Report

The Future of Arms Control

Ready to (Dis)Agree?

| Tõnis Idarand | Kalev Stoicescu | Ian Anthony |

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Cover page photo: Chinese military vehicles carrying DF-17 roll during a parade to commemorate the 70th anniversary of the founding of Communist China in Beijing, Tuesday, 1 October 2019. AP Photo/Ng Han Guan, File/Scanpix

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List of Abbreviations

ACFE	Adapted Treaty on Conventional Armed Forces in Europe
ALC(B)M	air-launched subsonic air-launched cruise (ballistic) missile
BCC	Bilateral Consultative Commission
CFE	Treaty on Conventional Armed Forces in Europe
CFE-1A	Agreement Concluding Act of the Negotiation on Personnel Strength of Conventional Armed Forces in Europe
CSBM	confidence- and security-building measures
CSTO	Collective Security Treaty Organisation
DIME	Diplomatic, Information, Military, Economic
DIY	do it yourself
DoD	Department of Defense
DPRK	Democratic People's Republic of Korea
eFP	enhanced Forward Presence
FOFA	Follow-On Force Attack
GPS	Global Positioning System
HGV	hypersonic glide vehicle
HIMARS	High Mobility Artillery Rocket System
IAEA	International Atomic Energy Agency
ICBM	intercontinental ballistic missile
INCSEA	incidents at sea agreement
INF	Treaty on Intermediate Range Nuclear Forces
IPNDV	International Partnership for Nuclear Disarmament Verification
JCPOA	Joint Comprehensive Plan of Action
NPR	Nuclear Posture Review
NPT	Nuclear Non-Proliferation Treaty
NTM	national technical means
OSCE	Organisation for Security and Co-operation in Europe
P5	Five Permanent Members of the United Nations Security Council
PNI	Presidential Nuclear Initiative
SIPRI	Stockholm International Peace Research Institute
SLBM	submarine-launched ballistic missile
SLCM	submarine-launched cruise missile
SLCM-N	nuclear-armed sea-launched cruise missile
TPNW	Treaty on the Prohibition of Nuclear Weapons
UAV	unmanned aerial vehicle
UNSC	United Nations Security Council

Preface

This report is a final product conducted within the research project commissioned by the Estonian Ministry of Foreign Affairs. It is based on a series of interviews conducted by the authors at NATO Headquarters in Brussels, Belgium, and the OSCE Secretariat in Vienna, Austria, specifically with the representations of Germany, Finland, France, Poland, and the United States, as well as the Estonian delegations to both organisations.

This report consists of two parts. Part I is authored by Tõnis Idarand and Kalev Stoicescu. It studies the regional approaches to arms control architecture – its current challenges dominated by Russia and Russia's war against Ukraine – and offers a way forward for the transatlantic community. It further outlines the developments to follow pertaining to the INF Treaty and the New START Treaty, as well as the non-strategic nuclear forces and the US-Russia dialogue on strategic stability. In the context of the global non-proliferation regime, it zooms in on a new factor that demands we take it into account – that is, the rise of China. Part I concludes with a list of recommendations for policy- and decision-makers in the West to consider as we move forward.

Part II by Dr Ian Anthony has two chapters that analyse specific aspects of the future of arms control. The first analysis looks ahead into what appears to be the decisive decade in arms control. It summarises the military realities developing on the ground and the expert discussions unfolding in their background in the context of both regional and global security. It attempts to foresee what the next phase of arms control in Europe will look like, as well as how to shape the suitable security environment on the European continent. The second analysis details the role of missiles in the European theatre. Drawing from the lessons of Russia's conduct of its war against Ukraine and its extensive use of missiles in particular, it explores the challenges and prospects of reintroducing regulations on short- and intermediate-range missiles in Europe and the post-INF Treaty world.

Executive Summary

Having been crumbling already for years, international arms control architecture is now in a perilous state. Existing arrangements have either been losing their effectiveness or outright failing due to Russia's non-compliance, whilst Russia's aggression against Ukraine might have delivered the final blow to this system. Amidst this high-intensity conflict in Europe, the current geopolitical environment looks worse than in the last years of the Cold War when dialogue between adversaries managed to produce some breakthrough agreements.

This report attempts to summarise the developments in arms control architecture over the last decades and accentuate the trends that might be relevant when designing the arms control system of the future. It examines the approaches meant to address Russia's 'security concerns' about NATO's enlargement and preserve the existing arms control regime in Europe.

With its war against Ukraine, Russia has been trying to achieve its long-standing goal of rearranging both the European and global security order. Having already violated most of the arms control commitments that it voluntarily undertook, Moscow now exploits the suspension of the New START Treaty to pressure the West to concede and accept the Kremlin's vision of European security architecture.

There is a consensus that – even after the war has ended – it will take years to re-establish the level of trust necessary to, again, engage with Russia on arms control. It is unlikely that we will return to the pre-war 'business as usual' or that the dialogue will resume as if never interrupted.

Once the war is over, a new strategic environment will start to take shape. Countries will begin to refill their depleted arsenals, and interest in conventional arms control in Europe may resurface. The OSCE participating states also realise that – despite being paralysed at the moment – the OSCE framework should be maintained.

As it is not clear how and when the war will end, most European states prefer to maintain existing arms control arrangements, respecting the fundamental principles of European security and cooperation and hoping that the new regime could build on this foundation.

Arms control as we have known it, with its legally binding and verifiable agreements, may have come to an end. The trends emerging from the expert discussions are more focused on a different set of instruments, such as political commitments, risk reduction and transparency measures, or principles of responsible behaviour.

The war in Ukraine will shape both the European and global security environment and the future of arms control. Whether the arms control regime will become a part of the European security order depends on what role Russia plays in it.

Military technology, doctrines, a proliferation of new weapon systems, and the rise of China as a global player will all have an impact on global arms control. The New START Treaty will have a decisive effect on the future of arms control and the prospects of the nuclear non-proliferation regime already under immense pressure. The increasing role attached to non-strategic nuclear weapons in Russian and Chinese military thinking and deployment of new missile technologies will change the regional security environment in both Europe and the Indo-Pacific.

The year 2023 has already demonstrated that arms control is less relevant in Russia's security thinking than it used to be. Moscow exploits the existing arrangements mainly as leverage to influence the US and NATO's policy towards Ukraine or obtain concessions from them regarding its proposals on the new European security arrangements.

The role of arms control in European security might be in decline, but the key elements of European security architecture are still in place, and most states continue to implement them. NATO allies – when discussing and designing arms control, risk reduction, or confidence-building and transparency measures – shall consider how these instruments advance our security. Only together with other security policy instruments can arms control contribute to European security.

Under the current circumstances, the priority is to strengthen defence and deterrence of the Alliance. This is the only way to lay the groundwork for a constructive arms control dialogue with Russia that understands military presence more than any other measure of restraint. Engaging Russia in an arms control dialogue 'at any cost' can never produce an acceptable result.

Part I. A View from Estonia

Tõnis Idarand and
Kalev Stoicescu

Introduction

The international arms control regime is a set of fair-weather instruments – in particular those concerning European conventional forces – in the sense that its foundations were laid in the late 1980s, when the Cold War was declared (however prematurely) over. It worked as long as the East-West relations remained non-confrontational but ultimately failed to achieve its goal of preventing another conflict in Europe and a new Cold War.

It began to succumb already in 2007, when Russia declared a "moratorium" on the Treaty on Conventional Armed Forces in Europe (CFE), in anticipation of its aggression against Georgia in August 2008. From there onwards, implementation of virtually all agreements and treaties on arms control has been deficient.

The US and Russia extended the New START Treaty and launched a bilateral strategic stability dialogue to discuss issues of concern, as well as the possibilities to conclude a follow-up agreement to the New START in 2021. These developments seemed promising and gave some hope that the old recipes in arms control might work again.

However, Russia tabled its ultimatum-style proposals to the US and NATO in December 2021. Moscow's so-called "draft agreements" on the European security order requested both political and military security guarantees and claimed to have "critical importance for maintaining peace and stability."[1] The Kremlin's proposal demanded NATO stop further eastward enlargement and limit deployments of troops, weapons, and exercises on NATO's eastern flank. Simultaneously, Russia was building up its armed forces around Ukraine – from Belarus down to Crimea – and escalating tensions.

Moscow sought neither diplomacy nor security guarantees – but a new round confrontation with the US and NATO

Similar attempts to rearrange the European security order were used by Moscow in the context of its invasion of Georgia in 2008.[2] Russia was fully aware that its demands could not be accepted by the US and NATO; they were initially presented in a way that ensured their rejection so that the West would be blamed for the "lack of cooperation."[3] It became clear that Moscow sought neither diplomacy nor security guarantees – but a new round of confrontation with the US and NATO.

Russia's full-scale aggression against Ukraine on 24 February 2022 upended Europe's security architecture, and any meaningful mutual engagement in arms control became virtually impossible. The strategic stability dialogue between the US and Russia was suspended without perspectives in the foreseeable future. This is a challenge not only to addressing pressing arms control issues but also to sustaining political interest in arms control in general.[4]

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1 Ministry of Foreign Affairs of the Russian Federation, "Press release on Russian draft documents on legal security guarantees from the United States and NATO," Ministry of Foreign Affairs of the Russian Federation, 17 December 2021.

2 President of Russia, *The draft of the European Security Treaty* (Moscow: The Kremlin, 29 November 2009).

3 Robyn Dixon and Paul Sonne, "Russia broadens security demands from West, seeking to curb U.S. and NATO influence on borders," *The Washington Post*, 17 December 2021.

4 Timothy Wright, "Burevestnik and the future of arms control," *International Institute for Strategic Studies* (IISS), 29 September 2022.

The future of arms control does not look bright, as Russia's actions since the full-scale invasion (i.e., nuclear threats on several occasions, cancelling on-site inspections, and postponing expert meeting under the New Start treaty) have indicated lack of interest. Russia's announcement of suspension of its participation in the New START Treaty in February 2023 marked the next step – to pressure the West into accepting the Russian approach to European security. Arms control and security experts would hardly like to forecast any short to long-term developments as they are challenging to predict unless there is some certainty about the duration and the outcome of the war in Ukraine.

Most analysts are concerned about the survival of what remains of the existing arms control arrangements. There is, however, a consensus among them that it will take a long time before there is enough trust to resume a dialogue with Russia when the war is over. The most likely scenario is that Russia will continue its belligerent foreign policy, which will make it difficult for most NATO members to revive constructive relations with Moscow, let alone negotiate a meaningful arms control agreement.[5]

This report tries to look at the present of arms control and the existing challenges, since any future developments are, at this point, unforeseeable. It further examines the theories discussed by experts before and after the outbreak of the full-fledged war.

This report concludes with recommendations to the decisionmakers. Recent statements by some European leaders on engaging Russia in designing Europe's security architecture – while also providing Moscow with some security guarantees to ease its concerns regarding NATO's enlargement and open door policy – demonstrate that the ideas circulating before 24 February 2022 could be on the table once again.[6] However, these Western attitudes tend to change for Russia has not yet signalled its readiness to seek either some future agreements or peace more broadly.

[5] IISS, "The US Nuclear Posture Review in Limbo," *Strategic Comments* Vol. 28, Comment 14 (June 2022).

[6] Charles Szumski, "Macron's new security architecture opens Pandora's Box in NATO politics," *Euractiv*, 5 December 2022.

1. European Security Architecture

1.1. Conventional Arms Control

The Treaty on Conventional Armed Forces in Europe (CFE) – supported by confidence-building arrangements such as the Open Skies Treaty and the Vienna Document – have helped shape the European security architecture in the post-Cold War decades. The system was complemented by several bilateral arms control agreements between the US and Russia. This edifice was devised on the principles of the Helsinki Final Act and the Paris Charter that have since been reconfirmed by all participating states in numerous documents by the Organization for Security and Co-operation in Europe (OSCE).

This system has been constantly tested by the evolving political realities in Europe, as well as difficulties associated with adjusting the existing instruments to these developments. The biggest challenge has always been presented by Russia, whose national interests were in conflict with the founding principles of security and cooperation in Europe.

The main elements of the European security architecture – the CFE, the Vienna Document, and the Open Skies Treaty – are still in force. The CFE was reviewed to adjust to the post-Cold War political reality in Europe: the Adapted CFE Treaty (ACFE) replaced the block-to-block approach of the CFE with national limits on troops and equipment. Signed in Istanbul in 1999, the ACFE's ratification process depended on Russia's fulfilment of its commitments to respect the principle of host nations' consent to deployment of foreign troops (particularly with regards to Georgia and Moldova).[7]

Russia revoked its ratification and claimed that there was no legal connection between the ACFE and its bilateral commitments to Moldova and Georgia. Consequently, the Western participating states refused to ratify the ACFE

[7] Organization for Security and Co-operation in Europe (OSCE), *Agreement On Adaptation Of the Treaty On Conventional Armed Forces In Europe* (OSCE, November 1999), Art. I para 3.

as well. Those developments delivered the first serious blow to the European arms control and security arrangements. When Russia's proposals on the expeditious enforcement of the ACFE and the accession of some new NATO member states to the treaty were rejected in 2007, Moscow responded by suspending the implementation of the CFE Treaty and Flank Document of 1996.[8]

Russia stopped providing notifications on troop movements or location of equipment, as required by the treaty in particular. Such incompliance allowed it, for instance, to conceal its military preparations before the invasion of Georgia in 2008. Hence, the effectiveness of the entire European arms control was severely challenged.

Russia has repeatedly expressed its dissatisfaction with the existing European security arrangements and amplified its demands with military escalation and coercion

Russia has repeatedly expressed its dissatisfaction with the existing European security arrangements and amplified its demands with military escalation and coercion. The OSCE and its member states have made significant efforts to address some of these concerns. For example, they launched the so-called Corfu Process in 2009. The US, too, put forward several initiatives in 2011, together with other NATO members. However, the US suspended the implementation of its CFE obligations in relation to Russia.

After the annexation of Crimea, which challenged the very foundations of European security and other international agreements, Russia announced a "full suspension" of its participation in the CFE. It has also been blocking any updates of the Vienna Document on military confidence-building and transparency in Europe, thus undermining two important pillars of the European security architecture. Russia claims that the CFE is "outdated," whilst without the ACFE, modernisation of the Vienna Document is pointless.[9]

In 2016, Germany's Foreign Minister Frank Walter Steinmeier launched the discussions about the future of arms control in Europe in attempt to revitalise the existing system. Acknowledging that "Russia has violated basic principles of peace" and urging to "avoid an upward spiral of antagonism and confrontation." Steinmeier's initiative focused on adapting the Vienna Document to the ongoing technological and military developments and introduced some innovative elements to the OSCE procedures.[10] The central part of this proposal was the initiative to establish a "structured dialogue" that would address five key areas and bring the European arms control in line with the requirements of the 21st century.

The best known Steinmeier proposal was to "define regional ceilings, minimum distances, and transparency measures, especially in militarily sensitive regions such as the Baltic Sea region."[11] He suggested some innovative ideas: taking into consideration new military capabilities and verification measures conducted by the OSCE in time of crisis, as well as taking a special approach to areas with territorial disputes in order to avoid hindering the progress on arms control.

The declaration of the OSCE ministerial meeting in December 2016 welcomed the "launching of a structured dialogue on the current and future challenges and risks to security in the OSCE area […] that could serve as a common solid basis for a way forward."[12] Some participating states interpreted the Hamburg Declaration as

[8] Ministry of Foreign Affairs of the Russian Federation, *Указ «О приостановлении Российской Федерацией действия Договора об обычных вооруженных силах в Европе и связанных с ним международных договоров»* [Decree "On Suspension by the Russian Federation of the Treaty on Conventional Armed Forces in Europe and Related International Treaties"] (Moscow: Ministry of Foreign Affairs of the Russian Federation, 15 July 2007).

[9] Ministry of Foreign Affairs of the Russian Federation, "Comment by the Foreign Ministry on the recent NATO Secretary General's article," Ministry of Foreign Affairs of the Russian Federation, 27 November 2015.

[10] Frank-Walter Steinmeier, "Reviving Arms Control in Europe," *Project Syndicate*, 26 August 2016.

[11] Frank-Walter Steinmeier, "More security for everyone in Europe: A call for a re-launch of arms control," *Frankfurter Allgemeine Zeitung*, 26 August 2016.

[12] Organization for Security and Co-operation in Europe, Ministerial Council, *From Lisbon To Hamburg: Declaration On The Twentieth Anniversary Of The Osce Framework For Arms Control* (Hamburg: OSCE Ministerial Council, 9 December 2016).

a mandate to start laying the foundation for the renewal of arms control in Europe.

Others appeared more sceptical and expressed little confidence in the success of any new arms control agreement, given the behaviour of one participating state that violated the key principles of European security. Therefore, the Structured Dialogue refocused on threat perceptions, military doctrines, force posture, and dangerous military activities, it aimed at enhancing transparency and conflict prevention by updating the existing measures – first and foremost, the Vienna Document.

Russia's attitude towards the project was cynical from the very beginning. It agreed with the Hamburg Declaration – yet with one caveat. Moscow warned that it "suspended the operation of the Treaty on Conventional Armed Forces in Europe" and that "the provision referred to in the Declaration on commitment to full implementation […] of arms control agreements" no longer applied to the implementation of the CFE Treaty by the Russian Federation. With regards to the prospect of developing confidence-building measures under the Vienna Document, the Russian Federation stressed the need to create the conditions that would make it possible.[13]

1.2. Regional Approaches

Inspired by some ideas of Steinmeier's initiative, academics and think tankers used this opportunity to elaborate, with numerous policy papers, on increasing transparency and building confidence in the OSCE, particularly in such sensitive regions as the Baltic Sea and the Black Sea.[14]

These regional or sub-regional approaches dwelled on the assumption that European arms control arrangements were not fully functional, partly due to the fact that the existing regimes relied on the limitations of overall capabilities – a less relevant cause of instability than military deployments and activities in respective regions. Therefore, the logical conclusion proposed that measures should be designed to best fit a specific geographic environment and be tailored for a specific location, such as the Baltic Sea region.[15]

Measures should be designed to best fit a specific geographic environment

Discussions on sub-regional transparency measures usually start with threat perceptions and possible escalation scenarios. Further suggestions revolve around reducing tensions and accommodating Russia's alleged security concerns by introducing new confidence-building and transparency measures for the sub-regions where stricter regulations should apply. To support this approach, references are made to bilateral regional confidence-building arrangements encouraged by Chapter X of the Vienna Document and the flank limits of the CFE Treaty. The Dayton Agreement for Peace in Bosnia and Herzegovina – designed to establish military stability through asymmetric limits on parties' armament holdings – has been cited as a precedent.

