received formal underpinning in December 2014 with the creation of the Northern JSC, based on the Northern Fleet (*Rossiiskaia gazeta* 2014). In 2016, a corresponding MD named the Northern Fleet appeared on the Russian MoD website. It covers the Kola Peninsula, a territory south of the coast eastwards, and the Novaia Zemlia, Franz Josef, Sredny and New Siberian islands (Ministry of Defence RF 2016c). The new JSC probably relieves the Western, Central and Eastern JSCs from operations in the north.

Two overall tasks for the Northern JSC are relevant here: to ensure the nuclear strike capabilities of the Northern Fleet's strategic submarines, and to ensure situational awareness and air defence in Russia's Arctic. The first task requires assets for a JISCO to defend the Kola region. Units for that mission are the Northern Fleet and the 45th AA, as outlined in Map 3.5. Key Ground Forces manoeuvre units are a Naval Infantry brigade and two MRBs. The absence of field units for fire support, mobility and sustainability reduces the potential for combat operations. The 45th AA's assets for fire support include around two squadrons of fighter-bomber aircraft, a squadron of long-range fighter aircraft, MiG-31, and an air defence division. The Navy's fire support would be a carrier-based squadron of multi-role aircraft and air defence from one destroyer and two cruisers, as well as LACMs from the Severodvinsk (Yasen class) submarine.

Situational awareness in the air and in space is vital for Russia's missile defence, and at sea to control nascent naval lines of communications and to support Russian territorial claims. Air defence assets are scarce and covering the entire region is a tall order. Therefore, mobility is a key support function. Air and sea transport enable assets for situational awareness and air defence to operate over time. There are also some anti-ship missiles and air defence assets at Russian bases for self-protection. The Airborne Forces, arguably the most mobile ground forces, train in Arctic conditions.





### 3.3.6 Non-strategic nuclear and heavy flame-thrower fire support

Each war theatre also has non-strategic nuclear forces available (see Table 2.5). There are at least two nuclear-capable short-range missile brigades in all MDs (except the Northern Fleet) and all fleets include anti-ship missiles with nuclear potential. More importantly, there are fighter-bomber or bomber aircraft regiments based in each MD. There are nuclear storage facilities available to all JSCs (see Map 2.4) and an estimated minimum of 88–124 operationally assigned non-strategic nuclear warheads in each MD (Sutyagin 2016). In addition, each MD has a chemical, biological and radiological (CBR) protection brigade and each CAA a CBR regiment that can provide fire support with heavy flame-throwers.

## 3.4 Potential order of battle for a JISCO with reinforcements

What kind of force could Russia deploy for a JISCO when it has the initiative? As detailed in the previous section, the peacetime force disposition of all MDs allows for an initial JISCO capability in each war theatre. However, Tables 3.1a-b show that there is a large number of forces that can be made available for redeployment between war theatres in order to allow a larger JISCO that then, in turn, can be deployed into any of the war theatres. This has also been regularly exercised in Russia.

### *The composition of a large-scale JISCO*

The exact composition of forces in a Russian operation depends on the mission and on what forces are available. The composition of forces during large-scale exercises is seldom detailed in official statements or in the military press, so we are compelled to rely on estimates and assumptions.

We estimate that a large-scale JISCO would include some 150 000 servicemen. This roughly corresponds to the size of an annual strategic exercise and surprise inspections in the Western MD in 2014 and the Eastern MD in 2013. We assume that a large-scale Russian ground-centric JISCO would be made up as follows: one third Ground Forces manoeuvre units, one third Ground Forces support functions and one third forces other than Ground Forces. This would mean a Ground Forces core in the JISCO of three to four CAAs with some 14–19 manoeuvre brigade equivalents, including Airborne and Naval Infantry units. Each large formation would have additional support from one artillery brigade, one surface-to-surface missile brigade, and one air defence brigade. The CAA would also be supported by two to four engineer as well as logistics brigades, as detailed in Table 3.2. Such a force would enable a JISCO with Ground Forces formations operating in echelons, which facilitates fighting an adversary with similar forces and, indeed, theatre-level offensive operations.

Table 3.2 Estimated force composition of a large-scale JISCO

Services	Approximate no. of servicemen
<b>Ground Forces</b>	50 000
3–4 combined-arms armies	
3–4 C3 support brigades	
9–12 manoeuvre brigades	
2 air assault divisions 2 air assault brigades	
3–4 artillery brigades 3–4 SSM brigades 3–4 SAM brigades	50 000
2–4 engineer brigades	
2–4 logistics brigades	
<b>Aerospace Forces</b>	50 000
11 fighter/multi-role squadrons	
6 fighter-bomber squadrons	
5 attack squadrons	
3 theatre air defence divisions	
1 light/medium transport aircraft squadron	
4 heavy transport aircraft squadrons	
<b>Navy</b>	
1 naval infantry brigade	
LACM: 1–4 frigate/corvettes, 1–5 submarines Air defence : 1 cruiser, 1 destroyer (near coasts)	
Landing ships	
<b>Total</b>	150 000

**Abbreviations:** C3 = command, control and communications; LACM = land-attack cruise missile; SAM = surface-to-air missile; SSM = surface-to-surface missile.

The Aerospace Forces are estimated to be able to support a large-scale JISCO with some 20 squadrons of fighter/multi-role, fighter-bomber and attack aircraft as well as three air defence divisions. Judging by the Syria operation, the use of older, non-guided weapons still dominate Russian air operations concepts (Åtland et al. 2016: 47). Dmitry Gorenburg (2016) asserts that only 20 per cent of the air strikes used precision-guided munitions, indicating that these are short in supply. The Navy would be able to provide support with additional air defence and LACM strikes from sea as well as the transport of forces with landing ships. The analyst Dmitry Gorenburg (2015) concluded in 2015 that Russia's navy is a potent coastal defence force, but with significant blue water capabilities still many years away.

*Another large-scale JISCO as strategic reserve*

As seen in Tables 3.1a–b, the number of units available for redeployment would allow Russia to muster a significantly larger force than the large-scale JISCO outlined here. In theory, a nine-CAA JISCO could be deployed if all assets were brought to a single war theatre. Some factors, however, work against that. First, such a large force has not been seen in exercises hitherto and may therefore not work in reality. Second, assembling a significantly larger force than usual is difficult to hide and can cause alarm, spoiling the advantage of having the initiative. Third, Russian transport and sustainability support may

be insufficient for assembling forces of such a size. Last but not least, the Russian General Staff is assumed to withhold part of the available forces as a strategic reserve.

Part of this strategic reserve may be used to deploy a second, parallel JISCO, either in the same war theatre or in another. On exercises, such forces are usually smaller than the main exercise effort. Nevertheless, the recurring exercising of simultaneous JISCOs in different war theatres indicates that Russia can carry out two operations at the same time. The Armed Forces' ability to undertake multiple JISCOs has increased since 2013 with the expansion of command and control structures, such as the new formation HQs the 1st TA in the Western MD, the 11th AC in Kaliningrad and the 68th AC on Sakhalin, and the Northern Joint Strategic Command, based on the Northern Fleet.

### 3.5 Stand-off warfare assets in the Western war theatre

The capability for JISCOs is complemented by stand-off warfare, using both conventional and non-strategic weapons. We have based the assessment of available stand-off warfare assets on the estimated launchers in operation, their operational range and their loading (detailed in Table 2.6). We are unable to fully assess the Armed Forces' ability to support stand-off warfare operations with command and control, communications, intelligence collection, surveillance and reconnaissance (C4ISR). We therefore assume that long-range land-attack cruise missiles are restricted to striking predetermined, stationary targets.

In our estimate, we have not been able to take into account different types of warheads, apart from discussing nuclear and conventional warheads separately. When estimating the number of missiles available to the Western war theatre for a stand-off strike, we have assumed that:

- All the naval units in Table 2.6 could fire half of their missiles in a single strike. In October and November 2015, four ships of the Caspian Flotilla fired cruise missiles at targets in Syria, launching over three quarters of their missile loads in October and half in November. In December 2015, the submarine *Rostov-on-Don* launched probably all of its submarine-launched cruise missiles (SLCMs) in a single strike (Kornev 2016). In Tables 3.3a–b, half of each ship will be considered available for counting purposes.
- Up to a quarter (rounded down) of the Long-Range Aviation aircraft in operation could be made available to the Western war theatre for a conventional stand-off strike. The International Institute for Strategic Studies estimates that at any one time the number of Tu-160s available for operations “may well be only in the low single figures” due to the maintenance needs of the aircraft, which are high (IISS 2015).
- Up to two thirds of the Iskander-M battalions could be made available for a stand-off strike. Given the missiles' rather short range, we assume that a third of the battalions are out of range for the intended targets at any given moment.



**Table 3.3a Estimated available long-range land-attack cruise missiles for a stand-off strike in the Western war theatre, 2016**

Long-range land-attack cruise missiles	Nominal range	Estimated operational range	Launcher	Sub-ordinate to	Counting unit	Number of units in operation	Estimated available	Warheads (per unit)	Total available missiles
Kh-101 ALCM	5 000 km	3 300 km	Upgraded Tu-160	LRA	Aircraft	10	2	- / 12	0 / 24
Kh-101 ALCM	5 000 km	3 300 km	Upgraded Tu-95MS	LRA	Aircraft	27	6	- / 8	0 / 48
Kh-555 ALCM	3 000 km	2 000 km	Non-upgraded Tu-160	LRA	Aircraft	3	0	- / 12	0 / 0
Kh-555 ALCM	3 000 km	2 000 km	Non-upgraded Tu-95MS	LRA	Aircraft	30	7	- / 6	0 / 42
Kalibr (SS-N-30A) SLCM	2 500 km	1 650 km	Varshavianka class (Project 636)	BSF	Subs	4	2	4 / 4	8 / 8
Kalibr (SS-N-30A) LACM	2 500 km	1 650 km	Buian-M class (Project 21631)	BSF (CF)	Ships	2 (+3)	1 (+1,5)	8 / 8	8 (+12) / 8 (+12)
Kalibr (SS-N-30A) SLCM	2 500 km	1 650 km	Yasen class (Project 885)	NF	Subs	1	0,5	16 / 40	8 / 20
Kalibr (SS-N-30A) LACM	2 500 km	1 650 km	Modified Gepard class (Dagestan frigate)	CF	Ships	(1)	(0,5)	8 / 8	(4) / (4)
Granat (SS-N-21) SLCM	3 000 km	2 000 km	Victor III class (Project 671RTM)	NF	Subs	1	0,5	4 / -	2 / 0
Granat (SS-N-21) SLCM	3 000 km	2 000 km	Sierra II class (Project 949A)	NF	Subs	2	1	8 / -	8 / 0
Granat (SS-N-21) SLCM	3 000 km	2 000 km	Akula class (Project 971)	NF	Subs	2	1	8 / -	8 / 0
<b>Grand total</b>									<b>42 (+16) / 150 (+16)</b>

**Sources:** Chapter 2, Table 2.6 and FOI estimates of available units (see section 3.5) and operational range.

**Comments:** All weapon systems with an estimated operational range that allows them to strike targets in the Western war theatre are included in this table, thereby encompassing units belonging to other military districts than the Western MD. The operational range of the cruise missiles in this table has been estimated to be roughly two thirds of the nominal range. Flying at low altitude, following the terrain and navigating by way-points reduces the range of a missile. Kalibr missiles fired from the Caspian Sea may only hit targets in the south-eastern parts of the Western war theatre and are therefore presented in brackets.

**Abbreviations:** ALCM = air-launched cruise missile; BSF = Black Sea Fleet; CF = Caspian Flotilla; Conv'l = conventional; LACM = land-attack cruise missile; LRA = Long-Range Aviation; NF = Northern Fleet; SLCM = submarine-launched cruise missile; subs = submarines.

The rather limited assets estimated to be available for a stand-off strike reflect the underlying assumption that the General Staff will retain a significant strategic reserve to shape the future development of a conflict.

*A significant increase in land-attack missiles*

The number of land-attack missiles available for a stand-off strike has increased three-fold since the 2013 estimate, both with conventional and with nuclear warheads. In 2016, the introduction of Kalibr missile systems in the Navy and continued upgrading of strategic bombers and Ground Forces' missile brigades to the Iskander-M system made available some 150–166 conventional long-range cruise missiles (see Table 3.3a) and up to 96 short-range land-attack missiles fired in two salvos (see Table 3.3b). The number of available air-launched cruise missiles (ALCMs) is not known, but the current arsenal may allow for a stand-off strike with 114 missiles. As mentioned in section 2.8, 97 ALCMs have been fired as part of the Syria operation. However, it should be noted that none of the attacks with long-range weapons in Syria were actual stand-off strikes, as all targets were within the air operation area.

In addition, Tu-22M3 medium-range bombers could launch 30 anti-ship missiles (AShMs) and Northern Fleet vessels another 56 AShMs. The latter may be used for land targets as well, but it is a secondary assignment and the range limits the possible targets. We therefore consider all the 86 AShMs to be devoted to conventional anti-ship strikes.

Alternatively, 42–58 long-range cruise missiles and 66–78 short- or medium-range missiles could be available for a non-strategic nuclear stand-off strike (see Table 3.3a–b). The number of available naval launchers for AShMs is roughly the same as in 2013 but we now estimate less than half of the Tu-22M3 bombers to be in operation, so that our estimate of the number of missiles available for a stand-off strike against ships in 2016 is somewhat lower. The estimated operational ranges of the missiles are illustrated in Map 3.6.

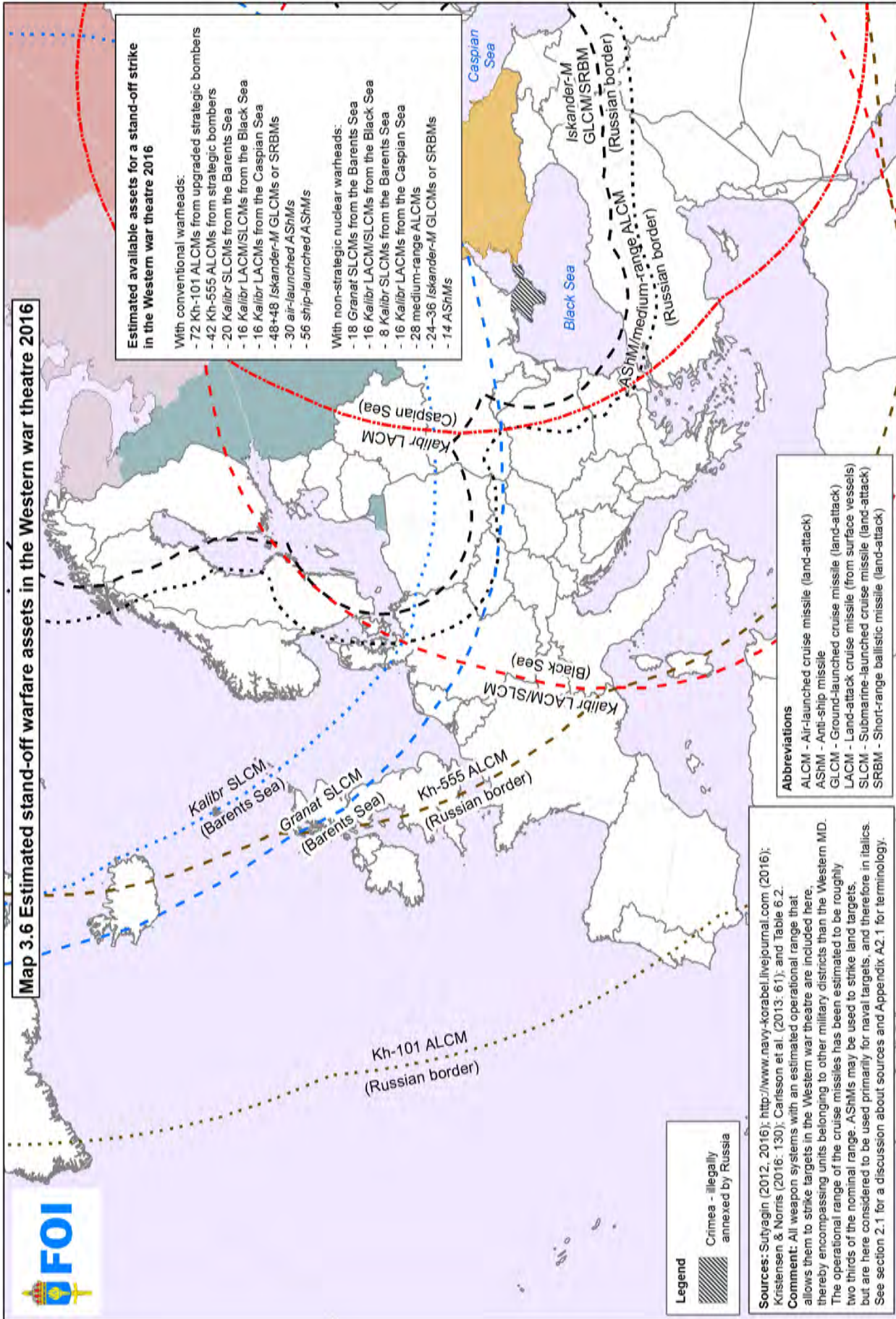
Table 3.3b Estimated available short- to medium-range missiles for a stand-off strike in the Western war theatre, 2016

Short- to medium-range missiles	Nominal range	Estimated operational range	Launcher	Sub-ordinate to	Counting unit	Number of units in operation	Estimated available units	Warheads (per unit) Nuclear / Conv'l	Total available missiles Nuclear / Conv'l
Iskander SRBM / GLCM	450 km	450 km	Iskander-M (SS-26)	W MD	Battalions	9	6	4-6 / 8+8	24-36 / 48+48
AS-4 ALCM	600 km	600 km	Tu-22M3	LRA	Regiments	3	1	28 / -	28 / 0
AS-4 AShM (naval attack)	600 km	600 km	Tu-22M3	LRA	Aircraft	41	10	6 / 3 per a/c	6 / 30
Granit (SS-N-19) AShM	600 km	600 km (300 km)	Adm. Kuznetsov (Project 11435)	NF	Ships	1	0,5	3 / 12	1 / 6
Granit (SS-N-19) AShM	600 km	600 km (300 km)	Modified Kirov class (Project 11442)	NF	Submarines	1	0,5	3 / 20	1 / 10
Granit (SS-N-19) AShM	600 km	600 km (300 km)	Oscar II class (Project 949A)	NF	Ships	2	1	4 / 24	4 / 24
Bazalt (SS-N-12) AShM	600 km	600 km	Slava class (Project 1164)	NF	Ships	2	1	2 / 16	2 / 16
<b>Grand Total</b>									<b>66-78 / 182</b>

Sources: Chapter 2, Table 2.6 and FOI estimates of available units (see section 3.5) and operational range.

Comment: All weapon systems with an estimated operational range that allows them to strike targets in the Western war theatre are included in this table, thereby encompassing units belonging to other military districts than the Western MD. The missiles in this table are estimated to have an operational range equal to the nominal. However, the range of the Granit AShM is estimated to be only half of the nominal range in the case of a low-level flight path. AShMs (in italics) may be used to strike land targets, but are here considered to be used primarily for naval targets.

Abbreviations: ALCM = air-launched cruise missile; AShM = anti-ship missile; Conv'l = conventional; GLCM = ground-launched cruise missile; LRA = Long-Range Aviation; NF = Northern Fleet; SRBM = short-range ballistic missile; W MD = Western Military District.





### 3.6 Strategic deterrence

Strategic deterrence (*strategicheskoe sderzhivanie*) is conceived more broadly in Russia than in the West, as mentioned in Chapter 2. Alongside traditional, defensive deterrence of armed attack, it includes the more offensive objectives of containment and coercion (Bruusgaard 2016: 16–18). Russian deterrence theory also includes non-military tools, but here only the Armed Forces are discussed. The military assets for strategic deterrence are summarized below in Map 3.7. Russian nuclear and non-nuclear deterrence is discussed further in Chapter 4, section 4.4.3.

The main military assets for defensive deterrence are the strategic nuclear strike and counter-strike forces. Non-strategic nuclear forces and conventional forces constitute a necessary complement at the lower end of the conflict scale. In the preceding sections of this chapter, the initial JISCO capability in each war theatre, the aggregated JISCO capability and the stand-off warfare capability have been assessed. Demonstrating a country's capabilities in exercises and combat operations also contributes to strategic deterrence. Notably, the conventional and non-strategic nuclear force capability has improved and is contributing to defensive deterrence to a larger extent than before.

*Defensive strategic  
deterrence*

The same applies to the strategic nuclear forces. In 2016, Russia kept a substantial operational nuclear force of some 1 800 strategic warheads. These are relatively evenly distributed among the three elements of the nuclear triad (ground, air and naval forces). The Strategic Missile Forces nevertheless remain the backbone of the triad since they can sustain a higher state of readiness than the other parts. The number of warheads deployed on mobile platforms has increased since 2013, as has the number of combat patrol missions (see Chapter 2). The credibility of the second-strike capability has consequently increased. In view of this and the increased exercise activity within the nuclear triad, the strategic nuclear strike and counter-strike capability in 2016 is assessed to be a sufficient contribution to strategic deterrence. In conclusion, the Russian capability for defensive deterrence in 2016 is fully adequate.

For the coercive part of strategic deterrence, both nuclear and conventional forces may be used. Alongside explicit or implied threats of military action in official statements, the deployment of nuclear-capable platforms and conventional forces to coerce seems to have become a regular part of Russian behaviour. The foremost example of Russian nuclear coercion is its ongoing war against Ukraine (Durkalec 2015: 15; Adamsky 2015: 36–7). Conventional force deployments have also served to dissuade involvement and impose Russia's will on Ukraine (Westerlund & Norberg 2016). Russia's ongoing operation in Syria is another example of conventional military coercion to ensure Russia a seat at the negotiating table. Taken together, these testify to an increasing Russian – defensive as well as offensive – strategic deterrence capability.

*Military assets for  
coercion*

### 3.7 Conclusions

Our assessment of the potential order of battle for a land-centric JISCO, stand-off warfare and strategic deterrence allows three main conclusions about the Armed Forces' fighting power in 2016.

*Increasing fighting power*

First, the fighting power of Russia's Armed Forces has continued to increase. Since 2013, the ability to carry out JISCOs and stand-off warfare as well as strategic deterrence has improved. This is due to additional units and weapons systems, increased readiness and – primarily where the Ground Forces are concerned – a higher proportion of combat-ready units.

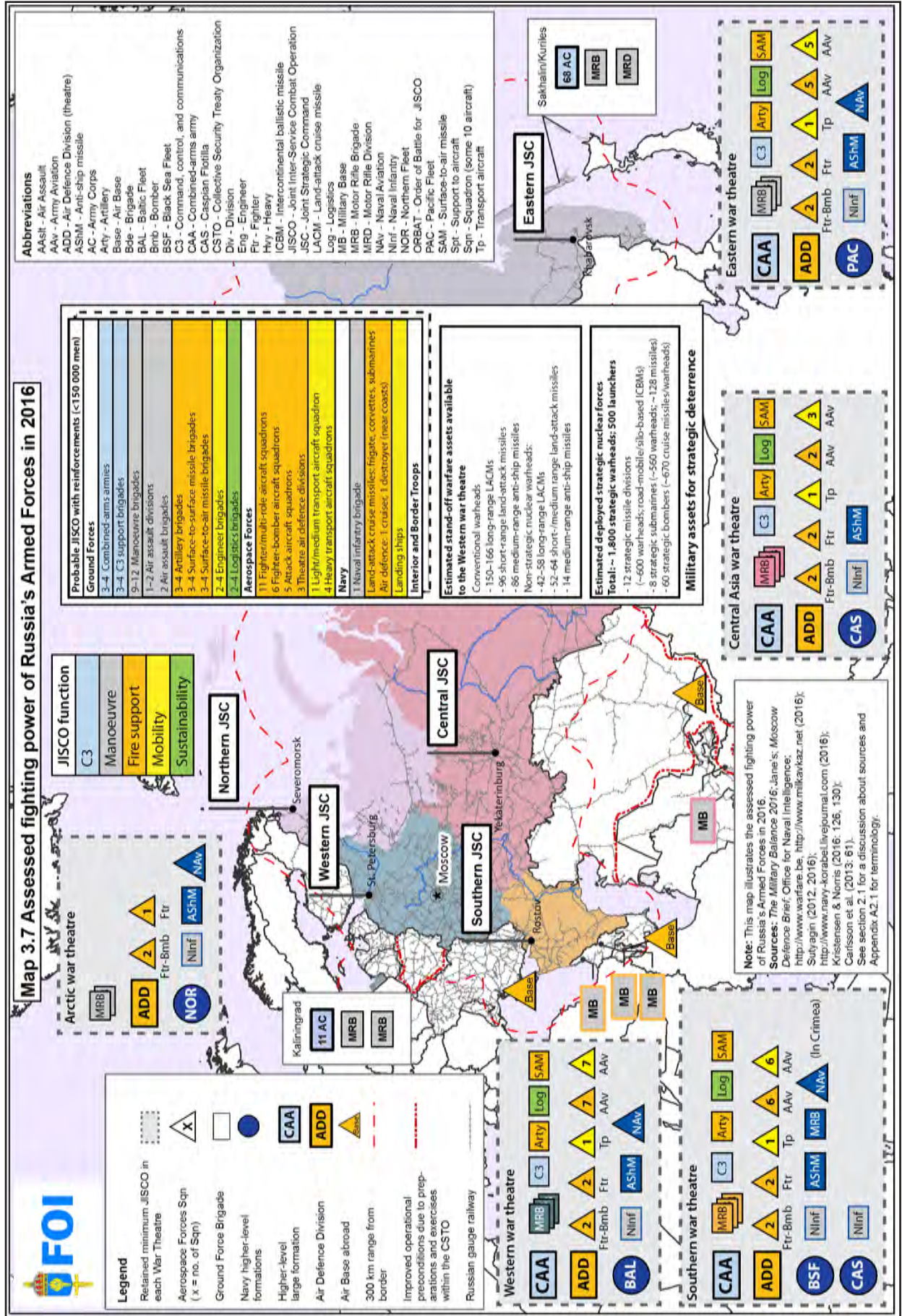
Regarding JISCOs, the key quantitative factor is that manning levels have increased to a point where most nominally available units have adequate manning (above 75 per cent). This allows for more combat-capable units than in 2013. In addition, a few additional brigade-size manoeuvre units have been set up. Command structures handling JISCOs have also expanded with the creation of three new higher-level large formations. Improvements in terms of new units or equipment have been less marked in the Aerospace Forces and the Navy. The Navy has received frigates and smaller surface vessels and submarines, which primarily reinforces its capabilities as a littoral force but also increases its long-range land-attack capabilities. The poor serviceability of the Aerospace Forces' equipment probably reflects the fact that many platforms are still old, although steady deliveries are gradually renewing the inventory. Nevertheless, readiness levels have increased due to the Armed Forces' annual strategic exercises and surprise readiness inspections. In addition, combat operations in Ukraine and Syria have created ample opportunities to improve coordination between services and arms in war-fighting conditions.

The stand-off warfare capability has grown thanks to significant deliveries of launchers and missiles. The number of available land-attack missiles – with both conventional warheads and non-strategic nuclear warheads – has tripled since 2013. However, the lack of C4ISR capabilities may restrict stand-off warfare mainly to fixed targets. Finally, the strategic deterrence capability has improved, partly due to increases in JISCOs and stand-off warfare but also because of an increased number of mobile strategic nuclear weapon launchers and exercise activity on the part of the nuclear triad.

*Allowing for simultaneous JISCOs*

The increase in fighting power leads to a second main conclusion: Russia is able to and may launch two simultaneous large operations. The Armed Forces may generate forces for two large-scale JISCOs, while still retaining a strategic reserve and a small inter-service force group in each war theatre. Russian annual strategic exercises have often featured a second, parallel although smaller, joint inter-service exercise. Since late 2015, Russia has run two operations in Syria and Ukraine simultaneously. Map 3.7 outlines the potential order of battle for two JISCOs with some 150 000 servicemen in three or four Ground Forces formations plus Navy and Aerospace Forces support for each.





It seems that the Armed Forces are developing from a force primarily designed for handling internal disorder and conflicts in the area of the former Soviet Union towards a structure configured for large-scale operations also beyond that area. The Armed Forces can defend Russia from foreign aggression in 2016 better than they could in 2013. They are also a stronger instrument of coercion than before.

*A pivot to the West*

Our third main conclusion is that the Armed Forces have improved their fighting power primarily west of the Urals. The Western MD has received most new command structures and units, as well as two MRBs from the Central MD. Russia has also set up a joint inter-service force group on the illegally annexed Crimean Peninsula. The creation of larger formations improves offensive capabilities, and has been more pronounced west of the Urals. Finally, most of the increase in stand-off warfare capabilities, including for non-strategic nuclear weapons, has taken place west of the Urals.

Our analysis is a gross assessment of the Armed Forces' fighting power, estimating the potential order of battle for three selected missions. It remains to be seen exactly how the Armed Forces' capabilities would be applied in a war and what actual fighting power they possess. Nevertheless, our assessment points to increasing capabilities and a focus on high-intensity warfare, in particular in the Western and Southern war theatres.

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## 4. Russian Security Policy

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Among the trends in Russian security policy identified in 2013 were increased anti-Americanism, patriotism and authoritarianism at home. Russia's goal was to increase its authority in the world, not least through building a strong military. The Russian political leadership increasingly viewed the EU with apprehension and as closely associated with NATO. Furthermore, Europe was considered weak and decadent as it had failed to play a dominant role in the world. Russia had chosen its own path – not in order to be isolated but rather to secure a position of strategic solitude.

This chapter continues to identify the dominant trends in Russian security policy since then, which are the main goals pursued, the main threats to national security and how the political leadership aims to meet these challenges? Not least, the role of military capability in pursuing national security goals and countering security threats is examined.

Security policy is a fundamental factor when it comes to assessing Russia's military capability in a ten-year perspective. According to the law "On Security" security policy is a part of both domestic and foreign policy. It involves a whole range of measures: political, organizational, socio-economic, military, judicial, informational, special and other measures (Federal Law No. 390, 2010: article 4:1). Based on the broad definition of security policy a few aspects of the policy will be studied here.

Since the focus of this report is on estimating Russian military capability in a ten-year perspective, the aspects chosen are those, we propose, that are vital to that long-term capability. First, it examines domestic security from the perspective both of the official policy and of how this is received in society. Will military defence continue to be prioritized by the Russian political leadership? Is there support for this policy among the population? Second, the current military thinking is analysed. What is the view of contemporary military conflicts according to the current doctrines and military debate? What is the view on future wars? Third, it examines the current trends in foreign policy. Who are the main adversaries in the view of the Russian leadership, and which geographical areas are the most important? Finally, Russian security policy is outlined in a ten-year perspective.

*Outline of  
the chapter*

It is clear, as we shall see, that the security policy has evolved around a threat assessment from the Russian perspective. This threat assessment is not new, but since the annexation of Crimea it has been brought forward as a distinct part of the security policy. "Colour revolutions" are one such declared threat. This has intensified the search for enemies from within and without. Another concerns the "besieged fortress Russia" theme, where NATO is seen as encircling the



Russian Federation. A third declared threat concerns the struggle over values. Russia is defending its historical and spiritual traditions, and the Armed Forces have a role to play. In addition, the Russian state is increasingly linked to the current political system, which means that the survival of the system in its current form is the same as the survival of Russia.

#### 4.1 Sources on security policy

In order to analyse Russian security policy a large number of official doctrines and key policy statements have been used. The Military Doctrine is the only doctrine mentioned in the Constitution, which stipulates that the president approves the Military Doctrine (*Konstitutsiia*: §83z). The official doctrines – when studied over decades – seem to reflect real intentions (Persson 2013). At the same time, these documents serve a bureaucratic function of achieving consensus among state institutions and therefore can have a lowest-common-denominator aspect to them. In Russia they have been described as “what is left on the battlefield after the fight”. This makes it more difficult to rank strategic priorities. In recent years, some of the doctrines have also been directed at mobilizing domestic opinion around certain set threat assessments, as mentioned above.

Furthermore, it should be noted that there are secret parts of the doctrines. The 2010 Military Doctrine was accompanied by a document entitled “Principles for Government Policy in the Field of Nuclear Deterrence, up to 2020”, which was adopted at the same time but was not published. This document may contain a part of the Russian nuclear doctrine, including provisions for pre-emptive strikes (de Haas 2010). This document was not mentioned when the Military Doctrine was adopted in 2014. In addition, the Defence Plan, *Plan oborony*, first signed by the president at the end of 2012, is secret in its entirety. An updated version up to 2020 was signed in November 2015 (*Interfax* 2015).

