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The Crisis Of Conventional Arms Control In Europe And Emerging Technologies: The Need For An Urgent Revision

AN EXPERTISE FORUM CONTRIBUTING TO EUROPEAN ARMIES INTEROPERABILITY SINCE 1953



This paper was drawn up by Florinda Artese under the supervision and guidance of Mr Mario Blokken, Director of the Permanent Secretariat.

This Food for Thought paper is a document that gives an initial reflection on the theme. The content is not reflecting the positions of the member states but consists of elements that can initiate and feed the discussions and analyses in the domain of the theme. All our studies are available on www.finabel.org

TABLE OF CONTENTS

Introduction	3
Arms Control: A Historical Overview	5
Cold War Period: Nuclear Supremacy	6
Post Cold War Period: Renewed Attention On Conventional Weapons	7
The Crisis Of Conventional Arms Control In Europe	8
The CFE	9
The Vienna Document	10
Political Undermine: The Problem Of Threat Perception	11
The Obsolescence Of The European Conventional Arms Control System	12
Emerging Technologies And Traditional Dichotomies	14
Conclusion	16
Bibliography	17

INTRODUCTION

The Conventional Arms Control system in Europe is characterised by three complementary agreements, negotiated, and implemented during the Cold War: The Conventional Armed Forces in Europe (CFE) treaty, the Vienna Document, and the Open Skies Treaty (OST). These three instruments were designed to reduce the risk of war and

CFE in 2007 and *de facto* withdrew in 2015; the CFE-adapted version was never ratified by all participating states. The Vienna Document seems no longer adequate to address current security challenges and modernisation attempts have constantly failed. Lastly, the Trump administration formally withdrew from the OST in November 2020 and Russia



provide a higher level of predictability and confidence in European security through cooperation and exchange of military information. Today these security-building measures have been weakened and their validity is being questioned. Russia suspended the

announced its intention to do the same at the beginning of 2021. In addition to the undermining of their political foundations, another dilemma must be addressed. These treaties are insufficient in dealing with rapid technological development. New technologies have al-

tered the conduct of warfare and consequently, these agreements have become obsolete. The military sector has always been an early exploiter of technological innovations to improve capabilities, effectiveness, and mission success. It may take a long time to fully understand the impact of new weapons and impose appropriate control, we can see this at play in the current debate on unmanned systems and AI, where states are either paying insufficient attention, or do not fully understand the threat. Historically, there are two firm examples of this: first in the German deployment of asphyxiating gases during World War I, and second the US atomic bombing of Japan during World War II. In both cases, the destructive consequences engendered widespread outrage among the public. In 1925 the Geneva Protocol banned the use of lethal gases in war. After WWII, diplomacy encouraged non-proliferation and atomic limitation. Today, new contradictions and challenges could arise from the military's technological innovations, such as artificial intelligence (AI), robotics, cyber and quantum computing. If catastrophic situations are to be avoided, then arms control agreements currently in place must be modernised to account for technological advancements and provide new and adequate constraints. Arms control is a valuable mechanism in decreasing the risk of conflict and preventing arms races. The CFE saw the reduction of the conventional forces in Europe by reducing armoured vehicles, artillery pieces and attack helicopters, amongst other assets that each side could possess¹. However, the large conventional

military confrontation in Europe ended with the dissolution of the USSR and interest in conventional arms control decreased drastically. The Russian operations in Georgia and Ukraine have shaken the international community and demonstrated the need to modernise conventional arms control agreements. Although the agreements currently in place are inadequate to address new security challenges, the concept of conventional arms control is a valuable one. It is fundamental to guarantee mutual military transparency, accountability and trust among states. Without regular exchange of military information and accountability, insecurity could damage European stability. Implementing military technological innovations has made conventional weapons less easily quantifiable and has blurred the lines with non-conventional forces. Moreover, actors, such as China, which is not part of many arms control agreements, are engaged in technological military advancement.