Russia has reacted to NATO's enlargement by voicing concerns about NATO capabilities (in particular, rapid deployment and reinforcement), especially in the Baltic Sea region, despite the fact it has clear conventional superiority in the area. Additionally, Russia is known to selectively apply the existing arms control instruments and agreements. However, the Kremlin has not viewed NATO's forward deployments in the Baltic region from 2017 onwards (i.e., initially, a rather symbolic enhanced Forward Presence, eFP) as a serious military threat, fully aware that the eFP serves a political purpose rather than a military one.[16]

[13] Delegation of the United states of America, "Interpretative Statement Under Paragraph Iv.1(A)6 Of The Rules Of Procedure Of The Organization For Security And Co-Operation In Europe," in *From Lisbon To Hamburg* (Hamburg: OSCE Ministerial Council, 9 December 2016).

[14] See also Part II: Ian Anthony, "Regional arms race: challenges and prospects."

[15] Samuel Charap, Alice Lynch, John J. Drennan, Dara Massicot, and Giacomo Persi Paoli, *A New Approach to Conventional Arms Control in Europe* (Santa Monica, CA: Rand Corporation, 2020).

[16] Ivan Timofeev, "The Euro-Atlantic Security formula: The implications of NATO-Russia relations to the Baltic Sea Region," in *Security in the Baltic Sea Region: Realities and Prospects*, eds. Andris Spruds and Maris Andzans (Riga: Latvian Institute of International Affairs, 2017), 168-176; Dmitri Trenin, "Avoiding U.S.-Russia Military Escalation During The Hybrid War," *U.S. – Russia Insight* (Carnegie Endowment for International Peace, January 2018).

Russia's attention to these "sensitive" sub-regions and the introduction of some area-specific confidence-building measures were motivated by its desire to constrain any potential NATO reinforcements, both in peacetime and in case of future crises. Although Russia was sceptical about the Structured Dialogue initiative, it used the so-called Track 2 format to promote its vision of the new transparency measures on certain capabilities and in certain domains (e.g., transport capabilities for rapid deployment, air and missile defence, and naval capabilities that enable NATO military enforcements in Russia's neighbourhood).

Russia's goal has been to avoid a build-up of allied forces by limiting their movements and naval activities

Russia's goal has been to avoid a build-up of allied forces by limiting their movements and naval activities, especially those of non-littoral states. Therefore, confidence- and security-building measures in the maritime domain were the area in which Russia had some vested interest when discussing the updates to the Vienna Document. The measures that Russia envisaged included prior notification on movements and limits on certain types of naval capabilities, such as movements of ships equipped with deck aviation, cruise missiles, and air- and missile defence systems. Naval activities related to the movement of troops and equipment could be considered a subject to notification from Russia's perspective, too. Russia views the maritime domain as an area of particular concern that requires measures to prevent destabilising build-ups. For Moscow, it is a critical element of the arms control regime in the Baltic region.[17]

However, putting 'ceilings' on troops or equipment, as well as setting minimum distance requirements between the force deployment sites or exercises and the NATO-Russia contact line, constitutes asymmetric measures. This automatically puts the allied nations – particularly, in the Baltic region – in a disadvantaged position due to geography and Russia's own posture. Such arrangements also preserve – if not exacerbate – the existing regional military imbalances. Therefore, the Allies' reaction to such proposals has been – and will always be – negative, especially in the Baltic states and Poland.

Some proposals on regional confidence-building measures remain abstract and do not take into account political feasibility or strategic relevance.[18] Although, to analysts, these may seem like mere technical adjustments to larger security arrangements, some nations believe them to be increasing security risks. For the Baltic states, it is vital to remain deeply integrated in the overall European security order. Hence, 'regionalisation of security' is not an option.

From a NATO vantage point, limitations to regional deployments contradict the Alliance's earlier decisions to strengthen the military forward presence and defence posture at large. The Baltic nations wish to avoid a scenario in which new confidence-building or arms control measures would encroach on NATO's defence and deterrence posture. Any new arms control arrangements should, therefore, be assessed against their security interests.

The Baltic nations wish to avoid a scenario in which new confidence-building or arms control measures would encroach on NATO's defence and deterrence posture

Many experts believe that such proposals are a useful exercise that can bring some valuable insight. Some still hope that a sub-regional approach may produce building blocks for the broader European security order arrangements. Yet it is important to remember that over a decade ago, Moscow made clear that it would never accept any limitations on movement and deployment of the Russian forces and equipment across its national territory.

Both the concept and the framework of sub-regional measures are far from clear.

[17] Evgeny Buzhinskiy and Oleg Sharikov, "Outlines for future conventional arms control in Europe: A sub-regional regime in the Baltics," *European Leadership Network*, 3 September 2019.

[18] Samuel Charap et al., *A New Approach to Conventional Arms Control in Europe*.

Bilateral confidence-building instruments and approaches of the past may offer some historical precedents to study. However, it is highly unlikely that either Russia or the Baltic states would share any interest in bilateral negotiations on these issues.

Although the earlier attempts to relaunch discussions on confidence-building measures may have been well-intended, that approach was, unfortunately, based on wishful thinking – that addressing some of Russia's proclaimed security concerns could lead to any positive developments. Russia's main security concern is the existing common European security architecture that does not serve Moscow's expansionist ambitions. Russia conditions the dialogue on European arms control – including the review of the Vienna Document – on the "thorough renewal" of the whole set of principles underpinning European security.

Russia's draft treaties presented to the US and NATO on 17 December 2021 are, in effect, a list of transparency and confidence-building arrangements. Some of Russia's proposals recycle the provisions of the Vienna Document, including the transparency measures that Russia itself does not respect, such as notifications on exercises or predictability of other military activities. The drafts introduced sub-regional limitations on the NATO-Russia contact-zone in addition to the risk reduction or crisis management instruments.

Russia would like a new arms control arrangement in Europe to define Moscow's sphere of influence

Russia packaged arms control and confidence-building together with demands to stop any further NATO enlargement in its neighbourhood, as well as bans on expending NATO and US military infrastructure and cooperation with non-NATO countries. In essence, Russia would like a new arms control arrangement in Europe to define Moscow's sphere of influence. This is the baseline for all assumptions and threat perceptions in the region.

1.3. A Way Forward

The main elements of European security system are still in place. Most states parties to the OSCE respect their commitments. In Russia's view, the CFE – and especially the flank limits – has troubled its strategic interests. Russian officials have indicated that they see no future for the CFE as such and no value in using it as a foundation for the arms control agreements of the future.

Regardless of its vocal dissatisfaction, Russia is, nonetheless, bound by the CFE. Although Moscow has never announced its withdrawal from the Treaty, it has suspended its implementation. Even if the Vienna Document provisions had been fully implemented, they could hardly have balanced Russia's growing military ambitions and failure to comply with the CFE.

The Vienna Document has improved transparency, even though its efficiency as a confidence-building instrument has suffered tremendously. It is still relevant and could serve as a basis for the new measures pertaining to risk reduction, military encounters management, and modern capabilities. States parties to the Vienna Document have accused Russia of selective implementation of the Document, not responding to requests for information, failing to notify them about large-scale exercises and the troops involved, and misreporting exercises that exceed threshold.

Russia has justified its lack of interest in discussing the possible updates to the Vienna Document with speculations about the unclear future of the CFE and the low level of trust.[19] In January 2023, Russia indicated that it would suspend the implantation of the Vienna Document; on 6 March 2023, Moscow announced that it was no longer participating in the Document's data exchange mechanism on conventional

[19] "МИД: условий для модернизации соглашения по мерам доверия сегодня нет [Ministry of Foreign Affairs: there are no conditions for modernizing the agreement on confidence-building measures today]." *TASS,* 27 November 2015.

military activities.[20] This was one more piece of evidence to substantiate Russia's overall disengagement from the international arms control regime.

The US and NATO allies have, nevertheless, continued to provide data on their armed forces, thereby honouring the obligation of annual information exchange. It is important to note that Russia still has access to such data while not providing the equivalent information. It suggests that the future of any confidence-building mechanism with Russia's participation is rather bleak, which could also prompt other states parties to the Vienna Document to reconsider their participation. Such perspective scenario would deliver another blow to the European security and arms control architecture.

The Open Skies Treaty – a confidence-building instrument that allows the participating states to conduct unarmed observation flights over each other's territory to promote military transparency – is still in force. Its relevance, however, has been declining since the US and Russia – the two key participants – withdrew from it in 2020 and 2021, respectively. The remaining states parties have, nonetheless, continued to implement the treaty. They have been modernising the technical assets in their disposal and exploring the platform's potential in other areas, such as emergency response or environmental monitoring.

Having violated the old agreements, Russia has lost all credibility when it comes to entering new ones

With no new arms control agreements on the horizon, maintaining current arrangements and modernising the Vienna Document are the main focus for the countries willing to safeguard the European security order. Those arrangements failed to prevent Russia from preparing for and ultimately waging its large-scale war against Ukraine. No arms control system – no matter how well-designed – can prevent an armed conflict if a key participant chooses to disrespect it. Having violated the old agreements, Russia has lost all credibility when it comes to entering new ones.

The issue of feasibility and conditions when relaunching a dialogue with Russia could be addressed only if Moscow demonstrates true readiness to discuss and implement arms control and confidence-building measures in Europe. In the meantime, maintaining cohesion among NATO members is essential. Any future discussion on arms control should respect the fundamental principles of the European security architecture.

There were calls to review or ignore some basic principles, as well as to avoid linking the discussion to the territorial disputes in order to overcome the political difficulties and stimulate a more effective dialogue. This approach echoes some earlier failed attempts to reinvigorate the arms control dialogue; it refers to the burdens imposed on promoting new initiatives by the lingering disputes and frozen conflicts.[21] Revision of the indivisible security principle in the Euro-Atlantic area has also been proposed as a means to avoid difficulties.[22]

When advancing its "proposals" – or essentially, its ultimatums – in December 2021, Russia appealed to two basic principles of the OSCE's so-called Helsinki Decalogue. First, a commitment to indivisible security. Second, a refusal to strengthen one's own security at the expense of other countries. NATO allies and Russia – but most likely all the OSCE states – should refine those core principles in order to eliminate the diverging perceptions of the underlying concepts. There have been some earlier attempts to do so (e.g., the Corfu Process), yet inconsistencies remain.

In Moscow's opinion, indivisible security means that it has the right to veto any decision that may have an impact on security in Europe, as well as that of Russia's neighbours to the

[20] Elena Chernenko and Anastasiya Dombitskaya, "Из-за чего Россия отказалась передавать государствам ОБСЕ данные о своих вооруженных силах [Why Russia refused to transfer data on its armed forces to the OSCE states] ," *Kommersant*, 10 March 2023.

[21] Wolfgang Richter, "Return To Security Cooperation In Europe: The Stabilizing Role Of Conventional Arms Control," *Deep Cuts Working Paper* No.11 (September 2017).

[22] Peter van Ham, *Modernizing Conventional Arms Control in the Euro-Atlantic Area* (The Hague: Netherlands Institute of International Relations Clingendael, September 2018), 22.

east and the south. Russia has itself breached the second principle and has traditionally sought to surround itself with "buffer zones." It is worth repeating that the Kremlin's claim that the Baltic states strengthen their defence at Russia's expense is nothing but absurd.

At present, there is no strategic incentive for a new conventional arms control regime that would also be accepted by all sides. A revival of the CFE treaty is unlikely, yet the treaty remains on the table waiting for Russia to come back. The OSCE participating states have been trying to rescue the remaining elements of the European security architecture that are still viable. The majority believes that any new arrangements should build on the existing instruments. No one knows how to approach arms control right at this moment. And some states will not return to the negotiating table until Russia has changed its behaviour.

At present, there is no strategic incentive for a new conventional arms control regime that would also be accepted by all sides

Hence, discussions dwell on the issues that are believed to be a more realistic way forward: risk reduction, transparency, and de-escalation. The focus is on confidence-building, strengthening the Vienna Document, enhancing military transparency, and improving the verification mechanisms. Additionally, the Structured Dialogue has been seen as an incubator for ideas to address threat perceptions, conflict scenarios, and new technologies.

No OSCE member state, however, would like to see the organisation's demise as it anchors the very framework of arms control in Europe. Russia, too, has signalled that it needs the OSCE – although mostly for the propaganda purposes. There is, nevertheless, some hope that the OSCE could still deliver despite the paralysis of its conflict prevention mechanisms and bodies. The OSCE can monitor peace and assume other post-conflict roles via field missions. The OSCE has a toolbox and an added value to promote future security arrangements, yet it will have to wait for the war to end.

2. Developments to Follow

2.1. The INF Treaty

Signed between the US and the Soviet Union in 1987, the Treaty on Intermediate Range Nuclear Forces (INF) was an important element of European security architecture.[23] The Treaty had global significance as it eliminated, in a verifiable manner, the whole category of ground-launched missiles. Success of this arms control instrument was guaranteed by a verification mechanism that had been in place until 2001. After that, violations became easy; eventually, disputes about Moscow's compliance appeared. The US made the decision to withdraw from the Treaty in 2019 based on the evidence corroborating that Russia had deployed cruise missiles (9M729/SSC-8) prohibited by the Treaty.

The INF Treaty banned ground-launched shorter- and intermediate-range ballistic and cruise missiles with a range of 500 to 5 500 kilometres. It did not, however, regulate sea- and air-launched nuclear (or dual-use) missiles within this range. Air-launched missiles were covered by the START Treaty. The issue of sea-launched ballistic missiles was solved when the US removed nuclear weapons from its surface fleet under the Presidential Nuclear Initiative (PNI) and cruise missiles from attack submarines in 1994. In 2013, the US removed the W80 nuclear warheads from its Tomahawk cruise missiles.

No state has any restrictions concerning shorter- or intermediate-range missiles after the INF Treaty effectively expired. Moreover, the technology that the US and Russia had to eliminate under the Treaty has been extensively proliferated to third countries since 1988. An increasing number of countries are either developing or have already developed and even deployed such weapon systems.

[23] See also Part II: Ian Anthony, "The Future of Arms Control: A War or An Agreement?"

Russia's president first hinted at the possibility to withdraw from the INF Treaty in 2007.[24] At that time, his remarks did not catch much attention, and Russia continued to formally observe the Treaty (although the scope of its regulation was not broadened). The US government did signal its interest in broadening the scope of the INF Treaty. However, following a joint statement at the UN General Assembly that affirmed the nations' adherence and called upon other states to eliminate their medium-range missiles, neither Russia nor the United States made any efforts in that direction.[25]

Intermediate-range nuclear-armed cruise missiles could serve as backstop in conventional aggression and have a deterring effect on NATO's response and ability to reinforce the eastern flank

It was evident that no third country was particularly enthusiastic about giving up their intermediate range missiles either. The US and Russia were both concerned about China's development and deployment of short- and medium-range nuclear capable missiles, while they were constrained by the INF Treaty from developing and deploying even conventional missiles.[26] Nevertheless, China described the US' withdrawal from the Treaty as "another negative move by the US that ignores its international commitments and pursues unilateralism."[27]

In the meantime, Russia opted to develop and deploy ground-launched missile systems (9M729/SSC-8) on its European territory in secrecy in order to address its deficiency in capabilities. The US and its NATO allies considered Russia's steps to be in direct violation of the INF Treaty. According to the expert estimates, this mid-range cruise missile is dual-capable, and so are other new platforms developed by Russia to deploy in regional conflicts. Absent any commitments under the Treaty, Russia was able to expand and enhance its conventional mid-range strike capabilities, in which its military developed a strong interest, as well as use additional means of nuclear coercion.

Russia's deployment of intermediate-range nuclear-armed cruise missiles – that are capable of short warning strike against targets in Europe from the Russian territory – is a challenge to strategic stability and a serious concern for NATO. These weapons could serve as backstop during a conventional aggression in the region and thus have a deterring effect on NATO's response and ability to reinforce the Alliance's eastern flank.

NATO's defence ministers decided to offset this threat with conventional measures and confirmed that the Alliance had no intention to deploy new land-based nuclear missiles in Europe.[28] The deployment of similar range nuclear-armed weapon systems on NATO's territory would be a politically sensitive issue and would cause divisions among the allies. The dual-track approach that was used in the 1980s – and ultimately produced the INF Treaty – cannot be replicated in the present-day conditions. The US and the European allies do not wish – and do not have the capabilities – to replicate the 1980s scenario. Furthermore, NATO Secretary General confirmed that the Alliance had neither an intention to mirror what Russia was doing nor a plant to deploy nuclear capable missiles in Europe.

Indeed, Russia has proposed a moratorium on the deployment of the INF-range missiles in Europe. Yet NATO has serious doubts with regards to Moscow's credibility. Moreover, the proposal dismisses the reality of such weapons already deployed on the ground. Russia later

[24] President of the Russian Federation, *Speech and the Following Discussion at the Munich Conference on Security Policy* (Munich: The Kremlin, 10 February 2007).