In addition, this chapter builds on articles and books (mostly Russian) as well as official statistics and documentation from Russian non-governmental organizations (NGOs) such as Memorial and the Moscow Helsinki Group. Research articles and international ratings of democracy, human rights and freedom enable comparisons to be made over time and with other countries when it comes to issues such as Russia’s democratic development and the emergence of patriotic education. Finally, opinion polls from the Levada Centre are employed to examine the dynamics of relations between society and the military (for a discussion on how to interpret results from the Levada Centre and the role of surveys in Russia, see below).

#### 4.2 Security policy decision making

*Doctrines and strategies*

The National Security Strategy of the Russian Federation is considered to be the paramount document of all the official doctrines, which is made clear in the federal laws “On Security”, Article 4:3 (Federal Law No. 390, 2010), and “On Strategic Planning in the Russian Federation” (Federal Law No. 172, 2014). The ambition is that all other doctrines should be in line with the Strategy. The

revised Strategy was signed by the president on 31 December 2015, and the title does not contain any specific year as the previous one from 2009 (*Strategiia natsionalnoi* 2015; *O strategii* 2009) did. The new law on Strategic Planning stipulates that the National Security Strategy is to be updated every six years.

**Table 4.1 Federal ministries, services and agencies directly subordinated to the president**

Ministry/service/agency	Subordinated services/agencies
Ministry of the Interior (MVD)	
Ministry of Civil Defence, Emergencies and Disaster Relief (MChS)	
Ministry of Foreign Affairs (MFA)	- Federal Agency for the Commonwealth of Independent States, Compatriots Living Abroad, and International Humanitarian Cooperation (Rossotrudnichestvo)
Ministry of Defence (MoD)	- Federal Service for Military-Technical Cooperation - Federal Service for Technical and Export Control - Federal Agency for Special Construction
Ministry of Justice	- Federal Penitentiary Service of the Russian Federation - Federal Bailiffs Service
Federal Courier Service	
Foreign Intelligence Service (SVR)	
Federal Security Service (FSB)	
Federal Service of the National Guard Troops (Rosgvardiia)	
Federal Protection Service (FSO)	
Federal Archive Agency	
Main Directorate for Special Programmes of the Russian President (GUSP) (agency)	
Directorate of the President of the Russian Federation (agency)	

**Sources:** Presidential Decree No. 636, 2012; Presidential Decree No. 151, 2016; Presidential Decree No. 157, 2016.

Security decision making, including that on military affairs, is both according to the constitution and in practice the realm of the president. It is the president, not the prime minister, who coordinates and controls the ministries, services and agencies that have functions related to security policy (see below). If anything, decision making has become even more centralized since 2013. One clear indication of this is the way decision making comes to a standstill when Vladimir Putin is absent (Persson & Vendil Pallin 2015; Zygur 2016: 206–301). Another important feature of the decision-making system in Russia is the gradual and consistent undermining of institutions that has taken place in Russia. This is reflected in the low trust that the population expresses towards all institutions except the presidency, the Armed Forces and the Russian Orthodox Church, especially among younger cohorts of the population (Bykov 2012: 24).

The Presidential Administration has grown into a formidable bureaucratic machinery (Presidential Decree No. 490, 2014; Novikov 2016) with very little transparency when it comes to how decisions are arrived at and implemented. It is through the Presidential Administration that information is prepared for the president, including intelligence briefs (Galeotti 2016a: 11). Further strengthening the role of the president in security policy making, a total of 13 federal ministries, services and agencies, the so-called power ministries, are directly subordinated to the president (see Table 4.1).

### *The Security Council*

An important vehicle for decision making in the security policy sphere is the Russian Security Council (Vendil Pallin 2001). The president is chair of the Security Council, and he appoints its secretary and members as well as deciding on the size of its apparatus, its tasks and its remit through the regulations, which are fixed by presidential decree. With time just about every sphere of Russian policy making has become a matter of national security (Trenin 2016) and a topic for the inner circle of the Security Council, which consists of only its 12 permanent members. It is worth underlining that none of the ministers responsible for finance, trade or economic development are permanent members of the Security Council.

When it comes to the coordination of long-term planning on military security, this is done through the Security Council (for a description of command over military operations, see Chapter 2). The Ministry of Defence (MoD) has a key role, and then especially the General Staff, but from the composition of the Security Council Interdepartmental Commission on Military Security it is clear that military security encompasses the activity of a large number of ministries, services and agencies. The chief of the General Staff heads the Commission (Presidential Decree No. 1247, 2012).

The Military-Industrial Commission is something of a hybrid president-government coordination vehicle. The president has chaired the Commission since 2014, while Deputy Prime Minister Dmitrii Rogozin is deputy chair. In this Commission the ministers of finance, industry and trade and economic development are included as well as the heads of the so-called power ministries (Presidential Decree No. 628, 2014). Within the government, Rogozin is responsible for questions pertaining to the defence industry, export control, international military-technical cooperation, civil defence, mobilization and proposing systems to prepare the young for military service (Government of the RF 2016).

## 4.3 Domestic security

### 4.3.1 Increased repression, anti-Westernism and the fear of colour revolutions

In parallel with an increasing centralization of decision making and power, Russian politics has become increasingly authoritarian through new and

amended legislation, and through increased control over media outlets, the internet, culture and academic life (see Appendix A4.1 International ratings relating to repression in Russia for 2015.). In addition, intimidation of political opponents has become a prominent feature of Russia's political system, as has intense propaganda (Kolesnikov 2016; Pomerantsev 2015b).

This development cannot be understood without taking into account the protests that followed the Duma election in 2011, which took most analysts by surprise, and probably the Russian political leadership as well. Demonstrations continued throughout the winter and spring of 2011/2012 and opinion polls suggested that the population, in spite of Putin's high approval ratings, would prefer someone else as president after the next election in 2018 (in December 2013, only 22 per cent said they would like to see Putin as president after six years: Levada Centre 2014). Demonstrations and the ensuing change of power in Kyiv probably increased the fear of a similar popular uprising and social unrest in Russia.

New measures to control and restrict freedom in Russia's political life and society have since been introduced at a startling rate and every sphere of society is affected.

Increased repression is evident in Russian legislation that limits civil rights (Moscow Helsinki Group 2016). In September 2016 the Ministry of Justice had registered 142 Russian NGOs as "foreign agents". The list is dominated by organizations that work for human rights, election monitoring or protection of the environment (Ministry of Justice 2016b). Foreign organizations that work on Russian territory risk being labelled "undesired" by the Ministry of Justice. This has so far only happened to five organizations (Ministry of Justice 2016a). Overall, life has become increasingly difficult for NGOs (Flikke 2015).

*Civil rights and  
 civil society*

The number of people charged with and convicted of high treason (*gosizmena*) has increased markedly. Whereas 25 people were convicted between 2009 and 2013, 15 were convicted in 2014 alone, nine of them to more than ten years in prison. During the first three months of 2015, nine preliminary investigations were opened (*BBC Russkaia sluzhba* 2015; Mikhailova 2015). According to the human rights centre Memorial, there were 102 political prisoners in September 2016.

According to the Strategy to Combat Extremism adopted in November 2014, distributing information and inviting people on the internet to participate in "non-sanctioned actions, organizing mass disturbances" is one of the most dangerous forms of extremism (*Strategiia protivodeistviia* 2014). The number of people convicted of extremism (§§280 and 282 in the Russian Criminal Code) increased by 30 per cent in 2015 to 544 as compared to 414 in 2014 (Court Dept. of the High Court 2016). In his report to the Duma in April 2016, General Prosecutor Yurii Chaika stated that the number of detected extremist crimes had increased tenfold from 2004 to 2015 and that 1 320 "crimes of extremist direction" were detected in 2015, a significant number of these on the internet (*RIA Novosti* 2016).

*Freedom of  
 expression*

The political leadership has achieved even tighter control over the media and the internet. One way of doing this has been to restrict foreign ownership of media. The state or business networks close to the political leadership increasingly own media and internet resources (see, for example, Latynina 2013; Vendil Pallin 2016a). However, there is also censorship in the form of lists circulated on how certain stories are to be framed and discussed on major outlets – most importantly national television. Even minor transgressions, such as “liking” or “re-posting” something on social media, can lead to someone being charged and convicted (Mostovshchikov 2015). Within the cultural sphere there are examples of certain works of art and performances being labelled “unpatriotic” or extremist (Jonson 2015). Repression is neither total nor systematic. Instead, selective repression has resulted in an atmosphere of unpredictability, randomness and considerable self-censorship.

*Anti-Westernism  
and the threat of  
war in propaganda*

These practical measures to increase control over society have been coupled with state propaganda that underlines the dangers facing Russia as well as virulent anti-Westernism. In the words of Vladimir Gel'man, professor at the European University in St. Petersburg, “the politics of fear, as well as more aggressive and extensive state propaganda, became major instruments of maintaining authoritarian equilibrium” (Gel'man 2016a: 33; see also Trudolyubov 2016b). This is reflected in public opinion. Russians have become increasingly hostile to the West, and see more dangers to Russia from abroad as well as an increased risk of war (see Appendix, A4.2 & A4.3; see also Gudkov 2015b; Levada Centre 2015d). A focus group study indicated that “small wars” or military operations such as those in Ukraine and in Syria are considered justified, defensive, victorious and preventive, undertaken to avoid a “great war” and “because the besieged fortress must be defended” (Kolesnikov 2016: 20, 21; see also Gudkov 2015a: 96–97; Levinson & Goncharov 2015: 64).

According to the Russian researcher Nikolay Petrov, “the regime derives its legitimacy not from the bottom up, through elections, but from the top down, by placing the country on a permanent war footing” (Petrov 2016: 1; see also Trenin 2016 on how the Kremlin “has been de facto operating in a war mode” since February 2014).

In 2015 and 2016 an overwhelming majority of respondents in Levada's poll on whether there exists a military threat to Russia answered “Yes” (68 and 65 per cent respectively). Only 22 per cent (2015) and 28 per cent (2016) answered “No”. This is a marked increase compared to the polling results in 2000–2014 (Levada Centre 2015c; Levada Centre 2016a). Propaganda and public opinion appear, in other words, very much in tune.

*The reliability of  
opinion polls*

Can these polls be trusted or are they unreliable because respondents as a rule lie about their preferences out of fear of the consequences of expressing dissenting views or general indifference (Levinson & Borusiak 2015; Nizgoraev 2015)? In a Levada Centre poll in January 2016, about a quarter of respondents said they were afraid to express their opinion on what was going on in Russia. Even more interesting was that almost half of respondents believed that most Russians were



reluctant to express their opinion in a survey (Levada Centre 2016b). However, focus group studies tend to support findings in surveys and empirical research suggests that, for example, the approval rates for Putin are “real” (Frye et al. 2016). In other words, opinion polls do at least indicate the preferences of the Russian public, although there is every reason to read them with caution.

Opinion polls are moreover of interest since they are used routinely by the Russian political leadership (Trudolyubov 2016a; Zygar 2016: 305). The Presidential Administration, including the Security Council, commissions surveys from institutes such as the Russian Public Opinion Research Center (VTsIOM) and other research centres, and there are also secret ones from the Federal Protection Service (Federalnaia sluzhba okhrany, FSO) (Biriukova & Nikolskii 2014). This is done to monitor sentiment among the population but also probably as a way of finding ways to frame policies.

In April 2016, Putin announced that the Interior Troops, the OMON (Mobile Special Purpose Units, Otriady mobilnye osobogo naznachenii), the SOBR (Special Rapid Reaction Units, Spetsialnye otriady bystrogo reagirovaniia) and the Police Guard Service would be transferred to a new government service, the Federal Service of the National Guard Troops, the Rosgvardiia (see also Chapter 2). The former commander of the Interior Troops, Viktor Zolotov, was appointed director of the new service as well as commander of the National Guard Troops (President of Russia 2016b; 2016c). Most analysts agree in believing that the move to bring these forces together in a government body directly under the president was to be explained by domestic political motives, a clamping down on possible social and political protests, rather than a way of fighting terrorism and organized crime (Galeotti 2016b; Klein 2016; Stanovaia 2016). Its powers will be largely those previously of the structures of the Ministry of the Interior (MVD) that were transferred to the Rosgvardiia (Federal Law No. 226, 2016). It will thereby gain substantial authority to control both society and elites.

*The powers of  
the MVD and  
FSB*

The political leadership designates threats to security inside Russia. In the Concept on Societal Security, security in society is “characterized as unstable” (*Kontseptsiia obshchestvennoi* 2013: §8) and in his March 2016 speech at the annual collegium of the MVD, Putin started by saying that “securing societal security and upholding law and order” was of the utmost importance in the new National Security Strategy. He went on to say: “It is the task of the MVD to safely maintain order in society during the period of preparation for and during the elections”, referring to the Duma elections in September 2016 (President of Russia 2016a).

Earlier, in his speech at the annual collegium of the Federal Security Service (FSB) in December 2015, Putin had claimed that foreign special services had intensified their work in Russia and pointed to the need “to stop all attempts from abroad to meddle in the elections, in our domestic political life” as a priority during 2016 and during the elections since that would be a direct threat to Russia’s sovereignty (President of Russia 2015).

The FSB has a reputation when it comes to repression through fabricated legal procedures, which are often flawed to the advantage of the prosecution: there is little or no way for the accused to fight his or her case (Chikov 2015). Moreover, changes were introduced into the law that regulates the FSB, resulting in it being given more powers, among them the right to fire into crowds even when there is a danger of innocent civilians being harmed (Federal Law No. 468). There were also proposed amendments to the law on the police to be decided on by the Duma in 2016. According to these changes, the police were to be given the authority to enter private homes and premises with fewer restrictions on when they can use firearms against civilians. Furthermore, Directorate K within the MVD, which deals with high-technology crimes, is in the process of gaining greater powers to control accounts, email and the blocking of websites (Falaleev 2016).

In June 2016, the Duma passed the so-called Yarovaia package of repressive amendments to Russian legislation, named after the Duma deputy, Irina Yarovaia, who formally initiated the process. The package, introduced as anti-terrorist measures, included amendments to facilitate internet surveillance. Failure to inform the authorities about certain crimes can result in a prison term, as can approving of terrorism on the internet. There were also amendments clearly aimed at curbing protests – extremism can now result in eight years in prison (it was previously four years) and encouraging people to take part in mass disturbances will be punishable by five to ten years. Children as young as 14 are punishable by law in Russia for, for example, taking part in mass disturbances (*Meduza* 2016).

*Intimidation  
through militias*

In addition to activating the police and security services in fighting dissent, the political leadership has also used militias which are not formally government structures, but whose activities are sanctioned by the state. Putin's pre-election article on defence in 2012 stated that it is the task of the state "to help the Cossacks in every way, to attract them to military service and military-patriotic education of the young" (Putin 2012a). In his address to the Collegium of the MVD in March 2016, Putin stated that around 200 000 members of militias (*druzhinnikov*) plus Cossacks helped the police maintain order in society (President of Russia 2016a; see also Enerud 2013). In Chechnya, President Ramzan Kadyrov controls the only Russian troops that are formed on national-ethnic basis, called the *kadyrovtsy*. Although these units formally belonged to the MVD, it is clear that Kadyrov controls them rather than Moscow (Yashin 2016: 27). Chechen units were active in Ukraine in 2014–2015 (Galeotti 2014; Roth & Tavernise 2014), but *kadyrovtsy* were also used to intimidate the political opposition in Moscow – the example that was most noticed was when Kadyrov published a film of the opposition politician Mikhail Kasianov photographed through a sniper's cross hairs (Vendil Pallin 2016b).

Using Cossacks and other militias, including the *kadyrovtsy*, has the advantages of sending a clear and frightening message to those thinking of protesting and of enabling the political leadership to deny responsibility, since they are not government structures as such.

### 4.3.2 Society-military relations

Although relations between society and the military have undergone significant changes in Russia since the Soviet era (Webber & Mathers 2006), society has retained a positive attitude towards the Armed Forces. There is widespread pride in and support for the Russian Armed Forces. Pride in them has increased markedly – not least following the annexation of Crimea. In November 2015, a total of 85 per cent of respondents stated that they were proud of Russia's Armed Forces compared to only 61 per cent in October 2012. Among these, the number of respondents that were “very proud” had almost doubled (from 22 per cent to 40 per cent) (Levada Centre 2015b).

Opinion polls are often contradictory; when Russians are asked whether economic or military strength is most important to Russia a majority answers that it is more important to be economically strong, even after the annexation of Crimea (Levada Centre 2015c). However, when those surveyed were asked whether more money should be devoted to defence even at the expense of economic development there was a marked increase in the percentage of people who thought this is the right way forward in 2015 compared to 2013 (and even more so compared to 1998: see Appendix A4.4.), suggesting considerable support for the government policy of prioritizing defence. It is also notable how public opinion can be and is manipulated. Probably as a result of propaganda, opinions have changed drastically, for example, when it comes to viewing Turkey as a friend or foe or the support for a Russian military operation in Syria.

As mentioned above, propaganda efforts have been made to prepare the population for war. The focus on the younger cohorts of the population deserves special attention. There is a wide array of youth and children's organizations as well as youth education programmes whose expressed focus is to provide patriotic and often even military-patriotic education for the young. This is not a new phenomenon (Sperling 2009: 230–37, 252–54), but the state's efforts in this area have intensified in recent years (Persson 2013; Persson 2014). The “Patriotic Education of the Citizens of the Russian Federation 2016–2020” programme has received increased funding. Russia's youth and military patriotism are central themes. The four main authorities responsible are the MoD, the Ministry of Education, the Ministry of Culture and the Federal Agency for Youth Affairs (Government of the RF 2015).

The need to focus on the education of the younger generation and form them into responsible citizens of Russia has been codified into the National Security Strategy 2015 (§70; see also §§76 and 82). In the draft Doctrine on Information Security published in July 2016, the danger of young people being influenced by information on the internet is singled out (*Doktrina informatsionnoi bezopasnosti* 2016: §12) and leaders of extremist organizations are said to target young people in particular in the Strategy to Combat Extremism (*Strategiia protivodeistviia* 2014). This is matched by the creation of youth movements (see e.g. Horvath 2013: 85ff) and research into how to socialize young people with patriotism as an essential component so that they do not become objects of manipulation and

take part in revolutionary processes organized by foreign special services (Bykov 2012; Elishev 2014: 209–10; Pokida et al. 2016).

*State-controlled  
patriotic youth  
organizations*

In October 2015, “in order to contribute to the forming of the personality on the basis of the system of values of Russian society”, Vladimir Putin decreed into existence the Russian Movement for Schoolchildren. Although this was accompanied by explicit statements that it was not an attempt to reintroduce the Soviet-era Pioneer movement, commentators compared it to that movement (see for example Rybina 2015). Certainly, the emblem of the Russian Movement for Schoolchildren brings the red scarf of the Pioneers to mind (*Rossiiskoe dvizhenie shkolnikov* 2016). In addition to this, in September 2016 the Ministry of Defence announced that it was creating the Young Army (*Iunarmiiia*) youth movement. Uniforms, clothes and insignia were developed and its structure would be linked to military units, military schools, DOSAAF (the Voluntary Society for Supporting the Army, Air Force and Fleet, *Dobrovolnoe Obshchestvo Sodeistviia Armii, Aviatsii i Flotu*; see further below) and the Central Sport Club of the Army (*Interfax* 2016b). A Russian government survey in 2013–2014 listed thousands of sports camps, educational organizations and cadet schools in 78 out of Russia’s 85 regions (Government of the RF 2015).

*DOSAAF and  
cadet schools*

The organizations are recent creations in addition to DOSAAF, which already existed and explicitly considers itself a continuation of the Soviet-era DOSAAF. According to its statutes, it forms part of the system for pre-draft education of the young and “performs tasks in the sphere of defence and security set out by state authorities” (DOSAAF 2012; see also Persson 2013; Robertshaw 2015; Rozhdestvenskii 2015; Svyntarenko 2015: 27). This is part of an effort to intensify pre-military training and make military service more effective. There were furthermore plans to make a course in the basics of military service obligatory for all schools (Mukhin 2014).

The wide array of cadet schools that ministries and services administer have similar tasks. Among the more famous are the Suvorov and Presidential Cadet Schools, but just about all the power ministries have their own cadet schools. For example, the Russian Investigative Committee (SKR, *Sledstvennyi komitet RF*) has its own schools, whereas the larger ministries such as the Ministry of Defence administer several. In 2014, there were 177 cadet schools with over 60 000 pupils (Government of the RF 2015).

In addition to the patriotic youth organizations, there are a number of patriotic youth clubs that are created from below. Some have only a very weak link to military activities, but the more militarized clubs usually have the aim of forming young men into responsible adults and preparing them for military service, as well providing a link to the Armed Forces (Laruelle 2015).

The most important reasons for intensifying work on and devoting resources to military-patriotic organizations are, first, to foster patriotism and make sure that the young do not come under the influence of dangerous Western organizations and engage in colour revolutions. This is evident from the National Security

Strategy, and also from many of the statutes and reasons given for introducing new movements and schools. Second, there is an explicit effort to improve the image of the Armed Forces among the young and among the population as a whole, but more specifically to make sure young men either agree to be drafted as conscript soldiers or sign on as contract soldiers (*Interfax* 2016a). Third, if young men acquire skills that are of use in military service, they can be drafted as specialists even though conscription is only 12 months (Gavrilov 2015; *Izvestiia* 2014). Finally, it is worth noting on a more general level that conscription is regarded as a way of nation building (Kretsul 2015).

Overall, the efforts of the authorities to increase the authority and appeal of the Armed Forces appear to have had traction, but it is also obvious that the annexation of Crimea has played a significant role. The share of respondents in Levada's opinion polls who think that the Armed Forces are able to defend Russia has increased to over 80 per cent in 2014 and 2015 (see Appendix A4.5.) and the share of respondents who say that they would look for a way for family members to avoid military service has decreased markedly – by about half in 2016 (27 per cent, compared to the 53 per cent ten years earlier.) See Appendix A4.6.

There is in other words every reason to conclude that the Russian leadership will continue to prioritize military defence and there is furthermore considerable support for this policy among the population and precious little room for any dissenters to pursue policy change in today's political system in Russia.

#### 4.4 Military security

The issue of war and peace has become the subject of a broader public debate in Russia in recent years. In a well planned documentary broadcast on TV the Russian president received the question straight out. “Vladimir Vladimirovich, will there be a war?” asked the TV journalist Vladimir Soloviev. Putin replied: “You mean a global war? I hope not. Anyway, under today's circumstances, it would mean a planetary catastrophe” (*Vesti* 2015).

Moreover, Russian military thinkers are engaged in a debate on the current changes in the art of war. What is war? When does it start? When does the military element get engaged – or when is it withdrawn – in today's conflicts?

The Russian annexation of Crimea in 2014 and the use of the Russian Armed Forces in Donetsk and Luhansk sent a wake-up call throughout the West. The Western reaction has to a large degree shown a lack of insight into the developments in Russian military thinking in later years. In the West, the label “hybrid war” quickly came to be used for Russia's behaviour in Ukraine, as if its actions were a new kind of warfare (Rácz 2015, Pomerantsev 2015a). However, a closer study of Russian military doctrinal thinking shows that there was at this point no developed doctrinal thinking on “hybrid war” (Persson 2015a). When Russian military theorists write about hybrid war it is mentioned as a foreign, Western, capability (Pukhov 2015; McDermott 2015; Johnson 2015;

*“Hybrid” not a  
 Russian concept*



*Non-linear warfare* Giles 2016; Renz & Smith 2016). Fyodor Lukyanov, chairman of the Council on Foreign and Defence Policy, has formulated a view from Russia. He notes that the interpretation of war is changing in Russia. “War takes on other shapes, supported by America, when it is conducted by UAVs [unmanned aerial vehicles], by sanctions or by operations in cyberspace”, he wrote (Lukyanov 2015). What seemed to surprise many Western observers was Russia’s ability to combine military and non-military means, i.e. special troops, information operations, deception, and diplomatic, economic, and political means (Norberg et al. 2014). The Russian term for this is “non-linear” (*nelineinaia*) or “asymmetrical” (*asimmetrichnaia*) warfare.

#### 4.4.1 Modern conflicts – a view from Moscow

There is a distinction to be made between “doctrine” and “military strategic thought”. The doctrine establishes the official position, whereas the debate between military strategic thinkers might sometimes be fierce. However, some theories from this debate may find their way into the doctrines. It can be assumed that open debate does not give the entire picture, but that it at least reflects some of the most burning issues in today’s Russian military thinking.

According to the Military Doctrine there is a difference between a military conflict and an armed conflict (*Voennaia doktrina* 2014: §8). A military conflict is described as a type of solution for interstate or intrastate tensions through the use of military force. A military conflict encompasses all kinds of armed confrontation, including large-scale, regional or local war and armed conflicts. An armed conflict, according to the Doctrine, is an armed clash of limited scale between states or opposing sides within the territory of a single state.

*Local, regional, and large-scale wars*

Three different kinds of war are listed: local, regional, and large-scale wars (§8). A local war is said to have limited military-political objectives, and involves mainly the states that are opposing each other. A regional war involves several states in a region and is conducted with national armed forces or with a coalition of armed forces. Each party is striving for important military-political objectives. A large-scale war is one between coalitions of states or between the great powers of the world. It could be a result of an escalating armed conflict or a local or regional war. A large-scale war requires mobilization of the country’s total material and moral or spiritual resources.

*Contemporary military conflicts*

Contemporary military conflicts are characterized by the Military Doctrine as the “integrated use of military force, and by political, economic, informational or other means of a non-military character through a wide use of the population’s protest potential or of special operations troops”. In addition, the Military Doctrine mentions the use of “irregular armed forces and private military companies” in military operations, as well as “indirect and asymmetrical methods”. As these methods are part of the Russian Military Doctrine, it hardly needs mentioning that Russia can apply them in its military operations.

The Doctrine also points to the belief that “political forces and civic movements financed and controlled from abroad” (*Voennaia doktrina* 2014: §15) are used in contemporary conflicts. The most important difference from the previous Doctrine is that a protesting population is seen as a part of contemporary conflicts. Political and other organizations are seen as a part of the war. Some of this reflects the official rhetoric of the Russian political leadership on Ukraine where Russia is said to be exposed to this kind of warfare by the West. This obviously reveals a militarized view of colour revolutions, as we shall see below.

This line of thinking in the Russian Military Doctrine is not entirely new. Parts of it were included in the 2010 Military Doctrine, but this time the thinking is more detailed and developed. The head of the General Staff, Valerii Gerasimov, has talked about this (Gerasimov 2013). He has pointed out that the Arab Spring might be an example of wars in the 21st century, and that there are important lessons to be learned from the recent conflicts in North Africa and the Middle East. Gerasimov noted that the rules of war have changed dramatically. In his view, the use of political, economic, information, humanitarian and other non-military means has influenced the “protest potential of the population”. The lessons from North Africa and the Middle East have demonstrated that “fully functional states can be transformed in a short period of time into an area of an embittered, armed conflict, become the victim of foreign intervention, and end up as a chaotic swamp of humanitarian catastrophe and civil war”. Non-military means are now much more effective than the power of the gun in achieving political and strategic objectives. This line of thinking obviously concerns acts against an incumbent regime, i.e. Iraq and Libya (Allison 2013). Russia did not oppose military intervention in Mali in support of the government versus the separatist Tuareg militias.

*The Arab Spring  
 in Russian military  
 thinking*

With regard to the tasks of defence policy, it is noteworthy that the Military Doctrine states that one of its responsibilities is to “support the mobilization preparedness of the economy” (§21), i.e. to put the economy on a war footing. Furthermore, defence policy should “increase the effectiveness within military patriotic education for the citizens of the Russian Federation, and their military service” (§21). Add to this that a fundamental domestic military danger is said to be “information operations to influence – above all – the younger part of the population in order to undermine historical, spiritual, and patriotic traditions within the defence of the Fatherland”. All this shows that Russia is taking steps to revive the national mobilization system (Cooper 2016).

Russia is seen as being under attack from a hostile West, and the Russian Armed Forces are to defend Russia’s historical and spiritual traditions. This development ties in nicely with the many government programmes on military-patriotic education and patriotic education. These state-run efforts clearly target the younger generation in Russia. The issue of what exactly the Russian spiritual and moral traditions consist of has been a subject of discussion in Russia, addressed not least by Putin himself. At the Valdai Club meeting in 2013 he devoted his speech to elaborating on his thinking on the Russian national identity (President of Russia 2013). Now, the particular features are

*Russia under attack  
 from the West*

specified in the National Security Strategy, including “priority for the spiritual over the material; collectivism; the historical unity among Russia’s people; our Fatherland’s historical heritage” (*Strategiia natsionalnoi* 2015: §78). This highlights the role of defence in the struggle with the West over values.

This dovetails with Putin’s view of what it means to be Russian. In the Direct Line with the president on 17 April 2014 he claimed that people who live in a territory and share a common culture and history – and even climate – develop certain traits. A Russian, according to Putin, is characterized by being focused not on himself, but on the greater good. “We are spiritually more generous,” he claimed, and therefore different from the West. He said that, in the Russian world, “death is beautiful, and that to die for one’s friends, one’s people, the Fatherland is beautiful. This is one of the foundations of our patriotism” (President of Russia 2014b).

Before examining the implications of this, it is vital to address the Russian view of soft power and colour revolutions. This is central for understanding how the Russian view of modern conflicts has evolved.

#### 4.4.2 Soft power, controlled chaos, and colour revolutions

During the last couple of years, not least in the light of the Russian military aggression against Ukraine, a few new topics have emerged in Russian military thinking. One distinct feature is the view of soft power – albeit the Russian interpretation is quite different from the conventional view of increasing a country’s power of attraction (Nye 2004). A new factor in international politics, according to the Concept of Foreign Policy, is the use of soft power (*Kontseptsiia vneshei* 2013: §20). On the one hand, soft power can be used as a complement to classic diplomacy. On the other, there is a risk of soft power being used as a tool to intrude into the domestic affairs of states, through “among other things to finance humanitarian projects and projects relating to human rights abroad”. Vladimir Putin defines it as “instruments and methods to achieve foreign policy objectives without the use of weapons – information and other levers of influence” (Putin 2012b). Defence Minister Sergei Shoigu is explicit: “The day has come when we all acknowledge that words, cameras, photographs, the internet, and information in general have become another branch of weapon, another branch of the Armed Forces” (Ministry of Defence 2015a, 2015b). This reflects a militarized view where soft power is seen as an instrument of statecraft.

#### *Soft power as a weapon*

In the military theoretical debate soft power is seen as one weapon among others. Makhmut Gareev, an influential military theorist and a veteran of the Second World War, links the annexation of Crimea with soft power and strategic deterrence (Gareev 2014). It is, according to him, necessary to learn from Crimea in order to “perfect our soft power, political and diplomatic means, and information tools, and thus increase effectiveness in the system for strategic deterrence”.

It is noteworthy that soft power, in this line of thinking, is put at the same level as strategic deterrence – a level usually associated with nuclear weapons and high-precision long-range conventional weapons.

Another term used in the Russian military theoretical debate is “controlled chaos” (*upravliaemyi khaos*). It is sometimes used in connection with a discussion of soft power. Gareev equates the two (Gareev 2013b). In connection with the Russian annexation of Crimea and the aggression in Donetsk and Luhansk, several articles in military theoretical journals are devoted to controlled chaos and to colour revolutions. Putin used the term “controlled chaos” used in his pre-election article on defence in 2012. It means that Russia was under attack from the West, which by various methods – political as well as economic – was destabilizing and undermining Russia’s neighbours, and ultimately Russia itself.

Thoughts on the threat of colour revolutions were to be found in Russian military strategic thinking long before any actual colour revolutions occurred (Persson 2015a: 46–64). But the idea of the threat became much more developed after the Orange revolution in Ukraine in 2004–2005.

*Colour revolutions  
 in military thinking*

Colour revolutions were one of the major topics at the annual security conference in Moscow in 2014 (Gavrilov 2014). This development was formalized in December 2015 when the term “colour revolution” was included into the National Security Strategy for the first time. It is described as a threat to Russia’s state security (*Strategiia natsionalnoi* 2015:§43).

According to this line of thinking, both colour revolutions and controlled chaos are tools in the hands of the West and are being used to attack Russia. According to Fyodor Lukyanov, the colour revolution is a clear example of what happens when “soft” and “hard” forms of influence start to interact and clash with each other (Lukyanov 2015). He takes Ukraine as a case in point where he sees the United States as an aggressor.