This paper aims to provide an overview of the current conventional arms control framework in Europe. The concept of arms control is placed in a broad context of cooperative security measures. In this paper, we refer to the classical concepts of arms control as a mechanism used by states to agree on armaments constraints to limit arms-races and conflicts. Arms control as a concept is based on transparency and mutual predictability. The paper highlights how the current conventional arms control system in Europe is insufficient to address the challenges posed by emergent and disruptive technologies. We claim that a new arms control approach that considers the fast

1. Dorn Crawford, "Conventional armed forces in Europe (CFE): A review and update of key treaty elements", Washington DC, (2010):30, quoted in Hans-Joachim Schmidt, "Verified Transparency. New conceptual ideas for conventional arms control in Europe", PRIF Report No. 119, (2013): 1.

and mutable aspect of technological progress and therefore predisposed to constant updating is necessary. The paper is structured in three parts. In the first part, we present historical developments that have shaped the international arms control system. These developments underline that the regulation of non-conventional forces, particularly nuclear power, was imbued with greater importance than the limitation on conventional arms. However, the conventional arms control framework represented an important stability tool in Europe and its modernisation is further necessary to avoid escalation. In the

second part, we focus on the three main pillars of conventional arms control in Europe. Their objective is to provide transparency and predictability on military capabilities in Europe to reduce the risk of conflict. Still, renewed political competition is destabilising their effectiveness and decreasing the states' willingness to cooperate. Finally, we deal with how to modernise pre-existing arms control agreements, highlighting how emerging and disruptive technologies are blurring some traditional dichotomies in the security and defence field.

ARMS CONTROL: A HISTORICAL OVERVIEW

The security dilemma and the insecurities related to each country's intentions in the international arena have made cooperative security measures necessary. Arms control, non-proliferation and disarmament are three main instruments of cooperative security related to a state's military capabilities. Although their objectives are the same, i.e., increased peace and stability; disarmament initiatives aimed at the elimination of a category of weapons. They also limit states from acquiring specific weapons that they do not already possess. Finally, the concept of arms control refers to a series of constraints on a state's military arsenal. Arms control focuses on the limitation of types and numbers of destabilising arma-

ments, i.e., weapons that could lead to war or be used in war and could cause arms race. As Schelling and Halperin define in their book *Strategy and Arms Control*, "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"² are encompassed by the term arms control. Arms control arrangements regulate both conventional and weapons of mass destruction. More attention has often been paid to non-conventional weapons (nuclear, chemical, radiological and biological) because of their destructive potential.

2. Thomas C. Schelling, Morton H. Halperin, "Strategy and Arms Control" *New York, Twentieth Century Fund, (1961): 2*, quoted in Lukasz Kulasa, "The Crisis of Nuclear Arms Control and Its Impact on European Security", *Non-Proliferation and Disarmament Papers No. 66 (2020):2*.



Cold War Period: Nuclear Supremacy

The modern concept of arms control was developed during the Cold War. Increased efforts were made in the aftermath of the Cuban missile crisis in 1962, when the possibility of conflict between the two superpowers, which could have drifted towards nuclear war, seemed imminent. In this period, the US and the USSR promoted several bilateral agreements, mainly focused on non-conventional weapons to balance their forces and secure strategic stability. In 1987, for the first time, the two superpowers agreed to reduce their nuclear arsenals and signed the Intermediate-Range Nuclear Forces Treaty (INF). This was suspended in 2019 by US withdrawal on the grounds of Russian violations. In 1972, bilateral conferences aimed to avoid arms races in strategic nuclear weapons led to

the Anti-Ballistic Missile Treaty (ABM) and to the SALT I, an agreement to regulate intercontinental ballistic missiles (ICBM) and submarine-launched ballistic missile (SLBM). The ABM Treaty was suspended in 2002 after the Bush administration's withdrawal; SALT I was replaced in 1979 by SALT II, which never entered into force. In 1991, before the USSR collapsed, new efforts were made in the Strategic Arms Reduction Treaty (START I), which expired in 2009 and was replaced in 2010 with New START. In January 2021, Biden and Putin agreed to extend this, renewing the process of verifiably reducing strategic nuclear forces³.

Besides these bilateral regulations, the military alliances of the US and the USSR: NATO and the Warsaw Pact, respectively, were interested in strengthening their security, and some efforts in arms regulations were made at the multilateral level. The 1970 Nuclear Non-Pro-

3. David M. Herszenhorn, "Putin and Biden confirm extension of New START treaty", Politico, January 27, 2021, <https://www.politico.eu/article/putin-and-biden-confirm-extension-of-new-start-treaty/>; "US, Russia extend New START pact after Biden, Putin phone call", Aljazeera, January 26, 2021, <https://www.aljazeera.com/news/2021/1/26/biden-speaks-to-putin-for-first-time-since-taking-office>

liferation Treaty (NPT) can be considered the landmark of the international agreements to prevent nuclear weapons proliferation. This treaty is one of the most important as it is the one with the widest adherence. Currently, only five countries, South Sudan, India, Israel, Pakistan and North Korea (which unilaterally withdrew in 2003), remained outside the treaty. Other important multinational agreements related to the Cold War include the 1975 Biological Weapons Convention, banning development, production and stockpiling of biological and toxin weapons. The CFE, although late in the game, was crucial in the field of conventional weapons.

