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THE CRISIS OF NUCLEAR ARMS CONTROL AND ITS IMPACT ON EUROPEAN SECURITY

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I. INTRODUCTION

The system of nuclear arms control, which originated during the cold war as a United States–Soviet endeavour, is in crisis. The European Union (EU) member states and the EU itself have already been negatively affected, but thus far European actors have remained observers rather than active players. The EU has not prioritized nuclear arms control as part of its agenda and remains ill-suited as an institutional actor to engage on this topic.

Instead of focusing on praising the past achievements of nuclear arms control and lamenting its demise, the EU and its member states should review the situation and analyse the options. Must they continue to play second fiddle to the two nuclear superpowers? Or are there ways in which the EU can take a more proactive stance in addressing the major nuclear security threats and challenges facing Europe and influencing the nuclear arms control agenda?

This paper examines the legacy of nuclear arms control, recent developments and the causes of the crisis; and analyses their impact on European security. Finally, it presents options on how the EU and its member states can become engaged in rethinking the nuclear arms control architecture.

II. NUCLEAR ARMS CONTROL AND ITS CONTRIBUTION TO EUROPEAN SECURITY

Even though various forms of arms control can be traced through the ages, such as the establishment of restraints on the development of armaments by a defeated party following a conflict, its conceptual development in the 20th century was closely connected with the advent of nuclear weapons and the subsequent cold war confrontation between the USA and the Soviet Union. Faced with the threat of a devastating

SUMMARY

The collapse of the 1987 Intermediate-Range Nuclear Forces (INF) Treaty in August 2019 was the most recent chapter in the process of the erosion of the cold war-originated system of nuclear arms control. This paper argues that the European Union (EU) member states and the EU itself have already been negatively affected. Thus far, however, European states have remained observers rather than active players. Instead of focusing only on praising the past achievements of nuclear arms control and lamenting its demise, a new European approach is needed—one that identifies how best to address the major nuclear security threats and challenges facing Europe through arms control instruments.

This paper examines the legacy of nuclear arms control, recent developments and the causes of the current crisis; and analyses the impact on European security. Finally, it presents options on how the EU and its member states might become better engaged in rethinking the nuclear arms control architecture.

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nuclear exchange and the increasing financial costs of the nuclear arms race, and with the Cuban missile crisis providing a warning of the dangers of a nuclear escalation, both countries decided jointly to manage this aspect of their adversarial relationship rather than risk unconstrained competition or catastrophic war.

In their 1961 book *Strategy and Arms Control*, Thomas Schelling and Morton Halperin define arms control as 'all the forms of military cooperation between potential enemies in the interest of reducing the likelihood of war, its scope and violence if it occurs, and the political and economic costs of being prepared for it'.[1] This definition captures neatly the nature of cold war bilateral arms control efforts. The aim was to make the ongoing confrontation less dangerous and more stable. This could be achieved by providing a degree of predictability, transparency and restraint regarding the development of each side's strategic forces and reducing the likelihood of one side aiming at or achieving a qualitative or quantitative breakthrough in armaments, which would inevitably cause the other side to react (arms race stability). The arms control system was also intended to reduce the incentives for launching a surprise strike or escalating to the nuclear level during a crisis (crisis stability). Arms control thus differed from the disarmament-focused approach and was pursued in parallel with non-proliferation efforts.

The resulting strategic stability-focused approach resulted in a series of arms control negotiations and treaties focused on 'narrow, technical constraints on military capabilities or behaviour that potential adversaries [could] devise to reduce the risks and costs of competition'.[2] This was the essence of the Strategic Arms Limitation Talks (SALT), launched in the late 1960s, which led to, among other things, the SALT 1 agreement, the Anti-Ballistic Missile (ABM) Treaty and the SALT 2 agreement.[3] In the late 1980s and early 1990s, these were followed by the 1987 Intermediate-Range Nuclear Forces Treaty (INF Treaty), the Strategic Arms Reduction Treaty (START 1) and the Presidential Nuclear Initiatives (PNIs). It is notable that strategic stability logic continued to be applied even after the end of the cold war, when the relationship between the USA and Russia was supposedly founded on the basis of common values and interests. It underpinned work on the START 2 and START 3 treaties and the most recent bilateral agreements—the Moscow Strategic Offensive Reductions Treaty (SORT) and the New START.[4] This sequence of agreements first stabilized the confrontation between the two superpowers, then supported the peaceful transformation of East–West relations at the end of the cold war (the INF Treaty and the PNIs), before finally enabling significant reductions in the number of warheads and delivery vehicles (START 1 and New START).

The history of arms control throughout the cold war involved periods of stagnation, periods of escalation and periods of crisis, such as the Soviet deployment of SS-20 intermediate-range missiles in Europe or US President Ronald Reagan's pursuit of a new generation of nuclear armaments and the Strategic Defence Initiative (territorial missile defence). Various approaches to arms control were pursued at different points by both the US and the Soviet/Russian leaderships. The role of nuclear arms control in ending the cold war may have been overestimated, as it served mainly to optimize the nuclear forces of the two countries for their nuclear missions rather than reduce stockpiles. Overall, however, the positive contribution of arms control to the prevention of nuclear war and to the management of US–Soviet and US–Russian relations is incontestable.

Although European states did not participate directly in the bilateral nuclear arms control negotiations, the European members of the North Atlantic Treaty Organization (NATO) were kept informed by the USA and consulted—bilaterally and within the NATO framework—on the major nuclear arms control initiatives and talks with the Soviet Union, and later with Russia. In the case of the 'Euromissiles' crisis and subsequent INF Treaty negotiations, consultations within NATO, with the active participation of European NATO members, were essential for the formulation of both the deterrence track (through the work of the Nuclear Planning Group and the High Level Group) and the arms control track (through the newly established Special Consultative Group) of the

[1] Schelling, T. C. and Halperin, M. H., *Strategy and Arms Control* (Twentieth Century Fund: New York, 1961), p. 2.