#### 4.4.3 Non-nuclear and nuclear deterrence

Strategic deterrence, with an emphasis on nuclear deterrence, is still a pillar in Russian security policy. Following the Russian annexation of Crimea, the possession of nuclear weapons has increasingly been used as an instrument of coercion. To give just two examples, the Russian Ambassador to Denmark threatened Denmark with Russian nuclear missiles should Denmark join NATO’s missile defence (Milne 2015), and at a meeting with the so-called Elbe Group in March 2015, the Russian envoys allegedly said that Russia would use its nuclear weapons if NATO moved more forces into Lithuania, Latvia or Estonia (Johnston 2015). For a discussion on the military contribution to strategic deterrence and coercion, see Chapter 3, section 3.6.

In addition to the official rhetoric, the number of exercises involving both strategic and non-strategic nuclear weapons has increased in recent years (see Chapter 2, section 2.8). In the first week of September 2015, the Russian Strategic Missile Forces conducted a large-scale exercise; and, if such behaviour was disturbing

news to outsiders, it is noteworthy that it seemed to cause concern in Russia as well (Persson 2015b). An anonymous editorial entitled “Russia prepares for victory in a nuclear war” in the newspaper *Nezavisimaia gazeta* (2015) referred to the exercise and asked whether “... the military no longer considers the use of weapons of mass destruction to be the end of the human race? If it does, please tell us straight out”.

*Nuclear weapons in  
Russian doctrines*

The role of nuclear weapons in Russian security policy is traditionally defined in the Military Doctrine, in nuclear deterrence policy documents, and in key speeches and declarations by the political leadership. At the doctrinal level there has been no public change in the Russian nuclear position. The revised Military Doctrine 2014 has the same wording as was previously used to explain Russia’s policy with respect to the use of nuclear weapons. Paragraph 27 states: “The Russian Federation reserves the right to utilize nuclear weapons in response to the utilization of nuclear and other types of weapons of mass destruction against it and (or) its allies, and also in the event of aggression against the Russian Federation involving the use of conventional weapons when the very existence of the state is under threat. The decision to utilize nuclear weapons is made by the president of the Russian Federation.” However, the state in today’s Russia is closely associated with the political system built around President Vladimir Putin. This raises the question of whether the current political leadership makes a distinction between regime survival and the state.

According to the new National Security Strategy “strategic deterrence and the prevention of military conflicts are achieved by upholding nuclear deterrence at a sufficiently high level” (*Strategiia natsionalnoi* 2015: §36). This is slightly sharper than in the previous Security Strategy where the “importance of keeping the potential of the strategic nuclear forces” was underlined.

*Nuclear weapons in  
the public debate*

In addition to the latest public declarations and the increase in nuclear exercises over the last three years (both in size and duration), a debate is going on in military newspapers and journals regarding the use of nuclear weapons to de-escalate a conflict. Nuclear de-escalation means the use of non-strategic nuclear weapons when a local war is escalating into a regional war. The use of nuclear weapons should, according to this line of thought, frighten the adversary and lead to a de-escalation of the conflict. In the military debate over the past few years, these ideas have become more frequent. Konstantin Sivkov, a known hardliner at the Academy for Geopolitical Problems, argued in March 2014 (before the revision of the Military Doctrine had been completed) that a preventive strike with non-strategic nuclear weapons against an enemy would be not only possible but also right (Sivkov 2014). He and others argued for a change in the official Doctrine that would explicitly regulate Russia’s possible use of a preventive nuclear strike. Makhmut Gareev has stated that the destruction of the intermediate-range ballistic missiles in the late 1980s and 1990s was a mistake. “Now the highest leadership of the Russian Federation also recognizes this mistake,” he wrote (Gareev 2013a). In addition, there are indications that the Intermediate Nuclear Forces Treaty (INF) itself is being threatened in Russia (Arbatov 2016).



It would be too easy to write off this line of thought as something coming from individual self-proclaimed experts – or to trivialize it by claiming that it is the task of every military staff to make plans for any conceivable event. It is more sinister than that. The advocates of a pre-emptive nuclear strike are challenging another school of thought that has been emphasizing the importance of a non-nuclear strategic deterrence for Russia. Andrei Kokoshin, one of Russia's leading strategic thinkers, has been arguing for this for years – that Russia should look beyond nuclear weapons to other modern, high-precision weapon systems. “Excessive confidence in nuclear deterrence in national security policy is detrimental and even dangerous for Russia,” he wrote in 2011 (Kokoshin 2011: 58). And, although the revised Military Doctrine contains the phrase “non-nuclear deterrence”, it remains to be seen what this means in practice.

To summarize, all this raises the question of how far the concept of strategic deterrence in Russian military thinking has moved beyond the Soviet concept of deterrence by denial.<sup>1</sup>

#### 4.4.4 The Maritime Doctrine

The Maritime Doctrine was approved by the president on 26 July 2015, the first time it had been updated since 2001 (*Morskaia doktrina* 2015). The Maritime Doctrine codifies the naval priorities, strategy, and procurement for all maritime assets, the military fleets, the civilian fleet, and the naval infrastructure. In other words, it is not specifically a doctrine for the Russian Navy (Voenno-Morskoi Flot), but it contains passages relevant for the Navy.

The Doctrine divides Russian naval policy into six regions: Atlantic, Arctic, Antarctic, Caspian, Indian Ocean, and Pacific (*Morskaia doktrina* 2015). Although it touches on all aspects of maritime activity, it is relevant for this report to note the following with reference to the Russian Navy. In the Atlantic region the Doctrine notes that NATO's plans for military infrastructure at Russia's borders are unacceptable for Russia (§52). Furthermore, the Doctrine stipulates that the Russian Navy should “secure a military-naval presence in the Mediterranean Sea on a permanent basis” (§58b). In the 2001 Doctrine there was no mention of “a permanent basis”. This is in line with Russia's greater military ambitions in the region, not least in view of the Russian operation in Syria. Moreover, the Doctrine emphasizes forward ambitions in the Black Sea. The forces of the Black Sea Fleet are to be prioritized, as well as their infrastructure on Crimea and in the Krasnodar region (§§56–57).

#### 4.4.5 Future war

The head of the General Staff, Valerii Gerasimov, had already formulated the most pressing questions for Russian military thinking in 2013 (Persson 2013). The Russian Armed Forces must be better at joint operations. Furthermore, the Armed Forces and different ministries must be better in coordinating their work. A military theory must be developed for asymmetrical warfare. Now

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<sup>1</sup> On the 1983 nuclear crisis, see Adamsky (2013) and Heuser (2009).

lessons can be drawn from the experiences in Ukraine and Syria, which will possibly add something of value to Russian military-strategic thinking and the development of its military strategy. Gerasimov wrote about 21st century Blitzkrieg and specified in 2016 that one lesson from the Russian military operation in Syria was that the “high-technology component” is of primary importance in contemporary armed conflicts (Gerasimov 2016).

The technological gap between Russia and the United States has been one of the most influential factors for Russian military strategic thinking for the past 20 years. The second most important factor has been the break-up of the Soviet Union (Persson 2015a; Johnson 2015). Russian military theorists have tried to formulate various ways forward for developing a military strategic doctrine. At this stage, one issue is considered particularly significant, and is now a part of both the Military Doctrine and the National Security Strategy: non-military means are given a fundamental role in contemporary and future military conflicts. The information sphere seems to be given a special position. In addition, the lessons learned so far from Ukraine show that these non-military means can entail violent actions (Westerlund & Norberg 2016).

#### 4.5 Foreign security

The Russian aggression against Ukraine and illegal annexation of Crimea had a considerable impact on Russia’s foreign relations. The widening rift with the West, which had been obvious for some years, turned into direct confrontation as Moscow’s breach of international law led to sanctions imposed on Russia by the European Union (EU), the United States and its allies. Due to its poor relationship with the West, Russia turned its attention more to Asia, focusing on its integration project in the former Soviet area, the Eurasian Economic Union (EEU), and engaged in a closer partnership with China. Furthermore, the Middle East, including Syria, has grown in importance as an arena for the resurrection of Russian great-power status, to the point of Russia being ready to use military force to exert power.

The radical reevaluation of Moscow’s relations with the West can be traced to Putin’s speech at the Security Conference in Munich in 2007 and was strengthened after the war against Georgia in 2008. During Putin’s second presidency, starting in 2012, and after the short period of “Reset” with the US, this process accelerated and was given a more civilizational character (Light: 27). According to the 2013 Concept of Foreign Policy, the Russian political leadership sees the current stage of world development as characterized by profound changes in the geopolitical landscape largely provoked or accelerated by global financial and economic crisis. In this process of transition, according to the Russian view, the West is weakening and its ability to dominate the world economy and politics is diminishing. Global power and development are shifting from the West to the East, primarily the Asia-Pacific region (*Kontseptsiia vneshnei* 2013: §§5–6).

Bobo Lo, an associate fellow of Chatham House and author of several books on Russian foreign policy, interprets this Russian perception of the world in ultra-

realist, “Neo-Hobbesian” terms (after the British philosopher Thomas Hobbes 1588-1679). According to this view, Russia perceives the world today first and foremost as an alien and often hostile place, in which the strong prosper and the weak get beaten. For all the talk about “win-win” solutions, which is often present in the West’s approach to international relations, the world has always been divided into winners and losers. This has led to a strong Russian zero-sum mentality and approach to international affairs (Lo 2015: 40–41; Persson 2013: 74).

Another Hobbesian principle evident in Moscow’s thinking, which comes as a natural result of this ultrarealist perception of the world, is the abiding conviction of the primacy of hard power. Therefore, military strength and “strategic nuclear parity” represent the ultimate guarantee of the world’s attention to and respect for Moscow.

*Hard power*

Yet another feature of Moscow’s world view is the dominance of major powers in the international system. For Russia, only a few powers of the world – most obviously the US, Russia, and China – act truly independently. Smaller states and multilateral organizations are seen as objects or instruments of great-power diplomacy rather than serious actors with proper agendas (Lo 2015: 41–42). The Russian leadership, therefore, interpreted the colour revolutions in Russia’s neighbourhood – and the Arab Spring – not as genuine acts of popular discontent against authoritarian regimes, but as instigated by the West (not least the United States) in order to encircle and contain Russia and, ultimately, change Russia’s regime (Mikriukov 2016: 10–11; see also above in this chapter).

As for Ukraine, Moscow regards the Ukrainian government as a puppet of the West (the US and the EU). In other words, it is not Kyiv that is its partner in the dialogue but rather Washington, Berlin and Paris. Furthermore, Moscow perceives the Ukrainian problem in the broader context, as a game with the West not only over Russia’s future position on the international arena but also regarding the new international order (Wilk et al. 2016).

The Russian political leadership sees the international system as multipolar. This interpretation, first promoted by Foreign Minister Evgenii Primakov in the 1990s, is one of a world dominated by the interaction between different poles, where no single power may be allowed to threaten the status quo and act unilaterally without risking reciprocal action. For instance, after NATO’s intervention in Kosovo, Russia allowed itself to act according to the “Kosovo precedent” both in Georgia in 2008 and in Crimea in 2014 (President of Russia 2014a).

*A multipolar world and the composition of values*

Further, under Putin, multipolarity has been given a civilizational aspect that contradicts Western ideas of moral universalism (Lo 2015: 43). The Concept of Foreign Policy presupposes “global competition [...] on a civilizational level, whereby various values and models of development based on the universal principles of democracy and market economy start to clash and compete with each other” (*Kontseptsiiia vneshnei* 2013: §13). As examples, Russia once defined its ruling model as a “sovereign democracy”, as opposed to the Western

liberal democracy model (Konnander 2008: 25). Together with like-minded authoritarian states, Russia also kept sending its own election observers through the Commonwealth of Independent States Election Monitoring Organization (CIS-EMO) to elections in other authoritarian former Soviet republics, often coming to conclusions diametrically opposed to the findings of the Organization for Security and Co-operation in Europe (OSCE) and other Western observer missions (Shekhovtsov 2015: 223–240; Lankina & Niemczyk 2015: 106). By doing this, Russia presents itself as a normative alternative to the West, with the potential to attract the political elites in authoritarian states in Russia's neighbourhood.

#### 4.5.1 International relations in the National Security Strategy

##### *Increased anti-Westernism*

The current National Security Strategy 2015 is the most pronouncedly anti-Western of all strategic documents published since 1997. In addition to describing the United States and NATO in a negative light, the new document points to the EU as hostile to Russia. According to the Strategy, the instability in global development has increased and Russia's independent foreign and domestic policy has led the US and its allies to expose the country to pressure (*davlenie*) – political, economic, military and informational (*Strategiia natsionalnoi* 2015: §§12–13). Further, the Strategy notes that the West's goal of counteracting the integration processes in Eurasia works against Russia's national interests (§17). The US and EU are pointed out as responsible for the developments in Ukraine by having supported an “anti-constitutional coup” that led to “deep divisions in Ukrainian society and the occurrence of an armed conflict”. In addition, the Strategy declares that the “deep socio-economic crisis in Ukraine is turning in the long term into a hardening of instability in Europe”, and that this is taking place right on the border with Russia (§17). Thus, somewhat contradictory to the perception of the weakening West, mentioned above, the West is still considered as the main adversary strong enough to pose a serious threat to Russia.

##### *A challenge to Euro-Atlantic security*

The National Security Strategy openly challenges the Euro-Atlantic security order, for instance, by saying that the growing refugee flows from Africa and the Middle East to Europe have made it evident that “the regional security system in the Euro-Atlantic region, built with NATO and the EU as the basis, is unsustainable” (*Strategiia natsionalnoi* §16). This is fully in line with previous statements and doctrines (e.g. the 2014 Military Doctrine). According to Russia, the current international security system does not provide security for all states. Further, in this increasingly unstable world order, “some countries use information and communication technologies to achieve their geopolitical objectives, such as the manipulation of public opinion (*soznanie*) and falsification of history” (§21). In a pointed formulation, the Strategy also says that “Islamic government [*sic*] and its growing influence are the result of a policy of double standards that some states keep to in the fight against terrorism” (§18). In both cases, the use of information and communication technologies as well as the use of double standards, the Strategy clearly refers to the US and the West.

The National Security Strategy further notes that acts of violence in international relations are not decreasing (§14). NATO's expansion and its approach to the borders of Russia pose "a threat to Russia's national security" (§15). There was already a sharpening of the wording in the previous National Security Strategy in 2009, which described the NATO security plans as extending "military infrastructure at the borders of Russia" and as "unacceptable". The Military Doctrine of 2014, however, referred to NATO members' "approach of military infrastructure...to the borders of the Russian Federation, including through further expansion of the bloc" as "dangers", but some of their capabilities, such as "the ability to demonstrate military force in the course of the exercises on the territory of the states bordering on the Russian Federation and its allies", were classified as threats (*Voennaia doktrina* 2014: 12, 14). According to the terminology of the Russian strategic document, there is a distinction between "dangers" and "threats", where the former can develop into the latter.

Among the more surprising accusations against the West in the revised Security Strategy is the danger of the US expanding its "network of military-biological laboratories" in countries bordering Russia (*Strategiia natsionalnoi* §19). Probably this refers to the cooperation in upgrading the protection of biological laboratories working with pathogens in order that they do not go astray or an accident does not occur. This cooperation, led by the US Defense Threat Reduction Agency (DTRA), involves countries such as Ukraine, Georgia, Kazakhstan, Armenia, Azerbaijan and Uzbekistan. Some analysts in Russia have accused the US of using this cooperation as a cover for developing biological weapons targeted against Russia. The inclusion of these accusations among the threats can be seen as a signal intended to counter US accusations against Russia of violating other agreements, such as the INF Treaty, by using its own counter-accusations against the US (Hedenskog et al. 2016: 3–4). It can also be used to justify a Russian biological weapons programme of its own.

Although the National Security Strategy describes the world as dangerous for Russia, and accuses the US and its allies of actively working to limit Russia's influence and make it more dangerous for Russia, it nevertheless also makes clear that the extended threats of terrorism, instability and proliferation make continued cooperation with the West necessary for Russia (§98). However, in Moscow's view, this cooperation obviously should take place on Russia's terms.

#### 4.5.2 The foreign policy of the Russian Federation: priorities and threats

The current Concept of Foreign Policy was released in February 2013, before Russia's aggression against Ukraine and its military intervention in Syria (Persson 2013: 78–80). In December 2015, the Russian Ministry of Foreign Affairs (MFA) announced that the Concept would soon be revised. According to the MFA, the basic principles of the foreign policy philosophy of Russia were strategic and fundamental in character and would therefore not be subject to fundamental revision. However, the profound changes occurring in the world in the context of increased competition over the parameters of the



new international system would need to be adequately addressed (Ministry of Foreign Affairs 2015).

### *The CIS area*

The priority areas of Russian foreign policy are relations with the countries of the CIS (*Kontseptsia vneshnei* 2013: §42). These priorities include strengthening organizations like the CIS itself, the EEU and the Collective Security Treaty Organization (CSTO) in different spheres of security, economic integration, and the humanitarian sphere, for instance through policy towards compatriots in other countries (§§42–48). It is in the CIS area that Moscow also sees the greatest potential for local and regional conflicts which might engage Russia's Armed Forces. In the first place, the areas involved are likely to be Ukraine, the South Caucasus (either a renewed conflict with Georgia or a regional conflict around Nagorno-Karabakh) or Central Asia. Stability in countries like Belarus and Moldova is to some extent also dependent on the situation in neighbouring Ukraine. The geographical proximity of the Caucasus to the Middle East and of Central Asia to Afghanistan means that conflicts in these areas also risk spilling over to the CIS states. Radical Islamism is making these conflict-ridden areas increasingly intertwined. For Central Asia, increasing authoritarianism, questions over natural resources (particularly water), and suppressed inter-ethnic conflicts as well as potential succession crises risk generating conflicts.

In the Concept of Foreign Policy, the label CIS is routinely used as synonymous with the whole former Soviet space except for the Baltic states, and does not literally mean the organization (the CIS) as such. In fact, Georgia left the organization after the 2008 war with Russia, and both Ukraine and Turkmenistan have never ratified the CIS charter and consider themselves only associate members. After Russia's annexation of Crimea, several bills have been proposed in the Ukrainian parliament to leave the organization completely, but they have never been approved. In September 2015 the Ukrainian MFA announced that Ukraine will continue to take part in the CIS "on a selective base" (BelTA 2015).

Of the Russia-sponsored organizations in the post-Soviet area, since Putin's return to the presidency Russia has instead emphasized the EEU, which came into existence on 1 January 2015. The original members, Russia, Belarus and Kazakhstan, were later joined by Armenia and Kyrgyzstan. The CSTO has also been strengthened by gradually evolving from a military alliance to a more multifunctional organization addressing many security issues such as military-technical cooperation, border security, combating trafficking and cybercrime (Norberg 2013: 6, 12). Despite some success, however, both organizations show their limitation as tools for Russian reintegration in the former Soviet area. The EEU lost its attraction due to Russia's economic problems. In fact, the other members of the EEU did not follow Russia's counter-sanctions against the EU after Brussels had imposed sanctions on Russia following the annexation of Crimea. They also continued to trade with Ukraine (Hedenskog 2015b: 33). As for the CSTO's collective defence capabilities, all the Central Asian members of the organization – Kazakhstan, Kyrgyzstan and Tajikistan – have stated that they have no intention of ever coming to Armenia's assistance in its territorial dispute with Azerbaijan over Nagorno-Karabakh (Mashrab 2016).

Developing bilateral relations with certain countries in the CIS area is also a priority (*Kontseptsiiia vneshnei* 2013:§48). The priorities are to increase interaction with Belarus “within the Union State”, to work with Belarus and Kazakhstan towards establishing the EEU, and “to build up relations with Ukraine as a priority partner within the CIS”. However, in reality, the reintegration of Russia and Belarus within the Union State has been very low on substance for many years and the events in Ukraine have furthermore led the Belarusian president to revisit his balancing policy between Moscow and Brussels (Hedenskog 2015a). Kazakhstan has also acted cautiously towards closer integration with Russia after the annexation of Crimea, stressing that the EEU should remain an economic union without political institutions (Holmquist 2015). For Ukraine the Russian aggression has resulted in a consolidating of both Kyiv’s pro-Western foreign policy direction and of popular feeling about Ukrainian independence, a pro-European policy, democracy and resistance to Russian hegemony (Hedenskog 2015b: 61–62).

The Concept of Foreign Policy also mentions maintaining an active role in political and diplomatic conflict resolution in the CIS space (Transnistria, Nagorno-Karabakh) (*Kontseptsiiia vneshnei* 2013:§49). For instance, after the “Four-Day War” in Nagorno-Karabakh in April 2016 Russia has been trying to expand its influence over the conflict settlement process and the two adversaries – Azerbaijan and Armenia (Hedenskog et al. 2016). In doing so, Moscow seeks to increase its sway over the whole South Caucasus, a region where the strategic energy infrastructure is of great importance for Russia.

*The “frozen conflicts”*

Strengthening Abkhazia and South Ossetia is a Russian priority in the Caucasus region, but Russia also sets as a priority normalizing its relations with Georgia over those issues where “the Georgian side shows its willingness” (§§51–52). Russia has re-established Soviet-era military bases in Abkhazia (the 7th military base in Gudauta) and South Ossetia (the 4th military base in Tskhinvali and Java), and has signed treaties of alliance and integration with these Georgian secessionist territories. However, the Russian recognition of these territories in fact makes them more isolated internationally and therefore more dependent on Russia. At the same time, the decline of the Russian economy has meant that the subsidies from Moscow have decreased (de Waal 2015). The South Ossetian leaders have repeatedly proposed a referendum in the secessionist “republic” over incorporation into the Russian Federation through the model of Crimea (Fuller 2016). A rapprochement between Russia and Georgia in line with the Concept’s wish seems unlikely given the consensus among the major political forces in Georgia around the pro-Western policy and the creeping de facto annexation of the Georgian territories by Russia.

The most dated section in the 2013 Concept of Foreign Policy is the one describing Russia’s relations with the Euro-Atlantic states, the European Union and the United States, and other multilateral organizations largely based in the Euro-Atlantic area (the Council of Europe, the OSCE and NATO) (§§54–72). This section will certainly see the most fundamental revision in the forthcoming revision of the Concept.

*Relations with the West*

The sharp deterioration in Russia's relations with the West has its roots in fundamental differences of view and conflict of interests regarding the status of the post-Soviet area. In the Western view, the sovereignty of these 14 states is paramount and they must be free to determine their own affiliations without threat or coercion. In numerous international as well as bilateral agreements with the respective countries Russia has pledged to respect their independence, sovereignty and territorial integrity. In the Russian view, however, these states are to a greater or lesser extent historically part of Russia; they acquired independence accidentally rather than through a formal settlement of the post-Cold War order. They are intimately linked to Russia through a myriad of personal and economic connections and form Russia's security perimeter. According to Moscow, they must therefore be recognized as being within Russia's sphere of interests, and must not be permitted to act in ways or form affiliations that are deemed to be contrary to Russia's strategic interests (Lyne 2015: 7). As the Kremlin sees it, it is the West that has destroyed the rules, not Russia, and, therefore, Russia must act in its own interests (Nixey 2015: 33).

Despite the deterioration of relations after the Russian aggression against Ukraine and despite the Western sanctions against Russia, Moscow has been able to keep bilateral ties on the highest level with several European countries. This has been facilitated by the growing division among the Western leaders in their understanding of how best to relate to Russia. That is in part because the term "the West" now covers a looser set of organizations and interests than it did in the past (Wood 2015: 50). The enlarged EU also includes countries that have close political and economic ties with Russia, as well as close personal relations with Russian political and economic actors. One of Russia's overarching goals is to see at least a partial lifting of the sanctions introduced after its annexation of Crimea. Finding partners in the West that support this policy line is beneficial to Russia.

The Russian leadership seems to believe that time is on its side. If only Moscow stays patient, sooner or later, they believe, the Western unity will crack, sanctions will be scrapped and elections will bring more Russia-friendly governments in the European capitals. These hopes have probably strengthened due to the further disintegration following the British referendum on leaving the EU (Brexit) and the continuing disagreement on how to resolve the migration crisis. The Russian response to the British vote was that it clearly could have some good consequences for Russia given that it would be politically impossible for the EU to expand further East when it is crumbling in the West (Trudolyubov 2016c). Thus, Brexit also suits the Russian idea that the West is weak.

*Relations with  
Asia, the Middle  
East and Islamic  
world*

Russia's policy in the Asia-Pacific region and Asia (*Kontseptsiia vneshnei* 2013:§§75–85) is particularly focused on China, something that has become even more accentuated after the worsening of Russia's relations with the West. On the one hand, Moscow and Beijing have increased their relations in the energy sphere with the landmark gas deal in 2014, which included gas supplies from Russia to China and the building of a new gas pipeline from eastern Siberia to China's north-east (Carlsson et al. 2015: 51–52). Russia and China are also

very much united by a common geopolitical world view with preference for a multipolar world order.

On the other hand, the partnership between Russia and China has its clear limits. Beijing has not been interested in joining Moscow's geopolitical game and antagonism towards the West. For China the paradox is that while the US is a strategic competitor it is at the same time its single most important trading partner. Also, Russia sees itself as China's equal while at the same time it is clearly becoming more and more of a junior partner to China. This is not a position that Russia will be happy with. Russia's aggression against Ukraine has further accentuated this feature (Carlsson et al. 2015: 79–80).

Furthermore, Moscow is directly challenged by Beijing in Central Asia as Chinese energy policies might dislodge it from its position as regional hegemon. Finally, in the Russian Far East, Russia has securitized issues of migration and cross-border trade, highlighting the fact that a more populous China might eventually effect a peaceful takeover of the region by economic means alone (Kuhrt 2015: 178).

The thaw in Russia's relations with Japan, which was initiated by Prime Minister Shinzo Abe in 2013, came to a temporary end in the summer of 2014 as a result of Japan joining the Western sanctions against Russia. However, at a bilateral top-level meeting in Vladivostok in September 2016, the Japanese prime minister declared Tokyo's willingness to intensify its economic cooperation with Russia without waiting to find a solution to the dispute over the Kuriles. In turn, Putin suggested that, where economic rapprochement is concerned, Moscow does not rule out compromise on the Kurile issue (Rodkiewicz 2016). Japan is becoming a more autonomous regional actor in security terms as well, perhaps even eventually working more independently of the USA (Kuhrt 2015: 187). This is an opportunity Russia will try to exploit.

Regarding the Middle East and North Africa – given the events of the Arab Spring and the ongoing war in Syria – the absence of any mention of either Syria and Turkey in the Concept is rather conspicuous – even more so after the Russian military campaign in Syria and the crisis in Russian-Turkish relations following the Turkish shooting down of a Russian Su-24 fighter aircraft in November 2015. However, the Russian-Turkish crisis during 2015–2016 was temporary and more a bilateral crisis than a feature of the overall Russia-NATO crisis. The foreign policy purpose of Russia's military engagement in Syria is to raise its diplomatic prestige and create a situation where Russia is considered equal to the US and indispensable as for international conflict resolution (Syria and Ukraine in particular).

## 4.6 Conclusions

The analysis of this chapter confirms that the shift made in 2012 towards an increasingly anti-Western policy and towards Russia taking its own path through “strategic solitude” will remain for years to come (Persson 2013: 82–83). The speed with which this trend has been implemented has been staggering.

The leadership claims that Russia is under attack from the West by so-called colour revolutions. This is evident both from the military theoretical debate and from the official doctrines. In order to meet this “aggression” Russia has struck back – not least by annexing the Crimean Peninsula but also through increased control over society at home. In opinion polls, it is possible to track increasing support for this view as well as a positive view of and trust in the Armed Forces, coupled with a willingness to devote resources to defence and to do military service. There is evidence of a widespread hostility towards the West in Russian society as well as a readiness to put military needs before economic growth if needed.

The outer aggression and the inner repression are reinforcing each other. Since 2013 Russia’s leadership seems to have become more rather than less worried about future social and political unrest. Increased repression appears to have done little to allay these fears and social or economic protest is often interpreted as instigated from abroad. This has created an atmosphere where increased repression is justified by pointing to threats to Russia and where just about every policy area is security-related. The patriotic policy has been established in the strategic documents.

In addition, the political leadership has used militias, Cossacks, private military companies and other formations with a semi-official status both to instil fear domestically and to carry out tasks abroad. Although these capabilities are primarily used for domestic purposes, they are part of Russia’s military organization and must therefore be taken into consideration when making assessments of Russia’s military capability as a whole.

Russian security policy mainly rests on two pillars, the possession of nuclear weapons and the permanent seat in the United Nations Security Council. The nuclear weapons have become even more important, and the nuclear rhetoric has reached unprecedented heights. Clearly, there is a political determination of the Russian leadership to use nuclear weapons as a primary tool for foreign policy coercion.

The priorities set out for foreign policy suggest in which geographical areas Russia thinks it most likely that future military conflicts could erupt. Russia has explicitly pointed to the establishment of regimes hostile to itself in its neighbourhood as a danger. This suggests that an immediate focus will continue to be on the countries neighbouring on Russia, not least on the former Soviet republics. Moreover, Russia has advanced its positions in the Middle East.

In view of the deterioration in relations with the West, as a consequence of the aggression against Ukraine, Russia is increasingly turning towards Asia, particularly China. Except for economic interests this relationship is facilitated by the fact that Russia and China share a consensus on values and the world order.



Russia's security policy is given a civilizational dimension. Future generations are being trained into a patriotic spirit, and there is a wide array of different school and youth organizations with a mission to instil military-patriotic values in future generations. The anti-Western stance in the strategic documents of the Russian Federation is explicit. The "Russian spiritual and moral traditions" have been defined in the National Security Strategy, and this has further narrowed the political leadership's room for manoeuvre in the future. Opportunities to change the policy to a more Western-friendly approach have diminished. This will be the situation Russia finds itself in whether Vladimir Putin continues as president or not. The increasingly authoritarian direction that Russian politics has taken coupled with the strong use of enemy images to legitimize policies will be most difficult to reverse for the Russian political leadership without undermining its position of power.

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## 5. Russian Military Expenditure

Susanne Oxenstierna<sup>1</sup>

A country's military expenditure is a general measure of the resources provided to the military and it conveys a sense of the size of the military establishment relative to other countries and of the relative importance of defence in comparison with other public spending. The size and growth of military expenditure is a strategic factor for building military capability, and it may be assumed that increases in military spending enhance the development of a stronger capability.

Russia's military spending has more than doubled between 2005 and 2015. This is primarily due to the Russian leadership's intention to modernize the Armed Forces in a reform started in 2008 and the implementation of a major State Armament Programme accompanying the reform that was launched in 2011. Russia's exceptionally high economic growth in the 2000s supported these efforts. Since 2011, however, economic growth has slowed down significantly, but the ambitious level of military spending has been maintained. This reflects the leadership's commitment to the modernization of the Armed Forces and a more assertive security policy since 2012 when Vladimir Putin became Russia's president for the third time.

The purpose of the chapter is to describe and analyse the recent development of the Russian defence budget and total military spending and assess the developments that can be expected in a ten-year perspective. As in the *Russian Military Capability in a Ten-Year Perspective* (RMC) reports of 2011 and 2013, economic growth and the political priority given to defence are assumed to be the most important factors that determine the size of military expenditure. The priority given to defence is assumed to be reflected in the share of the defence spending in gross domestic product (GDP).

The chapter starts with an analysis of Russian economic development and military expenditure over the period 2005–2015. The declining GDP-growth and the increasing growth of the defence budget are explored and the development of Russian military expenditure compared to that of other countries is examined. In the following section 5.2, the development of the defence budget is compared to that of other public spending in the federal budget and some findings on the costs of procurement, personnel and the military actions in Syria and Ukraine are discussed. The third section 5.3 attempts to assess Russia's military expenditure in a ten-year perspective. The final section draws the conclusions of the chapter.

*Outline of  
the chapter*

The chapter should give an assessment of Russian military expenditure up to 2026. As in earlier RMC reports, the time series presented have been restricted to include data ten years back as a background for the assessment of ten years

*Notes on sources*

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<sup>1</sup> I am grateful to Ulf Jonsson for constructive comments on the first draft and to Julian Cooper for reviewing the second draft of this chapter. B G Bergstrand kindly developed figures 5.2, 5.3 and A5.1.

forward. Russian data on the federal budget and macro data are regarded as fairly reliable and of a quality comparable to those on which the RMC reports in 2011 and 2013 were based. Budget data come from the Russian Federal Treasury, the Ministry of Finance and the Accounts Chamber. The macro data come mainly from the Ministry of Economic Development, the Federal Statistics Service (Rosstat), the International Monetary Fund (IMF), the World Bank and the Central Bank of Russia. It should be noted that in 2015 Rosstat changed the definition of GDP to bring data into line with SNA-1993 and SNA-2008.<sup>2</sup> The tables and figures note whether the GDP figures for 2014 and 2015 are expressed according to the old or new definition. As a rule the old definition is used in tables and figures that look backward so that figures are comparable to those of previous years. The new definition is used for plans and budgets that look forward. Figures for 2016 and later are always based on the new definition. Data collection for the study ended in early July 2016. However, the adjusted Ministry of Economic Development forecast of the Russian economy which appeared in August 2016 has been included.