[25] U.S. Department of State, *Joint U.S.-Russian Statement on the Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles at the 62nd Session of the UN General Assembly* (Washington, DC: Office of the Spokesman, 25 October 2007).

[26] Bates Gill, "Exploring post-INF arms control in the Asia-Pacific: China's role in the challenges ahead," *IISS*, 29 June 2021.

[27] Chinese Foreign Ministry Spokesperson Hua Chunying, "Withdrawing from the INF Treaty is another negative move of the U.S. that ignores its international commitment and pursues unilateralism. Its real intention is to make the treaty no longer binding on itself so that it can unilaterally seek military and strategic edge." See: Shervin Taheran, "Select Reactions to the INF Treaty Crisis," *Arms Control Association*, 1 February 2019.

[28] "NATO Defence Ministers to address key security challenges," NATO, 25 June 2019.

supplemented its proposal with an offer to remove its new ground-based intermediate-range nuclear missile from Europe under verifiable conditions, thus underpinning the moratorium on such missiles in Europe.

President Donald Trump announced the US' withdrawal from the INF Treaty on 1 February 2019, citing Russia's violations and pointing at the third countries – specifically, China and Iran – that possess the INF-range missiles. China is believed to potentially have the world's largest arsenal of short- and medium-range missiles at present.

Similarly, the termination of the INF Treaty enabled the US to deploy conventionally armed intermediate-range missiles in the Asia-Pacific region.[29] This does not necessarily mean the return of America' nuclear-armed theatre strike systems to Europe but rather creates a possibility to develop and deploy advanced conventionally armed systems should the need arise.

The US decided to restart its nuclear-armed sea-launched cruise missiles (SLCM-N) programme – with a potential to deploy them on attack submarines – after credible evidence had surfaced testifying to Russia's non-compliance. In particular, Moscow was accused of having deployed nuclear-capable land-based cruise missiles in violation of the INF Treaty.[30] The US programme had to address the build-up of theatre-range nuclear capabilities by Russia and China. It was meant to fill the deterrence and assurance gap pertaining to the limited first use by adversaries. The programme also had to send a message of the US' long-term regional nuclear presence, without exceeding the New START Treaty limits.[31]

The 2022 Nuclear Posture Review, drawn by the Biden administration, however, discontinued this programme, thereby leaving the US with less options to address the increasing nuclear threats at the regional level. In addition to losing the option to bolster its extended deterrence, the US risks losing a strong leverage to negotiate limitations or reductions of theatre-range delivery systems in the post-INF world. The lesson from the initial INF Treaty talks of the 1980s was that a bargaining chip was the key to successful negotiations.[32]

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In the meantime, Russia has deployed new dual-capable platforms that provide diverse options for deterring adversaries and controlling escalation.[33] These modern nuclear-capable delivery systems – serving as an escalation management instrument in regional conflicts of the future – have lowered the nuclear threshold. The end of the INF Treaty accelerated this development. In addition to the 9M729/SSC 8 ground-launched cruise missile, Russia has diversified its nuclear capabilities with a variety of intermediate-range delivery systems – including ALC(B)Ms and SLCMs – that are not ground-launched and, therefore, not banned by the INF Treaty. The risk taken by Russia, while developing non-compliant land-based systems, was worth taking at least partially due to the higher mobility and lower cost of such weapons.

Regulating such capabilities presents a serious challenge. A ban on deployment of nuclear-armed missiles would be complicated because of the verification hurdles, whereas separate constraints on both nuclear and conventional intermediate-range missiles would be almost impossible to introduce. (This was the reason why the INF Treaty addressed the delivery systems and not the warheads in the first place.) Therefore, some kind of transparency measures could be the most realistic of the options available.

[29] Alexander Vershbow, "Reflections on NATO Deterrence in the 21st Century," in *Policy Roundtable: The Future of Trans-Atlantic Nuclear Deterrence* (Texas National Security Review, 23 August 2021).

[30] U.S. Department of Defense, *Nuclear Posture Review 2018* (Washington, DC: Office of the Secretary of Defense, February 2018).

[31] John R Harvey and Robert Soofer, "Strengthening Deterrence with SLCM-N," *Atlantic Council*, 5 November 2022.

[32] Steven Pifer, Avis T Bohlen, William F Burns, and John Woodworth, *The Treaty on Intermediate-range Nuclear Forces: History and Lessons Learned* (Brookings, December 2012).

[33] House Armed Services Committee On Strategic Forces, *Statement Of Charles A. Richard Commander United States Strategic Command Before The House Armed Services Committee On Strategic Forces* (Washington, DC: House Armed Services Committee, 1 March 2022).

Advanced technologies in intermediate range missiles (e.g., hypersonic cruise missiles and glide vehicles), which were not covered by the INF Treaty and were being developed as dual-capable by Russia and China, have created additional uncertainty and increased the risk of a nuclear escalation.[34] Their enhanced speed that compresses the flight time, as well as the dual capability that blurs the line between conventional and nuclear weapons, has increased the risk of miscalculation. Regulating hypersonic systems would be even a bigger challenge. Such advanced technologies are expected to affect strategic stability and proliferation.

A separate legally binding regulation – without a corresponding measure on missile defence – is highly unlikely. Stakes are high, and states that develop such capabilities are not interested in giving them up. A moratorium or a test ban are equally unrealistic. Limited transparency measures – such as data exchange and advance testing notification – may be more feasible.[35] Any restriction absent a corresponding limitation on missile defence would be improbable: the value of a hypersonic missile lies in its ability to evade early warning radars and missile defence systems. The problem of the proliferation can be addressed by the export control measures in existence. Confidence-building measures, such as the Hague Code of Conduct, however, may require adaptations.[36]

The New START Treaty allows approaching hypersonic technologies by raising the issue of new strategic offensive arms at the Bilateral Consultative Commission (BCC) between the US and Russia. Hypersonic weapons could be included in the scope of the Treaty. For example, Russia's Avangard hypersonic glide vehicle (HGV) launched from an ICBM is already covered by the New START. The Treaty, however, expires in 2026 and would, therefore, be only a short-time solution.

Dialogue within the New Start Treaty framework is increasingly unlikely due to the frozen contacts between the US and Russia. Before Russia invaded Ukraine, there had been some signals that discussions on the INF-range capabilities could be possible, and some options concerning deployments had been proposed.[37] After 24 February 2022, any progress has become virtually impossible. Moscow ignored Washington's response to its offer on the INF range missiles – an item in the Russian draft proposals on security guarantees delivered on 17 December 2021. The Kremlin treated this issue as part of a larger package that prioritised Russia's fundamental strategic interests in Europe.[38] Moscow's main objective was to pressure the Alliance into concessions, given the US and NATO's concerns about the Russia's intermediate range missiles in Europe.

Current developments in European security could promote the role of nuclear weapons in Russia's regional deterrence. In the context these new delivery systems, Russia's significant arsenal of non-strategic nuclear weapons causes grave concern among the allies. Russia is estimated to have stockpiled up to 2 000 such warheads. It is worth mentioning that the US had eliminated most of its non-strategic nuclear capabilities by the end of the Cold War.

Deployment of nuclear-capable missiles to the territory of Belarus would not have an immediate effect and should be regarded, for the time being, as a nuclear signalling

Deployment of nuclear-capable missiles to the territory of Belarus enhances Russia's nuclear posture in the region. Mostly likely, Moscow would deploy Iskander-M short-range (500 km)

[34] Hypersonic missiles are defined as devices that spend most of their trajectory in the atmosphere at speeds above Mach 5, i.e., more than 1.5 km/s, and which are able to manoeuvre. 'Hypersonic missiles' are distinguished from purely ballistic missiles which spend most of their flight outside the atmosphere.

[35] Tong Zhao, "Going too fast: Time to ban hypersonic missile tests?," *Bulletin of the Atomic Scientists* Vol. 71, Issue 5 (27 November 2015): 5-8.

[36] Emmanuelle Maitre, Stéphane Delory, "Hypersonic missiles: Evolution or revolution for missile non-proliferation and arms control instruments?," *HCoC Research Papers* No. 12 (February 2023).

[37] See also Part II: Ian Anthony, "The Future of Arms Control: A War or An Agreement?"

[38] Elena Chernenko, "В США прекрасно понимают, каких шагов по деэскалации мы от них ждем [The United States is well aware of what de-escalation steps we expect from them]," *Kommersant,* 27 January 2023.

missiles.[39] However, this would not have an immediate effect and should be regarded, for the time being, as a nuclear signalling.[40] NATO's response, in order to adapt to these developments, should entail enhanced defence capabilities, as well as a potential for deployment of American conventional cruise and/or hypersonic missiles to the region. In the longer term, this would motivate Russia to develop an interest in the regulation of non-strategic nuclear weapons.[41]

2.2. Non-Strategic Nuclear Forces

Russia's new missiles – together with its large arsenal of non-strategic nuclear weapons that are not regulated by arms control instruments – have become a serious concern for the US and NATO. The role of these systems in Russia's regional deterrence has increased, building on the variety of new delivery platforms. The risks of miscalculation have also increased due to the entanglement of conventional and nuclear weapons for modern new delivery systems are usually dual-capable.

In fact, there is a disparity between US' and Russia's non-strategic nuclear weapon arsenals, both in types and numbers. The US stockpile consists of about 200 gravity bombs (B-61) in various modifications.[42] The US has removed its tactical nuclear weapons – except for the gravity bombs – from Europe. It has substantially reduced its non-strategic nuclear arsenal guiled by the PNIs. Russia has, apparently, not followed suit.

The PNIs were legally non-binding, unilateral political commitments and, therefore, did not imply any specific verification measures. Russia's operational stockpile of non-strategic nuclear weapons is estimated to be between 1 000 and 2 000 warheads.[43] Russia's efforts to retain these capabilities for its ground forces are inconsistent with its PNI pledge.

According to the US' assessment, however, Russia has not fully adhered to its PNI commitments to eliminate all nuclear warheads for ground-based tactical missiles and nuclear mines.[44] Russian officials have made a series of public statements indicating – either explicitly or implicitly – that land-based missiles fielded by Russia's Ground Forces are equipped with nuclear warheads. This is the case of a nuclear-capable version of the 9M723/Iskander, a short-range ballistic missile system.

The United States continued raising its concerns – both in bilateral settings and publicly – over Russia's failure to eliminate all nuclear warheads for its ground-based tactical missiles and atomic demolition mines. However, the US and NATO have no leverage to influence Russia under the PNI, whilst Moscow considers itself free from any commitments in the new security environment.[45]

The US and NATO have no leverage to influence Russia, whilst Moscow considers itself free from any commitments in the new security environment

The US Senate proceeds from an assumption that the next round of talks with Russia should cover all nuclear weapons: strategic and non-strategic. Therefore, any future agreement on nuclear weapons between the US and Russia should cover all these capabilities to secure an approval in Congress. From the US' perspective,

[39] President Putin's announcement (25 March 2023) on deployment of tactical nuclear weapons in Belorussia misleadingly claimed to be mirroring NATO nuclear-sharing arrangement is another step of escalation in a row, and in substance repeats earlier disclosed intentions.

[40] Dan Peleschuk, "NATO criticises Putin's 'dangerous and irresponsible' nuclear rhetoric," *Reuters*, 27 March 2023.

[41] Lydia Wachs, "The Role of Nuclear Weapons in Russia's strategic Deterrence," *Stiftung Wissenschaft und Politik* No.68 (27 November 2022).

[42] Hans M Kristensen and Matt Korda, "United States nuclear weapons," *Bulletin of the Atomic Scientists* Vol. 78, Issue 3 (9 May 2022): 162-184.

[43] Scott Berrier, *Statement for the Record: Worldwide Threat Assessment – 2021* (Washington, DC: U.S. Defense Intelligence Agency, Armed Services Committee, United States Senate, 2021).

[44] U.S. Department of State, *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmement Agreements and Commitments* (Washington, DC: U.S. Department of State, April 2022).

[45] Nikolai Sokov , "The Russian non-strategic nuclear posture: History missions, and prospects," in *Everything Counts: Building a Control Regime for Nonstrategic Nuclear Warheads in Europe, CNS Occasional Paper* No. 55 (Monterey, CA: James Martin Center of Nonproliferation Studies Middlebury Institute of International Studies at Monterey, May 2022).

an agreement with Russia on strategic arms control could rest on combining all nuclear forces (deployed and non-deployed) under one limit, with sub-limits on non-strategic nuclear warheads.

So far, there has been no indication that Russia would agree to such approach. In return, Russia has come forward with its long-standing demands pertaining to basing nuclear weapons on the national territory. It suggested that the US should remove its remaining tactical nuclear weapons from Europe and effectively end NATO's nuclear-sharing mechanism.

Such proposal was already made by the Soviet Union during the INF talks in the 1980s. With the end of the Cold War already in sight, the US then decided, for the sake of compromise, to remove its short-range missiles from Europe. It did, however, leave the gravity bombs in place. Russia knows perfectly well that America's relatively small number of nuclear gravity bombs in Europe has a political significance first and foremost.

The growing importance that the nuclear-weapon states attach to their nuclear arsenals complicates the process and the perspectives of arms control. The proposals made by the US to include non-strategic weapons in negotiations are unlikely to resonate with Russia. Moscow is not interested in discussing the reduction of non-strategic nuclear weapons, given the role that these capabilities have for its regional deterrence and repelling a conventional attack. Years before Russia invaded Ukraine, it had already been clear that a successful dialogue that would produce a binding agreement would be unlikely.

The proposals made by the US to include non-strategic weapons in negotiations are unlikely to resonate with Russia

Nuclear arms control agreements regulate the delivery systems that are (relatively) easier to verify. The problem with Russia's non-strategic nuclear weapons is that their modern delivery vehicles are dual-capable. Verification of warheads has always been the biggest challenge for any nuclear arms deal. A new nuclear arms treaty – that would be acceptable to the US – should cover all nuclear capabilities and be verifiable. A reliable method of accounting the warheads could become a problem.

2.3. The US-Russia Strategic Stability Dialogue

At a summit in June of 2021, American and Russian presidents agreed to launch a strategic stability dialogue. The format was meant to produce an agreement on the issues on which the future talks about strategic arms control would focus. Three more meetings followed in 2021 and revealed that the parties had very different understanding of strategic stability per se. Two working groups were established: the first one dealt with principles and goals of future arms control, the second one discussed capabilities and activities with strategic effect. Russia's full-scale aggression against Ukraine terminated that dialogue, yet both sides appeared to indicate at least some interest in continuing the talks in 2022.[46]

The post-New START Treaty world could have to do without any legally – or even politically – binding agreements on strategic nuclear forces

For Washington, the prerequisite for restarting the dialogue is Russia demonstrating its readiness to resume work on nuclear arms control, as well as to return to procedures of the New START Treaty.[47] The US deems talks with Moscow – on a treaty that replaces the last US-Russia pact limiting strategic nuclear arms – to be useless until inspections of the two countries' nuclear weapons sites have resumed as well. (As of today, inspections have been halted, initially due the Covid-19 pandemic.)

[46] President of the United States, *President Biden Statement Ahead of the 10th Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons* (Washington, DC: The White House, 1 August 2022); Vladimir Isachenkov, "Kremlin Says Nuclear Arms Control Talks Hinge on US Goodwill," *Military.com / Associated Press*, 1 August 2022; "Russia interested in nuclear arms talks with US — Kremlin spokesman," *TASS*, 6 June 2022.

[47] Shannon Bugos and Heather Foye, "U.S., Russia Agree to Call for Negotiating New START Successor," *Arms Control Association*, 8 September 2022.

By the end of 2022, the Russian side had indicated that prospects for any dialogue were rather bleak: arms control was not an indispensable tool and concept in Russia's security thinking. The post-New START Treaty world could thus have to do without any legally – or even politically – binding agreements on strategic nuclear forces.

In 2022, amid tensions over Russia's invasion of Ukraine that plummeted the bilateral relations to their lowest level since the Cold War, talks on resuming the inspections failed to produce any agreement. The impact of the war on the US-Russia nuclear arms control efforts has complicated even the technical-level communications. Russia postponed the meeting of the BCC (the New START Treaty's executive body) scheduled to take place in Cairo on 29 November 2022, which was a clear sign that Russia would not continue dialogue, even in framework of existing instruments.

The US' main interest in a follow-up agreement is to maintain the limits on nuclear warheads and strategic delivery systems, as well as extending it to non-strategic nuclear weapons. The current administration, however, faces a domestic challenge: ratification prospects at the US Senate. Several ideas have circulated – e.g., a legally binding replacement with a scope similar to that of the New START. Whereas all the remaining issues of concern – e.g., non-strategic nuclear weapons – will have to be dealt with during separate negotiations and not be a precondition for ratification. Such an approach, however, would need to secure a provisional approval from Russia, who would certainly expect similar commitments on, for instance, missile defence.[48]

The New START Treaty is set to expire in February 2026. Thereafter, there will be no limits on Russia's deployment of nuclear warheads and the number of delivery vehicles. In the meantime, Moscow is expected to finalise its nuclear modernisation programme. In addition to facing two adversaries – Russia and China – at the same time, the US is at a disadvantage as its nuclear modernisation programme has had a late start.

[48] Linton F Brooks, "The End of Arms Control?," *Deadalus* Vol. 149, Issue 2 (April 2020): 84-100.

2.4. The New START Treaty

The New START Treaty is a legally binding and verifiable agreement that was signed in 2010 and entered into force in 2011. It limits each side's capabilities at 1 550 strategic nuclear warheads deployed on 700 strategic delivery systems (ICBMs, SLBMs, and heavy bombers assigned to a nuclear mission), as well as those on deployed and non-deployed launchers at 800. The treaty does not impose any limitation on the non-deployed ICBMs and SLBMs.[49]

By 5 February 2018, the parties had met the key requirements and continued regular data exchanges and onsite verification inspections. The US and Russia were in compliance with the treaty. Inspections were halted due to the Covid-19 pandemic and were expected to resume in 2022, which did not happen. For the first time, the US' annual implementation report could not certify that Russia was in compliance with the New START Treaty.[50] Having invoked the clause on "temporary exemption," Russia thereby refused to allow the US to conduct an inspection on its territory.