[2] Gallagher, N. W., 'Re-thinking the unthinkable: arms control in the twenty-first century', *Nonproliferation Review*, vol. 22, nos 3–4 (2015), p. 471.

[3] For an overview see e.g. Arms Control Association, 'US–Russian nuclear arms control agreements at a glance', Fact sheets and briefs, updated Aug. 2019.

[4] Rumer, E., *A Farewell to Arms…Control*, Carnegie Endowment for International Peace, US–Russia Insight, 17 Apr. 2018.

'Double-Track' decision adopted by NATO in November 1979.[5]

Developments in nuclear arms control between the two superpowers affected Europe in a number of ways. Most fundamentally, during the cold war all European states—regardless of their ideological affiliation or status as neutrals, or members of NATO or the Warsaw Pact—faced a direct threat to their survival in the event of a nuclear exchange between the USA and the Soviet Union, which it was understood would involve sooner or later a massive use of nuclear weapons in Europe. They were therefore interested in and generally supportive of strategic dialogue between the two superpowers and in advances in arms control. From their viewpoint, the security of Europe benefited from a gradual reduction in the two nuclear arsenals and the increased predictability guaranteed by strategic arms control treaties. Progress in bilateral arms control also supported nuclear non-proliferation and disarmament goals.

However, some European states at times also expressed reservations about the consequences of the superpowers' pursuit of strategic nuclear arms control. First, the focus on the systems capable of striking targets on US and Russian territory meant that other categories of nuclear weapons, with a crucial security impact on Europe, remained unconstrained. These 'non-strategic' or tactical weapons, deployed on a large scale by NATO and the Soviet Union/Warsaw Pact in Europe for war-fighting purposes, were capable of causing catastrophic levels of damage in case of war.[6] Concern about the consequences of a limited nuclear war in Europe provided an incentive for the rise of European peace movements and also brought proposals from both sides of the Iron Curtain on the creation of nuclear weapon-free zones in Europe.[7]

Second, there were concerns expressed at times in some NATO countries about arms control going too far and the USA disregarding the interests of its European allies by agreeing to arms control proposals that would lead to a strategic decoupling from Europe. It was also feared that the USA could become so focused on the relaxation of tensions with the Soviet Union/Russia that it would not react to assertive actions in Europe. This explains, for example, the insistence of Germany and a number of other NATO members in the late 1970s that the USA include the new Soviet intermediate-range systems in its arms control negotiations with the Soviet Union, even though they could not directly threaten the USA. Similar concerns were expressed about disregarding the interests of European NATO members, especially by Central and East European states, during President Barack Obama's 'reset' with Russia and negotiations over New START.

Finally, both during and after the cold war the European nuclear weapon states—France and the United Kingdom—emphasized the independent character of their nuclear arsenals and their opposition to having them included in strategic arms control negotiations and treaties. The long-standing Soviet and Russian argument has been that they should essentially be treated as part of the 'Western' nuclear arsenal, and should ultimately be counted within one set of thresholds on numbers of delivery systems and warheads. In response, France and the UK maintain that they have already substantially and unilaterally reduced the number and salience of nuclear weapons in their own postures since the end of the cold war. It may be assumed that they would be willing to consider joining a nuclear arms control negotiation only after the two biggest possessors have significantly reduced their stockpiles.[8]

This duality of general European support for nuclear arms control, on the one hand, and concerns about whether the focus and substance of bilateral US–Russian nuclear arms control are fully in sync with European security interests, on the other, remains relevant today.

III. THE CURRENT STATE OF THE NUCLEAR ARMS CONTROL ARCHITECTURE

The 2010 New START between the USA and Russia remains in force. The agreement sets equal limits on strategic delivery systems: 700 deployed intercontinental ballistic missiles (ICBMs), sea-launched ballistic missiles (SLBMs) and heavy

[5] Lunn, S. and Williams, N., 'The demise of the INF Treaty: what are the consequences for NATO?', European Leadership Network (ELN), *ELN Policy Brief*, Feb. 2019.

[6] As is evident from the declassified military planning of the Warsaw Pact and NATO.

[7] Muller, H. et al., *A Nuclear Weapon-Free Zone in Europe: Concept—Problems—Chances*, Working Paper no. 27 (Peace Research Institute Frankfurt: Frankfurt, Jan. 2016), pp. 17–19.

[8] According to the 2007 remarks by the UK's Secretary of State for Foreign and Commonwealth Affairs, Margaret Beckett, 'when it will be useful to include in any negotiations the one per cent of the world's nuclear weapons that belong to the UK, we will willingly do so'. Beckett, M., 'Keynote address: a world free of nuclear weapons?', Carnegie International Nonproliferation Conference, 25 June 2007.

bombers, 800 deployed and non-deployed ICBM launchers, SLBM launchers and heavy bombers, as well as a limit of 1550 warheads on deployed strategic delivery vehicles.[9] It also includes an extensive information-exchange and verification system involving onsite inspections. This gives both sides detailed insight into each other's strategic nuclear forces and a high degree of predictability regarding their future development. The treaty does not put additional constraints on the development of new kinds of strategic offensive weapons, but allows each side to raise the issue of their emergence and the consequences for the treaty in the consultative process.[10]

New START was signed in Prague on 8 April 2010 and entered into force on 5 February 2011. The treaty reduction limits were reached in 2018, and its implementation (including verification activities) continues as prescribed. It is set to expire in February 2021, although there is the possibility of an extension of up to five years with the agreement of both presidents. In December 2019 the president of Russia, Vladimir Putin, expressed his readiness to prolong New START 'immediately' and 'without any preconditions'.[11] Russia had previously demanded that the USA address what it called its implementation concerns—issues connected with the conversion of US heavy bombers and the ballistic missile compartments of submarines to non-nuclear roles.