Compared to 2013, in 2016 there are less independent information and fewer critical voices in the Russian public domain that discuss the systemic problems and the implementation of policies and their consequences. Therefore the analysis of these problems is based on theory and stylized facts. The old problems of secrecy surrounding the federal budget persist and information on spending within the main budget chapters of the federal budget is difficult to obtain.

## 5.1 Economic decline and increasing military expenditure

Russian economic development worsened after the economic crisis in 2009. After a brief recovery in 2010, despite oil prices staying at around 100 US dollars per barrel of oil (USD100/bbl), growth during 2011–2014 fell from 4.3 to 0.7 per cent per year (Table 5.1). This was due to weak productivity development and structural problems of the economy which are caused by the external growth model, the dependence on oil rents inherited from the Soviet economy and the increasing politicization of resource allocation since 2004 (Oxenstierna 2015a). This means that market institutions and competition have been set aside in favour of state control and preferential treatment of sectors and actors deemed important for the political leadership. The breakdown of relations between Russia and the West following Russia's invasion of Ukraine in 2014 has not improved Russia's economic performance.

In 2015 the declining growth was reinforced by the sharp drop in the oil price – from USD99/bbl in 2014 to around USD50/bbl in 2015. Performance worsened in 2016 when the price fell periodically to under USD40/bbl. The deterioration of the exchange rate from about RUB/USD20 to RUB/USD60 and the Western economic sanctions added to this weakening (Oxenstierna & Olsson 2015: 34–35). In response to these external shocks the Russian government introduced

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<sup>2</sup> SNA stands for System of National Accounts which are international standards for the compilation of national accounts (for further explanation see OECD 2015).

counter-sanctions, banning food imports from the European Union (EU) and other Western countries (Oxenstierna & Olsson 2015: 43–46), and later sanctions against Turkey in connection with the downing of the Russian fighter jet in November 2015.

**Table 5.1 Macro data 2005-2015**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1. GDP, billion RUB, current prices	21 610	26 917	33 248	41 277	38 807	46 309	59 698	66 928	71 017	77 945	80 804
2. GDP growth %		8.2	8.5	5.2	-7.8	4.5	4.3	3.5	1.3	0.7	-3.8
3. Productivity growth %	5.5	7.5	7.5	4.8	-4.1	3.2	3.8	3.2	1.8	0.9	NA
4. Investment as % of GDP	17.4	18.1	20.8	21.4	20.9	20.6	19.2	19.5	19.5	20.6	20.7
5. Average monthly wage, nominal, RUB	8 555	10 634	13 593	17 290	18 638	20 952	23 369	26 629	29 792	32 495	33 981
6. Average oil price Brent USD /bbl	54.5	65.1	72.4	97.3	61.7	79.5	111.3	112	108.7	99	52.4
7. Poverty rate, % of population					13	12.5	12.7	10.7	10.8	11.2	13.4
8. Exchange rate USD/RUB. CBR e-o-p	28.8	26.3	24.5	29.4	30.2	30.5	32.2	30.4	32.7	56.3	72.9

**Sources:** Rows 1–5: Rosstat; Row 6: BP (2015: 15); Row 7: World Bank (2016: 31); Row 8 Central Bank of Russia (2016).

**Note:** NA = not available; e-o-p = end of period.

The government has launched import substitution as the main instrument to revive the economy, which means that domestic producers without competition from abroad must produce what was previously imported. This policy will hardly succeed and has been vigorously criticized by Western and Russian liberal economists since it is not geared to producing goods for export but protects domestic producers from competition and will generate lower quality and rising prices.<sup>3</sup> As a result of the external shocks and the Russian policy responses the economy contracted by 3.7 per cent in 2015 and is expected to decline further in 2016 (see Figure 5.1; for different GDP forecasts see Table 5.5).

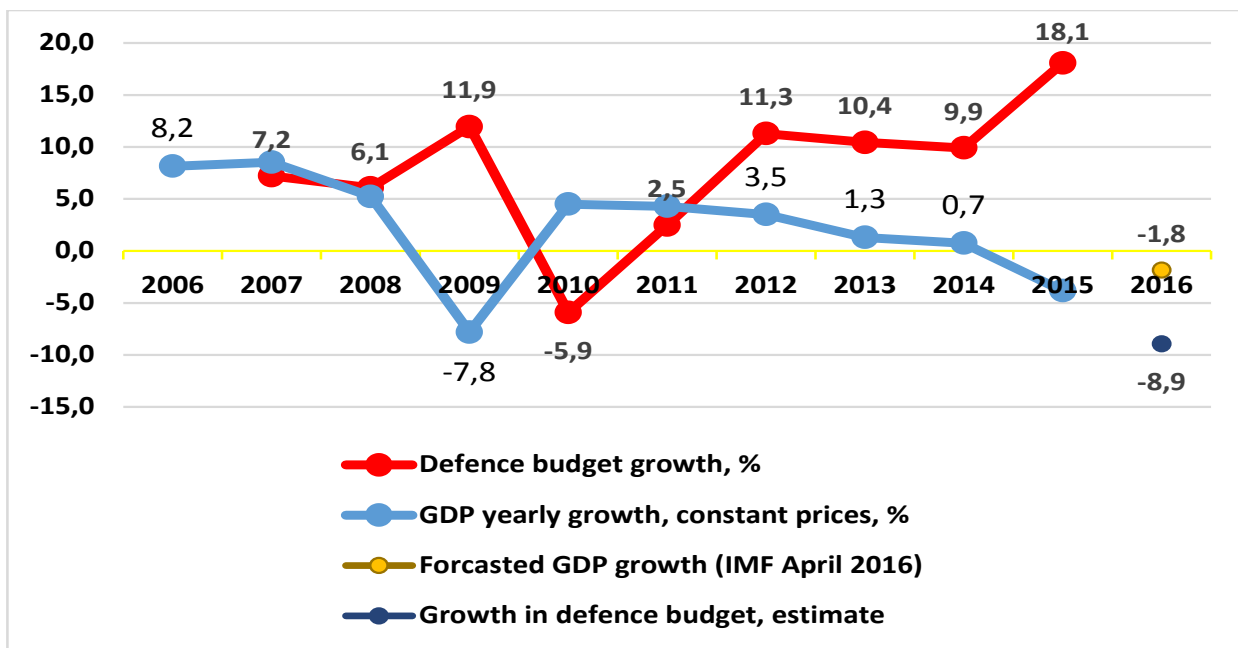
*Import  
substitution*

As shown in Figure 5.1, despite the weakening of growth in 2012–2015, the defence budget has been allowed to grow faster than GDP during this period. This means that the defence budget's share of GDP has grown significantly (Figure 5.3). Over the period 2005–2015 average growth of the national defence budget was 7.9 per cent per year while the average annual growth of GDP was 3.4 per cent. In 2015, despite the contraction of GDP, the defence budget increased by 18 per cent in real terms<sup>4</sup> (Figure 5.1).

<sup>3</sup> See e.g. the views of Vladimir Mau in *Vedomosti* (2015) and Alexei Kudrin, cited in Oxenstierna & Olsson (2015: 44).

<sup>4</sup> The real growth of GDP and budget items is dependent on what price index is used. In this case a GDP deflator has been used which was derived from IMF data on Russian GDP in current prices and constant prices (base year 2011). Alternative price indexes that could be used are the deflator given by Rosstat or CPI from Rosstat or the IMF. Some experts recommend a price index for public consumption. Which price index would best reflect the real development of the defence budget is debated in the literature (see Zatsepin 2011 for a thorough discussion). The choice of using a derived deflator from IMF data in this case allows growth in both GDP and the defence budget to be evaluated with the same index and it can be explained exactly from which figures and with what base year the index has been derived.

Figure 5.1 Growth in Russian GDP and defence budget 2006–2016 (per cent)



Source: IMF (2016); Ministry of Finance (2016); Federalnaia kaznacheistvo (2016); Accounts Chamber (2016); own calculations.  
 Note: The defence budget has been deflated with a GDP deflator derived from IMF data on GDP in current and constant prices (2011), 2008=100.

### 5.1.1 Demography and the labour market

Russia is experiencing a decline in the number of persons of able-bodied age (15–72) and between 2016 and 2026 the working-age population will shrink by between 4 and 6.5 million (Rosstat 2016). This also affects the availability of conscripts and contract soldiers in the coming decade (Oxenstierna & Bergstrand 2012; see Chapter 4). The demographic forecast has improved slightly compared to previous years thanks to the inclusion of the population on Crimea and the federal city Sevastopol. In addition, if there are fewer people of working age this affects contributions to the pension system. Russia’s pension system is subsidized every year by the federal budget and is not sustainable. Emigration has increased, which does not help the situation. According to the economist Vladislav Inozemtsev (2016), net emigration from Russia rose from 35 000 people a year between 2008 and 2010 to around 400 000, by preliminary estimates, in 2015.

#### *Real incomes*

Real wages fell by 9.3 per cent in 2015 (Rosstat 2016) and the average monthly wage was RUB33 981 (USD467).<sup>5</sup> Wage arrears have increased mainly due to delays in payments from the budgetary sector (Rosstat 2016). Downward wage flexibility has been the main adjustment in the labour market since the transition started, although in 2015 a slight increase in open unemployment, from 5.3 to 5.6 per cent, was noted. The erosion of real incomes due to the recession has significantly increased the poverty rate and exacerbated the vulnerability of households in the lower 40 per cent of the income distribution. Between the first half of 2014 and July 2015 the poverty rate climbed from 13.1 to 15.1

<sup>5</sup> Calculated at the Central Bank of Russia exchange rate as at 31 December 2015, USD1 = RUB72.8.

and it is rising (World Bank 2015).<sup>6</sup> Average living standards have dropped. Between 2014 and 2015 GDP per capita adjusted for purchasing power (PPP)<sup>7</sup> declined by 3.8 per cent (IMF 2015).

### 5.1.2 The impact of EU and US sanctions

In 2015 the IMF estimated that the Western financial sanctions and the Russian counter-sanctions<sup>8</sup> would initially reduce GDP by 1–1.5 per cent and in the medium term by 9 per cent (IMF 2015a). A study by Evsei Gurvich and Ilya Prilepskii (2016) at the Economic Expert Group in Moscow indicates that the effect of the sanctions on GDP growth between 2014 and 2017 would be –2.8 per cent (oil price assumed at USD50/bbl). The drop in the oil price has an even higher impact – an 8.5 per cent fall in accumulated growth over the four years 2014–2017. The drop in the oil price is the main factor depressing the income side of the federal budget, by 19–20 per cent. Gurvich and Prilepskii (2016: 33–34) show that the fall in the oil price has increased the effects of sanctions.

The Western sanctions targeting the financial sector make it difficult to refinance debt and raise funds for investment (see Oxenstierna & Olsson 2015). In addition, the EU and the USA have banned exports of military equipment, oil and gas extracting technology and dual-use goods. These measures have caused problems for the availability of electronic components: for instance, in rockets and space equipment imported components comprise 65–79 per cent of Russia's requirements (Faltsman 2015: 119). The immediate setback for the Russian defence industry, however, is the loss of the defence industrial partnership with Ukraine (see Chapter 6; Malmjöf 2016). The innovation capacity of Russian industry is weak and the lack of international cooperation and competition will probably impact on development for many years. Russia can modify its trade patterns over time and seek more cooperation with other countries such as the BRICS.<sup>9</sup> However, this will take time and the EU still remains Russia's major trade partner.

### 5.1.3 High military expenditure

Since 2012 Russian politics have reflected the fact that geopolitical aspirations abroad and maintaining the political status quo at home are overriding goals. Economics and economists have very little influence over the present political development. This stands in sharp contrast to Vladimir Putin's first presidency (2000–2004) and to Dmitry Medvedev's four years as president (2008–2012) when the economic reforms of the 1990s were consolidated and there was an insight that reforms had to be continued. Economic policy was fairly rational

<sup>6</sup> The total number of Russians living below the official poverty line – those with monthly incomes of less than RUB9 662 (USD 140) — increased to 20.3 million between January and September 2015, Rosstat reported (The Moscow Times 2015).

<sup>7</sup> PPP stands for “purchasing power parity”. The PPP of a currency makes costs in different countries comparable by referring the quantity of the currency needed to purchase a given unit of a good, or common basket of goods and services.

<sup>8</sup> First of all an embargo on food products from the EU, the US, Australia, Canada and Norway (Oxenstierna & Olsson 2015: 45–46).

<sup>9</sup> Abbreviation for Brazil, Russia, India, China and South Africa.



from an economic point of view and Medvedev put forward a proposal on how the economy should be modernized that was unfortunately not implemented.<sup>10</sup> Currently, however, economic policy is restricted to cutting budget expenditures and keeping the budget deficit within its limits. In the budget adjustments defence and social policy are regarded as protected but defence has been adjusted downwards in the budget process both in 2015 and in 2016, although less than other chapters of the budget (Oxenstierna 2015b: 92). Policies aimed at improving the competitiveness of the Russian economy, attracting domestic and foreign investors and creating the preconditions for entrepreneurship to flourish appear to have been downplayed.

Total military spending<sup>11</sup> has risen both in absolute numbers and as a share of GDP. The defence industry is the main beneficiary of this policy since most of the increase in the defence budget may be given to the ongoing State Armament Programme (GPV, Gosudarstvennaia programma vooruzheniia) for 2011–2020 and the rise in the yearly State Defence Order, the GOZ (Gosudarstvennyi oboronnyi zakaz) (see Table 5.3).

Figure 5.2 describes the more than doubling of Russian total military expenditure (ME) from USD43 billion in 2005 to USD91 billion in 2015 expressed in constant 2014 USD prices. The share of ME in GDP has increased from 3.6 per cent in 2005 to 5.4 per cent in 2015. Since 2011 there has been a steady increase in the share of ME in GDP, which is a reflection of the trend seen in Figure 5.1 above – that the defence budget has grown faster than GDP.

Russia's total ME of USD91 billion in 2015 is still low compared to the US' and China's total expenditure – USD595 billion and USD214 billion respectively in 2015 (see Figure 5A.1 in the Appendix).<sup>12</sup> However, its share of GDP is high and rising in comparison with other countries. The US share has declined from its peak of 4.7 per cent in 2010 of GDP to 3.3 per cent 2015. China lies quite stable at around 2 per cent and the EU-28 at around 1.5 per cent. India's share of defence in GDP was similar to Russia's up to 2011, but since then it has decreased and shows a trend opposite to that of Russia. The high share of defence in GDP means that Russia pays relatively more for its military security than other countries in terms of alternative public spending, or it may be expressed as Russia being more willing to pay for defence than most other developed countries.

After the economic crisis of 2009 the Russian economy has lost in competitiveness compared to other countries. Since 2008, Russia's share of the world economy has decreased from 3.7 per cent (PPP) to 3 per cent in 2015 (IMF 2015). The IMF forecasts a decline in Russia's share to 2.7 per cent in 2020.

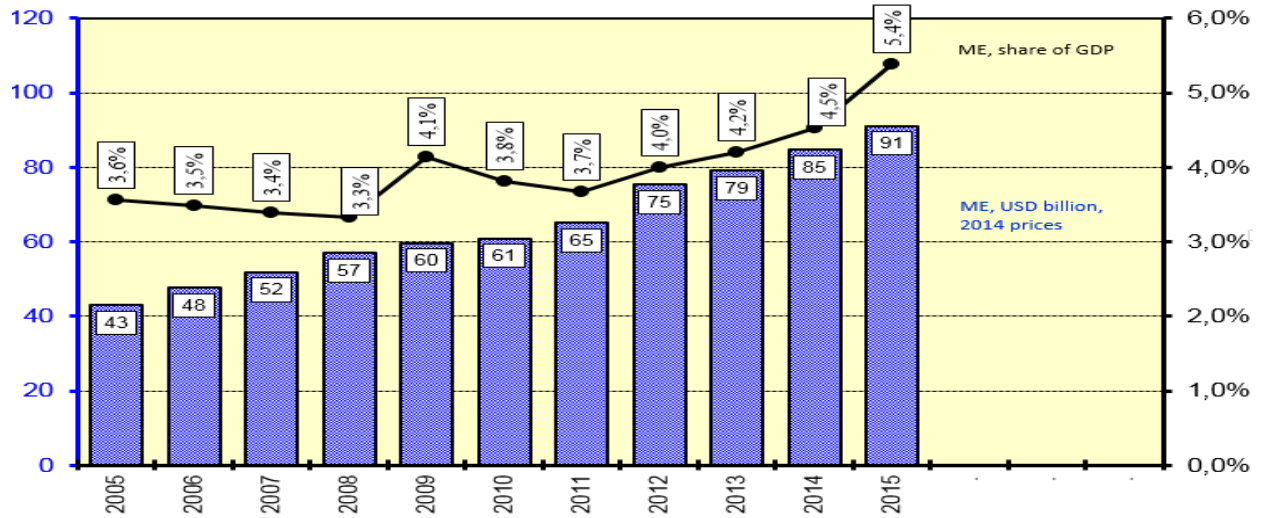
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<sup>10</sup> Medvedev's programme Forward Russia! Cited in Oxenstierna 2012: 16–25.

<sup>11</sup> Total military expenditure according to SIPRI's definition includes most of the Russian defence budget (see Table 5.2) plus costs for paramilitary forces and military pensions.

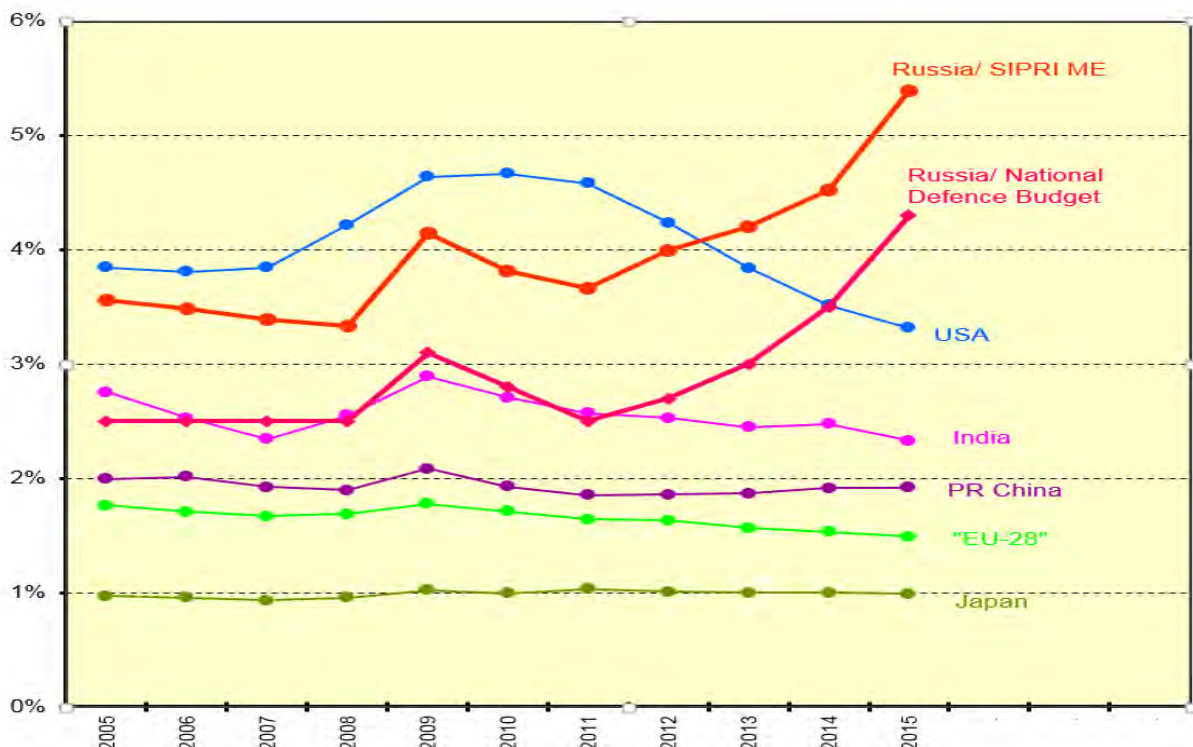
<sup>12</sup> In fact, Russia lies in the same range as Saudi Arabia with total military expenditure of USD85 billion in 2015 (SIPRI 2016).

Figure 5.2 Russia's military expenditure (ME) 2006–2016 (billion USD in constant 2014 prices). Share of GDP (per cent of GDP in current prices)



Source: SIPRI (2016).

Figure 5.3 Comparison of Russia's national defence budget with Russia's total military expenditure (ME) and with ME of other countries (per cent of GDP in current prices)



Source: SIPRI (2016); Russia's defence budget A5.4.

Note: All curves except the one depicting Russia's national defence budget are based on SIPRI's definition of military expenditure and SIPRI-data.

As a comparison, the share of the other two major military powers in the world economy is 16 per cent for the US and 17 per cent for China. Russia's dependence on the oil price and the lack of structural market-oriented reforms are important reasons for Russia's weakened position. The rise in military expenditure has not reduced these problems.

## 5.2 Priority to defence

In the RMC reports 2011 and 2013 it was claimed that economic growth was the main constraint on the growth of Russian military expenditure, and defence spending grew at about the same pace as GDP. The priority given to defence as expressed by its share of GDP was quite stable at around 2.5–3 per cent. However, after 2011, this trend has been broken and defence has grown considerably faster than GDP. This suggests that it is the priority that the leadership gives to defence that sets the limits for defence spending, not economic growth.

Why would the Russian leadership give such precedence to defence in a time of economic decline?

### *Commitment to modernization of the Armed Forces*

A central reason is that the Russian government has been strongly committed to the modernization of the Armed Forces from its start and to the implementation of the GPV-2020. This programme is meant to be the post-Soviet reform that should transform the Armed Forces into a modern force that can meet Russia's defence and security needs of the 21st century. The GPV-2020 is instrumental in this effort and the programme has therefore received unprecedentedly large funding – RUB19 trillion (Oxenstierna 2013: 112). That the government has kept the GOZ at a high level and lets it take an increasing share of GDP (see Table 5.3) despite worsening economic conditions shows that the reform still has top priority.

Furthermore, during the period of implementation of the GPV the political climate has become increasingly defence-friendly. According to the new Security Strategy (2015: §30) the main national interest is “to strengthen the country's defence” and economic security comes only in fourth place. This is quite different from the main national interests in the 2009 Security Strategy – “to develop democracy and strengthen the civil society” (Hedenskog et al. 2016: 4). The wording in the Security Strategy and the policies conducted support the notion that economic development and other civil concerns are secondary to national defence in the eyes of the political leadership. This is another explanatory factor behind the political leadership's great willingness to pay for defence.

Economic growth has slowed since 2011 but this has not motivated the political leadership to undertake the structural and institutional reforms that could revive the market economy and enable growth (Oxenstierna 2015a: 96–107). Russia remains locked into the extensive growth model with its high dependence on hydrocarbons and the economy is extremely sensitive to changes in the oil price. The halving of the oil price in 2015 has driven the Russian economy into a deep recession. It follows that a social contract like the one between the political

leadership and the population in the 2000s, when the economy was strong and higher living standards could be offered in exchange for some restrictions on civil liberties, is not an option. Instead the political leadership has to resort to repressive measures to prevent any opposition or uprising. Creating a scenario whereby Russia is under threat enhances national cohesion and is a way of gaining support for high military expenditure and making it more acceptable to the population.

In addition, the defence industry and those behind it are a strong lobby in Russia. With the GPV-2020 and the special federal programme for modernizing the defence industry it has an opportunity to regain some of the status it had during the Soviet period. The industry profits from guaranteed sales through the annual state procurement orders (the GOZ) and there is no competition either from new domestic companies or from abroad. The industry is instrumental for implementing the GPV and it will use this as leverage and continue to protect its economic interests.

#### 5.2.1 Defence spending in the federal budget

Information on the defence budget is to be found in the preliminary budgets of the Ministry of Finance and in the accounts of budget spending published on the website of the Federal Treasury and the Accounts Chamber (see Cooper 2013 on methodology). The defence budget in the Russian federal budget for “national defence” includes about 79 per cent of Russia’s military spending. In order to make Russia’s spending comparable to total military expenditure according to the definition of the Stockholm International Peace Research Institute (SIPRI), adjustments need to be made. Table 5.2 shows how total military expenditure is derived from the federal budget and its relation to the defence budget.

The defence budget is about 20 per cent of the total federal budget and total military expenditure constitutes 25 per cent (see Table 5.2). This must be considered to be a high share. Only social policy has a greater share in the budget, 27 per cent (Appendix A5.3). Other items supporting the interests of the political leadership have relatively high shares of total spending too: national security 12–23 per cent, and support to the national economy about 15 per cent (Appendix A5.3).

**Table 5.2 Defence budget and derived total military expenditure for Russia 2014-2016 (current prices, million RUB)**

	2014 Actual	2015 Actual	2016 Budget Law
<b>Defence budget ("National defence" in Federal budget)</b>	<b>2 479 074</b>	<b>3 181 366</b>	<b>3 149 291</b>
<b>Per cent of total federal budget expenditure</b>	<b>16.7</b>	<b>20.4</b>	<b>19.6</b>
<b>Per cent of GDP</b>	<b>3.47*</b>	<b>4.32*</b>	<b>4.0</b>
Arms recycling	23 651	17 317	14 829
Mobilization preparation of economy	3 951	4 020	3 835
Defence budget minus arms recycling & mobilization of the economy	2 451 472	3 160 029	3 130 627
<b>Other military expenditure:</b>	<b>770 211</b>	<b>866 255</b>	<b>859 529</b>
Other MOD expenditure: Housing	32 079	22 479	139
Fundamental research	1	211	785
Education	60 564	66 704	77 473
Health	56 248	56 409	54 377
Culture and cinematography	2 744	3 009	2 574
Physical culture and sport	2 079	4 202	3 856
Mass media	2 066	2 280	1 283
Pensions	287 452	306 311	330 152
Social support	42 855	136 520	138 496
Fees to international agencies	5	8	9
MVD troops	128 642	120 525	115 444
FSB border troops	142 626	136 709	123 870
Closed towns. Rosatom	11 566	9 987	10 047
Baikonur Space Centre	1 284	901	1 024
<b>Total military expenditure</b>	<b>3 221 683</b>	<b>4 026 284</b>	<b>3 990 156</b>
Total federal budget expenditure	<b>14 831 576</b>	<b>15 610 901</b>	<b>16 098 658</b>
Total military expenditure as % of total expenditure	21.7	25.8	24.8
GDP (current prices; 2014 & 2015 according to old definition; 2016 new definition)	<b>77 893 063</b>	<b>73 708 000</b>	<b>78 673 000</b>
<b>Total military expenditure as % of GDP</b>	<b>4.1</b>	<b>5.5</b>	<b>5.1</b>
Defence budget as % of total ME	76.9	79.0	78.9

Source: Cooper (2016); Appendix A5.3 & A5.4.

### 5.2.2 Procurement of arms and other equipment

The increase in defence procurement called for by the GPV-2020 is the main factor behind the increase in the defence budget since 2011. As seen in Table 5.3 the GOZ amounted to 60 per cent of the defence budget in 2015 and is expected to be 54 per cent in 2016. By comparison, in 2006 it amounted to just 35 per cent. Procurement of armaments now corresponds to over 80 per cent of the GOZ compared to under 50 per cent in 2006 (see Table 5.3). This means that the shares of research and development (R&D) and maintenance and repairs in the GOZ have fallen. As Table 5.3 shows, the total GOZ of the Ministry of Defence (MoD) increased from 1 per cent to over 2.5 per cent of GDP over the ten years 2006–2015.



**Table 5.3 State defence order (GOZ) 2006-2016 (billion RUB, per cent)**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
GOZ (MoD) billion RUB	235.8	299.5	390.3	476.9	483.5	581.5	732.8	1172.5	1189.8	1881.8	1701.3
GOZ share of defence budget (%)	34.6	36.0	37.5	40.1	37.9	38.4	40.4	55.7	48.0	59.2	54.0
Procurement as share of GOZ (%)	48.7	47.9	54.7	56.9	61.6	57.6	63.4	68.1	82.4	84.5	82.6
% of GDP	0.88	0.9	0.95	1.23	1.04	1.04	1.17	1.76	1.53	2.55	2.16

**Sources:** Data for 2006–2013: Cooper (2013: 22). Data for 2014–2016: Cooper (2016).

The GPV-2020 is supposed to result in 70 per cent of the Armed Forces' weaponry being "modern" by 2020 and a goal of 30 per cent was set for 2015 (see further Chapter 6 for a discussion of deliveries). The lion's share of the RUB19 trillion would be spent during the period after 2015, which means that military spending will continue at a high level. Nevertheless, the Ministry of Finance signalled in connection with the 2015 budget that a new defence programme needed to be developed that took into account the changed economic situation (Reuters 2014). In 2015, the defence budget was cut by 4.8 per cent from its initial level (Oxenstierna 2015b: 92). A similar cut is expected for 2016 but the implementation of the GPV is protected according to Deputy Minister of Defence Tatyana Shevtsova, who claims that economies will be made by raising the efficiency of other spending (*Rossiiskaia gazeta* 2016: 2). New cost-effective approaches in housing both for deployed servicemen and for those leaving the Armed Forces and better management of construction are among the areas that will be addressed.

### 5.2.3 Personnel costs

In order to make employment in the Armed Forces more attractive, salaries and other monetary benefits have been raised since 2012. According to the MoD (2016) salaries have so far been raised on average 2.5–3 times and military pensions by 60–70 per cent. On average a contract soldier would earn RUB23 000–35 000 per month, which is not exceptional compared to the average wage of RUB34 000 in 2015. However, the many additional monetary benefits in the payment system indicate that pay can vary considerably and total remuneration can be higher.

In 2012, before the increase in salaries and benefits, the Accounts Chamber reported that personnel costs amounted to 30 per cent of the defence budget (Oxenstierna 2013: 110). In 2016, Shevtsova said that "more than 55 per cent of MoD's budget is used to finance the state armament programmes. Only less than half goes to the needs of the armed forces." The remainder (45 per cent) covers training, accommodation, salaries and social benefits (*Rossiiskaia gazeta* 2016: 1).

### 5.2.4 The defence budget and the cost of military operations

The breakdown of the defence budget that is available in the public domain is

shown in Table 5.4. There are seven sub-items: the armed forces, mobilization and training, mobilization preparation of the economy,<sup>13</sup> nuclear weapons complex, international cooperation, applied R&D, and other questions in the field of national defence. For the period 2014–2016 these sub-items have been fairly stable both in nominal terms and as a share of the defence budget. The only major change in the budget for 2016 is the decline in the sub-item “armed forces” and the increase in the share of the sub-item “other questions in the field of national defence” by 5.5 percentage points of the defence budget. It may be assumed that this is where the expected costs for the continuing Syria operation in 2016 have been included.

**Table 5.4 Defence budget in the federal budget  
 (current prices, million RUB, per cent of total spending on national defence)**

	2014 Actual spending	2015 Actual spending	2016 Budget Law	2014 % of total “national defence”	2015 % of total “national defence”	2016 % of total “national defence”
<b>Total “National defence”</b>	<b>2 479 074</b>	<b>3 181 366</b>	<b>3 149 291</b>	<b>100</b>	<b>100</b>	<b>100</b>
Armed forces of the Russian Federation	1 885 859	2 432 905	2 233 630	76.1	76.5	70.9
Mobilization and ex-forces training	6 462	6 296	5 428	0.3	0.2	0.2
Mobilization preparation of economy	3 951	4 020	3 835	0.2	0.1	0.1
Nuclear weapons complex	36 717	44 385	46 014	1.5	1.4	1.5
International obligations in military- technological cooperation	6 464	10 325	9 493	0.3	0.3	0.3
Applied R&D in field of national defence	244 636	318 521	314 971	9.9	10.0	10.0
Other questions in the field of national defence	294 985	364 914	535 920	11.9	11.5	17.0

Source: Cooper (2016); Accounts Chamber (2016). Shares derived by author’s own calculations.