Furthermore, Russia did not comply with its obligation to convene a session of the BCC in November 2022, with the official explanation citing a disagreement on the session's agenda. Deputy Foreign Minister Ryabkov later indicated that the real reason was the climate in US-Russia relations in the context of the ongoing war in Ukraine. Moscow was waiting for changes in Washington's policy to take place as a precondition for resuming contacts on strategic issues, he elaborated.[51]

Moscow tried to proactively put the blame for a potential collapse of the New START Treaty on the US

[49] Daryl Kimball, "U.S.-Russian Nuclear Arms Control Agreements at a Glance," *Arms Control Association*, last modified in October 2022.

[50] U.S. Department of State, *Report to Congress on Implementation of the New START Treaty, Pursuant to paragraph (a)(10) of the Senate's Resolution of Advice and Consent to Ratification of the New START Treaty (Treaty Doc. 111-5) New START Treaty Annual Implementation Report* (Washington, DC: U.S. Department of State, January 2023).

[51] Elena Chernenko, "The United States is well aware of what de-escalation steps we expect from them."

So far, the New START Treaty is the only arms control agreement that Russia has not yet violated. The US' assessment of non-compliance did not mean the Russia was found to be in breach of the Treaty. Moscow rejected the allegations and tried to – proactively – put the blame for a potential collapse of the Treaty on Washington. The Kremlin accused the US of violating the quantitative restrictions and, therefore, being in material breach of the Treaty.[52]

On 21 February 2023, President Putin announced that Russia was suspending its participation in the New START Treaty but not withdrawing from it. He also signalled that Russia might resume nuclear weapon tests.[53] The Kremlin's decision relied on rather weak legal grounds: the Treaty does not provide an option to suspend its implementation – only to withdraw from it. Moscow used a similar pattern with the CFE Treaty when it announced a "suspension" short of a withdrawal. Russia believes that the New START treaty is of high value for the US and that it can force Washington to concede to Moscow's demands.[54]

It is not clear what such suspension of the New START means exactly. When both chambers of the Russian parliament ratified the decision, they may have removed the legal basis for information exchanges and inspectors' access to nuclear facilities. Russia will probably halt any future inspections, discontinue notifications, and stop attending the BCC meetings. The Ministry of Foreign Affairs said that Russia would continue to observe the agreed restrictions on nuclear delivery systems – i.e., missiles and heavy bombers. Moscow will also continue to provide Washington with notifications according to the 1988 US-Soviet Ballistic Missile Launch Notification Agreement (a risk reduction measure that required both sides to notify one another of ICBM or SLBM launches in advance).[55]

The US described Russia's announcement of suspending participation as "deeply unfortunate and irresponsible." The US Secretary of State also reiterated his country's readiness "to talk about strategic arms limitations at any time […] irrespective of anything else going on, in the world or in bilateral relationship."[56] The US analysis interprets Moscow's decision to suspend its participation as legally invalid and considers Russia to be bound by the obligations under the treaty. Hence, Russia's non-compliance with – and the loosely defined suspension of – the Treaty will not stop Washington from fully supporting Ukraine. However, the US stands ready to engage – constructively – with Russia on implementation of the New START Treaty.[57]

The latest developments indicate that Russia's only remaining interest in arms control is to use those last treaties and agreements still in force as a tool of coercion or blackmail. Hardly any engagement with the Kremlin will bear fruit unless Russia has been defeated in Ukraine and thus needs to rebuild its economy and military capabilities.

The latest developments indicate that Russia's only remaining interest in arms control is to use those last treaties in force as a tool of coercion or blackmail

2.5. Engaging China

China has launched an extensive modernisation programme of its armed forces, including their nuclear capabilities. It can invest in new military technologies and develop new weapon

[52] Permanent Mission of the Russian Federation to the European Union, *Foreign Ministry statement in connection with the Russian Federation suspending the Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START)* (Brussels: Permanent Mission of the Russian Federation to the European Union, 21 February 2023).

[53] President of the Russian Federation, *Presidential Address to Federal Assembly* (Moscow: The Kremlin, 21 February 2023).

[54] "West's willingness to take Russia seriously is condition for resuming New START — Kremlin," TASS, 22 February 2023.

[55] Ministry of Foreign Affairs of the Russian Federation, *Foreign Ministry statement in connection with the Russian Federation suspending the Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START)* (Moscow: Ministry of Foreign Affairs of the Russian Federation, 21 February 2023).

[56] U.S. Department of State, *Secretary of State Antony J. Blinken Remarks to the Press* (Athens: U.S. Embassy, 21 February 2023).

[57] U.S. Department of State, *Russian Noncompliance with and Invalid Suspension of the New START Treaty* (Washington, DC: Office of the Spokesperson, 15 March 2023).

systems without being constrained by any arms control agreements. These developments – together with China's geopolitical ambitions and its increasingly assertive foreign policy – are considered by the West to pose a serious challenge to the international security environment.

The Trump administration made some unsuccessful efforts to lure China into joining the international arms control dialogue by referring to the Article VI of the Nuclear Non-Proliferation Treaty (NPT). President Biden's statement to the 10th NPT Review Conference emphasised that China "has a responsibility to engage in talks that will reduce the risk of miscalculation and address destabilising military dynamics."[58]

China has neither history nor experience in arms control and, so far, has shown little interest in participating in any talks, except for the P5 dialogue. Beijing's main argument is that there are states with much larger nuclear arsenals. According to this logic, these countries would have to reduce their nuclear stockpiles – to the level comparable to that of China – before other countries will be interested in joining the negotiations.[59]

Beijing expands its nuclear arsenal that now includes novel capabilities and a massive increase of silo-based ICBM forces. China already has the world's third largest nuclear stockpile. The Pentagon's recent report indicates that China's operational nuclear warheads' stockpile has surpassed 400; if China continues the pace of its nuclear expansion, it will likely have fielded a stockpile of about 1 500 warheads by 2035.[60]

China probably intends to develop new nuclear warheads and delivery platforms that at least equal the effectiveness and reliability of those under development by the US and Russia. The same is true about China's missile systems of the INF-range. It has developed and deployed dual-capable ballistic and cruise missiles of this range. The value that it attaches to these systems in its war-fighting concept explains why China is not interested in discussing any restrictions or limitations.

Chances of getting China to participate in the arms control dialogue are not high. Attempts by the previous administration to influence Beijing to agree to the trilateral talks with the US and Russia – by referring to China's responsibilities as a great power – were futile. In addition, such trilateral talks would have been rather complex, with an overburdened agenda and manifold dynamics in the three countries' relations with each other.

The Biden administration's Nuclear Posture Review states that the developments around China's and Russia's nuclear arsenals "make mutual and verifiable arms control challenging," but it is in the US' security interest to be prepared to engage both governments in order to achieve greater transparency and predictability.[61]

While having concerns regarding China's intentions, nuclear strategy and doctrine, and perceptions of strategic stability, Washington stands ready to engage with Beijing on all strategic issues – i.e., mutual restraint, risk reduction, emerging technologies, and approaches to nuclear arms control.[62] Special attention in the context of China's growing nuclear arsenal is attributed to the expansion of fissile materials. Washington would like to see Beijing declare a moratorium on the production of nuclear material that can be used in nuclear weapons.

Transparency and predictability have been the most valuable benefits of strategic arms control regimes. Russia's suspension of the New START may be a setback in terms of encouraging China to be more transparent regarding its nuclear policies and, at the same time, less interested in pursuing a productive security dialogue with the United States. If the last framework of strategic arms control cooperation collapses,

[58] President of the United States, *President Biden Statement Ahead of the 10th Review Conference.*

[59] Ministry of Foreign Affairs of the People's Republic of China, "Director-General FU Cong's Interview with Kommersant," Ministry of Foreign Affairs of the People's Republic of China, 16 October 2020.

[60] U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China* (Washington, DC: U.S. Department of Defense, 2022).

[61] U.S. Department of Defense, *2022 National Defense Strategy of The United States of America Including the 2022 Nuclear Posture Review and the 2022 Missile Defense Review* (Washington, DC: U.S. Department of Defense, 2022).

[62] U.S. Department of Defense, *2022 National Defense Strategy.*

there will be no impediment for China should it decide to proceed with its nuclear programmes. So far, the New START Treaty has been a moral, political, and technical backdrop against which to engage with China.[63]

If the last framework of strategic arms control cooperation collapses, there will be no impediment for China should it decide to proceed with its nuclear programmes

2.6. Global Nuclear Non-Proliferation Regime

The shadow of war in Ukraine and the heightened tensions among the great powers have strained the international arms control and nuclear non-proliferation regimes. Russia's policy towards Iran's and the DPRK's nuclear activities of has noticeably softened – assuming it has ever been stringent. For instance, Russia declined to vote for further sanctions on those two states at the UN, despite the fact that they had violated several earlier UN resolutions.[64] The West cannot count on Russia's assistance if it hopes to lure Iran back into the Joint Comprehensive Plan of Action (JCPOA) or intensify pressure on North Korea so that it ends its missile launches and nuclear tests.

Both Russia and China have effectively given up on their obligations to implement international sanctions which they had originally voted to approve

Both Russia and China have effectively given up on their obligations to implement international sanctions which they had originally voted to approve.[65]

Having worked well for the last fifty years, the international consensus on nuclear non-proliferation has started showing the first clear signs of crumbling. Meanwhile, a growing number of countries seem tempted to have an indigenous nuclear weapon programme. For instance, South Korea officially put its nuclear option on the table. In January 2023, President Yoon Suk-yeol declared that his country would consider building its own nuclear arsenal if the threat from nuclear-armed North Korea continued to grow.[66] Beijing's policy in East Asia and its military modernisation programmes have contributed to South Korea's and Japan's concerns that China will become their biggest threat in the next ten years. The Biden administration's Nuclear Posture Review (NPR) reassured Seoul that it would be protected against any adversary. Yet the US is not ready to return its nuclear weapons to South-Korea's soil.

The war in Ukraine – amidst which Russia explicitly threatened to resort to its nuclear weapons – has raised speculations about indigenous nuclear deterrence and the value of security guarantees given to Ukraine by the nuclear powers – Russia, the US, and the UK in 1994 and China in 2013. Security guarantees may have been an efficient non-proliferation instrument in the past, having convinced countries to give up their national nuclear programmes, but it has already lost all credibility. Sanctions have been another tool to influence proliferators. Yet they have been overused and thus have had a lesser impact especially now, absent a cohesion among permanent members of the UN Security Council.

The primary challenge to the non-proliferation regime is attributed not only to the lost credibility of its toolkit (even if there is enough political will to use those tools) but to its capacity to deliver, with the list of alleged proliferators getting longer. [67] Were the New START Treaty to collapse, it would send a strong

[63] Rose Gottemoeller, "Keeping New Start alive is vital for the world's nuclear future," *Financial Times,* 31 January 2023.

[64] Richard Weitz, "Russia's War in Ukraine: WMD Issues," *International Centre for Defence and Security (ICDS)*, 27 July 2022.

[65] Tom Keatinge and Aaron Arnold, "Will 2023 be the End of International Sanctions?," *RUSI,* 5 January 2023.

[66] Lauren Sukin, "The US has a new nuclear proliferation problem: South Korea," *Bulletin of the Atomic Scientists*, 19 January 2023.

[67] Ariel E Levite, "Why security assurances are losing their clout as nuclear nonproliferation instrument," *Carnegie Endowment for International Peace*, 29 June 2022; Ludovica Castelli, "Why does Saudi Arabia want to acquire the nuclear fuel cycle?," *Stimson*, 3 March 2023.

signal to other existing – and would-be – nuclear powers. Russia's suspension of the New START and threat of resuming with nuclear tests were steps away from the original objectives of the NPT; they could further incite other nuclear powers to expand their nuclear arsenals and break their long-held commitments not to stage new tests.

The primary challenge to the non-proliferation regime is attributed not only to the lost credibility of its toolkit but to its capacity to deliver

The end of the existing nuclear order may lead to the emergence of what Russia (and China) call a "multipolar world" clustered around global and regional nuclear powers. In this scenario, any country with regional ambitions may wish to acquire nuclear capabilities to secure dominance in its neighbourhood or balance other competing powers.

The NPT regime – or the existing nuclear order – may be undermined by a new disarmament instrument. The Treaty on the Prohibition of Nuclear Weapons (TPNW), also knows as a "ban treaty," came into force in January 2021. The TNPW was initiated by a number of states frustrated by the lack of progress in implementation of Article VI of the NPT on nuclear disarmament. It was a result of successful efforts by the so-called "humanitarian impact movement" that managed to shift the focus onto the humanitarian consequences of nuclear weapons.

Although hastily drafted, the TPNW contains a comprehensive set of prohibitions on any activities related to nuclear weapons. It aspires to achieve a total, irreversible, verifiable, and transparent elimination of nuclear weapons.[68] The TPNW, nevertheless, leaves some important questions unanswered. For instance, how to achieve this goal in a credible manner if the treaty has no verification mechanism? The ban treaty supposes that the participating states should designate a competent international authority that will implement verified elimination of nuclear weapons. Yet the first meeting of the States Parties in 2022 did not establish such an institution.

The ban treaty is closely linked to the NPT, although its supporters and opponents disagree on how it is linked. Critics – who also include nuclear-armed states recognised by the NPT – share the view that the treaty promotes an unrealistic approach to disarmament, which threatens to disrupt the NPT, the cornerstone of the global disarmament and non-proliferation regime. In addition to the implementation dilemma, the TPNW's place in the international non-proliferation framework, which includes to International Atomic Energy Agency (IAEA) in charge of the nuclear safeguards, is not clearly defined either. The ban treaty's safeguard requirements may also be problematic and thus undermine the NPT. As the TPNW lacks a credible verification or monitoring mechanism, some countries may tend to look at public sentiments or try to score political points by 'virtue signalling' when they join the ban treaty but abolish the robust safeguards that were put in place by the IAEA through the NPT process. [69] It, therefore, risks turning into a forum shopping opportunity for nuclear-weapon aspirants.

The nuclear disarmament progress depends on the general security environment, whereas the present-day geopolitical climate precludes any positive developments

The nuclear disarmament progress depends on the general security environment, whereas the present-day geopolitical climate precludes any positive developments. With the role of nuclear weapons in military doctrines growing and nuclear arsenals being modernised, it is difficult to imagine what added value the ban treaty would bring. Seeking to ban nuclear weapons through a treaty that does not engage any state that actually possesses such weapons can hardly be effective.

The TPNW cannot be acceptable to the NPT-recognised nuclear states as it delegitimises possession, stationing, and deployment of

[68] United Nations, *Treaty on the Prohibition of Nuclear Weapons* (New York: United Nations Office of Disarmament Affairs, 7 July 2017).

[69] "Briefing on Nuclear Ban Treaty by NSC Senior Director Christopher Ford," Carnegie Endowment for International Peace, 22 August 2017.

nuclear weapons. Neither can NATO allies that rely on nuclear deterrence for their security agree to it. Should the TPNW come into force, the North Atlantic Council stated that NATO would reject any attempt to delegitimise nuclear deterrence and that NPT would remain the only credible path to nuclear disarmament.[70] NATO has repeatedly conveyed its position on the legal impact of the treaty. It has confirmed that there will be no change in the legal obligations regarding nuclear weapons (according to the general principle of international law, treaties shall not impose obligations on the third parties). The Alliance has also rejected the argument that the ban treaty reflects, or in any way contributes to, the development of customary international law.[71]

Conclusions and Recommendations

Recent developments in arms control have mostly concerned treaty violations, particularly by Russia, as well as withdrawals, suspensions, abrupt terminations, and interruption of diplomatic contacts.

It is increasingly unlikely that the US and Russia would be able to conclude a follow-up treaty when the New START is set to expire in February 2026. There is more than one reason behind such pessimism. First, time has been running out. Second, Russia has been losing interest in the arms control dialogue and has recently interrupted diplomatic engagement. The US Congress and the Biden administration have limited options on how to proceed.

The arms control process – as we know it – is probably about to die

This leads to the conclusion that the arms control process – as we know it – is probably about to die. The future of nuclear arms control may appear different from its past, with historic agreements ceasing to exist. Legally binding, verifiable arms control treaties may be preferred as the most reliable instruments, but they may fail in crisis situations. The war in Ukraine has demonstrated that the use of arms control as a security policy instrument has its limits.

The recent trend in arms control thinking recommends looking at different type of tools, such as political commitments, risk reduction or transparency measures, and principles of responsible behaviour. The efficiency of such measures may be called into question unless there is trust that military transparency or agreed rules will contribute to security. There is some optimism that the new verification methods and technologies may add some credibility to more traditional arms control arrangements.

Developments in arms control depend also on *when and how* the ongoing war in Ukraine ends. Even then, it will take a long time before there is sufficient trust to re-launch the dialogue with Russia.

Only after the war has ended can the arrangements of European security be discussed again, or the pre-February 2022 ideas and initiatives be back on the table. After the war, both Ukraine and Russia will have to rebuild their armed forces, while NATO countries will have to replenish their depleted national arsenals. This may render the discussions on European conventional arms control relevant, so we should better be prepared.

- Any arms control discussions with Russia after the war should avoid any premature engagement and be based on agreed conditionality. Dialogue 'at any cost' can never lead to acceptable results.

- The role of arms control in European security is decreasing, and its renaissance in the near future seems unlikely. There is an understanding among the OSCE participating states that the renewal of European security arrangements should be based on the existing instruments. Therefore, the interim efforts could focus on maintaining the existing arrangements.

[70] North Atlantic Council, *North Atlantic Council Statement as the Treaty on the Prohibition of Nuclear Weapons Enters Into Force* (Brussels: NATO, 15 December 2020).