In the USA, a review was initiated by the administration of Donald J. Trump to determine whether a New START extension is in the interests of the USA. While some in the US Government and Congress strongly support prolongation, highlighting its positive effects, critics point out that it covers only a proportion of the Russian arsenal (i.e. it does not place limits on tactical nuclear weapons, which make up a large part of the Russian arsenal), and constrains the USA much more than it does Russia.[12] The USA has also suggested the possibility of substituting the system of bilateral agreements with a trilateral US–Russian–Chinese arms control treaty, an idea pursued by the Trump administration despite its initial rejection by China.

While the New START remains in force until 2021, the INF Treaty expired in August 2019. The 1987 agreement resulted in the complete elimination of US and Soviet/Russian nuclear and conventional ground-launched ballistic and cruise missiles with ranges between 500 and 5500 kilometres. The treaty collapsed after Russia failed to adequately address US accusations that its SSC-8/9M729 cruise missile was being developed and deployed in violation of the treaty.[13] Following the US and NATO determination that Russia was in breach of the INF Treaty, the USA suspended its observance of the treaty in February 2019 and announced its withdrawal after six months. In response, Russia also suspended observance of its INF obligations. Both sides announced that they would initiate research and development work on previously banned intermediate-range land-based systems. The first US tests of intermediate-range cruise and ballistic missiles were conducted in August and December 2019 respectively.[14]

At the same time, however, all sides signalled restraint in terms of the development of missiles. The USA declared that it had no plans to develop nuclear intermediate-range ground-based missiles, while the NATO Secretary General, Jens Stoltenberg, announced that NATO had no plans to deploy such nuclear-armed missiles in Europe.[15] In Russia, President Putin declared that Russia would not deploy intermediate-range missiles unless the USA did so, while failing to include in his pledge the SSC-8/9M729 missile that was at the heart of the controversy.

The non-treaty-based instruments make up the last element of the arms control framework relevant to Europe. The PNIs were a number of commitments announced in 1991 and 1992 by the then US president,

[9] For details see e.g. Woolf, A. F., *The New START Treaty: Central Limits and Key Provisions*, Congressional Research Service (CRS) Report for Congress R41219 (US Congress, CRS: Washington, DC, updated 27 Nov. 2019). Each heavy bomber equipped for a nuclear mission is counted as carrying one warhead against the 1550 limit.

[10] Article 5 of the treaty. On its applicability to new Russian weapon systems see e.g. Vaddi, P., 'Bringing Russia's new nuclear weapons into New START', Lawfare Blog comment, 13 Aug. 2019.

[11] Ostroukh, A., 'Putin says Russia ready to extend New START nuclear arms treaty', Reuters, 5 Dec. 2019.

[12] Taheran, S. and Kimball, D. G., 'Bolton declares New START extension "unlikely"', *Arms Control Today*, July/Aug. 2019.

[13] On the history of the treaty and its collapse, as well as reactions from Europe see e.g. Bohlen, A. et al., 'The Treaty on Intermediate-Range Nuclear Forces: history and lessons learned', *Brookings Arms Control Series*, no. 9 (Dec. 2012); and Sinovets, P. (ed.), *Responses to the INF Treaty Crisis: The European Dimension* (I. I. Mechnikov National University: Odessa, 2019).

[14] Kacprzyk, A. and Piotrowski, M. A., 'US development of intermediate-range missiles after its withdrawal from the INF Treaty', *PISM Bulletin*, no. 125 (30 Aug. 2019); and Ali, I., 'US tests ground-launched ballistic missile after INF treaty exit', Reuters, 12 Dec. 2019.

[15] NATO, 'Press point by NATO Secretary General Jens Stoltenberg on the INF Treaty', 2 Aug. 2019.

George H. W. Bush, the then Soviet president, Mikhail Gorbachev, and the then president of the Russian Federation, Boris Yeltsin. They focused on the reduction or elimination of certain categories of non-strategic nuclear weapons and their means of delivery.[16] Not legally binding and non-verifiable, these initiatives nonetheless resulted in the withdrawal of substantial numbers of warheads and nuclear delivery systems from European territory, and the consolidation of the remaining non-strategic warheads at a limited number of storage sites. They also paved the way for the elimination of all British and French non-strategic nuclear weapons. The current relevance of and adherence (particularly by Russia) to the PNIs are contested.[17] Another example of politically binding restraint is the NATO December 1996 statement of 'no intention, no plan and no reason' to deploy nuclear weapons or construct storage sites on the territories of the newly admitted member states, confirmed in the NATO–Russia Founding Act of 1997.[18]

IV. CAUSES OF THE NUCLEAR ARMS CONTROL CRISIS

Developments in bilateral nuclear arms control do not take place in isolation from broader international developments.[19] The breakdown of the arms control system is part of a crisis in the relationship between Russia and the West, which is itself related to an ongoing shift in the post-cold war international order linked primarily to the increase in the strategic importance of China.[20]

What is described as an arms control crisis has also been partly a predictable consequence of the application of emerging technologies, such as cyber tools or hypersonic technologies, to the military domain, as well as of nuclear modernization processes. While affected by the heightened sense of a security dilemma, some of the nuclear developments in the USA, Russia and China would be happening anyway, regardless of the state of arms control. This is also applicable to the exploration by nuclear-armed states of the strategic uses of high-precision conventional weapons, of autonomous systems and of artificial intelligence (AI).

Three dimensions appear especially relevant to the arms control crisis. In the political sphere, an appreciation of the utility of arms control and its role in managing strategic competition between powers has been gradually declining since the mid-1990s.[21] Arms control was no longer central to the relationship between the USA and Russia and was not relevant to other relationships, such as the USA–China relationship. When divergences between the major powers started to accumulate, primacy was given to strengthening deterrence rather than restraint. Nuclear weapons were seen as an increasingly important element of maintaining the security of the possessors and of extended deterrence relationships. Specific policy choices, such as Russia's decision to challenge the European security system through its attack on Ukraine, and to violate a number of arms control agreements, also played a major role.