*The operation  
 in Syria*

On 14 March 2016 Russia downsized its operation in Syria, claiming that the operation had achieved its goals. In connection with this President Putin stated that the operation that begun on 30 September 2015 had cost RUB33 billion (which corresponds to 1 per cent of the defence budget in 2015) over the 167 days it had lasted (*Kommersant* 2016). It was reported that the costs of the operation had been covered by redistributing budgetary resources from military exercises. The total cost of the Syrian operation given by the president is close to earlier Russian estimates. Evaluated at the exchange rate on 30 September 2015<sup>14</sup> it corresponds to about USD500 million and a daily cost of approximately USD3 million.<sup>15</sup> The operation in Syria continues at a lower intensity but there are no indications of the costs of these activities other than a possible link to the rise of “other questions in the field of national defence” in the defence budget for 2016 mentioned above.

<sup>13</sup> In addition the mobilization preparation of the economy also gets funding from Rosrezerv and the Main Administration of Special Programmes of the President RF (GUSP). Together the three sources result in budget funding corresponding to 4 per cent of the defence budget or 0.8 per cent of the federal budget (Cooper 2016a: 44–45).

<sup>14</sup> USD1 = RUB66.23.

<sup>15</sup> According to RosBiznesKonsulting (RBK) in the first round Russia planned spending on the Syrian campaign at USD1.2 billion, which corresponded to about USD3.3 million per day. At the end of October 2015, however, the daily spending was estimated at USD2.5 million which corresponds to approximately USD900 million per year (RBK 2016).

The costs of the operation in eastern Ukraine are even more difficult to estimate. The Russian opposition politician Boris Nemtsov investigated Russia's operations in Ukraine before his murder 23 February 2015. According to his data the war in Ukraine in 2014 cost RUB53 billion (at the time about USD1 billion) (Putin.war 2015: 61). This corresponds to 2 per cent of the defence budget in 2014 and is thus a larger cost in relative terms than that of the Syrian operation in 2015. The operation in eastern Ukraine continues but the direct cost it is inflicting on the Russian budget is unknown.

### 5.3 Russian military expenditure in a ten-year perspective

Russia's military expenditure in a ten-year perspective will depend on economic growth and on the priority given to defence relative to other public spending. In this section the existing medium-term economic forecasts of the IMF, the World Bank and the Russian Ministry of Economic Development (MER)<sup>16</sup> are presented and discussed and assumptions regarding growth in the long run are made. The assumed shares of military spending in GDP in the long term are based on a discussion of the GPV and possible developments in the political priority accorded to defence.

#### 5.3.1 Forecasts of economic growth

The Russian economy is in a deep recession and forecasts for the next three years are quite gloomy. Yet a slight improvement can be noted in the later forecasts of the IMF and the MER in June and August compared to their initial variants in April 2016 (Table 5.5). The main variable affecting growth is the oil price which the MER put at USD40/bbl for the period 2017–2019 in its baseline scenario in April. In August a new scenario, “baseline plus”, was presented where the oil price had been assumed at a level of USD50/bbl and over for 2017–2018 (Vedomosti 2016). The World Bank (2016) has a differentiated oil price of between USD37 and USD51/bbl in its forecast in April (Table 5.5).

**Table 5.5 Forecasts of Russian GDP growth 2016-2019 (per cent)**

Forecasting agency	2015	Forecast			
		2016	2017	2018	2019
World Bank baseline scenario, %	-3.7	-1.9	1.1	1.8	
<i>Oil price USD/bbl average WB scenario</i>	<i>51.9</i>	<i>37.0</i>	<i>48.0</i>	<i>51.4</i>	
IMF April 2016, %	-3.7	-1.8	0.8	1.0	1.5
<b>IMF June 2016, %</b>	<b>-3.7</b>	<b>-1.2</b>	<b>1.0</b>	<b>1.2</b>	<b>1.5</b>
MER April 2016, baseline, %	-3.7	-0.2	0.8	1.8	2.2
<i>Oil price USD/bbl MER April scenario</i>	<i>40.0</i>	<i>40.0</i>	<i>40.0</i>	<i>40.0</i>	<i>40.0</i>
MER August 2016, baseline, %	-3.7	-0.6	0.6	1.7	2.1
<i>Oil price USD/bbl MER August baseline</i>	<i>40.0</i>	<i>41.0</i>	<i>40.0</i>	<i>40.0</i>	<i>40.0</i>
<b>MER August 2016, baseline “plus”, %</b>	<b>-3.7</b>	<b>-0.6</b>	<b>1.1</b>	<b>2.1</b>	<b>2.4</b>
<i>Oil price USD/bbl MER baseline “plus”</i>	<i>40.0</i>	<i>41.0</i>	<i>50.0</i>	<i>55.0</i>	<i>55.0</i>

**Sources:** IMF (2016), (2016a: 35); World Bank (2016: 31); MER (2016: 6); Vedomosti (2016).

**Notes:** MER = Ministry of Economic Development RF. /bbl = per barrel.

<sup>16</sup> Acronym from the Russian name Ministerstvo ekonomicheskogo razvitiia.

As seen in Table 5.5 the MER estimates that GDP 2016 will decline by 0.6 per cent in 2016, a decrease from -0.2 per cent in the April forecast, but the forecast for 2017–2019 has improved and the MER expects the economy to grow by 2.4 per cent in 2019. The IMF has also lowered its forecast for 2016 but expects a slightly better rate of growth in 2017 and 2018 – of 1 and 1.2 per cent respectively. In the longer term the IMF has kept its forecast of 1.5 per cent growth over the years 2019–2021. The World Bank’s forecast is still the most pessimistic for 2016 but has the same growth rate as the MER for 2017 and the same as the IMF for 2018.

In the hypothetical forecast of military expenditure below, two of these growth scenarios are used: the adjusted IMF June forecast and the adjusted MER forecast from August (see Table 5.5). The actual figures of the forecasts are used for the years 2016–2019. The IMF has further stipulated a growth rate of 1.5 per cent from 2019 to 2021 and the same rate has been assumed up to 2026. The MER forecast has 2.4 per cent growth for 2019 and this growth rate has been used for the remaining years up to 2026.

### 5.3.2 Share of GDP

Assumptions about the share of military expenditure in GDP involve expectations as to how the political leadership will prioritize defence compared to other public spending in the future and how they assess the achievements of the GPV-2020. There seem to be two main views that are used to argue whether the priority given to defence will decrease or increase. The argument favouring a decrease in the priority defence receives says that the GPV has performed well in the medium term and capability has increased substantially, which would motivate the political leadership to reduce the pace of military spending during coming the years. Such a development is further supported by the fact that the total original allocation to the GPV was expressed in current prices and therefore its real value will decrease over time, which means that the real costs of the GPV would represent a lesser share of GDP during the remaining years. Moreover, it is expected that the political leadership would adjust its policies, address the economic downturn and start paying more attention to other needs in society. Higher oil prices would increase GDP and reduce the share of defence in GDP.

The other argument says that defence will continue to take a high share of GDP and points to the GPV’s continuing need for funding up to 2020. A new GPV for 2018–2025 will be launched and the MoD has suggested a high budget for it.<sup>17</sup> In addition, it may be expected that the defence industry will push for continuing high spending. Apart from the modernization efforts and the armament programmes Russia’s security policy and military operations abroad would demand that military expenditure stay at a high level. This argument is usually accompanied by a more pessimistic view of the economic prospects. It assumes low growth or stagnation and does not expect the political leadership to change its priorities. Instead, it is assumed that continuing weak economic

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<sup>17</sup> The MoD has suggested a budget of RUB24 trillion for the GPV-2025. (See Chapter 6, section 6.3, “Conclusions”, for details.)

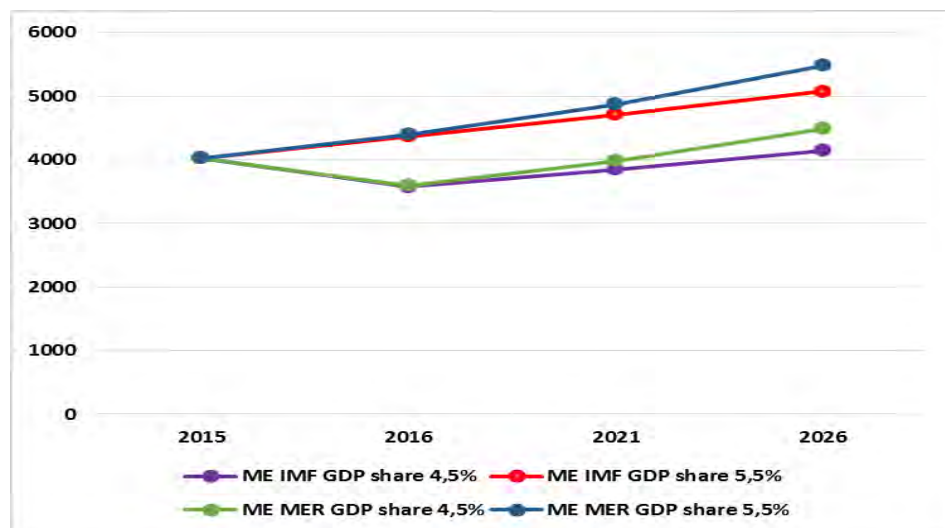
performance increases the political importance of building and maintaining military strength for Russia's image at home and abroad.

In the hypothetical scenarios presented in section 5.3.3 the first view is represented by a lowered share of total military expenditure in GDP of 4.5 per cent throughout the forecasting period. The second view is represented by a share in GDP of 5.5 per cent, i.e. a marginal increase from the 2015 level (5.4 per cent).

### 5.3.3 Scenarios up to 2026

In Figure 5.4 four hypothetical scenarios for Russia's ME are depicted. In two of these a share of ME in GDP of 4.5 per cent has been assumed, and in two a share of 5.5 per cent. The growth rates used come from the IMF June 2016 and the MER August 2016 forecasts in Table 5.5.

**Figure 5.4 Estimated Russian military expenditure (ME) 2016–2026 at different assumptions of GDP growth and ME-share of GDP (billion RUB)**



**Sources:** Table 5.5: MER baseline plus, IMF June. Author's own calculations.

**Notes:** ME = military expenditure; MER = Ministry of Economic Development RF.

If it is assumed that the share of ME would remain at about the present level of around 5.5 per cent, the rise of ME over the period 2015–2026 would be 26 per cent in the scenario based on the IMF forecast and 36 per cent in the scenario based on the MER's forecast. If it is assumed that the ME share drops to 4.5 per cent, implying that the priority given to defence is reduced, the rises in ME over the same period would be much smaller, 3 and 12 per cent respectively. These results are modest compared to the doubling of the ME share over the last ten years. The MER scenario has the highest growth of the scenarios studied and for ME to double under its growth assumptions the share of ME in GDP would have to rise to over 8 per cent, which would be high for modern Russia.



## 5.4 Conclusions

Since 2012 Russia has clearly given high priority to defence and other security issues. Economic policies are characterized by more state intervention and control. Defence expenditure has doubled in real terms over the last ten years and it is expected to continue to take a high share of GDP. The modernization of the Armed Forces is of high priority and the funding of the GPV will continue. High military expenditure is also conditioned on the leadership choosing to interpret the surrounding world as if Russia were under threat. Apparently the population accepts these costs and supports the idea of Russia being a great power associated with military strength.

The economy is stagnating and the leadership has so far failed to respond with policies that can generate growth in the medium and long run. The Ministry of Finance struggles to keep the budget deficit under control but measures that limit competition, bureaucratic regulations and restrictions that complicate business activities, corruption, and arbitrarily changed tax rules continue to make Russia an unattractive country for investment and business. At the root of the economic problems is the reliance on rents from the commodity sector and the political resource allocation that benefits actors loyal to the political leadership rather than those who contribute to economic growth. The aggression against Ukraine, anti-Western propaganda and protectionist measures have taken this unattractiveness to a new level by causing more uncertainty and loss of confidence in Russia.

In 2015 Russia's total military expenditure equalled 5.4 per cent of GDP. To compare, the rest of Europe has military expenditure of around 1.5 per cent of GDP and the US has reduced its share to 3.5 per cent. It follows that among industrialized developed nations Russia is an outlier that spends an exceptionally high share of GDP to build military capability. The hypothetical scenarios presented above show that with the expected weak to moderate growth of GDP any increases in military expenditure during the next decade will depend on the political will to give priority to defence over other items in public spending.

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## 6. The Russian Defence Industry and Procurement

Tomas Malmlöf with contributions from Roger Roffey

Next to its Armed Forces and other military formations and bodies, Russia's domestic defence industry is regarded as a constituent part of the military organization of the state (Military Doctrine §8). The main development goal for the defence industry, according to the Doctrine, is to ensure its role as an efficient, effective and diversified high-tech sector of the Russian economy. The aim is twofold: first, it should provide the domestic defence and security sector with modern weapons and equipment. Second, it should also strengthen the Russian strategic presence on the international arms markets (§52).

The present economic turmoil combined with Western and Ukrainian sanctions is putting the development goals under pressure and making it more difficult for the industry to fulfil its tasks.

This chapter focuses on the first of the defence industry's undertakings, i.e. the nature and extent of the industry's contribution to Russian military capability in the form of new and refurbished military hardware for the Armed Forces. Which arms systems and platforms will the defence industry be able to produce on behalf of the Armed Forces up to 2025?

*Objective  
and research  
question*

In view of the semi-secret nature of Russian procurement, this study has had to draw on a selection of non-classified data, which are not always coherent. The primary sources consist of relevant legislative texts, minutes and protocols from government meetings as well as official statements by different stakeholders in the procurement process. A supplementary source is analyses from Russian and Western defence industrial specialists.

*On the data*

The possibility of a bias in the source material towards a nationalistic positioning on the defence industry and an over-optimistic picture of the procurement process should not be underestimated. Stakeholders have an incentive to exaggerate progress and trivialize setbacks. Certain data might therefore point too much towards the positive end of the scale. The use of a wide range of sources is an effort to compensate for this weakness.

In order to answer this question, the first section of this chapter provides an outline of the institutional and scientific environment in which Russian procurement of arms and equipment takes place and its internal dynamics. It is followed by an analysis of current and expected Russian arms procurement according to the present ten-year State Armament Programme, in force since 1 January 2011. The final, concluding section assesses Russian arms procurement forward to 2025 in the light of what is known about the implementation of the present armament programme and the outline of the next programme that is coming up.

*Outline of  
the chapter*

## 6.1 Russian arms procurement and the defence industry

### 6.1.1 The State Armament Programme

Russian military procurement is managed through the classified State Armament Programme, the GPV (Gosudarstvennaia programma vooruzheniia), which specifies volumes of armaments to be supplied, content and the overall timeline for implementation. As a rule, the GPV is planned for ten years but replaced after five. The present programme – the GPV-2020 – covers the period 2011–2020. A new GPV was due in 2016, but the “present difficult financial and economic situation” resulted in a postponement until 2018 (Safronov and Sapozhkov 2016).

The total funding of the GPV-2020 is usually given as 20.7 trillion roubles in current prices. Different figures exist for the Ministry of Defence (MoD) share; the most realistic seems to be 19.04 trillion roubles (Cooper 2016: 13). The analysis in this chapter is based on this amount, unless stated otherwise. About 70 per cent of the MoD allotment was intended for procurement of new arms, and the remaining 30 per cent was to be split between modernization, renovation and overhaul (MRO) and research and development (R&D) (Fedorov 2013: 41). In line with previous programmes, one-third of planned GPV-2020 expenditure was allocated for the first five years. Provided that the financing regime for the GPV-2020 does not fall apart, procurement will therefore increase significantly between 2016 and 2020. In February 2016 the MoD stated that the GPV would not be reduced due to the economic crisis (Falichev 2016c: 4).

#### *Goal and priorities*

The principal public criterion for the success of the GPV-2020 is to increase the proportion of modern arms and equipment within the Armed Forces to 30 per cent in 2015 and at least 70 per cent in 2020 (Presidential Administration 2009). This terminology is unclear and the base on which the percentage is calculated has not been stated (Ministry of Defence 2013; Malmlöf et al. 2013: 121; Cooper 2016: 12). Allegedly, the 2015 target was exceeded by 17 percentage points (*RIA Novosti* 2015a).

The main priority of the GPV-2020 is to strengthen and develop Russia’s strategic nuclear deterrence. Strategic aerospace defence comes second. Other designated priorities are systems for command, communications and intelligence; electronic warfare; unmanned aerial vehicles (UAVs); military robots; modern transport aviation; precision-guided weapons and counter-weapons; and infantry combat systems. The Navy is also given priority, especially the Northern and Pacific fleets (Presidential Decree No. 603; *Voенno-promyshlennyi kurer* 2015a).

#### *The weaknesses of the present GPV*

Compared to the preceding programmes, the GPV-2020 is more ambitious as to both financing and content (Oxenstierna 2013: 111). It has therefore met with several objections, including the economic realism of the expected financing. According to the deputy chairman of the Accounts Chamber Vera Chistova, there is also a growing discrepancy between the annual planned expenditures



stipulated by the GPV and actual spending (Gosudarstvennaia Duma 2015). The Russian defence expert Vasilii Zatsepin (2015: 68) has questioned whether the GPV is an adequate planning instrument at all under present macroeconomic conditions, as forecasts for more than one or two years are not feasible.

Furthermore, the stipulated timelines from R&D to serial production of new systems are short and the programme expands quickly: expenditures in 2020 are supposed to be ten times higher than in 2010. And not only does programme funding deviate from the declared priorities. In the absence of an obvious hierarchy between the different priorities, uneven allocation might create capability imbalances between the different branches of service (CAST 2015: 24).

### 6.1.2 The Russian defence industry

Few structural changes have occurred in the Russian defence industry structure since our previous study (Malmlöf et al. 2013: 121). In June 2015 the defence industrial base consisted of 1 353 entities (Riazantsev 2015: 223). Approximately 250 entities were privately owned (Ministry of Industry and Trade 2015). Sixty-five holding structures accounted for the bulk of defence industrial production and most state-controlled companies (Ministry of Industry and Trade 2016). The defence industrial sector employs about 2 million people of whom 1.3 million work for the manufacturing industry, which also has some civilian production (Ministry of Industry and Trade 2015?).

*Structure*

The 13 Ukrainian defence companies on Crimea have been added to the official list and are integrated to different degrees and different stages with the Russian defence industrial base (Malmlöf 2016). There is no reliable information about the present status or activities of the 18 Luhansk and Donetsk enterprises in Russian-controlled territories. As subcontractors to the Ukrainian defence industry, their contribution to the Russian defence industrial base would probably be less significant (Pechorina 2015).

*The significance of Crimea and Donbas*

The Russian defence industry lags behind Western industries as regards most arms technologies, productivity and efficiency. These shortcomings are usually associated with an inadequate supply of skilled workers, an inflated but obsolete capital stock and outdated production technologies (Malmlöf et al. 2013: 124). The focus on the defence industrial sector combined with the implementation of the GPV-2020 has allowed the industry to deal with these deficiencies more methodically.

*Performance*

The personnel crisis may have been brought to a turning point (Bitzinger 2015: 11; Esaulov 2014). The skewed age structure among employees has improved, and wages have increased, albeit not as much as labour productivity (Riazantsev 2015: 226). Yet the supply of skilled labour is still a critical issue. Development plans and policies are aimed at adapting higher education and vocational training to the needs of the defence industry and making the sector more attractive (Russian government 2015).

The mobilization plan for the economy that was adopted in 2014 opened the way for a more intensive capital use within the defence sector, as companies no longer need to keep excess capacity, allowing them to exploit mothballed facilities for production (*RBK Ekonomika* 2014). The proportion of industrial machinery more than 20 years old also shrank by between five and seven percentage points in the years 2011–2014 – sometimes even more – according to Deputy Defence Minister Dmitrii Rogozin. Over the same period, the defence industry's total production of high-technology products increased from 53 to 63 per cent (*Gosudarstvennaia Duma* 2015).

*Support programmes*

The Federal Target Programmes, FTPs (Federalnye tselevye programmy, Russian acronym FtsP) are a key instrument to support modernization and capacity building of Russia's defence industrial base. The most central is the "Development of the Defence Industrial Complex up to 2020", launched in 2012 and specially designed to further the GPV-2020. In all, 2.8 trillion roubles are to be spent, of which 1.8 trillion roubles are to come from the state budget and the rest from the industry (Cooper 2016: 29). The programme includes over 2 000 investment projects, including some large projects such as the two new manufacturing plants of the aerospace defence company Almaz-Antei in the Kirov and Nizhnii Novgorod regions (*Gosudarstvennaia Duma* 2015). The defence industry also has access to some branch-specific FTPs and programmes without a military profile.

*Sanctions and import substitution*

Russia's previous offset and import strategies were already under reconsideration when the country was hit by the Ukrainian and Western sanctions in 2014, and the remaining contracts with Western and Ukrainian firms fell apart (Malmlöf 2016).

The Ukrainian moratorium allegedly affected more than 3 000 parts, components, and final products for more than 200 different arms systems. The most notable impacts were on Russia's older third- and fourth-generation intercontinental ballistic missiles (ICBMs), helicopter and aircraft engines, large transport aircraft, and ship gas turbines and gears (Malmlöf 2016).

Western sanctions have not been crucial to Russian procurement, but their less visible impact on the component level might have a long-term negative bearing on Russian technological development. Another obstacle is Western restrictions on dual-use products such as machine tools, impeding Russia's efforts to modernize its production base. It has little capacity to produce machinery for building advanced systems and barely meets 10 per cent of the demand (Cooper 2014).

During 2014 Russia launched two import substitution programmes to overcome the impact of Ukrainian and Western sanctions (Cooper 2016: 39). Although it will run until 2018, the programme aimed at Ukrainian subsystems and components appears so far to have been the more successful, given the common technological base. It has also given Russia the opportunity to replace older Soviet components with new technology (*Vzgliad* 2015a).

The substitution programme related to EU and NATO countries appears to have run into more difficulties, and it will run until 2021. In the meantime, some inputs might be imported from Belarus and Asian countries. China will probably play a crucial role regarding space and military electronic components (Cooper 2016: 40).

### 6.1.3 Russian science and R&D

Measures have been taken to accelerate modernization, and the most promising technologies have been identified, including in six strategic sectors (Sokolov and Chulok 2012: 12–25; Governmental Decree 2012). Defence-related R&D is stated to be a decisive factor for advancing innovations in other sectors (Fomichev 2012: 26). The major weaknesses of the system for R&D are corruption, nepotism and a brain drain of scientists which affects both civil and military research (Dezhina 2014).

The MoD is responsible for advanced future military R&D (Kashin 2014; Ministry of Defence 2016a). Its system of forward-looking military research and development (SFLMRD) comes directly under the deputy minister of defence who is responsible for the technical basis of the command system and information technology. Among the tasks of the SFLMRD are the organization of innovative R&D, monitoring and analysis of international science and developments which can represent a threat to Russia's national security, and taking advantage of the national scientific resources and scientific potential of foreign states. The Military-Industrial Commission (VPK, Voенно-promyshlennaia Komissiiia) coordinates the innovation system's civilian and defence sectors (Roffey 2013). Chief designers are to lead work in 20 R&D areas to create complex armament systems supported by the most advanced academic research (Presidential Decree 2015).

*Forward-looking  
military research*

The Russian Foundation for Advanced Research (FAR) for high-risk research with a time horizon of 15–20 years aims to close the gap in advanced research between Russia and the West (*RIA Novosti* 2012a, b, 2013a; Adamsky 2014). Projects developed should be the base of the key armament programme for 2025–2030. There is a Robotics 2025 Programme from 2014 (*RIA Novosti* 2016a) and in late 2015 the FAR established the Russian Ministry of Defence's Robotics R&D and Experimental Centre (Dunai 2016). One important robotic system is the Uran family of tracked vehicles, which include the Uran-6 minesweeping vehicle and the Uran-9 combat vehicle whose armament includes a 30-mm 2A72 automatic cannon and Ataka laser-guided anti-tank missiles (Rostec 2015, 2016). Futuristic weaponry, equipment for soldiers (including exoskeleton and advanced medical gear) and cyberwarfare are three main areas for the Foundation's work (IDST 2015).

## 6.2 Defence deliveries to the Armed Forces

In terms of financing and military procurement contracting, the GPV is usually implemented through the yearly State Defence Order – the GOZ (Gosudarstvennyi oboronnyi zakaz). This system was previously characterized by poor economic efficiency due to, for instance, late contracting, lack of transparency and corruption (Oxenstierna 2013: 113, Malmlöf et al. 2013: 127).

### *Major changes*

Since 2013 the procurement system has gone through some major changes. It has become more common to grant a single comprehensive contract to a holding structure instead of several minor contracts to its underlings, which enables systematic planning of the entire production process (Guliaev 2014: 215). Some 50 to 60 per cent of all contracts are now on a multi-year basis, which facilitates companies' long-term resource management (Guliaev 2014; Shoigu 2015). In 2014 the first pilot life-cycle management contracts<sup>1</sup> were signed (Frolov 2015a: 27). The practice of full prepayment almost stopped in 2013 and in 2016 the MoD moved to quarterly payments on GOZ deliveries (*RIA Novosti* 2013b; Sharkovskii 2016).

Since 2014 the MoD has organized a quarterly “Single Day of Acceptance of Military Production” (Edinyi den priemki voennoi produktsii), which, purportedly, has given it more control over the delivery process and increased government transparency (Centre for Analysis of World Arms Trade 2014). On 1 January 2015 the GOZ's customers were once again reorganized, and the Rosoboronpostavka and Rosoboronzakaz agencies were abolished. These changes more or less restored the pre-2007 procurement system (Frolov 2015b: 20).

The MoD's financial control over all transactions related to state defence orders under the GPV was strengthened in mid-2015 in an effort to come to terms with corruption (Federalnyi zakon No. 396-FZ; Sharkovskii 2016). According to the industry, the administrative burden on the companies increased at the same time. Ostensibly the new order had no regard for the industry's running costs, or its need for ongoing modernization and maintenance of its machine park (Federalnyi zakon No. 159-FZ; Voенno-promyshlennyi kurer 2015b, c; Shokhin 2015).

### 6.2.1 Strategic nuclear weapon systems

In 2016 the Strategic Missile Forces operated five different systems of land-based strategic missiles of different ages, and the strategic naval forces had an additional three systems of submarine-launched ballistic missiles (SLBMs) (Podvig 2016a, b). On top of this the Long-Range Aviation had two types of cruise missiles with nuclear capacity. All current systems are discussed further in Chapter 2, section 2.3 in this report.

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<sup>1</sup> A life-cycle contract covers in principle the whole period from the inception of a product through engineering design and manufacture to service and disposal.

In the 2020s, there will be at least four different land-based missile systems deployed: the RT-2PM2 Topol-M (mobile and silo-based), the RS-24 Yars (mobile and silo-based), the RS-26 Rubezh – an improved version of the RS-24 designed to bypass anti-ballistic missiles – and the RS-28 Sarmat which is under development and is due to replace the R-36M Voevoda (Karakaev 2015: 175). Due to the difficult financial situation, the Barguzin railway-based version of the RS-28 under development will not be deployed before 2020 at the earliest (*Voенно-promyshlennyi kurer* 2015d).

*Future composition  
of ICBMs and  
SLBMs*

The future composition of Russian sea-launched ballistic missiles depends on the strategic submarines in use. So far, the modified versions of the R-29M missile, the Sineva and especially the Lainer will be used by the Northern Fleet on their Project 667BDRM submarines at least until 2025–2030 (*Interfax* 2011). The Bulava missile is similarly connected to the three Project 955 and five Project 955A (Borei A) submarines included in the GPV-2020 (Mukhin 2015).

A likely replacement for the current Long-Range Aviation cruise missiles is the new Kh-101/102 cruise missile. The first is a conventional version and the second is nuclear-capable (Podvig 2016c; Serdiuk 2013).

The Topol-M, Yars and Rubezh-ICBMs as well as the Bulava-SLBM are all manufactured at the Votkiiskii zavod. Investments in Votkiiskii's production capacity since 2011 have now paid off: in 2013–2015 a possible total of 46 RS-24 Yars were deployed, compared to only 15 for the preceding three years (Table 6.1; Kristensen and Norris 2012). According to Colonel General Sergei Karakaev, commander of the Strategic Missile Forces, the production rate of the RS-24 Yars currently amounts to rearmament of five or six regiments per year. In 2022, all strategic missiles should be modern, compared to 56 per cent as of January 2016 (Falichev 2016a). Compared to our previous (2013) assessment, the target for ICBMs seems more achievable but not feasible within the original time frame (Malmlöf et al. 2013: 128).

Serial production of the Bulava SLBM began in 2014, and 16 missiles were produced that year, more than doubling the previous production rate (Table 6.1). Yet testing of the system has continued, and in 2015 deliveries fell to 10 systems, which might indicate that it is still not performing as expected. The twin launch from the submarine Vladimir Monomakh in November 2015 was only partly successful (Lenta.ru 2015a). It is therefore still in doubt whether the Bulava production targets will be met or not.



**Table 6.1 Strategic missile systems – state defence orders and deliveries 2011–2015**

STRATEGIC MISSILE AND SPACE SYSTEMS	GOZ 2011	GOZ 2012	GOZ 2013	GOZ 2014	GOZ 2015	GPV-2020
All strategic missiles	36/28–30	/24–26	/28–32	40/38	50,40/35	400/
Intercontinental ballistic missiles						100–150/
<i>Topol-M</i> [N]	/4	/4				/10
<i>Yars (RS-24)</i> [N]	/9	/3	15/15	/16	24/21	90–140/
<i>Rubezh (RS-26)</i> [R&D]						2015–2016
<i>Sarmat (RS-28)</i> [R&D]						2018–2019
<i>Barguzin (RS-24, BZhRK)</i> [R&D]						2020–2022
Submarine-launched ballistic missiles						224–250/
<i>Sineva &amp; Lainer</i> [N]	/16	/10	/10	/6	/9	/51
<i>Bulava</i> [N]	/5–7	/5–7	/5–7	/16	/10	124–150/

**Sources:** *The Military Balance 2016*: 189; Frolov 2015a: 35; Frolov 2016: 2 3, Kristensen and Norris 2007–2016; Cooper 2016: 57ff.

**Notes:** R&D = research and development; N = new; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

### 6.2.2 Fixed-wing aircraft, helicopters, strategic and tactical UAVs

Taken together, in 2016 the Russian Air Force and Navy were using more than 40 different types or versions of fixed-wing aircraft with sometimes overlapping functions (*The Military Balance 2016*: 193). The implementation of the GPV-2020 does not entail any significant change in this regard.

#### *Strategic and medium-range bombers*

The Long-Range Aviation operates two different strategic bombers, the turboprop Tu-95MS (Bear), which first entered service in 1956, and the turbofan Tu-160 (Blackjack), in service since 1987.

The proposed PAK DA (Perspektivnyi aviatsionnyi kompleks dalnei aviatsii, literally Prospective aviation complex for long-range aviation) next-generation strategic bomber has been postponed as Russia has decided to resume production of the Tu-160 besides modernizing the existing fleet (Table 6.2). From 2023, about three Tu-160M2s are planned to be delivered each year and at least 50 will be ordered. It is a difficult project: the last Tu-160s were made in 1984–1992 on Soviet production chains that no longer exist (Cooper 2016; *Centre for Analysis of World Arms Trade* 2015).

The Tu-95MSs are also commissioned for modernization, allowing exploitation until 2030–2035 (*Lenta.ru* 2012a). The present rate of progress is not sufficient to modernize them all before 2020. On the other hand, the planned overhaul of the Tu-22M3 medium-range bomber appears feasible (Table 6.2).

The Russian fighter and ground attack air fleet as it appeared in 2016 is analysed in Chapter 2, section 2.2 in this report.

The original GPV-2020 implied development and production of a first Russian fifth-generation multi-role combat aircraft, the Sukhoi T-50 PAK FA (Perspektivnyi aviatsionnyi kompleks frontovoi aviatsii, literally meaning Prospective airborne complex of frontline aviation) (Table 6.2). Serial production is now scheduled to start in 2017, but the ambition has been reduced from 52 aircraft up to 2020 to 12 for the coming years (Cooper 2016: 68). One reason for the downsizing is the economic crisis; another is that the T-50 allegedly lacks a complement of next-generation systems as well as a projected timeline for those systems to be introduced in later versions (Johnson 2016). Also, the new engine intended for the T-50 is not expected to be ready for flight testing until 2018, which will probably cause further delays to the programme (Cooper 2016: 68). For the time being, Russia intends to increase procurement of the cheaper Su-35 (Safronov 2015).

All older versions of the MiG-29 are to be successively replaced with the MiG-29SMT and perhaps the MiG-35S after its possible deployment in 2017–2020 (Kramnik 2011; Ponosov 2015). Likewise, the Su-34 will replace the Su-24M/M2 and Su-25SM (*Bmpd* 2015a). Nonetheless, by 2020, 60 MiG-31BMs should be modernized, extending their service life until 2030, and no fewer than four different aircraft types based on the Su-27 – the Su-30M2, the Su-30SM, the Su-34 and the Su-35S – are being ordered (Fakhrutdinov 2015; *CAST* 2015: 31). This segment of the Russian aircraft fleet will therefore remain heterogeneous (Table 6.2).