[71] North Atlantic Council, *Statement on the Treaty on the Prohibition of Nuclear Weapons* (Brussels: NATO, 20 September 2017).

- The European security architecture and arms control have been built on the fundamental principle of "comprehensive, cooperative and indivisible security." This should remain the basis of European security despite the divergent interpretations. Perhaps, another debate among the OSCE participating states could help to refine these concepts and reaffirm their relevance.

- A new approach to the European security architecture should reflect the lessons learned in Ukraine.

- When designing risk reduction, confidence-building, and transparency measures, the main objective should not be to provide some assurances to Moscow. Russia's invasion of Ukraine was not the result of a misperceived threat from its neighbour – or from NATO – and lack of communication.

- Russia's invasion of Ukraine has already created a new security environment and challenged the role of nuclear weapons in Europe. Therefore, maintaining NATO's nuclear deterrence and endorsing possible future deployments of American missiles in Europe should not be a test for allied unity.

- Any future discussion within the Alliance should consider how these new arms control measures will contribute to the security of the Allies. In current security situation, NATO's priority is to deter Russia. This is the only plausible way to create conditions for constructive arms control dialogue in the future.

- The arms control process has nearly become dormant in all settings and on all levels. The experience and skills of arms control experts should not be lost before arms control would be once again on the table. They will be needed, although with new ideas and initiatives.

Part II. A European Perspective

Ian Anthony

1. Regional Arms Race: Challenges and Prospects

Sub-regional arms control arrangements in Europe would only be possible as part of a wider framework developed at a European, regional level. There is no space for stand-alone sub-regional arrangements independent of the wider European strategic framework. Moreover, the European regional arms control process would itself have to be closely aligned with other measures, including those related to nuclear and other unconventional weapons. The discussion of arms control would also have to be linked directly to prudent defence investments and creative diplomacy, working in combination to integrate various actors and lines of effort in response to the Russian threat and the challenge from China.

This is consistent with the Cold War approach to arms control. However, the political and military realities – in both Europe and the world – have fundamentally changed since the last serious discussion of arms control took place.

It is feasible for Russia and the West to craft arms control proposals that would be seen as beneficial by both. However, it will require convincing each other to enter into an agreement. The climactic agreements from the past were possible when the Soviet Union, and then Russia, saw the Western proposals as the least bad option. The objective of shaping operations would be to recreate an incentive structure in which Russia sees arms control as the best of the options on the table.

This chapter attempts to explore whether arms control can still be used to enhance stability if it is part of a balanced approach, combined with other pillars of the European security policy.

1.1. The Decisive Decade

The year 2022 intensified competition between major powers on all fronts. President Joe Biden has described the present as "the early years of a decisive decade" in which dramatic changes in geopolitics, technology, economics, and the physical environment can all be expected.[72] President Vladimir Putin pointed to the coming period as "probably the most dangerous, unpredictable and at the same time important decade since the end of World War II."[73]

The February 2022 call by China and Russia to revise global governance is not in itself new – Russia has been calling for it for well over a decade.[74] However, the joint statement brought it to a new level of assertiveness, with both countries harbouring territorial ambitions.[75] Russia continues to insist on full control over what President Putin refers to as the "new regions of the Russian Federation."[76] China is not ready to confront the United States directly, but a "unification" with Taiwan is framed as a task to accomplish by 2050 – a timeframe set to have the military power to defeat "external attempts to suppress and contain China."[77]

Developments in and around Ukraine and Taiwan have connected the European and Pacific theatres

In addition to rising uncertainty and instability in each region, developments in and around Ukraine and Taiwan have connected the European and Pacific theatres. Although the West is yet to decide whether to confront or

[72] The White House, *The United States National Security Strategy* (Washington, DC: The White House, October 2022).

[73] President of Russia, *Valdai International Discussion Club meeting* (Moscow: The Kremlin, 27 October 2022).

[74] In 2014, President Putin signaled his intention to move to a new stage in challenging the existing order in his speech to the Valdai Club after the illegal annexation of Crimea and aggression in the Donbas. See: Vladimir Putin, *The World Order: New Rules of the Game or a Game Without Rules?* (Sochi: 22 November 2014).

[75] President of Russia, *Joint Statement of the Russian Federation and the People's Republic of China on International Relations Entering a New Era and the Global Sustainable Development* (Moscow: The Kremlin, 4 February 2022).

[76] President of Russia, *New Year Address to the Nation* (Moscow: The Kremlin, 31 December 2022).

[77] "Transcript: President Xi Jinping's report to China's 2022 party congress," *Nikkei Asia*, 18 October 2022.

accommodate the Sino-Russian demands, the United States believes that China is "the only competitor with both the intent to reshape the international order and, increasingly, the economic, diplomatic, military, and technological power to advance that objective."[78]

European nations will have to (re)generate sustainable combat power as part of a fundamental review of their collective security in the coming decade

The US military power remains indispensable to security in Europe. Yet the US allies and partners have already been put on notice that – in roughly a decade from now – they must be ready to carry the main burden should it be necessary to respond to new Russian aggression. European nations will thus have to (re)generate sustainable combat power as part of a fundamental review of their collective security in the coming decade.

Globally, Europe is the only region that has created and maintained an integrated conventional arms control architecture. However, the existing system has failed to achieve its main goal – i.e., preventing a relapse into the military confrontation that defined the Cold War. Nonetheless, arms control could never bear the full weight of managing security challenges. More responsibility probably falls on the neglect of other instruments, such as prudent investment in defence and creative diplomacy.

1.2. The Main Lessons Learned

In the early 1990s, an integrated set of Europe-wide agreements were negotiated, thereby marking a transition from confrontation to cooperation. Legally binding restrictions on conventional armed forces and troop levels were established by the 1990 Treaty on Conventional Armed Forces in Europe (CFE) and the 1992 Concluding Act of the Negotiation on Personnel Strength of Conventional Armed Forces in Europe (CFE-1A Agreement). A binding and verifiable set of confidence- and security-building measures (CSBMs) were established by the 1990 Vienna Document on CSBMs. The 2002 Treaty on Open Skies created another legally binding commitment: to facilitate overflights of sovereign territory for enhanced transparency.

In 1994, the Clinton administration resolved an internal dispute over NATO enlargement in favour of accepting new members. In five years, the Czech Republic, Hungary, and Poland were invited to join; Membership Action Plans (MAPs) were agreed upon with another seven countries. President Bill Clinton was convinced that consolidating new democracies and promoting deeper democratization would be the main pathway to security and stability in Europe. The US Department of Defense (DoD) argued that improving relations with Russia was more important for America's national interest: nuclear arms control agreements would reduce the only existential threat facing the country.

In the late 1990s, the prospects for additional regional and sub-regional arms control measures were linked to NATO's decision to accept membership applications from Central European countries. In Washington, the inter-agency compromise meant that enlargement would be balanced by the proposals tailored to Russian security concerns. Hence, Moscow received assurances from the Alliance: first, in form of a political declaration that was then followed by the NATO–Russia Founding Act.

The 1999 Agreement on Adaptation of the Treaty on Conventional Armed Forces in Europe (also known as the Adapted CFE Treaty) intended to move beyond the bloc-to-bloc logic. It introduced binding regulations on national and territorial holdings of treaty-limited items. It was open for the states that were not part of either NATO or the Warsaw Pact to join as well. NATO's political declarations illustrated the new approach to ceilings – a longer-term tendency to reduce the aggregate number of alliance forces even further below the permitted level. Individual states, too, made statements to that effect.

NATO proposed specific stabilising measures that would require Russia's consent to adjust territorial 'ceilings.' No additional permanent

[78] The White House, *The United States National Security Strategy*.

stationing of substantial combat forces was envisaged; increasing the number of foreign troops would require a parallel reduction in national holdings of treaty-limited equipment to remain within the territorial ceiling. The adapted treaty preconditioned that those foreign forces and treaty-limited equipment could only be stationed on the territory of a party with an explicit consent of the host or a relevant resolution of the UNSC.

Only four states have ratified the CFE Treaty. The first two were Belarus and Ukraine, followed by Kazakhstan and Russia. The latter subsequently suspended its ratification; in 2007, Moscow announced that it was no longer bound by it. Georgia and Moldova withheld ratification until Russian forces would have withdrawn from their national territories – a position supported by NATO members and the main reason why the CFE Treaty never entered into force.

There were important amendments to the Vienna Document in 1999 when the revised treaty added a chapter on regional measures. It encouraged states "to undertake, including on the basis of separate agreements, in a bilateral, multilateral or regional context, measures to increase transparency and confidence." Amidst the revision, an active discussion unfolded over potential regional measures. Separately, Belarus concluded some bilateral agreements with its neighbours to increase military transparency. Several maritime CSBM arrangements were created in the Black Sea region in 2000 and 2001.[79]

Through the CFE and CFE-1A Agreement, it was possible to verify the post-Cold War reductions in conventional armed forces in Europe. However, the most important was the shift towards "hard power" in political relations. Reductions in armed forces quickly dropped far below the ceilings mandated. Nations were collecting the peace dividends and revising their defence strategy and planning, as well as cutting their military spending and investments in defence industries, research, and development.

[79] Ian Anthony, "Reducing Military Risk in Europe," *SIPRI Policy Paper* 51 (June 2019); Ian Anthony, "Can Confidence and Security Building Measures (CSBMs) help manage European crises?," *European Leadership Network*, 10 May 2022.

1.3. Regional Discussions

Although framed as seeking a win-win opportunity, regional proposals mainly advanced national security objectives.

For Russia, the priority was to construct a viable alternative to block the enlargement of NATO as domestic opposition pressured President Boris Yeltsin to walk back his – admittedly reluctant – consent to the principle. In Belarus, President Lukashenko was more direct in his resentment of any enlargement but also cautious about Russia's initiatives that exploited the issue to promote the Union State.

Under President Leonid Kuchma, Ukraine was seeking a more balanced approach with a 'multi-vector' diplomacy intended to stabilise relations with Russia and open opportunities to cooperate with countries in central Europe. The Friendship and Cooperation Treaty and an agreement on the Black Sea fleet proceeded in parallel with the Charter on Distinctive Partnership with NATO.

In 1997, Russian initiatives – incorporated in the Long-term Baltic Policy Guidelines – offered a regional security package to the countries that were (at that time) not members of NATO. That package contained:

- bilateral Russian security guarantees;
- a 40% cut in certain Russian infantry and naval forces in north-western Russia, including Kaliningrad;
- hotline communications between the military commander in Kaliningrad and their counterparts in the Baltic states;
- reciprocal visits to military bases and warship port visits;
- an initiative for joint military policing of the airspace in the Baltic states, as well as parts of Finland, Poland, and Russia;
- joint exercises for military transport aviation and search and rescue vessels, and in preparation for cases of natural and man-made disasters.

Russia also advanced proposals for a Northern European regional security system that could include several types of confidence-building measures: economic, environmental, and humanitarian.

For the Baltic states and Poland, the main priority was to limit the negative fallout after joining NATO. Russia proposed that joining the CFE Treaty in its adapted form could be a condition – something Moscow had previously proposed at the time of the first post-Cold War enlargement. The Alliance rejected that suggestion. Support for accepting legally binding restrictions on foreign force deployments that the adapted CFE Treaty would require waned further despite the proposals (never worked out in detail) for compensatory commitments from Russia on force levels and non-deployment of nuclear weapons in Kaliningrad.

Nordic countries also contributed with some ideas regarding measures to strengthen cooperative security in the Baltic Sea, including a more prominent and operational role for the United Nations. Their proposals mainly focused on the environmental legacies of the Cold War: cleaning up toxic chemicals, radioactive materials, and nuclear waste, as well as safe and secure decommissioning of nuclear-powered naval vessels. Non-military initiatives were an attempt to promote a region where no military threats were either perceived or envisaged.

Finland and Sweden joined the EU in 1995. By 1999, the EU appeared to be designing far-reaching plans for enhanced military cooperation based on the Anglo-French agreement that the EU must have the capacity for autonomous action, which would be backed up by credible military forces, means to use them, and a readiness to do so. The Helsinki Headline Goals envisaged a substantial force to be deployed for an extended period. Finland and Sweden abstained from any discussions of the next steps in arms control, in part to avoid any decision that could put constraints on the EU's plans.

No country achieved what it had hoped for with the initiatives taken in the late 1990s and early 2000s

No country achieved what it had hoped for with the initiatives taken in the late 1990s and early 2000s. Russia failed to block the accession of the Baltic states to NATO. Poland and the Baltic states did not ease the Russian opposition to their NATO membership. Only Finland and Sweden had some limited success in promoting cooperation and lowering military tensions.

1.3.1. Bilateral Arrangements and Lessons from the Past

Alongside the effective rejection of the regional arms control proposals that could freeze enlargement or reduce NATO operational flexibility in legally binding agreements, some limited CSBMs were part of the overall effort to reassure Russia through political engagement and pragmatic cooperation.

Bilateral CSBMs established in Northern Europe in the early 2000s did appear to have had limited but positive effects for an extended period. For example, additional inspections and regular meetings between Belarus and its neighbours provided a forum where Minsk could brief on the Zapad strategic military exercises – which Russia was reluctant to do. Norway and Russia used their bilateral incidents at sea agreement (INCSEA) as a forum to review events that could have escalated politically.

Positive engagement with Belarus was perhaps enabled by Russia's distraction in the face of, for example, a serious financial crisis, the diversion of military security attention to the North and South Caucasus, and the emergence of mass impact terrorist organisations and separatist movements.

Bilateral arrangements between Belarus and Ukraine were progressively eroded by domestic factors. For example, domestic opposition in Lithuania to the construction of a nuclear power plant in Belarus effectively suspended military-to-military contacts. However, the changing dynamic of relations between Belarus and Russia was probably the central factor as President Putin made a more determined effort to head off any attempt to 'go West' by whatever means necessary. The brutal suppression of political opponents by President Lukashenko in 2020 consolidated dependence on Moscow and put

an end to consultations emerging between senior officials of Belarus, Poland, Ukraine, and the United States.

Some broad conclusions can perhaps be drawn based on the sketch of how arms control developed at regional and sub-regional levels at the time when it was possible to reach such agreements – including those that never entered into force.

Arms control is not a substitute for defence or diplomacy, and all three need to work in combination to achieve tangible results

Arms control is not a substitute for defence or diplomacy, and all three need to work in combination to achieve tangible results. When diplomatic efforts began to crumble, and political relations deteriorated, the arms control framework by itself was not enough to prevent the relapse into more traditional ways of thinking about security.

The Cold War-era arms control sought military gains – reducing vulnerabilities by restraining adversary forces and increasing advantages by denying capabilities. The search for an approach less directly tied to the challenge posed by an identified adversary ultimately proved futile.

For the United States, the importance of defending the homeland from a nuclear attack will always influence measures intended to reassure European allies. The need for 'Russia handling' applies across the US political spectrum.

Russia always valued the leverage created by a direct military presence in the post-Soviet space much higher than any potential benefits of mutual self-restraint

The breakthroughs that led to key agreements reflected exceptional political circumstances, while Russian consent was always temporary. Even facing multiplying economic, political, and internal security challenges, Russia always valued the leverage created by a direct military presence in the post-Soviet space much higher than any potential benefits of mutual self-restraint.

1.3.2 Strategic Context

From the brief sketch above, it is clear that there have been some important changes since the last time regional arms control was discussed seriously.

- **Baltic states** are members of NATO, not applicants. Their clear priority is to ensure the timely implementation of the measures agreed upon in successive NATO summits to restore sustainable combat power. More broadly, whereas NATO is open to a "meaningful dialogue and engagement with Russia, to seek reciprocal transparency and risk reduction," those efforts "will not come at the expense of ensuring NATO's credible deterrence and defence."[80] Regional initiatives will be judged against the benchmark of whether they might interfere with, or slow down, what is seen as prudent investments in defence and deterrence.

- **Finland and Sweden** are committed to becoming full-fledged members of NATO as soon as possible. The main priority will be to safeguard decisions to restore the effectiveness of their national armed forces and enhance military preparedness. Finland and Sweden have been working to deepen their bilateral cooperation and to strengthen 'minilateral' military cooperation in Northern Europe, so neither country would want any regional measure to hinder this progress.

- **Belarus and Ukraine** have also changed their national positions. The efforts by Belarus to create more room for manoeuvre in relations with Russia and the West have, at least for now, ended. Moscow is making use of President Lukashenko's dependence to push forward its plans for military integration. Now, Russia has essentially free use of the territory of Belarus – to the point where Minsk agreed to facilitate the invasion of Ukraine.

[80] North Atlantic Council, *Warsaw Summit Communiqué Issued by the Heads of State and Government* (Warsaw: the North Atlantic Council, 8-9 July 2016).

- **Ukraine** no longer holds a balanced position or a multi-vector approach. As late as mid-September 2022, a report co-authored by the Head of the Presidential Administration in Ukraine, Andrii Yermak, recommended a Kyiv Security Compact that stopped short of NATO membership while seeking more effective security assurances. However, less than two weeks later, Ukraine requested an accelerated accession to NATO to fulfil a 2008 promise of eventual membership in the Alliance; the country achieved the EU candidacy status in 2022.

Reasonable objectives and realistic expectations for regional measures would have to be established today in the prevailing conditions where states are, first and foremost, interested in what they see as prudent investments to strengthen their military capabilities.

1.4. Changing Military Realities in Europe

It is not yet possible to say with confidence how the war in Ukraine will progress. Scenarios stretch from a widening and escalation of the conflict, potentially drawing in other European countries and the United States, to a protracted stalemate after which Russia can achieve some of its primary aims through negotiation.