There have also been structural reasons for the crisis. The most important one was the deep attachment in the USA and Russia to an arms control concept developed essentially in the 1960s and 1970s for the purpose of maintaining US–Soviet strategic stability.[22] Within this construct, there were no easy options for broadening it to include more actors or reconstructing it to cover more areas. The bilateral arms control construct also meant that no suitable forum existed for multilateral negotiations on arms control between all the nuclear-armed states.

The last, and perhaps the most crucial, aspect of the nuclear arms control crisis is linked to the advance of technology and new modes of waging warfare. In the past, Soviet and US arms controllers managed to adjust the agenda of their talks to changes in technology, such as the development of multiple independently targeted warheads or of 'semi-strategic' intermediate-range systems capable of reaching Soviet or US territory (e.g. the Pershing or the Tu-22 Backfire). There have been no similar corrections to the agenda in response to the most recent waves of technological and doctrinal

[16] See e.g. Corin, E., 'Presidential Nuclear Initiatives: an alternative paradigm for arms control', Nuclear Threat Initiative, 1 Mar. 2004.

[17] Sokov, N. and Potter, W., 'The Presidential Nuclear Initiatives, 1991–1992: an assessment of past performance and future relevance', *Toda Peace Institute Policy Brief*, no. 21 (Oct. 2018).

[18] Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation, Paris, 27 May 1997.

[19] This section builds on Kulesa, Ł., 'Nuclear arms control: the current calamity and possible ways out', eds A. Spruds and S. Broka, *Riga Dialogue Afterthoughts, 2019* (Latvian Institute of International Affairs: Riga, 2019).

[20] For a comprehensive discussion of the crisis and its causes see Arbatov, A., 'MAD moment redux? The rise and fall of nuclear arms control', *Survival*, vol. 61, no. 3 (June–July 2019), pp. 7–38.

[21] As described e.g. in Rumer (note 4).

[22] Arbatov (note 20), pp. 7–8.

advances, such as: (*a*) the increase in the importance of non-nuclear long-range precision strike and missile defence systems; (*b*) offensive cyber capabilities that raise questions about the vulnerability of nuclear forces, early warning and command systems to a cyberstrike; (*c*) advances in nuclear weapon systems design, such as new types of Russian weapons and new US low-yield warheads; or (*d*) the potential placement of weapons in space. Nor has the 'entanglement' of nuclear and conventional systems, and the resulting increased danger of accidental or inadvertent nuclear escalation of a conflict that begins in the conventional or cyber domains, been adequately addressed.[23] Some of the emerging technologies with strategic potential, such as AI-enabled or fully autonomous weapon systems, are yet to be integrated into arms control frameworks.[24]

V. SCENARIOS FOR THE FUTURE

Even if a new approach to assuring strategic stability at the bilateral, trilateral or multilateral level is ultimately developed, it is not certain that nuclear arms control treaties will be an important element of it. In addition, the opportunities for European states to make a significant contribution to its functioning would vary greatly, depending on the direction in which the arms control system is developed.

The first scenario is continuation. Prolongation of New START beyond 2021 cannot be ruled out. It could potentially be done as a political gesture before or after the US presidential elections or as a stop-gap measure while the two sides prepare for the negotiation of the next bilateral treaty, covering essentially the same range of systems. One potential outline for such a treaty was proposed by President Obama in Berlin in 2013. This arrangement would mean agreeing a one-third lower threshold for nuclear warheads and probably a lower level for strategic delivery vehicles too.[25]

The second scenario would be to look into broadening the scope of a legally binding bilateral treaty and/or at making it trilateral. More far-reaching proposals for a 'New START Plus' include agreeing a single nuclear warheads threshold for strategic and non-strategic systems, or including some of the new types of nuclear and conventional precision-strike systems in a new treaty, alongside limits on strategic missile defence.[26] The Trump administration's approach goes even further to 'try to bring China into a trilateral arms control discussion'.[27]

The third scenario is one in which a treaty-based arms control framework ceases to exist as a permanent fixture of international relations: New START is either withdrawn before February 2021 or not extended, and there are no negotiations on any new instrument. In addition, China's position does not change, making the prospects for negotiating a trilateral treaty bleak.

Such a scenario would not necessarily open the floodgates for an unconstrained arms race.[28] The USA and Russia would probably initially maintain their current postures and China is unlikely to race for parity. All three would also continue to be bound by their 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty, NPT) Article VI disarmament obligations. For political, strategic and financial reasons, major additional investments in increasing their nuclear potential may not be an attractive option for either the USA or Russia.

The problems of a world without nuclear arms control treaties would only accumulate over time, however, as security dilemma pressures are likely to intensify under conditions of 'great power competition'.[29] Freedom of action in the nuclear weapons realm could push the USA or Russia to develop and deploy new configurations of nuclear and conventional systems. In addition, one side's defensive measures (such as an advance in missile

[23] See especially the works of James Acton at the Carnegie Endowment for International Peace, 'Nuclear Entanglement', updated Jan. 2019.

[24] Boulanin, V. (ed.), *The Impact of Artificial Intelligence on Strategic Stability and Risk Reduction, Volume I, Euro-Atlantic Perspectives* (SIPRI: Stockholm, May 2019).

[25] Rampton, R. and Brown, S., 'Obama challenges Russia to agree to deeper nuclear weapon cuts', Reuters, 20 June 2013.

[26] See e.g. the proposals in Stefanovich, D., 'Strategic stabilization: a window of opportunities for Russia and the US', RIAC Analytics and Comments, Russian International Affairs Council, 4 Apr. 2018; and an earlier roadmap developed in Pifer, S. and O'Hanlon, M. E., *The Opportunity: Next Steps in Reducing Nuclear Arms* (Brookings Institution Press: Washington, DC, 2012).

[27] Wood. R., US Permanent Representative to the Conference on Disarmament and US Special Representative for Biological and Toxin Weapons Convention (BWC) Issues, 'US priorities in the UN First Committee', Foreign Press Center Briefing, New York, 7 Oct. 2019.