Serial production of the Yak-130 trainer aircraft is now well on the way at the Korporatsiia Irkut plant (a subsidiary of OAK, Obedinennaia Aviaostroitelnaia Korporatsiia). At least 80 aircraft have been contracted for within the GPV-2020 (Table 6.2). According to the United Engine Corporation, ODK (Obedinennaia dvigatelestroitelnaia korporatsiia), its AI222-25 engine from the Moscow plant Saliut is now based entirely on Russian subcomponents, whereas initially about half were produced by the Ukrainian company Motor Sich (*Lenta.ru* 2015b).

**Table 6.2 Fixed-wing combat aircraft – state defence orders and deliveries 2011–2015**

<b>FIXED-WING COMBAT AIRCRAFT</b>	<b>GOZ 2011</b>	<b>GOZ 2012</b>	<b>GOZ 2013</b>	<b>GOZ 2014</b>	<b>GOZ 2015</b>	<b>GPV-2020</b>
<b>All fixed-wing aircraft</b>	35/28	/35	65/67	120/104	126/	600-850/
<b>Strategic bombers</b>						
<i>PAK-DA [R&amp;D]</i>						2021–2022
<i>Tu-160M2 [N]</i>						2023-
<i>Tu-160 [MRO]</i>	/2	/2		/1	/2	10/7
<i>Tu-95MS [MRO]</i>	/2	/2	/2	/6	/3	43/15
<b>Long-range bombers</b>						
<i>Tu-22M3 [MRO]</i>	/1			/10	/5	30/16
<b>Multi-role</b>						
<i>T-50 (PAK-FA) [R&amp;D]</i>	/2pt	/1pt	/1pt		4pt/	12 alt. 52/
<b>Fighter aircraft</b>						
<i>MiG-29SMT/UBT [N]</i>					/4	16/4
<i>MiG-35S [N]</i>						37/
<i>MiG-29K/KUB [N]</i>			/4	10/10	10/	24/24
<i>MiG-31BM [MRO]</i>	/15	/15	/10	/18	/17	120/75
<i>Su-27SM/SM3 [N]</i>	/8					12/8
<i>Su-30M2/SM [N]</i>	3/	2/2	14/17	15/29	32/22	72/70
<i>Su-35S [N]</i>	2/2	8/8	12/-	12/24	14/14	96–120/48
<b>Attack aircraft</b>						
<i>Su-24M2 [MRO]</i>				/18		100/18
<i>Su-34 [N]</i>	/6	/10	/14	/18	/18	140/66
<b>Close air support aircraft</b>						
<i>Su-25SM/UBM [MRO]</i>	12/8	12/14	12/12	/16	/10	/60
<b>Anti-submarine warfare aircraft</b>						
<i>Il-38/38N [MRO]</i>		/1		/1	/4	/6
<i>Tu-142/M/M3 [MRO]</i>	/2					/2
<b>Trainer aircraft</b>						
<i>MiG-29UB [N]</i>					/2	/2
<i>MiG-29UB [MRO]</i>				/5		/5
<i>Yak-130 [N]</i>	/8	/15	/20	/20	12/12	80/75
<i>Su-27UBK [MRO]</i>				/5		/5
Trainer aircraft						
<i>MiG-29UB [N]</i>					/2	/2
<i>MiG-29UB [MRO]</i>				/5		/5
<i>Yak-130 [N]</i>	/8	/15	/20	/20	12/12	80/75
<i>Su-27UBK [MRO]</i>				/5		/5

**Sources:** *The Military Balance 2016*: 189; Frolov 2015 a, b; Frolov 2016: 23; Kristensen and Norris 2007–2016; Cooper 2016: 67.

**Notes:** R&D = research and development; N = new; MRO = modernization, renovation and overhaul; pt = prototype; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

Russia's main contemporary military transport aircraft are the light transport An-26, the medium An-12 and the heavy Il-76 and An-124 (*The Military Balance* 2016: 193). In the light transport category, the An-26 is to be succeeded by the Il-112B (*Bmpd* 2015b). In the medium category the An-12 was initially planned to be replaced by the joint Russian-Ukrainian An-70 under the current and subsequent GPV. As this project has been cancelled, it is likely that this category will be covered instead by the modernized Il-76MD-M and the new Il-76MD-90A (also known as Il-476) which is already due to replace the old Il-76 in the heavy category. In addition, in the heavy transport category Russia had planned to modernize and also build new An-124s, also with Ukrainian cooperation (*Bmpd* 2013). Apparently Russia still plans to exploit its existing An-124s until the 2030s but it has also begun development of an alternative, the Yermak or Il-106, which might be ready for serial production in 2023 or 2024 (Chernysheva 2014, 2015).

*Fixed-wing  
transport  
aircraft*

**Table 6.3 Cargo and special fixed-wing aircraft – state defence orders and deliveries 2011–2015**

CARGO AND SPECIAL FIXED-WING AIRCRAFT	GOZ 2011	GOZ 2012	GOZ 2013	GOZ 2014	GOZ 2015	GPV-2020
<b>Cargo aircraft</b>						
<i>Il-476/Il-76MD-90A [N]</i>				2/	2/3	39 alt. 60/3
<i>Il-76 [MRO]</i>	/11	/12	/14			/37
<b>Heavy cargo aircraft</b>						
<i>An-124 [MRO]</i>	/2	/1	3/3	/2	/3	20/11
<b>Airborne warning and control aircraft</b>						
<i>A-50U</i>	/1	/1	/1	/1		/4
<b>Special aircraft</b>						
<i>Tu-204ON</i>			/1	/1		/2
<i>Il-20/22</i>	/2			/7		/9

**Sources:** *The Military Balance* 2016: 189; Frolov 2015a: 35; Frolov 2016: 23; Cooper, 2016: 80ff.

**Notes:** N = new; MRO = modernization, renovation and overhaul; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

Table 6.3 indicates that the upgrading of the transport aircraft fleet is under way, but that the volumes in most cases so far are small. For instance, deliveries of the first Il-76MD-90As manufactured at the Aviastar SP production facility in Ulyanovsk began in 2015, but volumes will not increase significantly until 2017 (*Militaryrussia.ru* 2016a). Therefore, it still seems that the only known contract for 39 aircraft up to 2020 is manageable, but the previous GPV figure of 60 Il-76MD-90As up to 2020 appears to be beyond present production capability.

The GPV-2020 comprises several helicopter platforms. Where attack helicopters are concerned, the Mi-28N will remain at least in a modernized variant, the Mi-28NM (Table 6.4). Procurement of the Ka-50 has stopped and it will be successively replaced by the Ka-52 with the same type of coaxial rotor system (Telmanov 2011). The Mi-24 is not yet to be replaced, but it will be supplemented with more new Mi-35M platforms (Table 6.4; Ramm 2013).

*Combat helicopters*

Some naval Ka-27s are to be modernized to Ka-27Ms; the Kamov Company is simultaneously developing a new Navy helicopter – code name Minoga – that should be ready in 2018–2020 and eventually replace the Ka-27 (*Lenta.ru* 2015c).

Substantial numbers of the Mi-26T2 and up to 500 Mi-8MTV/AMTShs are also included in the GPV-2020 (Table 6.4; Frolov and Barabanov 2012).

Russia initially intended to procure about 1 000–1 150 helicopters by 2020 (Table 6.4). Most of these are of older established design with few new developments, suggesting that most contracts would be accomplished. The stop in supplies of helicopter engines from Ukraine led to a sizeable reduction in the procurement of helicopters in 2015. Igor Chechikov, deputy general director of Russian Helicopters, said in spring 2016 that annual production would be comparable to that of 2015 (*RIA Novosti* 2016b).

In 2015 Russia started to use the VK-2500 engine built by Klimov as a substitute for the Ukrainian TVZ-117 engine for all helicopters, including the Mi-28N and the Ka-52. Production is not yet meeting annual demand, which is for 300 engines, according to Sergei Chemezov, general director of Rostec. In 2015 only 30 were produced; the aim was to increase the volume to 200 engines in 2016 (*RIA Novosti* 2016c; Brilev 2015). Continued delays in the helicopter programme during the next few years are therefore still likely.

**Table 6.4 Helicopters – state defence orders and deliveries 2011–2015**

HELICOPTERS	GOZ 2011	GOZ 2012	GOZ 2013	GOZ 2014	GOZ 2015	GPV-2020
<b>All helicopters</b>	109/82	120/118	120/100	130/135	88/81	1 000-1 150/580
<b>Attack helicopters</b>						/186
<i>Ka-52 [N]</i>	/12	/21	/17	/10	/16	180/76
<i>Ka-226 (naval) [N]</i>	/6	/9	/9	/10	/9	/43
<i>Mi-28N [N]</i>	/10	/14	/14	/17	/12	167/67
<b>Transport/attack helicopters</b>						
<i>Ka-27 (naval) [MRO]</i>				/4	/14	/18
<i>Ka-60/62 [N]</i>						100/
<i>Mi-8/MTV/AMTSh [N]</i>	/50	/70	/65	/61	/38	500/284
<i>Mi-26/T (heavy transport) [N]</i>	/4	/7				38/11
<i>Mi-35M [N]</i>	/4	/16	/11	/16	/6	/53
<b>Airborne warning and control helicopters</b>						
<i>Ka-31 (naval) [N]</i>		/1				/1
<b>Trainer helicopters</b>						
<i>Ansat-U [N]</i>	/5	/6	/6	/6	/5	70/28

**Sources:** *The Military Balance 2016*: 189; Frolov 2015a: 35; Frolov 2016: 24; Cooper, 2016: 80ff; Presidential Administration 2016a.

**Notes:** N = new; MRO = modernization, renovation and overhaul; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.



The number of UAVs at the Armed Forces' disposal increased from 180 units in 2011 to 1 720 in late 2015. More than 200 units were included in the GOZ-2016 (*Voенно-promyshlennyi kurer* 2015e). However, all systems in service were small tactical reconnaissance systems without strike capability. Of these, the Forpost, a Russian version of the Israeli IAI Searcher produced under licence, is still the most capable (Nikolskii 2016 a).

*UAVs*

A consortium led by the Experimental Design Company Simonov has come up with a flying prototype to a 5-tonne combat UAV, the Altair, as part of the Altius-M R&D project. The Altair has a declared range of 10 000 km, an expected flight duration of 48h and a flight ceiling of about 10 000m. It is equipped with two diesel engines, the German-made RED A03/V12 (*Militaryrussia.ru* 2016b; *Biznes Online* 2016).

Several R&D projects in progress indicate a recent qualitative enhancement of Russia's domestic UAV technology. However, their sheer number of projects signals a possible lack of focus due to technological shortcomings. Another interpretation is that Russia is trying to establish artificial competition between different platforms, supporting parallel and overlapping projects to obtain greater resilience in its future UAV fleet. Heavier systems will probably not be procured in any notable volumes until the next GPV, especially as UAVs appear not to have been included in the initial GPV-2020.

### 6.2.3 Air and space defence

The A-235 Samolet-M is an anti-ballistic missile complex under construction for the defence of Moscow – an upgrade of the present A-135. It consists of the Don-2M radar (a newer version of the A-135 Don-2N radar) and modernized conventional 53T6 Gazelle missiles. It is possible that the A-235 will form the basis of a comprehensive air and space defence system together with the S-500 system (Honkova 2013; Stepanov 2014).

*The Moscow defence system*

The Voronezh class radars (DM and M/VP variants) form the basis for a new early warning system covering all vulnerable directions (Table 6.5). It will replace the previous systems – Dnepr, Darial and Volga – when completed in 2018–2020 (Biggers 2015). Apparently ten radar stations are included in the GPV-2020, which seems attainable (Babakin and Ptichkin 2016).

*Air surveillance radar systems and air defence systems*

Data on air surveillance radar systems are at best fragmentary, but deliveries have increased significantly beginning with the GOZ-2014 (Table 6.5). Since 2012, Russia has been upgrading its Army air surveillance system with the Nebo M radar, possibly with as many as 100 systems up to 2020 (Table 6.5). An upgraded variant, the Niobii, was included in the GOZ-2013, but it is not known if the system was delivered. A total of six Niobii systems are ordered for 2017–18 (*Bmpd* 2016a).

**Table 6.5 Radar systems – state defence orders and deliveries 2011–2015**

RADAR SYSTEMS	GOZ 2011	GOZ 2012	GOZ 2013	GOZ 2014	GOZ 2015	GPV-2020
<b>Early warning radar systems</b>						
<i>Voronezh M/DM/VP [N]</i>	2/1	1/-	/1	/2	1/2	10/8
<b>Air surveillance radar systems</b>	/5	20/20	/c.20	/69	/208	
<i>Niobii [N]</i>			2/			6–8/
<i>Nebo-M [N]</i>			/9	/6		100/15
<i>Nebo-ME/U [N]</i>				>10/20		/20
<i>Podlet /Sopka/Sopka-2 [N]</i>				20/43		/43

**Sources:** *The Military Balance* 2016: 189; Frolov 2015a: 35; Frolov 2016: 24.

**Notes:** N = new; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

In the 2020s, the long-range air defence battalions are to be streamlined with S-400 and S-500 systems. Procurement of 56 division sets of the S-400 system up to 2020 (Table 6.6) is now within reach due to previous investments made by Almaz-Antei. In June 2016 the commander of the Russian Aerospace Forces, Colonel General Viktor Bondarev, stated that procurement in the GOZ-2016 covered six regiments – i.e. 12 battalions – and envisaged a similar procurement rate for 2017 (TASS 2016a). Almaz-Antei has also invested in the Briansk automobile factory to end its dependence on Belarusian MZKT trucks as missile vehicles (*Vzgliad* 2016a).

The S-500 is, however, behind schedule; a first prototype might appear in 2016 (RIA Novosti 2015b; *Voенно-promyshlennyyi kurer* 2015a). The S-300PS is set to be replaced by the S-350 Vitiaz, with a possible start in 2016 as well (Lenta.ru 2015d; *RIA Novosti* 2015c).

Since 2014 the Army’s medium-range S-300V system is being replaced by the S-300V4, but no data on deliveries have been found (Table 6.6), apart from some possible prototypes delivered in the past (Falichev 2016b; *RIA Novosti* 2015d; *Vzgliad* 2015b).

In the short-range category, the first brigade set of Buk-M3s was to be supplied to the Armed Forces beginning in 2016 in parallel to the modified Buk-M2 system (Falichev 2016b; *RIA Novosti* 2015d; *Vzgliad* 2015b).

Regarding the short-range and anti-aircraft category, the GPV-2020 target of 120 Pantsir-S1s is within reach (Table 6.6). There is also a modernized variant – the Pantsir S2 – that is being delivered to the Armed Forces (*Lenta.ru* 2016a). Deliveries of upgraded Tor-M2 systems were set to start in 2016 (RIA Novosti 2015d). The Sosna system was supposed to undergo state testing in early 2016 with official presentation for the MoD by the middle of the year (Grigorev 2015).

**Table 6.6 Air defence systems – state defence orders and deliveries 2011–2015**

AIR DEFENCE SYSTEMS	GOZ 2011	GOZ 2012	GOZ 2013	GOZ 2014	GOZ 2015	GPV-2020
<b>Long-range surface-to-air systems</b>						103
<i>S-400 (battalions) [N]</i>	4/4	5/3	/4	/9	6/9	56/29
<i>S-500 (battalions) [N]</i>						10 alt. 38/
<b>Short and medium range surface to air systems</b>						
<i>S-300V4 (battalions) [N]</i>		/3	/1		/1	9/5
<i>Buk-M2 (battalions) [N]</i>	/1				/3	/4
<i>Tor-M1 [MRO]</i>				/32		/32
<i>Tor-M1-2U/M2 [N]</i>		/4	/12	/20	/24	/60
<i>Pantsir-S1 [N]</i>	/20	20/28	/24	/29	/7	120/108
<i>9K35Strela-10 [N], [MRO]</i>		/6			/10	/16

**Sources:** *The Military Balance 2016*: 189; Frolov 2015a: 35; Frolov 2016: 24; Cooper 2016.

**Notes:** N = new; MRO: modernization, renovation and overhaul; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

#### 6.2.4 Naval systems: surface ships, submarines and naval missiles

Since 2012 naval shipbuilding has been managed through the “State Shipbuilding Programme up to 2050”. The first stage overlaps with the GPV 2020, the second and third cover 2021–2030 and 2031–2050, respectively (*Natsionalnaia oborona* 2013).

Russia’s first priority for the rearmament of the Navy is strategic deterrence, which requires new nuclear-missile and attack submarines (Gorenburg 2015a). The next priority is to strengthen coastal defence with capable frigates and corvettes. Regarding the third and fourth priorities – protection of sea lanes of communication and out-of-area deployment – the GPV-2020 provides for extending the service life of the existing high-sea fleet as well as concept development of a new generation of cruisers and destroyers intended to be completed for service in the latter half of the 2020s.

Unlike their mostly single-mission Soviet predecessors, the Navy’s future major combatants will comprise multipurpose submarines and surface ships capable of conducting aerospace defence, anti-ship and anti-submarine warfare and land attack with a longer designed service life (Office of Naval Intelligence 2015: 17).

The current composition of Russian submarine and surface ship forces is discussed in Chapter 2, section 2.2 in this assessment. This following section deals with changes taking place under the GPV-2020 and beyond.

*Strategic submarines*

The first three Project 955 Borei submarines were delivered in 2013–2014, which is far behind schedule (Table 6.7). The next submarine of the remaining five, all Project 955A, is expected in 2017. Some information suggests that the last submarine will not be delivered until November 2021 (*Lenta.ru* 2016b). The Project 955/955A submarines will eventually replace all previous strategic submarines.

*Tactical submarines*

The lead tactical nuclear submarine of Project 885 the Yasen-class, was delivered to the Navy in summer 2014 – also behind schedule (Zgirovskaia 2016a). Seven Project 885 submarines were originally included in the GPV-2020 (Table 6.7). Delivery of the last submarine in the programme may have been rescheduled to November 2023 (*Lenta.ru* 2016b). These submarines are Russia's new multipurpose submarine and will also fulfil a new function in the Maritime Doctrine as strategic non-nuclear deterrence, according to then Commander-in-Chief of the Russian Navy Viktor Chirkov (*Interfax-AVN* 2015). Russia is also developing a cheaper and smaller complement to the Yasen submarines (Chirkov 2015: 284).

Before 2020, approximately ten submarines from the 971M Shchuka-B and 949A Antei projects are set to have undergone thorough modernization to double their service life. Apparently no measures have been planned for submarines from the 945/945A Barrakuda and Kondor projects within the GPV-2020. Project 671RTM(K) Shchuka submarines are due to be retired (*Lenta.ru* 2013, 2015e).

As for diesel-electric submarines, the Project 677 Lada-class will be suspended when the remaining two submarines have been delivered to the Baltic Fleet (*Lenta.ru* 2016c). The Navy plans to lay down the new fifth-generation Kalina-class submarine in 2018; that will replace the Project 877 Kilo and possibly the Project 636.3 Varshavianka submarines (*Lenta.ru* 2016d). There are two preliminary designs for the Kalina, one with diesel-electric propulsion and the second with an anaerobic system that is still under development.

However, the fifth and sixth Project 636.3 Varshavianka submarines for the Black Sea Fleet were laid down as late as March and May 2016 (*Lenta.ru* 2016e; Sevastianov 2016). Four have already been delivered, and six more will then be built for the Pacific fleet (Table 6.7).

*Major surface ships*

No new aircraft carrier is included in the GPV-2020, and according to Deputy Minister of Defence Iurii Borisov it can take until 2025 before the Ministry signs a construction contract (*RIA Novosti* 2016d). In the meantime, the heavy aircraft cruiser *Admiral Kuznetsov*, Project 1143.5, is due for modernization in spring 2017, which will take two to three years to accomplish (TASS 2016b).

The service life of the two surviving Kirov class battle cruisers (Project 1144) will be prolonged through extensive modernization programmes. The major overhaul of the *Admiral Nakhimov* should end in 2018, when the *Petr Velikii* is planned to undergo the same treatment (Bodner 2015).

**Table 6.7 Submarines – state defence orders and deliveries 2011–2015**

SUBMARINES	GOZ 2011	GOZ 2012	GOZ 2013	GOZ 2014	GOZ 2015	GPV-2020
<b>Strategic submarines</b>						
<i>Borei class (Project 955) [N]</i>		/1	1/2	1/1		8/3
<i>Delta IV (Project 667BDRM) [MRO]</i>		/1		/1		/2
<b>Nuclear-powered submarines</b>						
<i>Yasen class (Project 885/885M) [N]</i>			1/	/1	1/	7/1
<i>Barrakuda class (Project 945A) [MRO]</i>					/1	/1
<i>Antei class (project 949A/B) [MRO]</i>	/1		/1	/1		/3
<i>Shchuka-B class (Project 671RTM(K)/971)</i>	/1 [N]				/1 [MRO]	/2
<b>Diesel-electric submarines</b>						8-12
<i>Kilo class (Project 877) [MRO]</i>			/1	/1	/2	/4
<i>Sarov class (Project 20120) [N]</i>						
<i>Lada class (Project 677) [N]</i>						3/
<i>Varshavianka class (Project 636.3) [N]</i>				3/2	1/2	6/4

**Sources:** *The Military Balance 2016*: 189; Frolov 2015a: 35; Frolov 2016: 24; Cooper 2016.

**Notes:** N = new; MRO = modernization, renovation and overhaul; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

The Sovremennyi and Udaloï class destroyers, projects 956 and 1155, will be replaced by the nuclear-powered Project 23560E-Lider class destroyer which is under development (Litovkin 2015). On 1 June 2016, the vice-president of the USC (United Shipbuilding Corporation, Obedinennaia sudostroitelnaia korporatsiia, OSK), Igor Ponomarev, said that the Lider project was pending in the MoD, but that the Ministry and USC intended to contract out building of the ship. Provided that the MoD furthers the project, a prototype could be laid down at the earliest in 2018–2019, with deliveries most likely after 2025 (*Vzgliad* 2016b).

In anticipation of the Lider class destroyers, a possible modernization of the Udaloï class destroyers was considered in 2013. Costs for modernization, including the new A-192 cannons, Kalibr missiles and the S-400 air defence system, were estimated to 2 billion roubles, compared with the costs of a new destroyer starting at 30 billion roubles (Telmanov and Mikhailov 2013).

The lead ship of the new Gorshkov class (Project 22350) multi-mission missile frigate laid down in 2006 has been delayed not least because of a long post-launch fitting-out period (Table 6.8). It was delivered in spring 2016 to the Northern Fleet for further testing. The programme also appears to have been scaled down: in 2014 Admiral Chirkov claimed that the entire programme encompassed at least 15 frigates (*RIA Novosti* 2014a). In mid-2015 the USC

*Frigates*



head of state defence orders, Anatolii Shlemov, foresaw eight frigates by 2021, whereas Defence Minister Sergei Shoigu expected six Gorshkov frigates by 2025 (*RIA Novosti* 2016e).

The Project 11356 Grigorovich-class is based on the proven Krivak design. Its lead ship was laid down in December 2010 to compensate for the delayed Gorshkov frigates and meet the urgent need to rejuvenate the Black Sea Fleet (*RIA Novosti* 2010). Six ships have been ordered; all are expected to be serving in the Black Sea by 2020 (Table 6.8).

Both frigate programmes have been hit by the breakdown of supplies from Ukraine of gas turbine units and transmissions (Malmlöf 2016; Cooper 2016: 107). In 2015 the USC maintained that the first three Grigorovich frigates would be delivered on time with Ukrainian turbines and that it was looking for other solutions for the remaining three ships. The Gorshkov frigates would be equipped with Russian engine technology (*Lenta.ru* 2015f). In June 2016 the first two Grigorovich frigates were delivered to the Navy, and delivery of the third ship was planned for the third quarter of the same year (*TASS* 2016c).

*Corvettes and  
small combat  
ships*

The Steregushchii and the updated Gremiashchii-class corvettes – Project 20380/20385 – are intended to replace the project 1124 Grisha-class (Office of Naval Intelligence 2015: 21). Hit by sanctions because their diesel propulsion system is German, the latter programme was limited to two ships, and more corvettes of the preceding Steregushchii class have been ordered (Cooper 2016: 106).

The Project 21631 Buian M-class corvette, intended for the Caspian Flotilla and the Black Sea Fleet, was also affected by sanctions (Table 6.8). The last five ships in a series of ten to be delivered by 2019 are to be supplied with Russian-made engines instead of German diesels – allegedly without any serious delays (*TASS* 2015a). Twice as big as the Project 21630 Buian prototype, the Buian M-design includes an eight-cell vertical launch system capable of firing the Kalibr family of missiles as well as the Oniks anti-ship missile (Office of Naval Intelligence 2015: 20).

Up to 2020 at least six guided missile Bykov class patrol boats – Project 22160 – are planned, and four have already been laid down since 2014 (Table 6.8). Most likely they will serve in the Black Sea (*TASS* 2016i).

The Project 22800 Karakut class small artillery ship is evidently partly intended to compensate for the problems of the frigate and corvette programmes. Since December 2015 four ships have been laid down. The third ship, *Shtorm*, was laid down at the More Shipyard in Feodosiia, on Crimea, which is contracted for another two ships (Ministry of Defence 2016). The planned series comprises 18 ships and production will run at least until 2021, but it is possible that only seven will be built under the GPV-2020 (Table 6.8), *RIA Novosti* 2015e, g; *TASS* 2016j).

In place of the French Mistral amphibious assault ships, Russia intends to create its own to carry the K-52 helicopters specially designed and built for the Mistral. Design and possible construction might be included in the GPV-2025 according to the deputy head of the MoD, Iurii Borisov (*Vzgliad* 2016c). In June 2016 development of a domestic amphibious ship was still at the stage of preliminary consultations according to the USC (TASS 2016d).

*Amphibious  
and mine  
warfare vessels*

In 2016 delivery of the delayed lead ship of the Project 11711 Ivan-Gren class landing ship was again postponed, to 2017 (Interfax 2016). Delivery of the second ship in the series is planned for 2018 (*Shipyard Yantar* 2016).

The lead ship of the Aleksandrit class coastal minesweeper (Project 12700) was laid down in 2011 and is set to be delivered in 2016 after three years of delay. The hull is made of monolithic fibreglass and shaped by vacuum infusion under Russian-developed technology. Three more ships have been ordered for delivery in 2016–2018 (Table 6.8; *Militaryrussia.ru* 2015).

The Navy's shipbuilding programme is still experiencing difficulties, as construction of larger surface ships is chronically behind schedule. More progress has been made with the submarine fleet (*The Military Balance* 2016: 168). The shipbuilding programme has also suffered from Ukrainian and Western sanctions, affecting the construction of at least eight corvettes and nine frigates (Sologub 2015).

At the same time, Russia's naval shipbuilding programme gives a clear impression of a learning-by-doing philosophy. While building smaller corvettes and frigates, its shipbuilding industry gathers useful knowledge to put into shipyard renovation and new designs for larger ships, facilitating a smooth transition to the anticipated scaled-up production during the next decade. Assuming further state financing and support, it is likely that we will see a more capable shipbuilding industry to support Russia's naval ambitions in the 2020s (Gorenburg 2015b).

The K-300P Bastion is a supersonic Russian coastal anti-ship missile system adopted for service in 2010, but not yet delivered (Table 6.9). In 2016 deliveries of five complexes are planned, followed by four complexes per year in 2017–2021 (*Lenta.ru* 2015g).

*Naval missiles*

**Table 6.8 Surface ships – state defence orders and deliveries 2011–2015**

<b>SURFACE SHIPS</b>	<b>GOZ 2011</b>	<b>GOZ 2012</b>	<b>GOZ 2013</b>	<b>GOZ 2014</b>	<b>GOZ 2015</b>	<b>GPV-2020</b>
<b>All surface ships</b>					>50/47	
<b>Missile cruisers</b>						
<i>Atlant class (Project 11641) [MRO]</i>	/1				/1	/2
<b>Destroyers</b>						
<i>Lider class (Project 23560E) [N]</i>						2023–25?
<b>Frigates</b>						14–15
<i>Adm. Gorshkov class (Project 22350) [N]</i>						6 (2025)
<i>Grigorovich class (Project 11356R/M) [N]</i>						6/
<b>Corvettes and small combat ships</b>						25–35
<i>Steregushchii/ Gremiashchii class (Project 20380/20385) [N]</i>	/1	2/-	/1	/1		12-22/3
<i>Buian class (Project 21630/21631) [N]</i>	/1		/1	/3	/2	14/7
<i>Karakut class (Project 22800) [N]</i>						7–18/
<i>Bykov class (Project 22160) [N]</i>						6/
<i>Gepard class (Project 11661K) [N]</i>		/1				/1
<b>Amphibious vessels</b>						
<i>Ivan Green class (Project 11711) [N]</i>						2/
<i>Zubr class (Project 12322) [MRO]</i>	/1			/1		/2
<i>Serna class (Project 11770) [N]</i>			3/2	/1		/3
<i>Diugon class (Project 21820)</i>					/4	/4
<b>Mine warfare vessels</b>						
<i>Aleksandrit class (Project 12700)</i>					1/-	4/
<b>Support vessels</b>						
<i>Support vessels [N]</i>	/13	/8	/35	/54	/55	/165

**Sources:** *The Military Balance 2016:* 189; Frolov 2015a: 35; Frolov 2016: 24; Cooper 2016.

**Notes:** N = new; MRO = modernization, renovation and overhaul; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

The Bal system is smaller and subsonic and has a somewhat shorter range than the Bastion. Cooper (2016: 116) states that there are currently four divisions equipped with the Bal, two with the Black Sea Fleet and one each with the Pacific Fleet and Caspian Flotilla (Table 6.9).

The Kalibr missile is a modular cruise missile system that became known to a wider public during Russia's Syrian campaign in late 2015 (TASS 2015b). According to Anatolii Guliaev, head of the Armaments Department of the Russian Defence Ministry, 47 Kalibr missiles were delivered in the first half of 2016 (Lenta.ru 2016f). This figure corresponds to the number of Kalibr missiles that have been used in the Syria campaign (see Chapter 2, section 2.8 in this report).

**Table 6.9 Naval missile systems – state defence orders and deliveries 2011–2015**

NAVAL MISSILE SYSTEMS	GOZ 2011	GOZ 2012	GOZ 2013	GOZ 2014	GOZ 2015	GPV-2020
<b>Shore-based anti-ship missile systems</b>						
<i>K300 Bastion (complexes) [N]</i>	/1				2/	28 (2021)
<i>Bal (complexes) [N]</i>	/1				/1	
<b>Cruise missiles</b>						
<i>Kalibr [N]</i>						

**Sources:** *The Military Balance 2016*: 189; Frolov 2015a: 35; Frolov 2016: 24; Cooper 2016.

**Notes:** N = new; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

### 6.2.5 Ground Forces equipment

According to the initial GPV-2020 key objectives and indicators, Russia planned to procure 2 300 battle tanks up to 2020. After the military renounced any further orders for the T-90 in 2011, it became conventional wisdom that the GPV figure referred to a completely new tank based on the Armata universal combat platform concept that was under development (*Lenta.ru 2012b*; *RIA Novosti 2016g*). In anticipation of the T-14 Armata, data about changes 2011–2015 in Russia's pool of battle tanks in active use reveal that the T-80V/U was discontinued and that older T-72 versions were being upgraded to T-72B3 standard (Table 6.10; *The Military Balance 2012*: 193, 2016: 190).

As the T-14 was officially presented on Victory Day in Moscow on 9 May 2015, it did not escape some criticism (Vasilev 2016). Probably in the same year, some 20 prototypes were also delivered for further state field testing (Table 6.10). Serial production of a first batch of 100 T-14s will probably start in 2017, and the entire programme has been extended to 2025 (*Vzgliad 2016d*; TASS 2016e). It is therefore probable that the bulk of Russia's main battle tanks will consist of T-72B3s well into the 2020s – or longer, given an anticipated price tag three to four times higher than the cost of upgrading the T-72 to the T-72B3 (*Zgirovskaia 2016b*; *Bmpd 2016b*).

### Tanks

*Armoured vehicles, tracked* The Armata platform will also be used to build a heavy tracked infantry vehicle, the T-15 BMP – the first of its kind in the Russian Army (Table 6.10). Serial production is envisaged to start in 2016–2017 after state field tests (Alimov 2015a).