The recent experience – not only in Europe but also from China's use of grey zone tactics at sea in the Pacific – has re-evaluated the application of different instruments of national power and influence. President Putin has staked his future on the Ukrainian state collapsing. Even if active fighting stops, Ukraine and Russia will be in an indefinite period of neither war nor peace, in which sabotage, hybrid measures, and cyberattacks will be common.

Russia's further annexation of Ukrainian territories results in a permanent threat of new upsurges and hostilities, with each side determined to recover the lands they consider to be under temporary occupation. For the time, being the military factor in the Diplomatic, Information, Military, Economic (DIME) constellation is the decisive element.

Major investments by Ukraine and Russia in building, or rebuilding, their armed forces can be anticipated. It is, however, far from capturing the totality of changing military realities in Europe.

1.4.1. NATO

The response to the war in Ukraine does not translate directly into the anticipated response to an attack on NATO. It does, however, raise one question: how collective is collective defence? At some levels, the united response to Russian aggression has been exemplary. Nonetheless, the war has revealed several important shortcomings: the degree of risk that Allies are willing to accept when responding to aggression; the degree to which fear of escalation drives attitudes to Russia; and the sense of urgency around the need for European states to develop a sustainable combat power.

NATO has a new force model that is ambitious in scale but not easy to deliver. According to the SIPRI's data, the countries that could move the needle most quickly to contribute to European combat power (France, Germany, and the UK) are also the countries that have slowed down – or even reversed – the increases in defence spending that took place between 2016 and 2020. The countries that have made the strongest commitment are in Northern and Central Europe, yet these countries have smaller economies.

In the war in Ukraine, the most advanced and some very old-fashioned military capabilities have been used in combination. Unmanned air vehicles (armed and unarmed) and precision-guided weapons have been used alongside a more traditional combination of heavy artillery, infantry assault, and entrenchment in defensive positions. The importance of sustainability in preparation for an extended conflict has also been accentuated. High volumes of ammunition, fuel, and energy are consumed daily, stretching logistical support and communication capabilities.

The defence industrial capability of the European members of NATO has dramatically scaled back after the Cold War ended; the ownership structure has changed, too. Internationalization and private ownership in defence industry mean that companies operate according to commercial logic and will only modify their capacity to produce in

response to binding contracts that guarantee future markets. The capability to regenerate stocks of major equipment and consumable items are stretched.

Military dynamics in the Baltic and Black Sea have reduced the scope for Russian naval activity and increased the salience of the Russian Northern Fleet

The strategic geography in Europe has changed fundamentally. The continental focus of the arms control and CSBM measures reflects the main line of confrontation in Germany. In this new strategic geography, Finland, the Baltic states, Poland, and Ukraine are the frontline states. With Finland and Sweden joining NATO amidst Ukraine's uncertain prospects, there is greater attention to the northern and southern areas of Europe. Military dynamics in the Baltic and Black Sea have reduced the scope for Russian naval activity and increased the salience of the Russian Northern Fleet.

As members of NATO, Sweden and Finland will become anchor states in a strategy to overcome local asymmetries by employing more advanced capabilities. Since NATO continues to profile itself as a defensive alliance, this strategy depends on trading space in order to degrade attacking forces before counterattacking. Finland and Sweden provide the depth necessary to make this strategy viable: their large land mass would help NATO stay in the fight even after short-term reverses.

In Southeast Europe, the United States has bolstered defence cooperation with Greece to facilitate reinforcement and support to new battlegroups being established in Bulgaria, Hungary, Romania, and Slovakia. Turkey has traditionally been seen as such anchor state. However, in recent years, there has been a certain estrangement between Turkey and the United States, as well as between Turkey and many European counties. A further drift in this direction cannot be excluded. If Germany – another key anchor state – were to fail to deliver the military capabilities promised under the *Zeitenwende,* the importance of the northern and southern anchor states would be further amplified.

The progressive integration of Ukraine, which has demonstrated its combat power and national resilience, into Western defence cooperation frameworks is becoming a reality – something Ukrainian Defence Minister Reznikov suggested in his comment:

> Ukraine as a country, and the armed forces of Ukraine, became [a] member of NATO. De facto, not de jure (by law). Because we have weaponry, and the understanding of how to use it.[81]

Unless the unity demonstrated in political declarations by NATO is matched by the delivery on the commitments made, there is a medium-term possibility that collective

Unless the unity demonstrated in political declarations by NATO is matched by a delivery on the commitments, collective defence may be replaced by looser forms of defence cooperation

defence will be replaced by looser forms of defence cooperation. For instance:

- Turkey must deliver on its agreement to allow Finland and Sweden into NATO;
- France, Germany, and the UK must follow through on commitments to increase the resources needed to generate sustainable combat power within a decade;
- the Alliance collectively must advance the process of Ukrainian membership.

The alternative would be stronger cooperation within groups of countries in Northern and Southeast Europe – some inside and some outside of NATO – in each case backed by capabilities that only the United States can provide.

1.4.2. Russia

Russia's campaign in Ukraine dispels the idea that mass can overwhelm a determined adversary (and most certainly cannot do so

[81] "Ukraine is a de facto member of NATO – Reznikov," *Ukrinform*, 13 January 2022.

quickly). Vulnerabilities of large formations – if they concentrate in locations that can be tracked and attacked with modern precision weapons – have been laid bare.

The war in Ukraine has also revealed deficiencies in Russian logistics that make sustaining the tempo of military operations difficult. Bottlenecks and gaps hamper the movement of troops and equipment in offensive operations. The original invasion force was too small to take advantage of any tactical breakthroughs. No second echelon force could be mobilised or moved to where it was needed, partly because of logistic shortcomings.

In a conflict with NATO, Russia would likely rely more on missiles and UAVs, combined with unconventional weapons, rather than gambling on conventional capabilities

Russia's strategy thus switched to the extensive use of missiles and drones to attack civilian infrastructure in an attempt to undermine resistance in the civilian population. The problems Russia has experienced in coordinating and implementing a large operation would be magnified in a conflict with NATO. Therefore, Russia would likely rely more on missiles and UAVs, combined with unconventional weapons, rather than gambling on success with conventional capabilities.

Russia has taken steps to recreate some instruments of a command economy that facilitates the central direction of the industry to meet military targets. In parallel, the defence industry has received assurances of priority access to resources (human, financial, and material) to accelerate production. Since 2010, Russia has invested in regenerating its defence industry, which emphasised import substitution. Yet it is still said to depend on external supplies to produce advanced equipment, precision tools, and micro-electronics. Heavy losses suffered in Ukraine may be difficult to recover. And the status of equipment taken out of storage is uncertain, but the true state of Russia's defence industry is difficult to ascertain.[82]

[82] Congressional Research Service, *Russian Arms Sales and Defense Industry* (Washington, DC: Congressional Research Service, 14 October 2021).

With the exception of Belarus, Russian efforts to consolidate support from the CSTO have failed. As a result, the Kremlin has turned to other sources – notably Iran and North Korea – for military support and assistance, rather than Moscow's formal allies or more traditional partners.

Belarus, on the other hand, has become more tightly bound to Russian military planning, including its missile and nuclear dimensions. Moscow has released missiles such as Iskanders for transfer to Belarus and hinted at its willingness to equip the Belarusian Air Force to join nuclear weapons-sharing arrangements. However, these initiatives may be a further extension of Russian military control over the use of the Belarusian territory – not a genuine commitment to relinquish partial control over the most advanced weapons.

1.5. The Next Phase

Had the political and military conditions been different, what would the Western objectives in any future arms control process be?

- One objective is to prepare for Ukraine's membership in NATO by not only making sure that Russia understands the next enlargement is going to happen but also framing the process in a way that Moscow has a self-interest in ensuring that short-term (associated) risks should be kept to a minimum. An arrangement – perhaps broadly consistent with the Kyiv Security Pact – might be assessed as an interim solution.

As noted earlier, the commitment to increase investment to levels needed to build sustainable combat power will have to be balanced against other priorities. Moreover, that discussion might unfold against the background of an economic downturn. Proposals to limit increases in military spending could combine with a perception that Russia's weakness demonstrated in Ukraine reduces the need for serious investment. The political effect of an arms control process might be to reassure the public that a prudent and balanced approach is being taken.

- Another objective would be to reduce the nuclear shadow, given that there is a persistent asymmetry in nuclear forces. Analysts who believe that China and Russia were emboldened by Western failures in Afghanistan and Syria point to the need to restore the credibility of deterrence. The Russian experience in Ukraine, and the Western response, have perhaps lowered that requirement.

Deterrence is being re-examined, with an emphasis on an approach that is integrated and tailored. Tailoring deterrence means assessing what will deter a specific adversary, so the approach to Russia would be different from the approach to, for example, China, Iran, or North Korea. It could be expected that nuclear weapons will continue to play a prominent role in integrated deterrence in Europe. However, compared to NATO, Russia has more nuclear weapons at its disposal and a different attitude to their use.

The current US administration does not intend to pursue acquiring new nuclear weapons or new nuclear weapon delivery systems, beyond those already in the advanced stage of development. Integrated deterrence is, therefore, mainly focused on linking conventional, nuclear, cyber, and non-lethal weapons in the so-called cross-domain or multi-domain operations.

Extended deterrence will have to balance China-handling and Russia-handling by using nuclear capabilities that are overwhelmingly under the US ownership and control

The US is by far the most important member of NATO in defining nuclear policies and plans. Any future arms control process would have to balance extended deterrence with efforts to develop strategic stability dialogues with Russia and China to safeguard the continental US. In the future, extended deterrence will have to balance China-handling and Russia-handling by using nuclear capabilities that are overwhelmingly under US ownership and control – even if President Macron asserts that French nuclear weapons have a European dimension.

The issue of how (or perhaps even if) Russia should be incorporated into the European security order will have an important impact on how any future arms control process is approached. As of today, intra-Western consultations have failed to produce any clarity. A subsidiary question is related to Belarus. Where would it be in the Western interest to move Minsk towards a territorial concept of national defence and away from integrating offensive capabilities? (The latter being medium-range missiles or nuclear sharing arrangements with Russia.)

Any future arms control process would also begin with some defensive objectives – things that Russia might like to see but that NATO would resist

An approach to any future arms control process would also begin with some defensive objectives – i.e., things that Russia might like to see but that NATO would resist.

- The first, most obvious defensive objective is to avoid any agreement that would hamper the implementation of NATO's recent decisions on the future force model. As noted above, NATO has given political assurances to Russia on force levels in particular parts of Europe. However, proposals such as a special legal regime in specific zones were rejected. Assuming that there is a significant delay in Finland's and Sweden's accession to NATO, any proposal that further complicates or freezes that process would be rejected.

- The second defensive objective would be to avoid extending agreements into areas that complicate or block the development of tailored and integrated deterrence. Proposals to impede the military use of digital communications or space-based sensors might also be put forward by Russia. Given that they have a superficial attraction and are intended to impact public debates within NATO countries, it would require an effective counter-narrative.

It would be in the NATO interest to prevent Russia from building military-technical cooperation relationships to supplement domestic efforts to regenerate armed forces or to acquire militarily significant quantities of weapons that would pose a particularly difficult problem to the alliance. Measures that would complement the effective enforcement of sanctions, a dialogue to prevent Russia from exploiting or building on its existing military-technical partnership with India, and preventing new relationships between Moscow and potential partners in other world regions could all be considered.

1.6. Shaping The Environment

The conditions that would be necessary for ambitious initiatives and fundamental changes to key political relationships currently do not exist. It is possible for Russia and the West to design arms control frameworks that would be seen as beneficial by both. However, there does not seem to be a convincing argument why the putative partner in those kinds of the agreement should consent to them today.

The conditions necessary for ambitious initiatives and fundamental changes to key political relationships currently do not exist

The difficulty in reaching an agreement over one-sided proposals could, in theory, be overcome with balanced trade-offs of offensive and defensive objectives in an integrated framework. However, Russia has recently reverted to the old-style bargaining, in which negotiations are seen as a battleground rather than a partnership. The tendency to seek zero-sum outcomes reinforces the current political conditions that block any opportunity for reciprocity.

Even agreements that might be desirable – if complied with – will be rejected if there is a conviction that another party will not honour those commitments. Overhanging current thinking on future arms control is the recent experience of non-compliance with existing agreements. Advances in sensors, tags, remote monitoring, and forensic science, combined with cooperative monitoring through inspections and visits and supplemented with national technical means, might create an impressive capability for monitoring even activities such as military production that used to be elusive targets for arms control.

There are good arguments to keep working to improve the technical elements of arms control: notably verification methodologies and technologies. These tools could become an element in shaping the prospects for arms control. However, the success of verification used to rest – to a large extent – on cooperative implementation of agreed measures after the Soviet Union (and then Russia) accepted the idea that military transparency had a positive impact. The progressive regression to a position that security depends on secrecy and, in some cases, deception about military plans, programmes, and activities will make it more difficult to have confidence in verification, even when technology has advanced.

For Russia, the agreements of the early 1990s were a means to put a floor under the collapsing military structures when Western countries had no compelling economic or technical reasons to terminate their own military plans. The benefits provided by the agreements were extremely favourable to Europe as a whole and particularly valuable for countries exiting the Warsaw Treaty Organisation. However, the positive effects have degraded over time. Today, positioning for success means shifting the balance of advantage in negotiations in favour of Western states in ways that give Russia (or Russia together with Belarus) compelling incentives to engage seriously.

An extended period of shaping operations is also needed before any new agreements are possible. A combination of military and non-military measures would need to recreate the conditions in which past breakthroughs were achieved.

The plans to recover sustainable combat power – sufficient to deter future aggression or defeat it should deterrence fail – are one element that can help shape the environment in the medium term. The current US administration is committed to continuing to promote solidarity. Consolidating the largest possible group of democracies is another important tool to bridge the division between open and closed

societies. However, it will be essential for the European countries to share both military and political burdens in order to successfully navigate the dangerous, unpredictable, and – at the same time – important decade predicted by President Putin.

2. The Future of Arms Control: A War or An Agreement?

On 17 December 2021, the Russian government published a draft treaty between Russia and the US, proposing that the two states sit together to determine the future of the European security order, and a respective draft treaty with NATO, presented as an instrument to ensure mutual security.[83] Although the December drafts could never become the basis for any agreement, NATO and the US made it clear that one element in there – the revitalization of arms control – could be discussed to avert the immediate crisis at the Ukrainian border Ukraine.[84]

Article 5 of the Russian draft treaty proposed to NATO stated that "The Parties shall not deploy land-based intermediate- and short-range missiles in areas allowing them to reach the territory of the other Parties." The Allies pointed to the growing number and types of Russian intermediate- and shorter-range missiles and launchers while encouraging Russia to "engage seriously with the United States" on ground-based intermediate- and shorter-range missiles and launchers alongside negotiations on non-strategic nuclear weapons.[85]

Article 6 of the Russian draft treaty proposed to the United States stated:

> The Parties shall undertake not to deploy ground-launched intermediate-range and shorter-range missiles outside their national territories, as well as in the areas of their national territories, from which such weapons can attack targets in the national territory of the other Party.

The US, nevertheless, indicated its willingness to begin discussions on "arms control for ground-based intermediate- and shorter-range missiles and launchers" in bilateral strategic stability talks with Russia.[86]

On 17 February, Russia reminded the US that the December proposal was a reiteration of its previous suggestion of "reciprocal verifiable moratoriums" on the deployment of ground-based intermediate-range missiles.[87] That proposal was rejected by NATO because it would leave Russia in possession of a missile force already in the field while simultaneously blocking any Western response.

An agreement focused on missiles was somewhat alluring to both Russia and NATO. However, the January crisis – far from being averted – was a prelude to the Russian invasion of Ukraine. At present, there is no appetite for arms control, yet the war in Ukraine has provided food for thought. How are missiles used in a major European conflict? How they might be defended against? And what are the prospects for the future of their control?

2.1. Russian Missiles in Ukraine

Russia has been making extensive use of conventionally armed short- and medium-range missiles since the early days of the war in Ukraine.

Online open sources indicated that Russia was expending missiles "in the hundreds" in the

[83] Ministry of Foreign Affairs of the Russian Federation, *Treaty between the United States of America and the Russian Federation on security guarantees* (Moscow: Ministry of Foreign Affairs of the Russian Federation, 17 December 2021); Ministry of Foreign Affairs of the Russian Federation, *Agreement on measures to ensure the security of the Russian Federation and Member States of the North Atlantic Treaty Organization* (Moscow: Ministry of Foreign Affairs of the Russian Federation, 17 December 2021).

[84] The White House, *Press Briefing by Press Secretary Jen Psaki and National Security Advisor Jake Sullivan* (Washington DC: The White House, 13 January 2022).

[85] Hibai Arbide and Azamiguel González, "US offered disarmament measures to Russia in exchange for deescalation of military threat in Ukraine," *El Pais*, 2 February 2022.

[86] *Non-paper Confidential // REL Russia Areas of Engagement to Improve Security* (January 2022), via The Cyber Shafarat.

[87] "Russia to send response to US proposals on security guarantees today, says Lavrov," *TASS*, 17 February 2022.

first week following the full-scale invasion.[88] By mid-March, it was estimated that Russia had been carrying out roughly 50 missile strikes on Ukraine per day.[89] Based on the briefings by the US DoD, by the end of April, Russia had fired roughly 1 900 missiles. The main targets for the Russian attacks in the first phase of the war were the Armed Forces of Ukraine: their bases, depots, and military-industrial facilities. Assuming a quick victory, Russia tried to avoid destroying critical infrastructure that might be used by its occupying forces.

Open-source information also suggested that the tempo of attacks with missiles of a longer range fell during the spring and the summer of 2022: from roughly 50 down to 30 per day. The pattern of missile attacks also changed, consistent with the picture on the battlefield. As the Russian offensives were repelled outside Kyiv and stalled elsewhere, Moscow's focus shifted towards Donbas, with fewer strikes against targets in other regions of Ukraine. In October 2022, the pattern of missile strikes changed again, with a significant shift in strategy, this time, towards attacks on critical infrastructure and civilian population centres intended to weaken the resistance of the Ukrainian people.