[28] Even in the absence of nuclear arms control treaties, it may still be possible to agree binding legal instruments related to some strategic conventional systems, such as missiles using hypersonic technologies or missile defence, which may have a restraining impact on developing nuclear arsenals.

[29] This issue is comprehensively analysed in Manzo, V., *Nuclear Arms Control Without a Treaty? Risks and Options after New START*, Deterrence and Arms Control Paper no. 1 (CNA: Washington, DC, Mar. 2019).

defence systems) could be seen by the other side and third countries as destabilizing and force them to take countermeasures in the nuclear sphere. The likely decrease in the scale and intensity of interactions between the bureaucracies, militaries and intelligence communities could also increase mistrust and give rise to worst-case scenarios regarding the other side's posture and one's own vulnerability to surprise attack.

The fourth scenario is a move towards a purely non-treaty based system of nuclear arms control. In accordance with the broader definition of arms control, as suggested for example in a recent report, its essential goals can be achieved through increased dialogue, the creation of 'rules of the road' and voluntary restraint, rather than through legally binding treaties.[30] Such an approach would not only remove the requirement for lengthy negotiations on legal texts and the need to undergo uncertain ratification procedures for arms control treaties, but also be better-suited to the emerging strategic landscape of a multitude of actors and the close entanglement of nuclear, conventional and other types of weapon and capability. Non-treaty arms control could include unilateral political declarations, bilateral or multilateral statements, unilateral or jointly agreed measures of restraint or transparency, agreements on crisis management, and strategic dialogue channels of communication, as well as agreements on codes of conduct and politically binding rules of behaviour in specific areas. Elements of such a system are already in place with regard to nuclear weapons (the PNIs) and various nuclear risk-reduction measures.

The main challenges for fully non-treaty-based nuclear arms control would be its fragility and its overarching reliance on political factors, continuity of political course and the existence of personal trust between leaders. Compared with treaty-based regimes, it would also entail a lower level, or even a complete absence, of mechanisms for verification, enforcement of obligations and adjudication on disputes.

Finally, it may be possible to consider a future arms control system that is no longer focused on strategic nuclear forces and their means of delivery, and quantitative reductions, but instead addresses a broader range of potentially destabilizing 'strategic' capabilities and seeks to prevent sectoral and cross-sectoral arms races. A new strategic arms control agenda would thus include new and emerging technologies (autonomous systems, hypersonic technologies or other weapons utilizing new applications of physical principles, or military uses of AI), missile defence, high-precision long-range conventional weapons, space-based weapons and the offensive use of cyberspace against certain targets. Instead of comprehensive treaties, it would most likely involve issue-specific agreements or arrangements with different groups of actors that possess or have an interest in limiting or eliminating particular capabilities. The approach to treaty drafting would also need to be more imaginative, covering potentially asymmetric obligations, variable ceilings and non-equal thresholds, as well as different levels of information-exchange and verification requirements.[31] Anchoring the system wherever possible with legally binding instruments would make it more stable than pursuing a purely political approach.

The main challenge with the 'new generation' of strategic arms control—beyond the multiplication of actors—would be the joint identification of the set of capabilities that would have to be included in order to achieve strategic stability. The designation of particular systems as 'strategic' can vary from region to region and from actor to actor. Regional approaches to strategic stability would probably need to be developed. It may not be possible to agree verifiable limitations on some of the potentially destabilizing elements, such as the use of cyber capabilities or AI, due either to the nature of the capabilities or the desire of states to protect their advantage.

VI. IMPACT ON EUROPEAN SECURITY

Europe has benefited from the existence of the INF Treaty and New START, and the maintenance of bilateral US–Russian dialogue on strategic stability and arms control. The collapse of the INF Treaty, war in Ukraine, and the crisis in US–Russian and NATO–Russian relations revive the threat that the European continent will become a deployment zone for additional Russian and potentially US nuclear-capable weapon systems. Beyond the military domain, the crisis also generates a number of political and strategic

[30] Karaganov, S. and Suslov, D., *The New Understanding and Ways to Strengthen Multilateral Strategic Stability* (Higher School of Economics, National Research University: Moscow, 2019).

[31] Williams, H., 'Asymmetric arms control and strategic stability: scenarios for limiting hypersonic glide vehicles', *Journal of Strategic Studies*, vol. 42, no. 6 (2019), pp. 789–813.

challenges for the European nuclear weapon states, for the European NATO member states and for the EU.[32]

For the European nuclear powers—France and the UK—the US–Russian arms control framework has created a predictable strategic environment for maintaining their own nuclear posture and planning the development of their nuclear forces. Most importantly, it made unlikely a scenario involving a rapid increase in Russian nuclear forces, which would have raised doubts about the credibility and sufficiency of their deterrents. The existence of a bilateral US–Russian nuclear arms control process also limited the pressure on the two European states to join the negotiations and further reduce their own arsenals. The crisis in bilateral arms control will most likely force both countries to re-evaluate their own approaches to both deterrence and arms control.

For the European NATO member states, the demise of the INF Treaty and potential non-prolongation of New START brings another set of challenges. In military terms, Russian freedom to produce and deploy land-based nuclear-capable intermediate-range systems increases the threat for NATO member states located further from the NATO–Russian border zone, since they could be targeted in the event of a conflict with Russia. Without the INF Treaty, it is also more likely that additional European countries, for example Ukraine, will move to develop intermediate-range missiles. Even though these missiles would be conventionally armed, their deployment would increase security risks in Europe. In the NATO context, European NATO member states will need to take a stance on their response to any Russian missile deployments. This could involve both a strengthening of deterrence, including the nuclear aspects, and the development of a new approach to arms control.

All European states and the EU have remained supportive of US–Russian arms control as part of their vision of a rules-based global order, and as a measure through which 'power politics' are constrained and multilateralism strengthened.[33] The position of the EU and its member states in international organizations and in the NPT review process has consistently included support for further nuclear reductions by the USA and Russia. It had been assumed that such an environment of ongoing reductions would provide optimal conditions for strengthening the peace and security of Europe. This 'outsourcing' of nuclear arms control to Russia and the USA also allowed the EU to focus its efforts on preventing the proliferation of nuclear weapons, especially through its engagement with Iran, and strengthening regimes such as the NPT and the 1996 Comprehensive Nuclear-Test-Ban Treaty.