The current tracked middle-weight series of BMP infantry fighting vehicles and BTR armoured personnel carriers will eventually be replaced by vehicles based on the new modular platform the Kurganets-25 (Mikhailov 2013). State field tests have been postponed until 2017 and mass production to 2019 after the military found the present prototype too high and therefore vulnerable (*Vzgliad* 2015c; Alimov 2015b). Awaiting acceptance of the Kurganets-25 platform, production of the amphibious infantry vehicle the BMP-3 continues. Production of about 200 units has been contracted for 2015–2017 (Table 6.10; *Lenta.ru* 2015h).

The BMD-4M Sadovnits infantry fighting vehicle and the multi-role BTR MD/MDM Rakushka armoured personnel carrier were officially accepted for service with the Russian Airborne Troops in April 2016 (Table 6.10). Based on the same chassis as the BMD-3, they are scheduled to replace the outdated BMD-2 and BTR-D (*TASS* 2016f).

*Armoured vehicles, wheeled* The third platform developed under the GPV-2020 is the medium-heavy Bumerang for wheeled combat vehicles. Vehicles that have been designed on this platform to date are the K-16 BTR and the K-17 BMP. A “wheeled tank” is also in the planning (Velichko 2016). Serial production of Bumerang vehicles is set to start in 2017, but large-scale supply to the Armed Forces will not occur before 2019 (Petrov 2016). Prior to deliveries of the Bumerang, the Russian MoD plans to buy BTR-82As and to upgrade existing vehicles (Table 6.10).

The fourth new platform is the lightweight wheeled mine-resistant ambush-protected (MRAP) Taifun, aimed to form the basis for a whole family of armoured trucks. The Ural Automotive Plant<sup>2</sup> and the Kamaz Automobile Plant are participating with their own prototypes on a competitive basis in the development programme (Bondarenko 2013). Some 60 Taifun U/K vehicles were delivered to the 10th and 346th Special Brigades in the Southern Military District in 2014 (Table 6.10). As of spring 2016 the MoD planned to procure both versions (Mikhailov 2016).

Russia intends to procure Russian-made armoured cars in place of the Italian Iveco LMV-M65. The first in line has been the GAZ Tigr M, which since 2016 can be equipped with the remote-controlled machine-gun station the Arbalet DM (RIA Novosti 2016f). It is unclear whether other systems under consideration are included in the GPV-2020 (Cooper 2016: 91).

*Assessment of armour deliveries* Combat vehicle procurement under the first half of the GPV-2020 has mostly consisted of modernization and overhaul of existing older systems. Data in Table 6.10 suggest that the automotive industry can handle large contract volumes

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<sup>2</sup> The Ural Automotive Plant constitutes the truck division within the automotive GAZ group.



and scale up production of these older systems.

**Table 6.10 Combat vehicles – state defence orders and deliveries 2011–2015**

COMBAT VEHICLES	GOZ 2011	GOZ 2012	GOZ 2013	GOZ 2014	GOZ 2015	GPV-2020
<b>Tanks [N]</b>						2300/
<i>T-14 (Armata) [N]</i>					/20	/20
<i>T-80BV [MRO]</i>		115/115				115/115
<i>T-72BA, T-72B/B1/B3 [MRO]</i>	70/70	127/127	165/260	165/293	/170	/920
<b>Armoured vehicles, tracked</b>						
<i>T-15 BMP (Armata)</i>					/20	/20
<i>BTR Object 693 (Kurganets-25) [N]</i>						2017?
<i>BMP Object 695 (Kurganets-25) [N]</i>						2017?
<i>BMP-2 [MRO]</i>	/130	/112	/100	/112	/112	/566
<i>BMP-3 [N]</i>		/83	/112		/40	400?/235
<i>2S25 Sprut-SD [N]</i>		/10				/10
<i>BMD-4M [N]</i>	10/3		/2	/8	10/12	250?/25
<i>BMD-2 [MRO]</i>		135/135	145/145	67/277		/557
<i>BTR-MD/MDM Rakushka [N]</i>	10/3		/2	/8	/12	100?/25
<i>BTR-D [MRO]</i>				/33	/50	/83
<b>Armoured vehicles, wheeled</b>						
<i>BMP K-17 (Bumerang platform) [N]</i>						2017
<i>BTR K-16 (Bumerang platform) [N]</i>						2017
<i>BTR-80/82 [N]</i>	/150	/150	/290	/115	/10	/715
<i>BTR-80/82 [MRO]</i>			134/134	120/120	134/134	450?/388
<i>BTR-70 [MRO]</i>	/150					/150
<i>Taifun-U/K [N]</i>				/60	/20	/80
<i>Tigr/Tigr-M [N]</i>	/30	/10	/10	/56	/60	/166
<i>Iveco LMV M65 [N]</i>	10/10	57/57	301/207	/90		/364

**Sources:** *The Military Balance 2016*: 189; Frolov 2015a: 35; Frolov 2016: 24; Cooper 2016.

**Notes:** N = new; MRO = modernization, renovation and overhaul; [...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

*Artillery and  
ground missile  
systems*

Its main task for the next five-year plan will be to provide the Ground Forces with vehicles based on the new standardized platforms. Mass supply of the Armata, Bumerang, Kurganets-25 and Taifun systems has been postponed from 2015 to 2017–2019 (*RIA Novosti* 2012c). There is thus a noticeable time lag from the original plans. Albeit of no great significance, this implies that all new armour programmes have to continue well into the next decade.

Most of Russia's artillery systems are ostensibly outdated and at the end of their service life (CAST 2015: 30). Another shortcoming is the want of a modern missile and artillery ground reconnaissance complex. It is unclear whether any reconnaissance complex is included in the GPV-2020. The chief of the Missile Forces and Artillery of the Russian Armed Forces, Lieutenant General Mikhail Matveevskii, has previously stated that the missile and artillery forces are moving in this direction (Dmitriev 2014). Allegedly, the subject was also discussed at the "Army 2015" forum (Ministry of Defence 2015).

Data on Russian production of artillery systems are less readily available than data for other systems and it is therefore more difficult to reconstruct exact figures (Table 6.11). It is known that 108 howitzers, probably the 2S19M1 Msta-S, were delivered in 2012–2014 (*RIA Novosti* 2014b). Procurement of a batch of 42 additional 2S19M2 Msta-Ss is specified for 2016–2019 (*Lenta.ru* 2016g).

The first deliveries of Russia's newest self-propelled howitzer, the Koalitsiia SV, are expected for the Western Military District before the end of 2016 (*TASS* 2016g). Apparently, previous deliveries have been prototypes for further testing with little relevance for Russian military capability (Table 6.11). The deputy chairman of the Military-Industrial Commission, Oleg Bochkarev, has earlier said that the bulk of the Koalitsiia SVs will be delivered to the troops from 2019 onwards (*TASS* 2016h). In due time it should replace the 2S19 Msta-S (de Larrinaga 2015).

The Tornado is a generic designation for modernized multiple rocket launchers of which the Tornado G passed into serial production in 2013. In ten to 15 years it should completely replace the BM-21 Grad system that has been in service since 1963 (Table 6.11; *RIA Novosti* 2013c, d).

The Iskander tactical ballistic missile system produced by the "Research-and-production corporation Konstruktorskoye byuro mashynostroyeniya" – RPC KBM – replaces the Tochka-U system. It was delivered to the Armed Forces for individual divisions in 2010–2011 – in total enough for one brigade. Before that, a first division was set up in 2005–2007. One brigade consists of 51 vehicles, of which 12 are launchers carrying two missiles each. A brigade is made up of three battalions (Cooper 2016: 93).

Since 2013, the Iskander has been procured in brigade sets – two brigades per annum for a total of ten brigades, according to a contract from 2011 between the MoD and the RPC-KBM (Table 6.11). A seventh brigade set was delivered

in June 2016, reducing the number of brigades that still operate the Tochka-U system to three, including the 152nd Guards Regiment in Cherniakhovsk, Kaliningrad Oblast (*Bmpd* 2016c).

**Table 6.11 Artillery systems – state defence orders and deliveries 2011–2015**

COMBAT VEHICLES	GOZ 2011	GOZ 2012	GOZ 2013	GOZ 2014	GOZ 2015	GPV-2020
<b>Self-propelled artillery systems</b>						
<i>2S19M1/2 Msta-S [N]</i>		/40	/	/36		/76
<i>2S19/M1 Msta-S [MRO]</i>				/60		/60
<i>Koalitsiia-SV [N]</i>			/2	/10		/12
<i>2S5 Giatsint [MRO]</i>			/20			/20
<i>2S9 Nona-S [MRO]</i>						
<b>Multiple rocket launchers</b>						
<i>Tornado-G [N]</i>	/30	/20		/20	/36	/106
<b>Ground missile systems</b>						
<i>9K720 Iskander (brigades) [N]</i>			2/2	2/2	2/2	10/6
<b>Anti-tank missiles</b>						
<i>9M113 Konkurs [N]</i>			/300	/300		/600
<i>Khrizantema [N]</i>		/10				/10
<i>9M133 Kornet</i>						

**Sources:** *The Military Balance* 2016: 189; Frolov 2015a: 35; Frolov 2016: 24; Cooper 2016.

**Notes:** N = new; MRO = modernization, renovation and overhaul; [.../...] = planned number of units in the GOZ/actual number procured by armed forces. The last column indicates either total planned/total number of delivered units 2011–2015 or starting year for serial production.

## 6.3 Conclusions

### 6.3.1 Industrial capability and the security environment

An important driver for Russia's defence industrial policies is to bridge the gap between its current technology and the technology it needs to counterbalance its geopolitical competitors – notably the United States and NATO.

Russian defence industrial strategies also arise from a more generic discourse about Russia's economic niche in a globalized world dominated by market mechanisms and World Trade Organization (WTO) rules. Apart from the energy industry, there is a common perception in Russia that it has failed to recapture domestic market shares lost to foreign companies in the 1990s and to build an export momentum out of its WTO membership (Platonov 2014: 169).

The federal law on industrial policy from 2014 was designed to meet these challenges and provide for more active state involvement in industry development (Federalnyi zakon No. 488-FZ). In this context the defence industrial sector is perceived as key: Russia's current political leadership envisages it as a locomotive for reindustrialization and technological renewal.

This expectation appears questionable as contemporary experience shows that defence industries are more likely to perform as end-users of technological spin-ins than as generators of technological spin-offs. Moreover, well-functioning cooperation between civil and military R&D is largely lacking in Russia. There is still a long way to go to remedy existing structural problems and the lack of scientific excellence in many areas within the next ten years.

### 6.3.2 The GPV-2020

Up to its mid-term, implementation of the GPV-2020 appears to have been more successful than its precursors'. The sheer size of the programme and the fact that funding has not fallen apart are partial explanations for this achievement. Yet success would have been impossible if the industry had not been able to scale up production capacity to meet the increasing demand from the annual state defence orders. The accomplishments are therefore also attributable to changes to industrial policy and generous state funding of targeted industrial support programmes.

A complicating factor since our previous assessment is Western and Ukrainian sanctions. Allegedly Russia is making progress in replacing foreign components with domestic substitutes, but delays are probably inevitable. Dependence on foreign power-trains in particular has hit production of helicopters and some aircraft hard, as well as naval shipbuilding.

A large part of current production has hitherto consisted of slightly modernized versions of older and proven system solutions, some even developed during the late Soviet era. New-generation systems are behind schedule, and the defence industry's real test in the coming years is the impending start of serial production of new arms and platforms.

Even if the industry manages to make this transition, the GPV-2020 will not be realized with regard to all the earliest key objectives and indicators. It was initially too ambitious and overestimated the ability of the industry to develop completely new systems and put them into serial production quickly. Production of these systems will therefore continue well into the next decade. Still, a lot of progress has been made under the programme period. It is therefore probable that the outcome of the GPV-2020 will be significantly better than we anticipated in our previous assessments.

### 6.3.3 The GPV-2025 and future prospects

The financing available for the GPV-2025 will certainly be less than the GPV-2020 in real terms, possibly even in nominal terms. President Putin has indicated that the state defence orders will peak in 2017, which coincides with the ending of the GPV-2020. In line with the above-mentioned policy thinking, the industry is henceforth expected to exploit the current impetus to diversify and convert into competitive high-tech civilian products (Presidential Administration 2016b; Zhurenkov 2016; Avramenko 2016).

In September 2016 the MoD's request for the GPV-2025 amounted to 22 trillion roubles, while the Ministry of Finance only allowed for 12 trillion roubles. The discrepancy needs a solution before the end of 2016 in order to get a draft programme ready for presidential approval by 1 July 2017, which could then be implemented from 2018 (Safronov 2016).

The GPV-2025 has been in the planning since 2013, but as of autumn 2016 no details about the content or its directions had been revealed. Many decisions are probably on hold as long as the financing issue has not been resolved (Cooper 2016: 45). At the end of the day, the focus will be on getting new-generation systems of the GPV-2020 into full production, realizing uncompleted R&D projects and reducing the growing heterogeneity of competing platforms.

The next GPV is supported by the State Programme (SP)<sup>3</sup> "Development of the Defence Industrial Complex". This programme was adopted in May 2016 and amounts to 1.8 trillion roubles. In addition to including the FTP "Development of the Russian military-industrial complex for 2011–2020", the SP also comprises four sub-programmes related to development of the "military-industrial complex"; import substitution; development and production of strategic materials; and development of industrial technology for arms production. It is known that the programme related to industrial development includes measures aimed at diversification into civil products (Zatsepin 2016). Collectively these programmes give another indication of the possible content of the GPV-2025.

To sum up, the implementation of the GPV-2020 has improved the industry's prospects of playing a substantial role in the ongoing rebuilding of Russian military capability for the next decade. As the yearly financing for procurement is set to shrink after 2017, it appears that the GPV-2020 may have been a once-and-for-all catching-up exercise, filling the gap caused by virtually no new procurement for approximately two decades. The incoming GPV-2025 would then signify a return to a more normal annual rate of renewal of equipment. In anticipation of the GPV-2025, current challenges for the defence industry consist of the transition into production of new systems, import substitution,

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<sup>3</sup> Gosudarstvennaia programma, abbreviated in Russian GP. The State Programme is a new policy instrument replacing all previous FTPs. In contrast to the FTP, the SP provides for a comprehensive implementation plan within its specific policy area, including a plan for necessary regulatory measures and normative documents that need to be adopted.



and catching up with the West in science and technology. The faltering Russian economy also demands that the industry takes greater responsibility for its own development to ensure that previous achievements do not fall by the wayside.

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## 7. Russian Military Capability in a Ten-Year Perspective

Gudrun Persson

*In the 21st Century the line between  
a state of war and peace is getting  
more and more blurred.*

Chief of the Russian General Staff, Valerii Gerasimov, 27 February 2013

We have seen how Russia has continued on its path of strategic solitude by breaking international law and by strengthening its authoritarian political system. Its actions over recent years have shown that Russia is prepared to use military force to achieve its political goals. All in all, the increased repression at home, and the insistence that Russia is threatened by enemies from within and by the West, have created a considerable lock-in effect. It will be most difficult for the political leadership to reverse the rhetoric or to reform the political system without risking its position of power.

This development gives rise to several questions. How will the fighting power of the Armed Forces develop in a longer time perspective? How sustainable is the political system that has been built around President Vladimir Putin? Will Russia continue to prioritize military expenditure? Will the defence industry receive the state support needed to allow it to uphold its achievements into the future?

In essence, these questions in a ten-year perspective are also about identifying key factors that restrain the current trend, and the opposite, factors that would contribute to strengthening the trend.

### 7.1 Russian security policy and military thinking

The current trend in Russia represents one of the two major schools of thought in Russian security policy throughout Russian history. Simply put, this line emphasizes the imperial tradition, where territory is seen as an important instrument for the great power Russia, and serves as a buffer zone in order to secure Russia proper. This policy is associated with, for instance, Tsar Nicholas I.

The other school argues that, to make Russia great, it should focus on its own resources, develop the economy, and devote resources to its own population such as education, infrastructure, and health care. On the international level Russia should show its strength at the negotiating table rather than on the battlefield. This school of thought is associated with Tsar Alexander II's foreign minister, Aleksandr Gorchakov (1798–1883), who coined the famous phrase “Russia is not sulking, she is composing herself.”

These lines of thoughts often coexist, and are not mutually exclusive, which we were also able to observe in the previous assessment in 2013.

At present, the first line of thought has the upper hand, and Russia keeps demanding that a new international security order is needed. The Vienna Congress of 1815 or the 1945 Yalta conference are seen as examples to follow. We have shown that there are no signs of a quick change in this policy at any time soon. This will be the situation Russia finds itself in whether Vladimir Putin continues as president or not.

*The neighbourhood  
and more*

In foreign policy terms, Russia has explicitly pointed to the establishment of regimes supposedly hostile to itself in its neighbourhood as a danger. This suggests that an immediate focus will continue to be concentrated on the countries neighbouring on Russia, not least on the former Soviet republics. But there is more to it than that. Russia has increased its power projection towards the global arena, as the military operation in Syria testifies. It has enhanced its relations with the entire Middle East region, and is increasingly turning towards Asia, particularly China.

Since 2013 Russia's leadership seems to have become more rather than less worried about future social and political unrest in society. This has created an atmosphere where increased repression is justified by pointing to threats to Russia and where just about every policy area is related to national security.

*Non-military  
means and nuclear  
weapons*

Russian military strategic theorists are devoting much thought not only to military force, but also to all kinds of other – non-military – means. The Military Doctrine is evolving to include everything from the country's history to nuclear weapons.

In later years, the official rhetoric around nuclear weapons has increasingly been used as an instrument of coercion. Public statements by President Putin and a public debate on the use of nuclear weapons are employed. Nuclear weapons are printed on t-shirts which can be seen as a popularization aimed at younger generations, which is unprecedented in Russian and Soviet history. In addition, there are indications that the Intermediate Nuclear Forces (INF) Treaty is being questioned in Russia.

## 7.2 Military expenditure and the defence industry

Russia's military spending has more than doubled in the past ten years. This is primarily due to the Russian leadership's commitment to modernizing the Armed Forces and the implementation of a major State Armament Programme (the GPV) that should provide the Armed Forces with modern weaponry. Russia's exceptionally high economic growth in the 2000s supported these efforts. Since 2011, however, economic growth has slowed down significantly but the ambitious level of military spending has been maintained while other budget items are shrinking. Russia's total military expenditure of USD 91 billion in 2015 is still low compared to the US' and China's total expenditures. Yet its

share in GDP is high and rising in comparison with other countries. Russia's military expenditure has been rising from around 3 per cent to 5.4 per cent of GDP since 2011. This high share of defence in GDP means that Russia pays relatively more for its military capability and is more willing to pay for defence than other developed countries.

How military expenditure develops during the next ten years will depend on economic growth and the priority the political leadership gives to defence. Existing growth forecasts are low and in the unreformed economy only higher oil prices can turn stagnation into weak or moderate growth. The future size of military expenditure is therefore a question of whether the political leadership will continue to let military expenditure grow faster than GDP or if the political direction will be changed towards a lower priority for defence in public spending.

*The importance of politics*

Russia's defence industry has clearly benefited from the current State Armament Programme. In 2016 it had proved itself more efficient and effective and with an increased ability to absorb larger and technologically more advanced production orders than at the outset in 2011. These advances were not only based on generous programme founding, but were also a deliberate consequence of a successively increased state hegemony over the defence industrial sector.

*The defence industry*

Still, the original indicators of the programme were too optimistic. Most of the systems procured so far have been based on older, proven designs. New-generation systems are mostly behind schedule; serial production and deliveries in larger volumes have had to be extended well into the next decade under the subsequent armament programme for 2018–2025 – or beyond.

Some delays and postponements have also been caused by Western and Ukrainian sanctions. Russia intends to replace most restricted products with home-made equivalents and is pursuing two import substitution programmes to overcome the present impact of sanctions. Increased state control and import substitution indicate that a long-lasting outcome of the current armament programme is a defence industrial sector that has become not only more nationalized but also more national. It will have to rely more on itself rather than on cooperation with advanced foreign entities for its technological development. The industry is thus moving towards technological solitude.

*Technological solitude*

The next armament programme is expected to be less well funded, indicative of a return to a more normal annual rate of renewal of equipment. The industry will therefore have to rely more on its other two legs, arms exports and diversification into civilian markets. A critical issue is whether the industry will be able to adapt to the competitive environment that characterizes a civilian market, or whether it will crave more state support. Whether the military industry can become the “engine of economic modernization” for the entire economy that Vladimir Putin envisioned in 2012 remains doubtful. The added value of the defence industry to the national economy is not of such a magnitude that even a steep increase would have any decisive impact. Furthermore any indications of spin-off effects to the civilian sector are currently few and weak.

Briefly put, it seems that the future of the industry will remain dependent on the political priorities behind the sharing of the available financial resources even during the next decade.

### 7.3 The fighting power of the Armed Forces

To assess the fighting power of the Armed forces in a ten-year perspective, the current organization, force disposition and exercise activity of the Armed Forces provide reliable indications. It is likely that Russia will retain a large ground operations-centric force in the coming decade. Major changes in the balance between the services seem unlikely. The Armed Forces will most likely continue to be able to launch at least one – possibly two – large-scale JISCOs, joint inter-service combat operations, with thousands of vehicles and aircraft and around 150 000 servicemen in each.

#### *Soviet-style, not Soviet-scale*

Russian JISCOs are likely to remain Soviet-style, albeit not Soviet-scale. One reason is that most of the current equipment is likely to remain in service, especially in the Ground and Airborne Forces. The current State Armament Programme, the GPV-2020, is only replacing their stock of thousands of Soviet-era armoured vehicles, tanks, guns and howitzers with new pieces in the hundreds. Another reason is the trend back towards larger and heavier manoeuvre units. This is illustrated by the current plans to set up additional divisions west and south of the Urals and the introduction of tank companies in Airborne Forces' units in the coming years, even though it reduces their air mobility.

Another Soviet-era feature is that exercise patterns, as well as Russia's forces in Ukraine, both its own and separatists, show a proclivity for large-scale artillery fire support. Plans to set up one engineer brigade per CAA, Combined-arms Army, by 2020 address the manoeuvre units' need for mobility and sustainability support units in combat operations, especially beyond Russia and on Russian-gauge railways. A likely aim of all these changes is to improve offensive capabilities. In addition, offensive non-strategic nuclear weapons will most likely continue to be available for a JISCO, as multiple launchers will remain in all the Armed Forces services.

#### *The Navy*

For the Navy, the GPV-2020 is only gradually replacing smaller surface ships and submarines. Foreseeable deliveries will mainly be frigates, corvettes and attack submarines as well as strategic submarines. For most of the coming decade, the Russian Navy will thus remain suited primarily for strategic nuclear deterrence and naval combat operations near Russia's coasts, such as supporting JISCOs. There may be new deliveries of cruisers and destroyers towards 2025, enabling more combat operations further away from Russia.

#### *The Air Force and Army Aviation*

For the Air Force and Army Aviation, the numbers of combat-capable aircraft are decreasing, which illustrates the main post-1991 trend of Soviet-era aircraft getting too old for service. The GPV-2020 stipulates that the current annual pace of replacements of aircraft and helicopters, ranging from tens to hundreds, continues. The Aerospace Forces' fire support for JISCO ground operations can



thus probably be retained at current levels. In Syria, Russian aircraft have to a large degree used non-guided munitions against ground targets. If the lack of high-precision munitions and target acquisition and designation systems for tactical aircraft is addressed, new tactics may be developed. It may however take several years to develop such capabilities.

Russia's stand-off warfare capability – both conventional and nuclear – is likely to continue to improve. Probable deliveries under the GPV-2020 and its successor include a number of naval platforms for launching long-range cruise missiles as well as additional Iskander-M brigades. The large number of cruise missiles used in Syria indicates a steady stream of deliveries to the Armed Forces, but the defence industry's capacity in this regard is not known. The Armed Forces will possibly also field medium- and long-range strike UAV systems during the coming decade, adding another dimension to the stand-off warfare capability. However, in order to significantly improve the current capability, long-range C4ISR systems are needed as well as hypersonic missiles or subsonic missiles able to receive updated target data in-flight. In the meantime, Russian stand-off warfare will be limited to mainly striking fixed, predetermined targets.

*Stand-off  
warfare  
capability*

Russia's military assets for strategic deterrence will most likely continue to increase during the coming decade. Apart from the ability to perform JISCOs and stand-off warfare, Russia will be able to maintain a substantial operational strategic nuclear weapons force. The organization in a triad will probably remain during the next ten-year period, with the land-based Strategic Missile Forces as the backbone. The number of deployed intercontinental missiles will decrease but, with more multiple-warhead missiles, the overall number of warheads is likely to remain the same. A larger share of these will be deployed on mobile launchers. The capability – and the strategic importance – of the SSBN fleet will increase if the introduction of Bulava missiles and the Borei class submarines can be carried out. The strategic bomber fleet of modernized aircraft may shrink slightly towards the mid-2020s, and there are significant uncertainties regarding deliveries of new strategic bomber aircraft.

*Strategic  
deterrence*

Exercises remain key to upholding and developing capabilities, primarily for command and control. Reducing the scale, scope and frequency of exercises – for instance as a result of diminishing defence expenditure – will result in decreasing capability over time. Extending the scope of the annual large-scale exercises could also allow for launching even larger JISCOs in the future. The Armed Forces currently have a structure of available forces to launch one JISCO with 250 000 to 300 000 men, but lack training and, possibly, transport and sustainability support capabilities.

*Exercises–key*

Even without increasing the size of the current large-scale JISCOs, fighting power could be improved by implementing a system for large-scale rapid mobilization of territorial defence units. Such a force could serve as occupation troops, freeing up standing units for combat. To make a real difference in fighting power, that would need at least several tens of thousands of servicemen, far more than the two battalion-size units called up in the summer of 2016. Signs of this could be

the creation of large reserves based on contract or significant increases in the role of reserve-based units in annual strategic exercises.

## 7.4 Conclusions

In sum, Russia has repeatedly shown that it is prepared to use military force to change borders in Europe. It continues to invest in its Armed Forces, and has a considerable fighting force. On the international arena, Russia has become a power to be reckoned with, not least in the Middle East.

Will this trend continue in a ten-year perspective? The German chancellor, Otto von Bismarck (1815–1898), said that “Russia is never as strong or as weak as she seems.” Another way of expressing the same thought is to remember that changes may come quickly, and that these by nature are unpredictable.

### *Restraining factors*

One way of examining the uncertainty is to look for key factors that could influence the current trend to limit its course, and what could strengthen it. It is a truism to note that international developments in general affect Russian policies. Those developments are not within the scope of this assessment. However, the analysis in this study makes it possible to discern a few factors regarding Russian military capability in a ten-year perspective. No attempt is made to rank these factors, or weigh them against each other. Rather, they are to be seen as subjects for future research on this topic.

As we have seen, military expenditure will develop during the next ten years depending on economic growth and the priority the political leadership gives to defence. Should the political direction be changed towards a lower priority for defence in public spending, that would affect the current course. The political leadership has proved to be sensitive to large-scale public demonstrations of discontent. Should even larger cuts in social spending, for instance, become necessary in order to keep up military spending, the political choice might be more sensitive. At present there are no such indications, but in a ten-year perspective it is a factor to take into account.

Second, there is no guarantee that the current anti-Western, anti-reformist version of patriotism and nationalism will succeed in the long run. Even if the nationalistic message with its anti-Western stance seems very popular now, future generations might think otherwise. The pendulum would then swing back to the school of thought that emphasizes Russia’s greatness in terms of domestic strength, education, and economic and political reforms.

Third, Russia’s efforts to form strategic partnerships and alliances have so far only been modestly successful. Russia has few natural allies in the world, and has largely failed to build long-term viable relations with many of the countries in its neighbourhood. Its annexation of Crimea seriously undermined any earlier efforts to create an atmosphere of confidence and trust. This said, it is true that Russia has been successful in increasing its influence in the Middle East, not least through the military operation in Syria. In addition, diplomatic skill has

led to good relations with several of the main powers in the region. Whether Russia will be able to sustain this influence over a longer period of time or whether this is a temporary success is a crucial question that awaits an answer.

A fourth restraining factor concerns demographic developments. The Armed Forces are still facing a manning problem, as has been shown in this assessment. Health has not improved among the population at large and contract service remain attractive only to a certain segment of the population. Furthermore, Russia's workforce is shrinking. There is a decline in the able-bodied age group (15–72), which affects the availability of conscripts and contract soldiers in the coming decade.

In view of the current political leadership's concern for regime security, any development that might be interpreted as a threat to its survival – rightly or wrongly – might prompt actions to underpin the current trend.

*Strengthening  
factors*

The contemporary dynamics in Russia where inner repression and outer aggression coexist and reinforce each other is strong. The West, as we have seen in Chapter 4, was largely taken by surprise by the Russian aggression in 2014, but has since taken action to respond. This has led to a recent domestic build-up in Russia, strengthening the political forces that claim that Russia is a “besieged fortress” and needs to strike back. This illustrates how quickly the view of Russia's own position can change, and also what measures are needed. At the time of writing, there is a risk of growing mistrust and misunderstandings.

The view that Russia has history on its side, expressed on several occasions by the current political leadership, is another factor. This is linked to the increasingly civilizational aspect that can be traced in Russian foreign policy. If the Russian leadership perceives that – and acts as if – it has a civilizational mission this will have implications in the longer time perspective.

Furthermore, Russia is demanding a new international world order consisting of a few great powers with their respective spheres of influence. It has been doing so for years, but now it has started to act militarily to underpin this demand with the annexation of Crimea, the military aggression in eastern Ukraine, and the military operation in Syria. This is new, and it directly affects the security situation in neighbouring smaller countries. This indicates that Russia has radically departed from the traditional foreign policy line of keeping the status quo to becoming a revisionist power.



# Appendices

## Chapter 2

### A2.1 Conceptual Terminology

English term	Comment
<b>OPERATIONAL TERMS</b>	
War theatre ( <i>Teatr voennykh deistvii</i> )	Teatr voennykh deistvii literally means “theatre of military activities” or even theatre of military operations. It denotes land territories of (a large part of) a continent and adjacent seas and the air space above them in which a force grouping carries out strategic-scale operations. In our context, the notion implicitly involves territory of both Russia and adjacent states. The nearest Russian Military District is the basis for the war effort in a war theatre and receives support from forces from other military districts and forces under central control.
Force grouping ( <i>Gruppirovka voisk</i> )	This is a group of forces, inter-service or from separate services, of a permanent character dislocated in a war theatre or in its strategic directions according to perceived tasks.
Group of forces ( <i>Gruppa voisk</i> )	This is a large formation of forces of a temporary character to unify the effort of several formations and units; also forces based broad with host-nation consent or as occupying forces.
Formation, higher-level large ( <i>obedinenie</i> )	A higher-level large formation conducts an operation. It has an operational/strategic-level mission and scale and operates under one command with an organization tailored to its mission. A strategic large formation could be a group of forces in a war theatre; an operational-strategic formation – several Ground Forces CAAs or a Navy fleet; an operational formation – a Ground Forces CAA, tank army or an army corps, a Navy flotilla or an Aerospace Forces air army, depending on its mission.
Formation ( <i>soedinenie</i> )	A formation's task is combat or combat support. It has an operational/tactical-level mission within an operation led by a large formation. It usually has a fixed organization of units and sub-units from different arms of service including own support. It can act independently. A formation could be a Ground Forces' division or brigade or a group of Navy ships working under a common plan.
Unit ( <i>chast</i> )	A unit's task is combat or combat support. It has a tactical-level mission. It usually has a fixed organization of units and sub-units from different arms of service. It can act independently. A Ground Forces unit could be a regiment or a battalion tactical group, Navy vessels of certain sizes or Aerospace Forces divisions or regiments.
Sub-unit ( <i>podrazdelenie</i> )	A sub-unit's task is combat or combat support. It has a lower tactical-level mission, a fixed organization and staffing tailored to its core role tasks, generally along lines of arms of service such as engineers' units for mobility and artillery or air defence for fire support. In the Ground Forces, sub-units denote battalions and below, including company tactical groups; in the Aerospace Forces squadrons and below.
<b>FORCE DISPOSITION</b>	
Service / type of force ( <i>Vid voruzhennykh sil</i> )	Main component of the Armed Forces such as the Ground Forces, the Navy and the Aerospace Forces.
Branch of service / force ( <i>rod voisk; rod sil in Navy</i> )	Subdivision of a force/service with a unique function, such as armour, artillery, and engineers in the Ground Forces. The Airborne Forces and the Strategic Missile Forces are independent branches directly under the MoD/General Staff.

**Source:** The conceptual terminology is based on the Russian MoD Encyclopedia, August 2016, <http://encyclopedia.mil.ru/encyclopedia/dictionary/list.htm>.