Post Cold War Period: Renewed Attention On Conventional Weapons

If during the Cold War, the arms control framework mainly involved the two super-powers and focused on nuclear weapons. After the USSR's dissolution, the relaxation of tension made it possible for more states to participate in the arms controls system. In this context, renewed attention was placed on the need to regulate conventional weapons. In recent years, a better understanding of conventional weapons dynamics has been achieved: these are used daily, causing many injuries and deaths. In 1999, the Ottawa Treaty (Mine Ban Treaty) entered into force, prohibiting anti-personnel mines (APLs) and providing an international response to the use of weapons that cannot discriminate between soldiers and civilians. In 2001 the UN launched a programme to prevent and combat the illicit trade of small arms and light

weapons (SALW). This renewed attention on conventional weapons, particularly on SALW, reflects the overall increase in internal and regional conflicts, where these weapons are mainly used. The shift in the conduct of the conflict has made these weapons more widespread than tanks or aircraft, as these weapons are cheap to acquire. Besides, they are also easy to handle. They are used by different actors, not only by the states but increasingly in organised criminal activities, terrorist groups, armed political militants and could also be used by children. The SALW diffusion blurred the difference between civilians and soldiers' involvement on the battlefield, thus fuelling instability.

The EU plays an important role in combating the illicit trafficking of these weapons. In 2018, Member States adopted a new strategy to tackle the spread of SALW, promoting greater coordination and collaboration. The strategy seems to have a positive impact on the development of a coordinated and well-integrated response. It has been demonstrated that the export control policies of EU member-states require updating⁴. In 2014, another important step in conventional arms control was made by the Arms Trade Treaty (ATT). For the first time, countries agreed to establish common standards for import, export, and transfer of conventional weapons, aiming at reducing illicit trade. Unfortunately, a number of shortcomings make this treaty irrelevant in the overall field of the arms trade. For instance, studies reveal weaknesses in the obligations imposed on importers and a deficiency in the enforcement and tracing process⁵.

4. Nils Duquet, "The 2018 Eu SALW Strategy: Towards an Integrated and Comprehensive Approach", Non-Proliferation and Disarmament Paper No. 62, (2019):20.
5. Laurence Lustgarten, "The Arms Trade Treaty: Achievements, Failings, Future", *The International and Comparative Law Quarterly* 64, no. 3 (2015): 569-600.

From the end of the Cold War to 2014, before Russia's illegal annexation of Crimea and invasion of Ukraine, the tension between the two blocs had relaxed. The post-Cold War period had been characterised by a cooperative approach: both Russia and NATO states had moved from an attitude of defence and deterrence to measures more focused on state-building and cooperation⁶. On both sides, the perception was that a large-scale or similar small-scale conflict (such as Russia-Georgia in 2008) would be unlikely⁷, while the arms race with Russia reduced its pace. Studies conducted on arms control in the early post-Cold War period reflected this trend, focusing mainly on the concept of transparency, mutual trust and confidence. Conventional Arms Control (CAC) was aimed at creating a cooperative security sce-

nario in Europe, hoping for a collaborative NATO-Russia approach⁸. After 2014, cooperation attempts stopped dramatically. States came back to deterrence, and defensive measures and analysis on CAC applications tried to deal with this renewed unilateralism and conflictual patterns⁹.

Moreover, this situation has been further exacerbated by the mutual conviction that the enemy can achieve military superiority by implementing new technologies. In fact, Russia, the United States, and China seem to be increasingly concerned with achieving military advantage; improving and developing their power and exploiting emerging technologies in the weapons sector¹⁰. A new arms race is looming: world-actors are pursuing the improvement of arms through technological progress.