The crisis in bilateral arms control—coupled with other setbacks for multilateralism—may force member states to re-examine their approach at the EU level. They must decide on the extent to which they should step in and invest in 'saving' nuclear arms control, or continue with the current agenda. Part of the dilemma is also the extent to which they may need to adjust their deterrence and defence postures in response to the deeper security crisis, including perhaps by creating a 'European' nuclear deterrent.[34] Another challenge is the existing division within Europe between states that support nuclear disarmament in line with the approach taken by the 2017 Treaty on the Prohibition of Nuclear Weapons and those that prefer a step-by-step approach to nuclear disarmament that relies, in part, on a continuation of US and Russian nuclear reductions based on arms control treaties.

The deepening crisis in nuclear arms control also has a negative impact on transatlantic relations. With regard to the collapse of the INF Treaty, all the European NATO member states ultimately supported the US assessment that Russia had violated the treaty. Nonetheless, the circumstances and timing of the US withdrawal left a number of European states dissatisfied, as they were not convinced that all means had been explored to uphold the treaty. A dismissive attitude in the current US administration towards arms control generally and New START in particular risks widening the gap between the USA and some of its European partners. If the current US approach continues beyond 2020, this could create tensions in Europe between countries that are more receptive to the US administration's arguments on arms control and those that reject them and are willing to at least

[32] Kane, A. and Kuehn, U., 'Nuclear disarmament, arms control, and nonproliferation in retreat: what Europe can do', *S+F Sicherheit und Frieden*, vol. 36, no. 1 (2018), pp. 40–44.

[33] As is noted in the EU Global Strategy. European External Action Service (EEAS), *Shared Vision, Common Action: A Stronger Europe, A Global Strategy for the European Union's Foreign and Security Policy* (EEAS: Brussels, June 2016), p. 8. See also Lundin, L.-E., 'The European Union and weapons of mass destruction: a follow-on to the Global Strategy?', EU Non-Proliferation Consortium, *Non-Proliferation Papers*, no. 58 (May 2017).

[34] For an overview of options see Tertrais, B., 'Will Europe get its own bomb?', *Washington Quarterly*, vol. 42, no. 2 (summer 2019), pp. 47–66.

look at the options for pursuing a more independent European position. European states have not thus far jointly challenged the de facto monopoly of the USA and Russia on discussing nuclear reductions, but this might become an issue in the future.

So far, European states and the EU have been united in calling on both the USA and Russia to continue with their nuclear arms control dialogue, and in voicing their preference for the preservation of the INF Treaty and the prolongation of New START.[35] The European position is grounded in: (*a*) strategic arguments on the value of engagement and of limitations being placed on nuclear forces, and on the danger of a renewed arms race; (*b*) institutional arguments on the potentially negative effects of the crisis on the 2020 NPT Review Conference; and (*c*) a legal rationale of seeing nuclear reductions as a way to implement NPT Article VI obligations.

In addition to urging preservation of the remaining elements of the existing arms control architecture, some European states have reacted to the crisis by exploring more systematically the new strategic environment and the future of arms control. Germany has taken the most active course, announcing in November 2018 an initiative on 'rethinking arms control' focused on assessing the impact of new and emerging technologies on security and devising relevant approaches to arms control.[36] While the major impulse for the initiative was the crisis surrounding the INF Treaty, its scope is broader and includes fully autonomous weapon systems, the proliferation of missiles and missile technology, norms on cyberspace and new developments in biotechnologies. It is notable that the 'classic' nuclear arms control topics were left out of the discussion. Within the framework of the initiative, innovative work by European academics and think tanks has been encouraged on devising new approaches to arms control, risk reduction and disarmament verification.

VII. WHERE DO EUROPEAN STATES GO FROM HERE?

The crisis in the existing model of bilateral nuclear arms control presents European states with a dilemma. They cannot disregard these developments because European security is being negatively affected. At the same time, even if they wanted to actively engage in nuclear arms control, the room for manoeuvre would be limited and the opportunities for increasing European agency on nuclear arms control issues are far from obvious. Of the scenarios listed above, only the development of a new strategic arms control agenda would seem to create space for new actors, including European actors, to co-shape the system. In all other scenarios, the USA and Russia continue to play the central role.

The basic weakness is the place of Europe in the global nuclear order. In some areas of and discussions on arms control, such as conventional weapons, cyberspace and outer space, European states already possess or are developing significant capabilities, and can therefore be active participants. In the nuclear field, however, their relevance is considerably smaller. The USA and Russia, as possessors of nuclear arsenals qualitatively and quantitatively greater than the two European arsenals, and as the countries that invented and pursued traditional nuclear arms control, remain the main players. China is not engaged, but is seen as an increasingly important actor. Europe's importance and impact are viewed as limited. The EU has thus far played no role in nuclear arms control negotiations. Its legal prerogatives for engaging in the topic would need to be clarified, its strategy agreed and its diplomatic capacity developed almost from scratch.

Nonetheless, there are assets that give the European states some leverage against the USA and Russia in the nuclear domain. The most obvious is the nuclear weapon status of France and the UK, which gives them a direct claim to take part in nuclear arms control-related negotiations, should they choose to do so, and gives them a place at the table at the P5 process that brings together the five NPT nuclear weapon states.[37] In addition, European NATO member states, with the partial exception of France, participate in shaping the organization's nuclear strategy and posture, including

[35] See e.g. Council of the European Union, 'Declaration by the High Representative on behalf of the EU on the Intermediate-Range Nuclear Forces Treaty', Press release, 14 July 2019.

[36] Within the framework of the initiative, a major conference was held in Berlin in Mar. 2019 and a Missile Dialogue Initiative was launched. German Federal Foreign Office, 'Doing nothing isn't an option: rethinking arms control', 15 Mar. 2019.