**Note:** CAA = Combined-arms Army; MoD = Ministry of Defence.



**A2.2 Overview of the Russian Armed Forces services and branches**

English	Russian
Service/type of forces	Vid vooruzhennykh sil
Force (service) branch	Rod voisk/ sil (Navy)
<b>Aerospace Forces</b>	<b>Vozdushno-kosmicheskie voiska</b>
Air Defence Forces	Voiska protivovozdushnoi oborony i protivoraketnoi oborony (PVO i PRO)(a)
Air Force	Voenno-vozdushnye sily
Army Aviation	Armeiskaia aviatsiia
Space Forces	Kosmicheskie voiska
<b>Ground Forces</b>	<b>Sukhoputnye voiska</b>
Air Defence Troops	Voiska protivovozdushnoi oborony (PVO)
Artillery and Rocket Forces	Raketnye voiska i artilleriia
CBR Protection Troops	Voiska radiatsionnoi khimicheskoi i biologicheskoi zashchity
Engineering Troops	Inzhenernye voiska
Motor Rifle Troops	Motostrelkovye voiska
Reconnaissance Troops	Razvedyvatelnye soedineniia
Signal Troops	Voiska sviazi
Tank Troops	Tankovye voiska
<b>Navy</b>	<b>Voenno-morskoi flot</b>
Coastal Defence Troops	Beregovye voiska
Coastal Artillery and Missile Troops	Beregovye raketno-artilleriiskie voiska
Naval Aviation	Morskaia aviatsiia
Naval Infantry	Morskaia pechota
Submarine Forces	Podvodnye sily
Surface Forces	Nadvodnye sily

**Source:** Russian services and branches names are found on the Ministry of Defence website:  
<http://structure.mil.ru/structure/forces/type.htm>

**Note:** (a) Denotes primarily theatre air defence and missile defence forces.

## Chapter 4

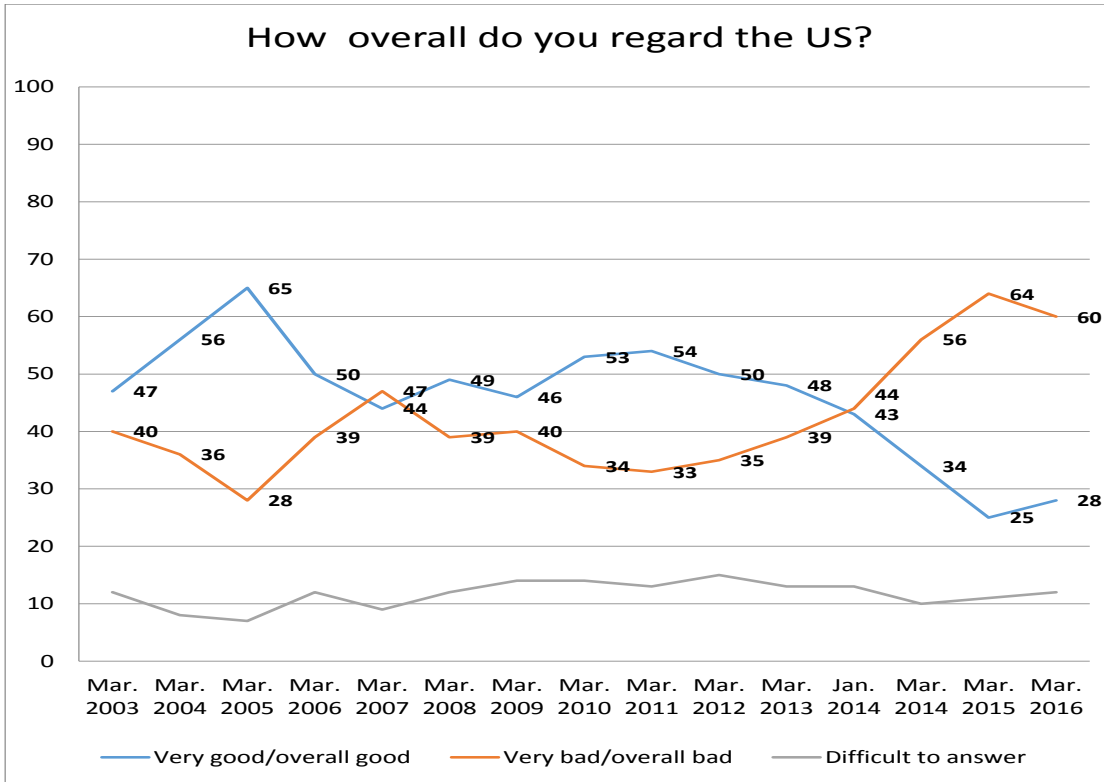
### A4.1 International ratings relating to repression in Russia for 2015

Organization	Index	Rating for Russia 2015 (2013–2014)	Note
Amnesty International	Human rights and freedoms	Negative trend	No rating but the annual report notes negative trends in human rights and freedoms in Russia
The Economist Intelligence Unit	Democracy index	No. 132 Score: 3.3 = authoritarian	No. 132 out of 167 countries; score based on a 0 to 10 scale where “full democracies” have scores of 8 to 10, “flawed democracies” scores of 6 to 7.9, “hybrid regimes” scores of 4 to 5.9 and “authoritarian regimes” scores below 4
Freedom World	Democracy and human rights	Freedom rating: 6.0 (2013: 5.5; 2014: 6.0) Rating: not free	Ratings: 1=best, 7=worst
Freedom World	Freedom on the internet*	Total score: 62 – not free (2013: 54; 2014: 60)	Total score: 0=best, 100=worst
Freedom World	Freedom of the press	Total score: 83 (2013: 81; 2014: 83)	Total score: 0=best, 100=worst
Reporters without Borders	Press freedom	No. 152 (2013: 148; 2014: 148)	No. 152 out of 179 countries
Freemuse	Cultural freedom	Russia 3rd among countries with serious incidents and artistic freedom of expression violations	Ranked after China and Iran

**Sources:** Amnesty International (2016); Freedom House (2014a); Freedom House (2014b); Freedom House (2014c); Freedom House (2015a); Freedom House (2015b); Freedom House (2015c); Freedom House (2016a); Freedom House (2016b); Freemuse (2016); Reporters without Borders (2016); The Economist Intelligence Unit (2016).

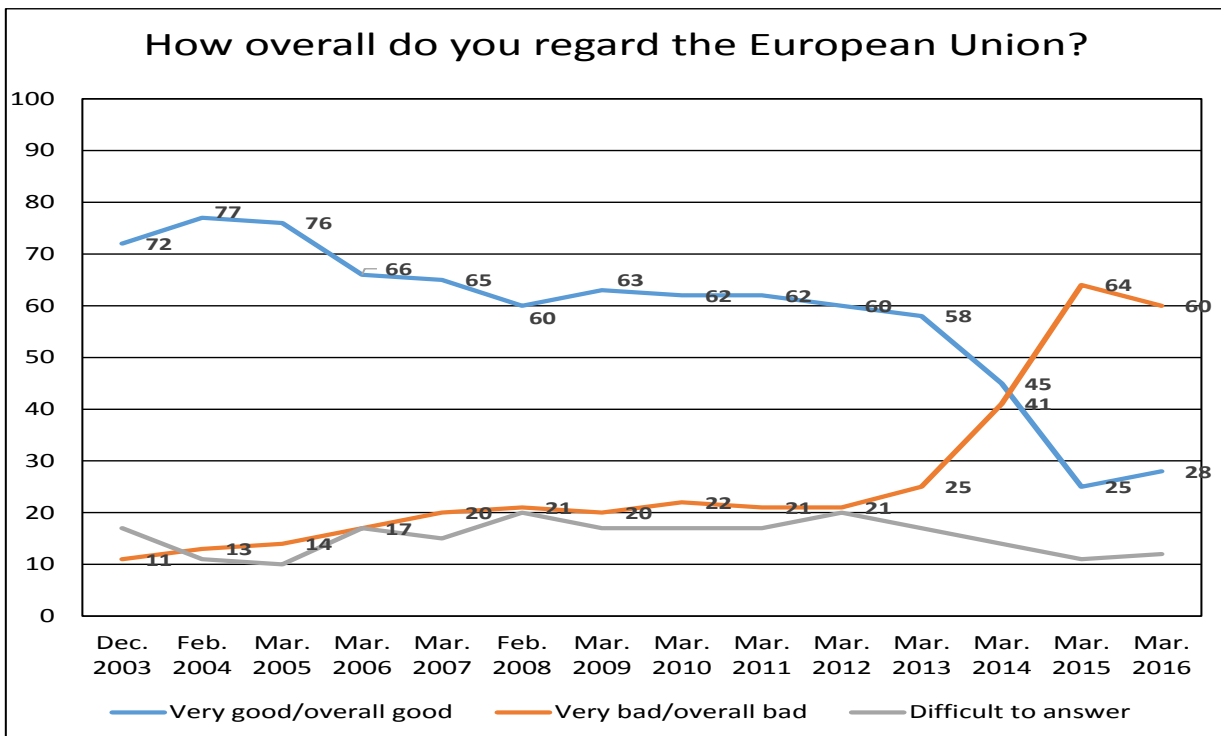
\* In August 2016, Freedom House’s reports on internet freedom had not been published for 2015 (the one published in 2015, Freedom House 2015c, covers 2014).

**A4.2 Attitudes to the US, 2003–2016 (%)**



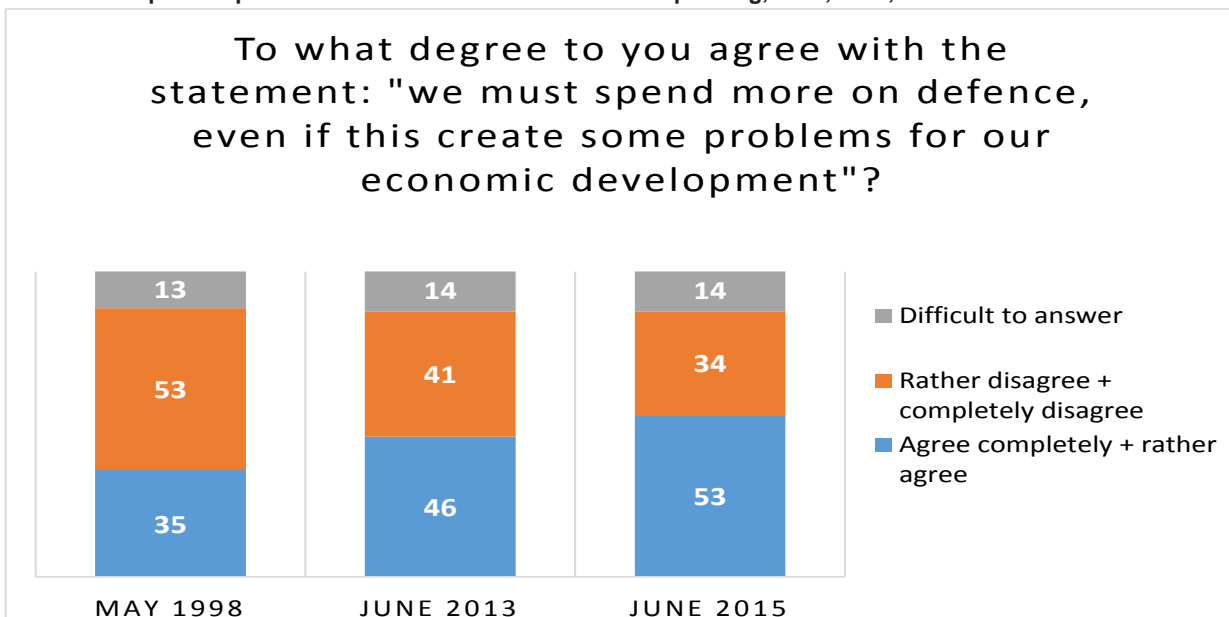
Source: Levada Centre 2016c.

**A4. Attitudes to the European Union, 2003-2016 (%)**



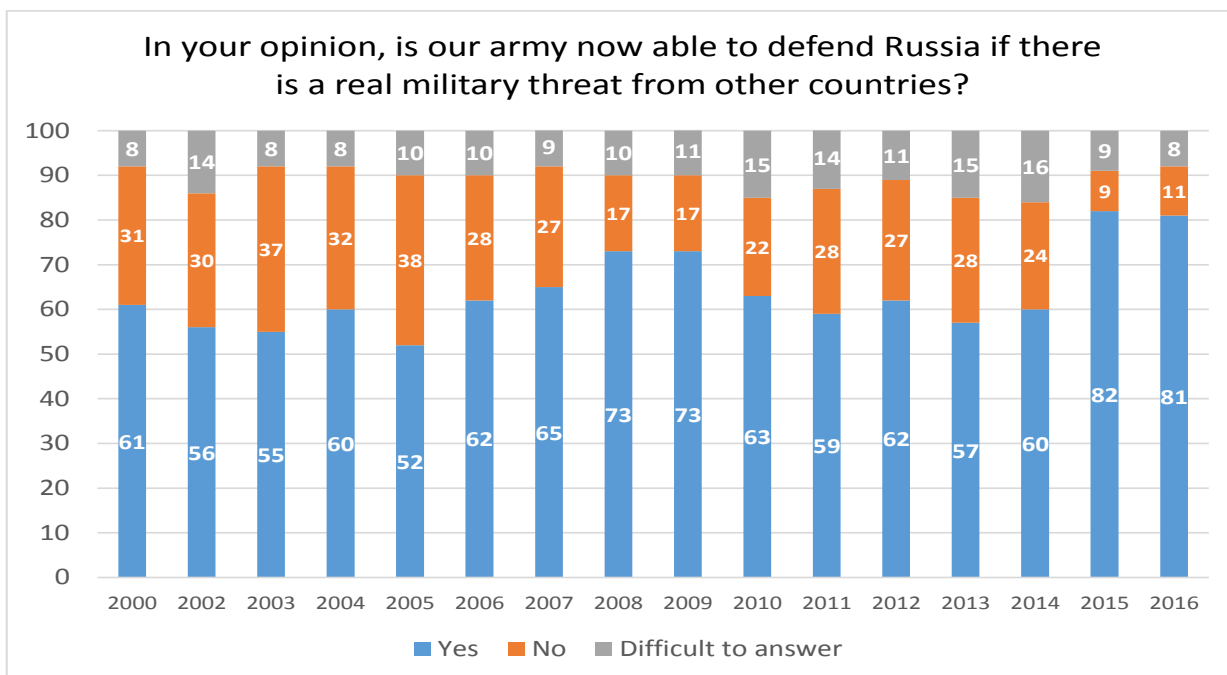
Source: Levada Centre 2016c.

**A4.4 Russian public opinion on the need to increase defence spending, 1998, 2013, 2015**



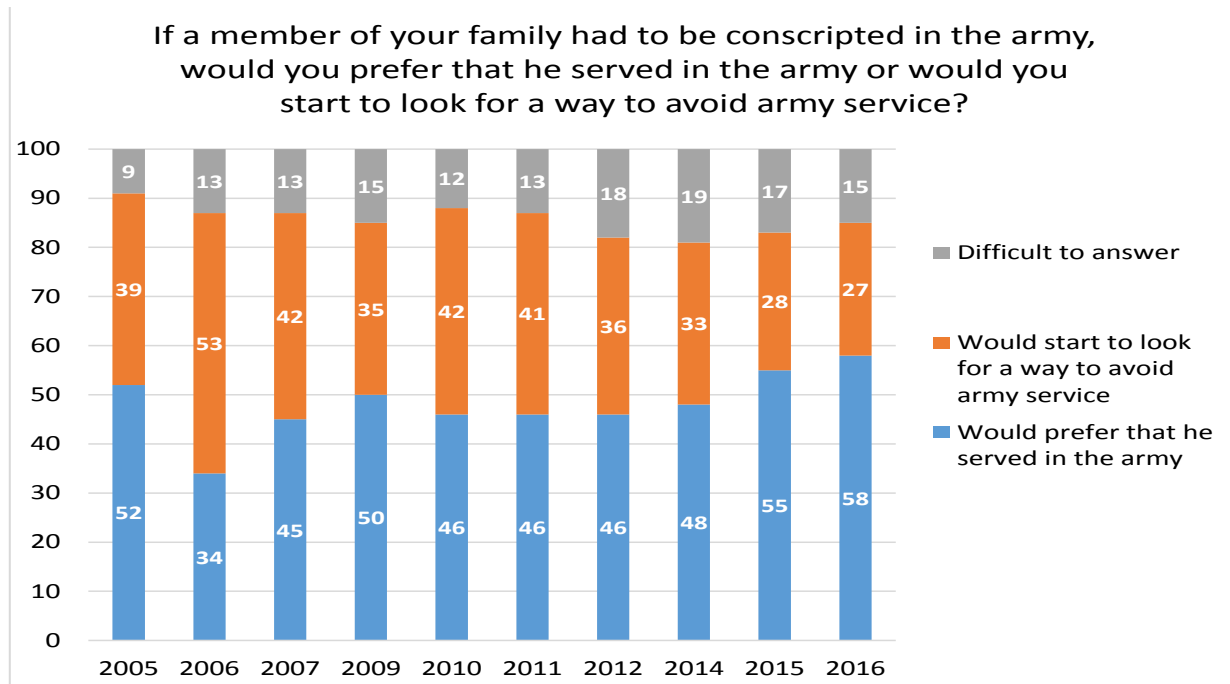
Source: Levada Centre 2015a.

**A4.5 Russians public opinion on Russia's Armed Forces ability to defend Russia, 200-2016 (%)**



Source: Levada Centre 2015c; Levada Centre 2016a.

#### A4.6 Attitudes to conscription, 2005–2016 (%)

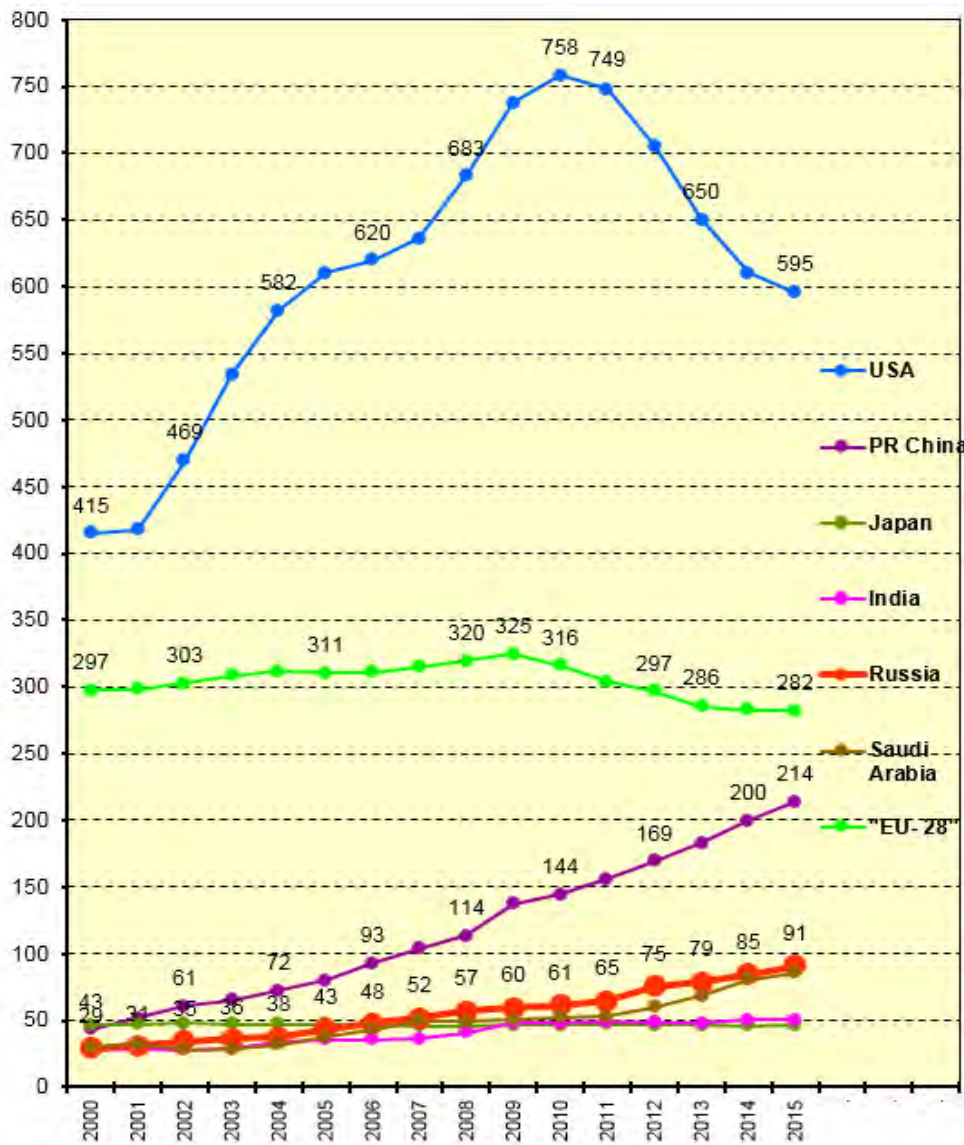


Source: Levada Centre 2016a.



Chapter 5

A5.1 Total military expenditure in selected countries (USD billion, constant 2014 prices)



Source: SIPRI (2016).

A5.2 Federal budget 2006–2016 (current prices, per cent)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
<b>Total spending</b>	4 284.8	5 986.6	7 570.9	9 660.1	10 117.5	10 925.6	12 895.0	13 342.9	14 831.6	15 610.9	16 098.7
General state issues	533.2	815.7	839.4	853.1	887.9	777.8	809.9	850.7	935.7	1 108.3	1 142.0
<b>National defence</b>	<b>681.8</b>	<b>831.9</b>	<b>1 040.9</b>	<b>1 188.2</b>	<b>1 276.5</b>	<b>1 516.0</b>	<b>1 812.4</b>	<b>2 103.6</b>	<b>2 479.1</b>	<b>3 181.4</b>	<b>3 149.3</b>
National security and judiciary	550.2	667.0	835.6	1 004.5	1 085.4	1 259.8	1 843.0	2 061.6	2 086.2	1 965.6	1 987.8
National economy	345.0	692.6	1 025.0	1 650.7	1 222.7	1 790.2	1 968.5	1 849.3	3 062.9	2 324.2	2 593.3
Residence construction and maintenance	52.7	294.9	129.5	151.6	234.9	279.8	228.8	177.5	119.6	144.1	68.0
Environmental protection	6.6	8.2	10.2	13.0	13.5	17.6	22.5	24.3	46.4	49.7	59.4
Education	212.4	294.6	355.0	418.0	442.8	553.4	603.8	672.3	638.3	610.6	585.2
Culture, cinema and media**	55.2	71.0	88.9	111.7	125.6						
Culture, cinema						83.8	89.9	94.8	97.8	89.9	97.9
Health care and sport*	147.5	196.5	278.2	352.3	347.4						
Health care						499.6	613.8	502.0	535.5	516.0	525.5
Social policy	201.2	214.0	293.6	323.5	344.9	3 128.5	3 859.7	3 833.1	3 452.4	4 265.3	4 422.9
Physical culture and sport						44.2	45.7	68.0	71.2	73.0	72.4
Media						61.1	77.5	77.3	74.8	82.1	80.6
Debt service						262.7	320.0	360.3	415.6	518.7	645.8
Inter-regional redistribution**	1 498.9	1 900.1	2 674.6	3 593.4	4 135.9						
Inter-budgetary transfers						651.3	599.4	668.1	816.1	682.0	668.5
<b>Budget deficit/surplus</b>	<b>1 994.1</b>	<b>1 794.6</b>	<b>1 705.1</b>	<b>-2 322.3</b>	<b>-1 812.0</b>	<b>442.0</b>	<b>-39.4</b>	<b>-323.0</b>	<b>-334.7</b>	<b>-1 955.2</b>	<b>-2 360.2**</b>
<i>Deficit without oil and gas revenue</i>	<i>-949.5</i>	<i>-1 102.8</i>	<i>-2 684.4</i>	<i>-5 306.3</i>	<i>-5 642.7</i>	<i>-5 199.7</i>	<i>-6 492.6</i>	<i>-6 857.0</i>	<i>-7 768.5</i>	<i>-844.8</i>	
Deficit/surplus as % of GDP	7.4	5.4	4.1	-6.0	-3.9	0.7	-0.1	-0.5	-0.4	-2.4	-3.0
GDP (billion RUB, current prices)***	26 917.2	33 247.5	41 276.8	38 807.2	46 308.5	59 698.1	66 926.9	71 055.4	77 893.1	80 412.5	78 673.0**
GDP (constant 2011 prices)						59 698.1	61 791.6	62 581.9	63 049.2	60 687.1	
Growth rate	8.2	8.5	5.2	7.8	4.5	4.3	3.5	1.3	0.7	-3.7	-2.1
GDP deflator	115.2	113.8	118.0	102.0	114.2	115.9	108.3	104.8	107.2	107.3	NA

**Sources:** Actual spending for 2006–2015: Ministry of Finance (2016); data for 2016 confirmed budget (byudzhetnaya respis); Federalnaya kaznacheystvo (2016); Accounts Chamber (2016). **Notes:** \* Figures for 2016 are planned estimates. \*\* These budget items have been regrouped after 2010. \*\* Budget Law for 2016 FZ-359, 14 December 2015. \*\*\* Rosstat has changed the definition of GDP to bring data into line with the international System for National Accounts SNA-1993 and SNA-2008 (see further OECD 2015). In this table the figures for 2014, 2015 and 2016 are all according to the new definition.

**Table A5.3 Budget items as share of total spending in the federal budget 2006–2016 (current prices, per cent)**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Total spending</b>	100	100	100	100	100	100	100	100	100	100	100
General state issues	12.4	13.6	11.1	8.8	8.8	7.1	6.3	6.4	6.3	7.1	7.1
<b>National defence</b>	<b>15.9</b>	<b>13.9</b>	<b>13.7</b>	<b>12.3</b>	<b>12.6</b>	<b>13.9</b>	<b>14.1</b>	<b>15.8</b>	<b>16.7</b>	<b>20.4</b>	<b>19.6</b>
National security and judiciary	12.8	11.1	11.0	10.4	10.7	11.5	14.3	15.5	14.1	12.6	12.3
National economy	8.1	11.6	13.5	17.1	12.1	16.4	15.3	13.9	20.7	14.9	16.1
Residence construction and maintenance	1.2	4.9	1.7	1.6	2.3	2.6	1.8	1.3	0.8	0.9	0.4
Environmental protection	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4
Education	5.0	4.9	4.7	4.3	4.4	5.1	4.7	5.0	4.3	3.9	3.6
Culture, cinema and media*	1.3	1.2	1.2	1.2	1.2						
Culture, cinema						0.8	0.7	0.7	0.7	0.6	0.6
Health care and sport*	3.4	3.3	3.7	3.6	3.4						
Health care						4.6	4.8	3.8	3.6	3.3	3.3
Social policy	4.7	3.6	3.9	3.3	3.4	28.6	29.9	28.7	23.3	27.3	27.5
Physical culture and sport						0.4	0.4	0.5	0.5	0.5	0.4
Media						0.6	0.6	0.6	0.5	0.5	0.5
Debt service of state and municipal debt						2.4	2.5	2.7	2.8	3.3	4.0
Inter-regional redistribution*	35.0	31.7	35.3	37.2	40.9						
Inter-budgetary transfer						6.0	4.6	5.0	5.5	4.4	4.2
Budget deficit/surplus	46.5	30.0	22.5	-24.0	-17.9	4.0	-0.3	-2.4	-2.3	-12.5	-14.7
Deficit without oil and gas revenue	-22.2	-18.4	-35.5	-54.9	-55.8	-47.6	-50.4	-51.4	-52.4	-5.4	NA
<i>Deficit without oil and gas revenue</i>	-3.5	-3.3	-6.5	-13.7	-12.2	-8.7	-9.7	-9.7	-10.0	-1.1	NA

**Sources:** Susanne Oxenstierna's calculations based on Appendix A5.2.

**Note:** \* These budget items have been regrouped after 2010.

**Table A5.4 Budget items as share of GDP 2006–2016 (current prices, per cent)**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Total costs</b>	15.9	18.0	18.3	24.9	21.8	18.3	19.3	18.8	19.0	19.4	20.5
General state issues	2.0	2.5	2.0	2.2	1.9	1.3	1.2	1.2	1.2	1.4	1.5
<b>National defence, calculated with old definition of GDP **</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>3.1</b>	<b>2.8</b>	<b>2.5</b>	<b>2.7</b>	<b>3.0</b>	<b>3.47</b>	<b>4.32</b>	<b>NA</b>
<b>National defence, new GDP definition**</b>									3.2	4.0	4.0
National security and judiciary	2.0	2.0	2.0	2.6	2.3	2.1	2.8	2.9	2.7	2.4	2.5
National economy	1.3	2.1	2.5	4.3	2.6	3.0	2.9	2.6	3.9	2.9	3.3
Residence construction and maintenance	0.2	0.9	0.3	0.4	0.5	0.5	0.3	0.2	0.2	0.2	0.1
Environmental protection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Education	0.8	0.9	0.9	1.1	1.0	0.9	0.9	0.9	0.8	0.8	0.7
Culture, cinema and media*	0.2	0.2	0.2	0.3	0.3						
Culture and cinema						0.1	0.1	0.1	0.1	0.1	0.1
Health care and sport*	0.5	0.6	0.7	0.9	0.8						
Health care	0.0	0.0	0.0	0.0	0.0	0.8	0.9	0.7	0.7	0.6	0.7
Social policy	0.7	0.6	0.7	0.8	0.7	5.2	5.8	5.4	4.4	5.3	5.6
Physical culture and sport						0.1	0.1	0.1	0.1	0.1	0.1
Media						0.1	0.1	0.1	0.1	0.1	0.1
Debt service of state and municipal debt						0.4	0.5	0.5	0.5	0.6	0.8
Inter-regional redistribution*	5.6	5.7	6.5	9.3	8.9						
Inter-budgetary transfer	0.0	0.0	0.0	0.0	0.0	1.1	0.9	0.9	1.0	0.8	0.8
Budget deficit/profit	7.4	5.4	4.1	-6.0	-3.9	0.7	-0.1	-0.5	-0.4	-2.4	-3.0
<i>Deficit without oil and gas revenue</i>	-3.5	-3.3	-6.5	-13.7	-12.2	-8.7	-9.7	-9.7	-10.0	-1.1	NA

**Sources:** Susanne Oxenstierna's calculations based on Appendix A5.2.

**Notes:** \* These budget items have been regrouped after 2010.

\*\* Rosstat has changed the definition of GDP to bring data into line with the international System for National Accounts SNA-1993 and SNA-2008 (see further OECD 2015). In this table the national defence budget's shares of GDP for 2014 and 2015 resulting from the both the old definition of GDP and the new definition are given.

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The Russian Armed Forces are developing from a force primarily designed for handling internal disorder and conflicts in the area of the former Soviet Union towards a structure configured for large-scale operations also beyond that area. The Armed Forces can defend Russia from foreign aggression in 2016 better than they could in 2013. They are also a stronger instrument of coercion than before.

This report analyses Russian military capability in a ten-year perspective. It is the eighth edition. A change in this report compared with the previous edition is that a basic assumption has been altered. In 2013, we assessed fighting power under the assumption that Russia was responding to an emerging threat with little or no time to prepare operations. In view of recent events, we now estimate available assets for military operations in situations when Russia initiates the use of armed force.

The fighting power of the Russian Armed Forces is studied. Fighting power means the available military assets for three overall missions: operational-strategic joint inter-service combat operations (JISCOS), stand-off warfare and strategic deterrence. The potential order of battle is estimated for these three missions, i.e. what military forces Russia is able to generate and deploy in 2016. The fighting power of Russia's Armed Forces has continued to increase – primarily west of the Urals.

Russian military strategic theorists are devoting much thought not only to military force, but also to all kinds of other – non-military – means. The trend in security policy continues to be based on anti-Americanism, patriotism and authoritarianism at home. Future generations are being trained into a patriotic spirit, and there is a wide array of different school and youth organizations with a mission to instil military-patriotic values in the younger generations. Opportunities to change the policy to a more Western-friendly approach have diminished. This will be the situation Russia finds itself in whether Vladimir Putin continues as president or not.

The share of military expenditure in Russian GDP has increased from 3.6 per cent in 2005 to 5.4 per cent in 2015. This is the result of the political will to prioritize military expenditure over other items in public spending. At the same time, the implementation of the State Armament Programme has improved the Russian arms industry's prospects of playing a substantial role in the ongoing rebuilding of Russian military capability for the next decade.

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