THE CRISIS OF CONVENTIONAL ARMS CONTROL IN EUROPE

Many existing CAC and Confidence and Security-Building Measures (CSBMs) in Europe were negotiated and implemented during the Cold War. Their aim was to prevent a possible military confrontation between Washington and Moscow on the Central European battlefield¹¹. The 1992 Treaty on Conventional Armed Forces in Europe (CFE), the Confidence and Security-Building Measures document (CSBMs) in the 1990 Vienna Docu-

ment and the 2002 Open Skies Treaty (OS) have different approaches and participating states for historical and political reasons. Despite this, all three effectively contributed to reducing the risk of a conflict in Europe, strengthening military stability and transparency on armaments. However, in recent years, they began to lose support and the CAC system entered into crisis on the political and military-technical level.

6. Torben Schurz, "Asymmetrical Arms Control: How to Account for Innovation and Diversity in European Armed Forces", DGAP Kompakt Nr. 12, (2019):5.

7. Jacek Durkalec, "Rethinking Conventional Arms Control in Europe: A Transparency-Centred Approach", PISM Strategic File, (2013):7.

8. Samuel Charap, Alice Lynch, John J. Drennan, Dara Massicot, and Giacomo Persi Paoli, "A New Approach to Conventional Arms Control in Europe: Addressing the Security Challenges of the 21st Century", RAND Corporation, (2020): 83.

9. *ibid.*

10. Michael T. Klare, "A Strategy for Reducing the Escalatory Dangers of Emerging Technologies" Arms Control Association, December 2020, <https://www.armscontrol.org/act/2020-12/features/strategy-reducing-escalatory-dangers-emerging-technologies>

11. Johan Engvall, Gudrun Persson (ed.), Robert Dalsjö, Carolina Vendil Pallin and Mike Winnerstig, "Conventional Arms Control – A Way Forward or Wishful Thinking?", FOI-R--4586--SE, (2018): 84.



The CFE

The CFE, considered the cornerstone of European CAC, was negotiated during the final years of the Cold War, and was signed in November 1990 and entered into force in 1992. It regulates five categories of conventional military equipment (tanks, armoured vehicles, artillery, combat aircraft, attack helicopters) that NATO and the Soviet Union could deploy in the geographical area from the Atlantic Ocean to the Urals. The main goal of the CFE was to control the possession and location of weapons to avoid a potential nuclear response to unexpected attacks. By establishing equal restriction of the maximum amount of both alliances' capabilities, it suppressed Moscow's quantitative superiority¹² and settled a military balance between the two factions.¹³ This treaty was particularly import-

ant as it ensured a threshold of transparency for military forces.¹⁴ After the geopolitical change of the 1990s, particularly the Warsaw Pact and the Soviet Union's breakup, it was clear that the CFE needed to be updated. At the OSCE Summit in Istanbul in 1999, CFE members signed the "Agreement of Adaptation". This new Adapted CFE Treaty replaced the bloc and zonal weapons limits with specific national and regional ceilings.

Moreover, at this meeting, Russia pledged to withdraw its forces and equipment from Georgia and Moldova. In 2002, however, Moscow stated the accomplishment of the Adapted Treaty's weapons limitation, NATO did not ratify the treaty because Russia did not meet part of its Istanbul Commitments (withdrawal of forces from Georgia and Moldova). In December 2007, only Belarus, Kazakhstan, Russia and Ukraine had ratified

12. Daryl Kimball, "The Conventional Armed Forces in Europe (CFE) Treaty and the Adapted CFE Treaty at a Glance", Arms Control Association, August 2017, <https://www.armscontrol.org/factsheet/cfe#:~:text=Negotiated%20during%20the%20final%20years,weapons%20in%20Europe%20by%20setting>

13. Torben Schutz, "Asymmetrical Arms Control: How to Account for Innovation and Diversity in European Armed Forces", DGAP Kompakt Nr. 12, (2019):5.

14. Daryl Kimball, "The Conventional Armed Forces in Europe (CFE) Treaty and the Adapted CFE Treaty at a Glance", Arms Control Association, August 2017, <https://www.armscontrol.org/factsheet/cfe#:~:text=Negotiated%20during%20the%20final%20years,weapons%20in%20Europe%20by%20setting>

the Adapted CFE. The other members (21 NATO members) insisted on their refusal to ratify until Russia completed its commitment. Therefore, blaming the unproductive efforts and delay of the treaty's implementation, Russia unilaterally suspended its implementation of the CFE. With this, Russia denied further data exchanges, notifications, or inspections. The CFE's political foundation was at this point eroded¹⁵. In the following years, several attempts to promote a meeting point between the two factions were arranged, but continuous disagreements never led to a final decision. In November 2011, NATO announced its willingness to cease carrying out CFE Treaty-related data exchange regarding Russia. In the last stage of this tormented confrontation, in 2015, Russia withdrew from the Joint Consultative Group (JCG), the treaty's dispute resolution mechanism.