Russia has an extensive inventory of missiles of different kinds, but those featured prominently in public reports on attacks against Ukraine were: Kh-101 air-launched cruise missile, the Kh-55 air-launched cruise missile, and the OTR-21 Tochka ballistic missile. Russia has also fired cruise missiles from the Black Sea.[90]

The US DoD asserted that the type being expended at the fastest rate was air-launched cruise missiles. Based on information about verified missile launches, the balance between cruise and ballistic missiles, and the estimated depletion of ALCM inventory, it seems reasonable to suggest that Russia had roughly one thousand assembled Kh-101 air-launched cruise missiles when the war started – probably around 50% of the respective total inventory.

> In every other category, ground-launched cruise missiles, short-range ballistic missiles, medium-range ballistic missiles […] they've got a significant majority still left of them.[91]

Based on discussions with experts on Russian force structure, it is estimated that Russia would probably have had an inventory of roughly 1 500 assembled ground-launched missiles of different types available to missile brigades and other units for immediate use. Together with those for the naval platforms, in reserve, or available for testing and training, 5 000 would be a reasonable estimate for the total stockpile of assembled conventionally armed cruise and ballistic missiles at the start of the war.

Russia consumed roughly one-third of the arsenal of assembled missiles at its disposal in the first two months of the war

It should be emphasised that this is a very loose estimate. Assuming that the DoD calculations of the number of missiles fired at Ukraine are broadly correct, it would mean that Russia had consumed roughly one-third of the arsenal of assembled missiles at its disposal in the first two months of the war.

One recent estimate, based on the data provided by the Ukrainian Ministry of Defence, asserted that by the end of 2022, Russia had probably had (approximately) 150 Iskander missiles, 350 Onyx missiles, 250 Kalibr missiles, 150 Kh-555 missiles, 150 Kh-22/32 missiles, 350 Kh-35 missiles left in its inventory.[92]

Russia has a much larger inventory of anti-aircraft missiles, some of which have been adapted to attack ground targets. Since the summer of 2022, Ukraine has reported the use of S-300 anti-aircraft missiles refitted with a GPS guidance system to attack ground

[88] Josh Smith, "Analysis: Russia's missiles see mixed results in Ukraine war as world watches," *Reuters*, 28 February 2022.

[89] Matt Seyler, "Russia ramps up missile strikes on Kyiv as ground forces stall: Pentagon Day 20 update," *ABC News*, 15 March 2022.

[90] Claire Parker, Aaron Steckelberg, Meg Kelly, Razzan Nakhlawi, and Jonathan Baran, "What to know about the long-range cruise missile Russia says it fired," *The Washington Post*, 24 March 2022.

[91] US Department of Defense, *Senior Defense Official Holds a Background Briefing* (Washington, DC: US Department of Defense, 23 March 2022).

[92] "How many missiles Russia has left: Commentary of the Minister of Defence of Ukraine," Visit Ukraine, 23 November 2022.

targets.[93] These missiles are inaccurate against ground targets, suggesting careful stewardship of the remaining arsenal of more capable ground attack missiles.

Although the balance of cruise and ballistic missile strikes has not been specified, evidence on the ground suggests that most strikes have been with cruise missiles. Most Iskander missiles are probably retained in central holdings and yet to be issued to troops in the field. Open sources also suggest that ballistic missiles are now being used sparingly; the Iskander missile has been allocated a nuclear mission.

Iskander missiles are probably retained in central holdings, allocated a nuclear mission, and yet to be issued to troops in the field

In 2018, NATO allies concluded that "Russia has developed and fielded a missile system, the 9M729, which violates the INF Treaty and poses significant risks to Euro-Atlantic security."[94] This missile might also be principally intended to deliver a nuclear weapon.

2.1.1. Replenishing the Inventory

Several public reports have drawn attention to the potential problems Russia may face when trying to restock. One is the dependence on components produced outside Russia.[95] In the early stages of the war, Russia might have moved machine tools and production equipment from plants in occupied parts of Eastern Ukraine into Russia.

Russian missiles of the type being used in Ukraine have been exported to China and Iran. To maintain stockpiles, Russia reportedly requested Iran return some of those missiles.[96]

The US has raised the issue of arms supply to Russia at the highest level with its Chinese counterparts.[97]

External dependencies on important sub-systems, such as turbofan engines, have been eliminated; those engines are now produced in Omsk. Despite being self-sufficient in many things, Russia may still lack the high-level capacity for some more sophisticated items. For example, the only plant that manufactures the 3M-54 Kalibr missiles produces roughly 10 missiles per month. President Putin has stated that the Russian defence industry will have privileged access to resources of all kinds. New legislation has revived some Soviet Cold War practices by which enterprises can be instructed to engage in wartime production.

Recovered missile wreckage indicates the presence of both domestic and foreign electronic components. Comprehensive sanctions and restrictive export controls on Russia might introduce supply shortages in the future but will probably take a long time to bite. Not all component manufacturers outside the West have agreed to implement those either. Moreover, Russia does not operate on a just-in-time approach to arms production and is likely to have stockpiled very large inventories of key components.

Comprehensive sanctions and restrictive export controls on Russia might introduce supply shortages in the future but will probably take a long time to bite

2.1.2. Changes in Targeting Strategy

The changing character of the war that Russia is fighting has had an impact on the number of missiles fired and how the missile forces are used. Since 2010, Russia has expanded the number of conventional missiles that could be used for punitive strikes aimed at sapping the political will of an adversary and coercing the decision-makers. Russia has practiced this

[93] Thomas Newdick, "Russia Now Firing S-300 Surface-To-Air Missiles At Land Targets In Ukraine: Official," *The Drive*, 8 July 2022.

[94] NATO Foreign Ministers, *Statement on the Intermediate-Range Nuclear Forces (INF) Treaty* (Brussels: NATO Foreign Ministers, 4 December 2018).

[95] "Russia will also be unable to restock Kh-55 cruise missiles, which are manufactured in Kharkiv, senior defence sources told The Telegraph," see: Peter McLaran-Kennedy, "Russia low on crucial parts made in Ukraine," *Euro Weekly News*, 2 April 2022.

[96] Iranian drone supplies to Russia are discussed below.

[97] Edward Wong and Julian E Barnes, "Russia Asked China for Military and Economic Aid for Ukraine War, U.S. Officials Say," *The New York Times*, 13 March 2022.

tactic in Syria and now applies it at a larger scale in Ukraine.

This targeting policy might reflect the difficulties that Russia seems to have when attacking mobile targets. In choosing between stationary or mobile and military or civilian targets, the choice now seems to be to attack stationary civilian targets.

The increased focus on a ground offensive in eastern and southern Ukraine seems to put greater emphasis on the use of heavy artillery. However, some older missiles – e.g., Tochka-U that are still operational – have been reportedly used. Tochka-U may be in the right range operationally (50-70 kilometres) for the type of fighting now anticipated in eastern Ukraine.[98]

The more extensive use of long-range rocket artillery and shorter-range ballistic missiles means that Kalibr missiles are reserved for the high-profile targets elsewhere in Ukraine – i.e., to attack infrastructure and to emphasise that no target is out of reach – without depleting stockpiles of advanced (and expensive) weapons where other options are available.

2.1.3. Unmanned Air Vehicles

The use of unmanned vehicles in the war in Ukraine has attracted a lot of attention. Most attention has been paid to UAVs, although unmanned vehicles have also been used at sea and on land.

Ukraine has made extensive use of Turkish Bayraktar TB2, a medium-altitude long-endurance UAV that is both armed and used for surveillance. The limited options for the Ukrainian Air Force to engage in fighting have made the TB2 the primary tool of Ukrainian air power. However, Ukraine (which had a significant aerospace industry before 2014) has made creative use of homemade or adapted UAVs. For example, video footage of the Punisher drone delivering small explosive charges and the DIY quadcopters dropping Molotov cocktails have been spread extensively on social media – partly as a psychological weapon that creates uncertainty for Russian infantry in the field and their families at home. As part of the US military assistance, Ukraine has received Switchblade kamikaze UAVs designed as low-cost anti-armour and anti-personnel weapons that are not yet deployed with the US forces.

Russia has a range of UAVs in use, but these are not thought to be particularly sophisticated. Some are considered vulnerable to jamming, while larger and slower UAVs are vulnerable to ground fire. Russia does appear to have UAVs available in large numbers. Russia has used UAVs in kamikaze attacks on critical infrastructure and also in swarm attacks that overwhelm or distract Ukrainian air defences to open pathways for missile attacks.

Russia has purchased several different UAVs from Iran, and these are being used in Ukraine.[99] They have been used in combination: some allocated surveillance and guidance tasks, and others used as 'kamikaze' weapons equipped with unguided bombs that explode on impact.

The use of UAVs in the war has also highlighted opportunities and limitations of defences. As noted, some UAVs are vulnerable to jammers, for which Ukraine has claimed a high kill percentage against attacking drones. By disabling the more sophisticated Mohajer-6 guidance UAVs that use electronic warfare, the less sophisticated Geran kamikaze attack drones can be blinded. However, the low cost and large numbers of UAVs make swarm attacks a challenge for defences.

2.2. Missile Defence

The extensive use of missiles in the war in Ukraine, as well as how they have been used, has underlined the potential dangers arising out of a recognised NATO capability shortfall in integrated air and missile defence.

The United States is currently assessing how to cooperate with allies and partners to mitigate

[98] The recent attack with a Tochka-U appears to be a missile either armed with a single fragmentation warhead creating a blast 20 metres above ground releasing 14500 shards or armed with a cluster warhead deploying 50 fragmentation submunitions at 2 km altitude, each containing 316 shards.

[99] Ali Bakir and Fatih Ipek, "With Iran's Drones, Russia Looks to Extend War and Costs to Ukraine – and the West," *Arab Gulf States Institute in Washington*, 28 November 2022.

the evolving cruise- and ballistic missile threat in regional scenarios. Moreover, the European Sky Shield Initiative was announced in 2022 as a programme to close gaps in defence against medium and long-range ballistic missiles and cruise missiles owned by Russia. The new assessments include defending the population, infrastructure, and territory of participating states against a spectrum of threats, including UAVs of different kinds.[100]

2.2.1. The Cost of Losing the INF Treaty

The 1987 INF Treaty banned the Soviet Union (and later Russia) and the United States from owning ground-launched ballistic and cruise missiles flight tested to ranges within 500 – 5 000 kilometres. When the INF Treaty was terminated in 2019, it was a cause for regret on political and military grounds.

The Soviet SS-20 missiles that were eliminated under the treaty would have been a significant impediment to NATO reinforcements during wartime. The short-range missiles that were eliminated would have inflicted enormous destruction on Germany in a war. From a NATO perspective, the elimination of many nuclear-armed missiles with the reach to target places across the territory of European allies was undoubtedly welcome.

From a Soviet perspective. the elimination of the Pershing-2 ballistic missile and Tomahawk ground-launched cruise missile removed weapons that would have played an important role in the NATO strategy of flexible response, with conventional and nuclear armaments integrated into a single war plan.

The immediate military impact of the treaty was real but probably should not be exaggerated. Senator Sam Nunn likened the outcome to create the hole in a doughnut, and the parties were fully aware that it was only addressing one relatively small part of the Cold War-era military potential.

Longer-range Soviet missiles and aircraft could still cover the same targets as the eliminated weapons did; the INF Treaty did not mandate the destruction of the warheads removed from missiles that were taken out of inventory. The enormous military potential concentrated in Germany meant that a war would have a devastating impact even after the elimination of (relatively) short-range missiles. Similarly, NATO preserved the long-range missiles, as well as aircraft such as F-111 bombers.[101] The INF Treaty complicated the development of a follow-on to the Lance short-range ballistic missile, but the US negotiators kept air- and sea-launched cruise missiles outside the Treaty.

Changes in Europe arguably make the contemporary military significance of intermediate-range missiles greater compared to the year 1987. The massive drawdown of military capabilities and the change in strategic geography in Europe after 1990 shifted Russian calculations over time about the military utility of ground-launched intermediate-range missiles. The number of viable weapons that could hold NATO forces at risk across the territory of the Alliance became fewer as Soviet forces left central Europe and relocated to Russia; the military arguments for restoring the option of missiles banned by the INF Treaty gained traction.

NATO has emphasised the rapid reinforcement of small forward-based forces. Intermediate-range missiles that can target ports, railway hubs, and airports across the whole of Europe would be difficult to defend against. The missiles underline to NATO allies that Russia could hold them all at risk despite the greater strategic depth provided by adding new members.

Some Russian experts have pointed to the negative military consequences of a new round of NATO missile deployments in Europe because:

> The American Pershing II missiles just about reached Moscow Oblast, the analogous systems, given their future deployment on the territory of new NATO members (Poland, the Baltic countries,

[100] "14 NATO Allies and Finland agree to boost European air defence capabilities," NATO, 13 October 2022. In January 2023 Sweden announced that it would also join the Sky Shield Initiative.

[101] At the time the INF Treaty was signed roughly 1700 US nuclear bombs were stationed in Europe for delivery by F-111, Tornado, and other combat aircraft. More than 2000 non-strategic nuclear weapons of other types were also present as artillery shells and landmines.

Romania, Bulgaria), will render vulnerable all of the Russian territory up to and way beyond the Urals.[102]

The war in Ukraine has demonstrated that today's ground-launched weapons are capable of creating effects by precision long-range fire that only airpower could achieve in the past. Long-range precision weapons that allow the rapid concentration of firepower in a particular place are certainly a key NATO military capability and their successful use by Ukraine will probably reinforce NATO's acquisition and use of conventional ground-launched systems that have already proved themselves in wartime.[103]

The war in Ukraine has demonstrated that today's ground-launched weapons are capable of creating effects by precision long-range fire that only airpower could achieve in the past

After the INF Treaty had expired, the US continued research and development focused on the mobile, conventional, ground-launched cruise and ballistic missile systems, and a Tomahawk cruise missile with a conventional warhead was tested from a ground launcher in 2019. The US Air Force has been exploring the development of next-generation air-launched cruise missiles.[104] However, the response that most concerned Russian analysts is not being considered today, at least not yet.

The United States initiated research into a nuclear-armed sea-launched cruise missile, but the Biden administration abandoned the project in 2022.[105] The US is currently modernising all parts of the nuclear weapon triad, as well as the capabilities required to hold Russian forces at risk long into the future.[106] The current administration maintains that a new SLCM will not add anything to the other available options, but the Joint Chiefs and the US Strategic Command have argued for the missile. Although the administration did not request funding, the US Congress authorised resources to continue the project, which might resurface under the next president.[107]

2.2.2. Political Fallout from Terminating the INF Treaty

The political impact of terminating the INF Treaty is arguably greater than its military significance. The Treaty was a tangible piece of evidence that the Soviet Union and the United States were negotiating such important agreements in good faith. By contrast, the discussion of intermediate- and shorter-range missiles contributed to a downward spiral in relations. The Western discourse around Russian non-compliance emphasised a pattern of behaviour across multiple treaties and agreements that made Russia an unreliable partner.

The origins of the discussion that ultimately led to the INF Treaty were rooted in Germany's concern about the corrosive impact of Soviet missiles on Transatlantic solidarity. The Soviet Union had achieved strategic parity with the United States by the mid-1970s. As a 1983 report to the NATO Special Consultative Group noted, the risk might arise that the Soviet Union "believed – however incorrectly – that they could use long-range forces to make or threaten limited strikes against Western Europe from a sanctuary" because "in the era of parity at the strategic nuclear level NATO lacked credible and appropriate means of response."[108]

[102] Aleksey Arbatov, "Look Before You Leap," *Nezavisimoye Voyennoye Obozreniye Online*, 7 August 2013.

[103] The Estonian decision to buy HIMARS is perhaps an early indication that this is already a lesson learned in NATO. Nicholas Fiorenza, "Estonia orders HIMARS," *Janes Information Group*, 9 December 2022.

[104] Rachel S Cohen, "Hypersonic Attack Cruise Missile Becomes High-Priority USAF Project," *Air & Space Forces*, 13 October 2020.

[105] Andrew Feickert, *U.S. Army Long-Range Precision Fires: Background and Issues for Congress*, R46721 (Washington, DC: Congressional Research Service, 16 March 2021).

[106] Amy Woolf, *U.S. Strategic Nuclear Forces: Background, Developments, and Issues*, Report RL33640 (Washington, DC: Congressional Research Service, 14 December 2021).

[107] Mallory Shelbourne and Sam LaGrone, "Nuclear Sea-Launched Cruise Missile Has 'Zero Value,' Latest Nuclear Posture Review Finds," *USNI News*, 27 October 2022.

[108] *Progress Report on Intermediate-Range Nuclear Forces (INF)*, Progress Report to Ministers by the Special Consultative Group (Brussels, 8 December 1983), 11.

If the United States was protected by strategic nuclear weapons but European states were vulnerable to Soviet missiles, would the US be willing to risk Soviet retaliation against the US homeland in a crisis or conflict? In his public statements, President Ronald Reagan underlined that the purpose of the twin-track decision was "not in itself the deployment of American missiles" and that it "was only to be the means to an end."[109] The objective was to strengthen extended deterrence by reassuring allies.

As noted above, the United States does not plan a symmetrical response to the Russian deployment of nuclear-capable intermediate-range missiles. The ground-launched cruise missile programme that the US is exploring is a conventional weapon, while the new nuclear-armed cruise missile is planned for deployment at sea. If Russia fields missiles with no European equivalent as the US upgrades its insurance by modernising strategic nuclear weapons, could this once again become a corrosive political problem? The somewhat brittle nature of the political dimension of Transatlantic relations during the Donald Trump administration perhaps inflated the concern.