[37] See e.g. Hoell, M., 'The P5 process: ten years on', European Leadership Network, *Global Security Policy Brief*, Sep. 2019.

its nuclear sharing arrangements.[38] European states can give or deny permission to: (*a*) deploy US nuclear weapons on their territory (subject to the limitations that stem from the NPT); (*b*) host nuclear-capable systems such as US strategic bombers or submarines; and (*c*) host conventional systems relevant to nuclear arms control, such as strategic missile defence installations or, potentially, intermediate-range conventional missiles. Beyond the 'hardware', the EU and the European states bring to the table their ability to influence the agenda of international organizations and regimes, such as the United Nations Security Council, the Conference on Disarmament, the NPT, the International Atomic Energy Agency and the Comprehensive Nuclear-Test-Ban Treaty Organization, and provide considerable funding in their support.

One crucial factor that could have a major impact on European capacity to influence the future of nuclear arms control is the post-Brexit status of the UK. While the UK will remain a member of NATO and an important partner of the EU, it is not clear how 'European' its policy on arms control will remain or whether suitable mechanisms for coordination of its positions with the EU can be developed on the nuclear arms control and non-proliferation agendas. Given the links between the British and US nuclear establishments and the US role in the maintenance of the British nuclear deterrent, the UK would probably be inclined to align itself more closely with the US position. It is also likely to remain cautious about any proposals that could be seen as adversarial by the USA.

In recent decades, there has been a high degree of convergence between the US and European agendas on nuclear arms control: preventing nuclear war, maintaining stable US–Russian relations and reducing the size of nuclear arsenals, while assuring the credibility of US extended nuclear deterrence guarantees within NATO. In some cases, both sides cooperated on applying pressure on the Soviet Union, later Russia, to push it to adopt arms control solutions. The European states have not always fully supported, but thus far have always adapted to, changes in the US nuclear posture and its approach to arms control, including the withdrawal from the ABM Treaty. The issue now is whether the aim of European states remains to support (or at least not challenge) US arms control policy, or to develop a European policy vis-à-vis both the USA and Russia. If it is the latter, the question arises how to ensure the credibility and effectiveness of such a policy.

With regard to the policy choices ahead, European member states of NATO and the EU could continue the present course, acknowledging their own weak position and the lead roles of the USA and Russia in the nuclear domain. The European states would thus continue their 'cheerleading' role as supporters and promoters of nuclear arms control, and facilitators and potential hosts of bilateral or multilateral arms reduction talks. The aim would be to persuade the USA and Russia—and potentially also China—to engage with the existing agenda. Prolongation of New START, constraints on nuclear modernization and deployments, and a relaunch of strategic stability talks would be the goals most likely to be supported by all European states and the EU. Such a position would be consistent with the sentiments of the majority of the European populations and the views of the European strategic community. At the same time, it would allow the EU itself to continue to maintain some distance from nuclear arms control issues and to pursue its current agenda.

Maintaining the current course would not mean remaining passive. The European states could pursue additional initiatives regarding the non-nuclear elements of the arms control agenda, for example moving forward with the 'rethinking arms control' initiative. Developing viable arms control approaches to new and emerging technologies could become a major EU contribution to the global debate. The European states could also push ahead with initiatives to strengthen existing non-proliferation regimes and continue nuclear diplomacy with Iran. The interested European NATO member states could influence the organization's arms control agenda in line with their preferences for further nuclear reductions. France and the UK could work towards the same goal in their contacts with other nuclear weapon states, for example, through the P5 process.

Continuation of the current course would be a productive, and relatively uncontroversial, policy. Fixing nuclear arms control may simply be beyond the reach of European states and the EU, since the practical challenges of developing a European or EU approach to nuclear arms control would be huge.

First, any move towards taking an independent 'European' course would be seen externally as a major weakening of the transatlantic link, and a signal of the limited confidence placed in the USA and NATO.

[38] As part of this arrangement, some European NATO member states host US nuclear weapons on their territories.

Second, it would amount to a marginalization of NATO as a forum of transatlantic coordination on arms control issues. Given the importance that a number of EU member states attach to their membership of NATO and their links with the USA, they would be unlikely to support such a course of action. Third, it would require a consensus to be reached within the EU on the goals of and strategy for nuclear arms control. Finally, in institutional terms, it would necessitate a major development of the capabilities and expertise of the European External Action Service in the area of arms control negotiations, and potentially also arms control verification. It is also debatable whether the USA or Russia would see the EU's expectation to be treated as a partner in nuclear arms control as either serious or credible.

Nonetheless, it is possible to identify two hypothetical scenarios for a more ambitious European approach to nuclear arms control. The first would see the European states and the EU seek to apply a combination of pressure and incentives to persuade the USA and Russia—and potentially other nuclear-armed states—to make progress on arms control.[39] With respect to the incentives, in the relationship with the USA, European states could for example pledge to increase their defence budgets or support for US policy in specific regions and areas, such as regarding relations with China, as a quid pro quo for the extension of New START. On Russia, its agreement not to pursue specific nuclear-related armament programmes, such as strategic or intermediate-range missile development, could potentially be linked to a review of the EU sanctions. Another incentive, for both sides, might be a pledge by France and the UK that they would participate in the negotiations on the next nuclear arms control treaty if there was a US–Russian agreement on a New START extension.