The Vienna Document

The Vienna Document on CSBMs was first created in 1990 and was subsequently revised: in 1992, 1994, 1999 and the last and current version in 2011. It is considered a politically (not legally) binding landmark instrument in arms control and European security. In this agreement, the member states of the Organisation for Security and Co-operation in Europe (OSCE) agree to implement inspections and data exchange of military information to increase predictability through transparency and openness. The earliest CSBMs were estab-

lished by the OSCE's founding document, the Helsinki Final Act of 1975, which focused on the necessity for members states to exchange information to reduce the risks of conflict and increase trust among members. In the 1996 Framework for Arms Control of the Lisbon treaty, it is stated that arms control, disarmament and cooperative concept of security is central to the OSCE's mission¹⁶. The 2008 Russian aggression against Georgia represented not only a violation of human rights¹⁷ but also a violation of Georgia's territorial integrity and sovereignty.¹⁸ The inviolability of borders, the non-use of force and military transparency are OSCE security principles, which Russia has violated without providing a clear and complete information about its military forces in Georgia and in Crimea.¹⁹ In 2016 there was an attempt to modernise the Vienna Document, which failed because Russia argued that NATO's military deployment to the Russian border rendered the political climate inappropriate for such negotiations.

The Open Skies Treaty

The Open Skies treaty was signed in March 1992 and entered into force in January 2002. Its duration is unlimited, and today it has been ratified by 34 states. It is designed to strengthen mutual understanding and confidence between the signatory states through the possibility for the members to carry out unarmed 72-hour notice observation flights over the territories of other participating

15. Torben Schutz, "Asymmetrical Arms Control: How to Account for Innovation and Diversity in European Armed Forces", DGAP Kompakt Nr. 12, (2019):5.

16. Lisbon Document 1996, OSCE <https://www.osce.org/files/0/documents/1/0/39539.pdf>

17. Luke Harding, "Russia committed human rights violation in Georgia war, ECHR rules" The Guardian January 21, 2021 <https://www.theguardian.com/world/2021/jan/21/russia-human-rights-violation-georgia-war-echr-rules>

18. Natia Seskuria, "Russia's 'Silent' Occupation and Georgia's Territorial Integrity" RUSI, April 18, 2019, <https://rusi.org/commentary/russia%E2%80%99s-%E2%80%98silent-%E2%80%99-occupation-and-georgia%E2%80%99s-territorial-integrity>

19. Johan Engvall, Gudrun Persson (ed.), Robert Dalsjö, Carolina Vendill Pallin and Mike Winnerstig, "Conventional Arms Control – A Way Forward or Wishful Thinking?", FOI-R–4586—SE, (2018): 84.

states. The aim is to collect information on military capabilities and activities to verify arms control and disarmament agreements. This treaty defines technical details for inspections: it established an “active quota”, which is the number of surveillance flights that a participating state shall have the right to conduct and a “passive quota”, which is the number of flights that each state is obliged to accept over its territory. The OST problem is related to its compliance: Russia unilaterally established restrictions on the conduct of observation flights over its territory, particularly over the Kaliningrad Oblast. The justification for this is the prevention of incursions such as the violation of Kaliningrad’s airspace as occurred during a Polish flight of 2014²⁰. The newly elected Biden administration provides new hopes for a revival of the OST. Indeed, Biden has criticised the choice of the previous president. There seems to be a political will to re-join the agreement, nevertheless, at the moment it does not seem to be a priority for the new administration and therefore a possible formal decision will not come in the foreseeable future.²¹

Political Undermine: The Problem Of Threat Perception

According to the US government’s 2010 “Report on Adherence to and Compliance with Arms Control, Non-proliferation, and Disarmament Agreements and Commitments”, the CFE allowed up until 2008 “more than

52,000 conventional armaments and equipment (reduction)” and “6,000 inspections”.²² Nevertheless, the conventional arms control system today seems moribund. The last US Report on CFE compliance highlights how Russia’s belligerence and its unilateral suspension of the CFE strained the conventional arms control system in Europe. Although the treaty still provided transparency about other states’ military forces in Europe, the renewed geopolitical competition following 2014, highlighted that the European continent should pay attention to possible crisis and arms race instability. Moreover, besides Russia, other two countries, Armenia and Azerbaijan, are not certified to be in compliance with the treaty.²³ Reviewing the history of these treaties, it is clear that there is tension and lack of confidence between NATO and Russia is the main destabilising factor of the CAC system. At present, there seems to be no possibility of resolving the problem as states are unwilling to do so.