The current nuclear force in Europe partly rests on gravity bombs dropped by aircraft that will likely become increasingly vulnerable as Russia continues to develop more advanced air defences. One outcome of the continuous deterioration in relations between NATO and Russia could be a new intra-alliance discussion around whether the modernization of manned aircraft is sufficient for deterrence provided Russia continues to expand a nuclear-capable missile force.

2.3. Legal Restrictions: Issues and Challenges

More than two years have elapsed since the termination of the INF Treaty, and recovering a legally binding successor agreement would depend on overcoming a significant number of challenges. Some of these are new, while others had already been confronted in the period that led to the original Treaty in 1987.

2.3.1. Establishing a Baseline

The information generated using national technical means (NTM) about a non-compliant Russian missile force was the single most important factor that shaped the discussion over leaving the INF Treaty. In advance of the original agreement on the INF Treaty, one issue that had to be resolved was the discrepancy between the estimated size of missile arsenals, previously produced by NTM, and the declarations made by the treaty signatories. In an atmosphere where neither side trusted the other, the possibility that some deliberately false declarations were used to maintain a clandestine arsenal of weapons was taken seriously.

Establishing an accurate understanding of current inventories would be an essential first step in any future agreement, regardless of whether the objective was to establish ceilings or require elimination. Negotiators would face the problem of how to establish a baseline with confidence since Russia questioned the previous Western assertions regarding missile forces and after several years without any treaty limits in force. As the forces today are much smaller than they used to be the 1980s, the risk that a clandestine arsenal would suddenly be revealed in a crisis might become a more significant issue.

Given the low levels of trust, a future agreement will have to include a verification system at least as intrusive as the one in the original INF Treaty

Given the low levels of trust and the allegations of past non-compliance, a future agreement would probably have to include a verification system at least as intrusive as the one that was part of the original INF Treaty. Verification methodologies and technologies have advanced since the 1980s, and verification lessons will also have been learned from other agreements. The continuity of initiatives – such as the International Partnership for Nuclear Disarmament Verification (IPNDV) – illustrates that a diverse group of states recognise the

[109] President Ronald Reagan, *Remarks at the United States Military Academy in West Point* (New York: Ronald Reagan Presidential Library & Museum, *28* October 1987).

importance of ensuring continuous progress in developing verification capabilities.[110]

2.3.2. Conventional vs Nuclear

The issue of verification would also be central to another dilemma that was already under consideration in the 1980s: whether it was possible to differentiate between missiles based on their payload.

The future impact of conventionally armed cruise missiles would be demonstrated some years after the INF Treaty had entered into force in the international coalition operations to liberate Kuwait following the invasion by Iraq. However, these weapons were already earmarked for an important role in the Follow-On Force Attack (FOFA) concept being introduced by NATO as part of its forward defence strategy. Cruise missiles would have been used to disrupt the rear area of Warsaw Pact forces, slowing down or preventing the arrival of second-echelon forces that could exploit any break in NATO lines of defence. Eliminating US cruise missiles was a key part of Soviet military interest in negotiations, but the US was initially determined to keep conventional cruise missiles out of any agreement.

The US position changed under the combined impact of the two arguments. First, an agreement that air- and sea-launched cruise missiles could be retained opened the door to the complete elimination of all ground-launched missiles. Second, the uncertainty over meeting the challenge of differentiating conventional and nuclear missiles might introduce an unacceptable risk in a crisis. It might have to be assumed that any missiles mobilised were nuclear-armed, thus changing the nature of crisis management. For these reasons, the decision was taken to endorse the zero option of banning all missiles.

In the future, the issue of how to differentiate between missiles that appear very similar based on their payload will be closely linked to the possibility of expanding the scope of arms control to incorporate warheads designated for non-strategic weapons. A more limited focus on the missile delivery systems is unlikely to resolve the risk of misinterpreting a conventional military strike as a nuclear attack.

2.3.3. The Scope of Coverage

Restricting agreements to ground-launched systems was one way to make verification problems more manageable in the past. Both NATO and the US referred to ground-launched systems specifically in their recent responses to Russia's draft treaties. However, NATO also drew attention to the "meaningful arms control discussions and dialogue" with Russia in the context of the "growing number and types of Russian intermediate- and shorter-range missiles and launchers." To that end, NATO encouraged Russia to "engage seriously with the United States" on ground-based intermediate- and shorter-range missiles and launchers alongside negotiations on non-strategic nuclear weapons (discussed further below).

While the concepts of their use were understood in the 1980s, cruise missiles were not yet an important part of military inventories. It is unlikely that the militaries of major powers would be willing to give up conventional cruise missiles today. By 2022, they had become an important part of the equipment holdings of several Western armed forces. Russia has demonstrated an advanced capability by attacking targets in Syria from firing stations as far away as the White Sea. Following the annexation of Crimea, Russia has built a defended bastion in the Black Sea from which missiles could be fired – either from land or from ships – under the protection of land-based air and missile defences.

While changes to the Constitution of Belarus in December 2021 opened the way for the possible deployment of Russian nuclear weapons in Belarus, storing nuclear warheads in Belarus could be complicated provided Soviet-era storage sites are in disrepair.[111] The permanent stationing of Russian nuclear-capable Iskander-M ballistic missiles in Belarus

[110] See the initiative is described at: "Engaging a Diverse Group of Countries to Develop Innovative Monitoring and Verification Solutions," international Partnership for Nuclear Disarmament Verification (IPNDV), accessed in April 2023.

[111] William Alberque, "Belarus seeks to amend its constitution to host Russian nuclear weapons," *International Institute for Strategic Studies* (IISS), 4 February 2022.

might be easier to accomplish. As early as 2007, a former commander of Russian rocket artillery recognised that the range of the Iskander-M ballistic missile – that was tested at ranges below 500 kilometres and, therefore, INF Treaty compliant – could easily be extended.[112] Although Iskander-M missiles have been deployed in the Russian enclave of Kaliningrad for several years, the deployment of an extended-range version in the Western part of Belarus would significantly expand their military impact.

During the negotiation of the INF Treaty, it was understood that the same logic of dual capability applied to cruise missiles launched from land or the sea and that a verification system for sea-launched missiles might be possible to design. However, to preserve the use of conventional sea-launched cruise missiles the United States insisted on excluding all SLCMs from negotiations. The balance of advantage in banning nuclear-capable sea-launched missiles might require a future agreement to satisfy signatories that missiles on ships do not carry nuclear warheads.

2.3.4. Futuristic Weapons

The INF Treaty did not require the destruction of warheads separated from missiles and withdrawn from service – though the mechanism holding the warhead was crushed under verification. A question arising out of this choice was: did the treaty ban weapons or weapon delivery systems? And what was the difference between the two?[113]

The US negotiators were confident that the ban applied to any system tested or deployed to carry a mechanism or device which – when directed against a target – is designed to damage or destroy it.[114] However, the issue was never clarified in discussions with Russia. During the hearings before the ratification of the Treaty, some US Congressmen expressed doubts about whether the text – as written – could constrain future designs.

The discussion had implications for what was, at the time, called futuristic weapons – i.e., a category that included fast, manoeuvrable glide vehicles. They were a technology known at that time but confined to theoretical studies. Could combining a rocket (or other unmanned aircraft) that is not in itself a weapon system with a lethal glide vehicle and does not have the same characteristics as a cruise missile evade the definitions of ballistic and cruise missiles under the INF Treaty?

The armed forces of several countries see these kinds of the system as both an important capability to acquire and a threat to manage. Moreover, their status would be a matter of great interest in future negotiations. When arriving at a future definition, the history of negotiating the INF Treaty could, nevertheless, be a valuable guide.

2.4. A Bilateral Agreement?

At the time when the INF Treaty was being negotiated, the Soviet Union and the United States could reasonably be considered a duopoly in respect of intermediate-range missiles. As noted above, since the treaty was of unlimited duration, the need to future-proof the text against technical innovation was discussed.

In the 1980s, the speculation that new countries would develop and deploy intermediate-range missiles mainly revolved around ballistic missile projects in the Middle East or South America and included cooperation between

[112] Stefan Forss, "The Russian Operational-Tactical Iskander Missile System," *National Defence University Department Of Strategic And Defence Studies Working Paper* No. 42, Series 4 (Helsinki: Maanpuolustuskorkeakoulu, 2012).

[113] When ratification of the INF Treaty was debated the future weapons discussion included laser weapons and other non-kinetic kill systems such as electromagnetic pulses. If the definition of treaty-limited items was based on the range of a platform, how might a range-compliant vehicle with a long-range kill system be classified?

[114] Ambassador Max M Kampelman, "Letter to Senator Claiborne Pell, Chairman of the Senate Committee on Foreign Relations, U.S. Senate," *Congressional Record* Volume 140, Number 67 (Washington DC: 25 May 1994) via the Congressional Record Online.

them.[115] Although such futureproofing could have had a geographical dimension, the Soviet Union and the US were willing to move ahead with a bilateral treaty.

It is not at all clear that the issues of central importance to United States negotiators could be captured in a bilateral treaty.

One of the key features of the INF Treaty was a Soviet willingness to accept asymmetric reductions in missile arsenals. This was partly numerical: the Soviet Union eliminated missiles for which there was no US equivalent, notably the SS-23 short-range ballistic missile. Yet the asymmetry was also geographic. Although France was beginning to test a nuclear-armed short-range ballistic missile, the Hades, with a range close to the lower threshold of the INF Treaty, the Soviet Union agreed to keep British and French nuclear forces outside the negotiations.

Since the late 1990s, there has been some concern about the growing number of intermediate-range missile inventories in East and South Asia, including missile projects in India, North Korea, and Pakistan that made progress in parallel with nuclear weapons tests. China's large and diverse missile inventory was one factor taken into account by the United States when deciding to withdraw from the INF Treaty. It has the potential to become a central concern in any future agreement on intermediate-range missiles.[116] It is not clear whether the US would be willing to accept an equivalent to the original INF Treaty's geographical asymmetry today by leaving Chinese missiles outside any future agreement.

In both Japan and South Korea, there are ongoing discussions about the need to build a force of conventionally armed missiles capable of deep-attack missions as an essential part of national defence. The impact of any agreements with Russia and China (or both) on the US allies in Asia would be an important issue for Washington in any future discussion over arms control.

In response to the Russian draft of a bilateral treaty, the US signalled a willingness to discuss:

> [C]onditions-based reciprocal transparency measures and reciprocal commitments by both the United States and Russia to refrain from deploying offensive ground-launched missile systems and permanent forces with a combat mission in the territory of Ukraine.[117]

The US has also made it clear that the Russian annexation of Crimea will never be accepted. Therefore, any commitments on non-deployment would necessarily apply to missile forces in Crimea, from where Russia can launch missile strikes against targets anywhere in Turkey and as far away as the Eastern Mediterranean. Moreover, in its response, the US noted that any commitments would be developed in consultation with Ukraine – though this would not necessarily require Ukraine to be a party to any future agreement.

Any commitments on non-deployment would apply to missile forces in Crimea, from where Russia can strike targets in Turkey and the Mediterranean

Although the INF Treaty prohibited the transfer of items subject to its counting rules – i.e., missiles, missile stages, or launchers – to any recipient, the US was careful to ensure that the treaty did not exclude all forms of technology transfer to allies. In particular, the US negotiators were confident that the treaty did not exclude the transfer of guidance systems to NATO allies or the transfer of technology in the form of plans and blueprints.

Russia (or Russia and China) might be reluctant to leave those missiles developed by European or Asian allies of the US outside of any future agreement. However, assuming that a future agreement is bilateral, the question of whether America's European (or Asian) allies could incorporate the US technology into their missiles would also have to be considered.

[115] Through diplomatic pressure, a new approach to export control cooperation and eventually in some cases military action ballistic missile projects of concern were rolled back in Argentina, Brazil, Egypt, Iraq, Libya, and South Africa. Aaron Karp, *Ballistic Missile Proliferation: The Politics and Technics*, SIPRI, (Oxford: Oxford University Press, 1996).

[116] Bates Gill, "Exploring post-INF arms control in the Asia-Pacific: China's role in the challenges ahead," *International Institute for Strategic Studies* (IISS), 29 June 2021.

[117] *Non-paper Confidential // REL Russia Areas of Engagement to Improve Security.*

2.5. Relationship to Other Processes

The approach to arms control in the 1980s recognised that issues were related but avoided integrating the negotiations tracks. The option to delay the ratification of the INF Treaty – until negotiations on what then became the 1991 Strategic Arms Reduction Treaty (START) and the 1990 Conventional Armed Forces in Europe (CFE) Treaty had been completed – was rejected because such complicated linkages might prevent any agreements from ever being reached.

2.5.1. The Next Steps in Nuclear Arms Control

Negotiations on strategic nuclear weapons began in 1982. The broad shape of START had emerged by the late 1980s. The treaty negotiated more recently as a follow-on (i.e., the New START) will expire in February 2026. A negotiation on intermediate-range missiles, in the next four years, will have to look ahead to the expected shape of a post-2026 agreement on strategic nuclear weapons. It may also have to take into account the possibility that no agreement will be in place.

The INF Treaty included a ban on flight testing missiles subject to counting rules. Testing missiles at ranges beyond the 5 000-kilometre INF limit and allocating them to targets within the envelope that was previously allocated to intermediate-range missiles might have been a relatively straightforward circumvention – albeit one that would be easy to reciprocate.

After the agreement on START has been reached, any retargeting would reduce the availability of long-range missiles for strategic deterrence. In any future arrangements, the absence of the next-generation START might recreate the risk that strategic forces would increase to compensate for intermediate-range missiles given up.

In their response to Russia's draft treaty, NATO allies called for future arms control agreements and arrangements to encompass all nuclear weapons – including non-strategic nuclear weapons. The US pointed to a "large and unconstrained" Russian inventory of non-strategic nuclear weapons, as well as the Russian efforts to "diversify and expand" its nuclear stockpile.

Unlike the data on strategic weapons, information on the size and composition of non-strategic nuclear weapon arsenals depends entirely on the efficiency of national technical means – something that cannot be tested against the actual data. The US, therefore, called for reciprocal briefings on nuclear matters, transparency, and risk reduction efforts to better understand the current status of those arsenals.

In 2010, NATO decided to develop a territorial capability to defend European populations against ballistic missile attacks. It has also talked about enhancements to respond to diverse threats from the air. However, requirements have been tailored to the continuous accretion of missile arsenals in the Middle East – not to the much more extensive threat posed by Russian missiles.

NATO would almost certainly try to protect investments in missile defence by keeping them out of any arms control negotiation

Air defence and theatre ballistic missile defence are recognised as major shortfall areas and, therefore, NATO's force requirement priorities. The United Kingdom has recently observed that "service protection and resilience measures must not only be prepared to stand up to threats caused by non-state terrorist acts, but direct and targeted missile attack."[118] A new level of ambition in defending NATO from a broad spectrum of missiles (not only ballistic missiles) can be anticipated, as indicated in projects like the European Sky Shield Initiative. NATO would almost certainly try to protect investments in missile defence by keeping them out of any arms control negotiation.

2.5.2. Conventional Arms Control

After 2008, Russia has implemented a far-reaching set of military reforms alongside equipment modernization programmes. After

[118] Emma Logan, *Russian attacks on civilian infrastructure in Ukraine* (Vienna: Foreign, Commonwealth & Development Office and Ms Emma Logan, Second Secretary, UK delegation to the OSCE, 3 May 2022).

2014, NATO has also begun to implement important changes in its military doctrine, organization, command structure, and force planning. Taken together, these changes will transform the military security environment in Europe.

Neither did Russia call for a new agreement on conventional arms in its draft treaty text proposed to NATO, nor did NATO offer any such agreement in response. In each case, the texts called for restraint in military plans but did not propose a detailed codification in new agreements.

In the draft text addressed to NATO, Russia urged for more political and military stability, predictability, and transparency. In its response, NATO offered to discuss reciprocal transparency and confidence-and security-building measures. The programme that NATO has embarked on to enhance collective defence capabilities is still at a relatively early stage, and it will not have reached fruition until roughly 2030.

In developing future armed forces advances in computing, digital communications, material science, and robotics are expected to be combined in order to facilitate what the United Kingdom labelled the "generational leaps in capability development."[119] These plans, however, involve an element of uncertainty.

In the draft treaty texts published in December 2021, Russia called for restrictions on the scale and location of NATO military deployments and exercises but did not propose any new agreement that would limit conventional arms inventories. The NATO response was similarly circumspect, proposing that Russia reverse its 2007 decision to suspend participation in the 1990 CFE Treaty.

Recent events indicate that military capability may once again become the main currency of political power in Europe. In this case, NATO allies are more likely to accelerate their modernization plans than they are to give priority to restrictions. While considering reciprocal mutual restraint, states are likely to be very cautious about giving up any conventional capabilities.

[119] UK Ministry of Defence, *Defence in a competitive age* (London: UK Ministry of Defence, 22 March 2021), 12.

2.6. Final Observations

The exchange of documents between NATO, Russia, and the United States in December 2021 and January 2022 underlined how deep differences over the politico-military dimensions of security in Europe now run. However, interest in placing restrictions on intermediate- and short-range missiles was the common denominator, although the nature of the proposed restrictions was different.

When developing the mandate to restore an agreement on missiles in the future, some thorny questions will emerge – or, in many cases, re-emerge. The questions that would need to be resolved are the following:

- What weapons (or weapon systems) would fall within the scope of any agreement?
- Given military requirements, what weapons should be kept out of any agreement?
- What is the size of the inventories that would be a point of departure for negotiations?
- Could baselines, limits, and the nature of the payload carried by weapons be verified?
- Would asymmetric missile forces in Europe undermine or detract from extended deterrence?
- Would any agreement be bilateral, or would other parties be required to join? If other parties join the process, who would it be? What would be the platform for negotiations?
- What is the relationship between any agreement on intermediate- and shorter-range missiles and other arms control processes?

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