With regard to the coercive angle, pressure could hypothetically be applied on Russia and the USA by threatening retaliatory measures or a reduction of cooperation in case of continued paralysis in arms control negotiations. European states could for example signal to the US leadership that in the case of a US withdrawal from New START, or a refusal to extend it, they might review their security cooperation with the USA or request the removal of US nuclear weapons or specific strategic installations, such as early warning or missile defence facilities, from their soil.[40] With regard to Russia, European states could declare that they would be willing to host US intermediate-range missiles on their soil or purchase them individually in the case of continued Russian deployment of intermediate-range land-based systems, whereas they would refrain from such moves if Russia were to reverse its course. Use of the threat of economic sanctions or a withdrawal from existing projects, such as the Nord Stream 2 gas pipeline, has also been suggested as a potential way to apply coercion on Russia on arms control issues.[41]

Such a policy of positive and negative linkages, similar to the one pursued by the EU with regard to Iran in the lead-up to the Joint Comprehensive Plan of Action, would however be quite difficult to implement in practice. Given the centrality of the USA to the security policies of a number of European states, it is hard to imagine them agreeing to put pressure on the USA or threaten to review their non-nuclear bilateral security cooperation for the sake of nuclear arms control. The policy of linkages could gain more internal support if applied to Russia, but even there it would be effective only if the European states were able to agree on a particular policy course and maintain cohesion—being prepared to deliver on both the promises to Russia and the punitive measures.

The second option, and the most radical break from the current approach, would see European states, acting through the EU or in smaller groupings, agreeing to develop and implement a fully independent approach to nuclear arms control. This would constitute a break with the tradition of close consultations and coordination on such issues with the USA.

The proposals to initiate outreach to Russia to achieve some degree of restraint in the deployment of intermediate-range missiles in Europe could be seen as an example of how a European initiative in an arms control area previously managed by the USA and Russia might look. According to one such proposal, Russia would refrain from deploying additional missiles in, and move its existing stockpile of SSC-8/9M729 ground-launched cruise missiles out of, the European part of its territory, and in exchange receive assurances

[39] Meier, O., 'Europeans to the rescue?', *Bulletin of the Atomic Scientists*, 24 Oct. 2018.

[40] A major question would of course be whether such moves would encourage the USA to change course on arms control, or rather trigger US strategic disengagement from Europe.

[41] Kuehn, U., 'Between a rock and a hard place: Europe in a post-INF world', *Nonproliferation Review*, vol. 26, nos 1–2 (2019), pp. 164–65.

from European NATO member states that NATO would not deploy US intermediate-range missiles in Europe.[42] In November 2019 the president of France, Emmanuel Macron, suggested that 'Europe' should be involved in any negotiations of an agreement prohibiting or restraining nuclear-capable missiles as a follow-up to the INF Treaty, and that it should be one of the topics of dialogue with Russia.[43]

Similar nuclear-related arms control initiatives may be pursued by individual European states, especially those that are particularly critical of the Trump administration's arms control policy. In the current security circumstances, however, it is highly unlikely that the EU would decide to pursue an independent course on arms control that would situate it between Russia and the USA. Despite their policy disagreements with the USA, most European states would be reluctant to put the transatlantic relationship in jeopardy over the highly elusive aim of pursuing autonomous initiatives on nuclear arms control.

[42] See e.g. van der Meer, S. and Onderco, M., 'An EU-Russia deal to replace the INF Treaty?', European Leadership Network, Commentary, 8 Mar. 2019; and Kuehn (note 41).

[43] RFI, 'Macron says EU must be part of any future US-Russia nuclear missile treaty', 28 Nov. 2019.

VIII. CONCLUSIONS

The crisis in nuclear arms control will continue to pose challenges for European security. The ability of European states to affect US and Russian decision making remains limited, and the scenario of developing an independent and effective EU approach to nuclear arms policy appears unrealistic.

Beyond pleas to both sides to continue with their arms control processes, at this stage the EU can make a threefold meaningful and realistic contribution. First, EU member states can develop and share among their partners ideas about the future of strategic arms control and ways to reduce the role of nuclear weapons globally, starting with the nuclear risk reduction agenda. Second, the EU and its member states can take the lead in developing solutions to some specific non-nuclear arms control challenges, such as a ban on lethal autonomous weapon systems, and the promotion of arms control in space and mechanisms for countering missile proliferation. Finally, the EU member states should at least be open to internal discussions about the best ways to incentivize, or put pressure on, Russia and the USA to proceed with the nuclear arms control agenda, beginning with a New START extension.

ABBREVIATIONS

ABM	Anti-Ballistic Missile (Treaty)
AI	Artificial intelligence
EU	European Union
ICBM	Intercontinental ballistic missile
INF Treaty	1987 Intermediate-Range Nuclear Forces Treaty
NATO	North Atlantic Treaty Organization
NPT	1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty)
PNI	Presidential Nuclear Initiative
SALT	Strategic Arms Limitation Talks
SLBM	Sea-launched ballistic missile
SORT	Moscow Strategic Offensive Reductions Treaty
START	Strategic Arms Reduction Treaty

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A EUROPEAN NETWORK

In July 2010 the Council of the European Union decided to support the creation of a network bringing together foreign policy institutions and research centers from across the EU to encourage political and security-related dialogue and the long-term discussion of measures to combat the proliferation of weapons of mass destruction (WMD) and their delivery systems. The Council of the European Union entrusted the technical implementation of this Decision to the EU Non-Proliferation Consortium. In 2018, in line with the recommendations formulated by the European Parliament the names and the mandate of the network and the Consortium have been adjusted to include the word 'disarmament'.

STRUCTURE

The EU Non-Proliferation and Disarmament Consortium is managed jointly by six institutes: La Fondation pour la recherche stratégique (FRS), the Peace Research Institute Frankfurt (HSFK/ PRIF), the International Affairs Institute in Rome (IAI), the International Institute for Strategic Studies (IISS), the Stockholm International Peace Research Institute (SIPRI) and the Vienna Center for Disarmament and Non-Proliferation (VCDNP). The Consortium, originally comprised of four institutes, began its work in January 2011 and forms the core of a wider network of European non-proliferation and disarmament think tanks and research centers which are closely associated with the activities of the Consortium.

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The main aim of the network of independent non-proliferation and disarmament think tanks is to encourage discussion of measures to combat the proliferation of weapons of mass destruction and their delivery systems within civil society, particularly among experts, researchers and academics in the EU and third countries. The scope of activities shall also cover issues related to conventional weapons, including small arms and light weapons (SALW).

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