The political foundations of the CFE were questioned in 2007, with the first Russian unilateral suspension. Russia suspended the CFE because NATO enlargement was counter to its national security. Russia blamed NATO for destabilising the post-soviet space. On the contrary, NATO members claim that Russia violated European post-Cold War security agreements principles with its aggressive attitude in Georgia and Moldova. This distrust reflects the divergent perception of threats that the two factions have.²⁴ From Moscow’s per-

20. Alexandra Bell and Anthony Wier, “Open Skies Treaty: A Quiet Legacy Under Threat”, Arms Control Association, January/February 2019, <https://www.armscontrol.org/act/2019-01/features/open-skies-treaty-quiet-legacy-under-threat#endnote14>

21. Steven Pifer, “Saving the Open Skies Treaty”, Brookings, January 27, 2021 <https://www.brookings.edu/blog/order-from-chaos/2021/01/27/saving-the-open-skies-treaty/>

22. US Department of State, “Report on Adherence To And Compliance With Arms Control, Nonproliferation, And Disarmament Agreements And Commitments”, Department of State, Bureau of Verification, Compliance, and Implementation, July 2010, p. 3 <https://2009-2017.state.gov/documents/organization/145181.pdf>

23. US Department of State, “Compliance with the treaty on Conventional Armed Forces in Europe”, Condition (5) (C) Report, January 2020, 11 <https://www.state.gov/wp-content/uploads/2020/06/Unclassified-2020-CFE-Condition-5C-Report-06.26.2020.pdf>

24. Eloise N. Watson, “Strengthening Conventional Arms Control in Europe: Small steps to overcome big hurdles” Fondation pour la Recherche Stratégique and EUNPD, (2020): 27.

spective, NATO countries are hostile towards Russia. On the other side, Western countries are alarmed by Russia's military actions and its refusal to provide complete information on its deployed military capabilities. NATO accuses Moscow of imposing unilateral restrictions on the conduct of observing flights over its territory and of selectively implementing the Vienna Document's provisions. Moreover, Russia conducted a series of military exercises without proper notification, which is seen as contrary to the spirit of the VD.²⁵ Events in Ukraine and Crimea have exacerbated this situation.

Attempts that have been made to restructure a system of conventional arms control in Europe have always failed. Russia has emphasised the impossibility of achieving a

modernisation of the VD or renegotiating the CSBMs because of the unfavourable political climate. In 2018 the Russian Prime Minister, Andrey Belousov, claimed that "NATO tests have a clear anti-Russian character".²⁶ For its part, NATO has been unwilling to cooperate until Russia returns to compliance with "the very principles that would need to provide the basis for any new conventional arms control effort".²⁷ NATO-Russia tensions continuously undermine European security. The absence of conventional arms control increases the risk of miscalculation and misunderstanding, which could result in military incidents. This growing mistrust led states to invest in military technology to secure their military advantage.²⁸

THE OBSOLESCENCE OF THE EUROPEAN CONVENTIONAL ARMS CONTROL SYSTEM

The analysis of the three cornerstones in conventional arms control in Europe stressed that the CAC system cannot be analysed without considering the specific contest in which it has been developed.²⁹ The threat perception and power dynamics between the two superpowers is an inherent feature of its structure. The treaties now seem to belong to a bygone era because they reflect the historical period

of the early post- Cold War period, when cooperation between the two blocs seemed possible. However, politically, arms control instruments still have a pivotal role.³⁰ Indeed, if from one side their constant erosion injures trust and confidence building on the European security landscape, on the other hand, admitting that these treaties no longer have any validity, would mean taking such a step back

25. Peter Van Ham, "Modernizing Conventional Arms Control in the Euro-Atlantic region", Clingendael Report, (2018):26.

26. Statement by Mr. Andrey Belousov, Deputy head of the delegation of the Russian Federation to the First Committee of the 73rd session of the UN General Assembly on "Regional disarmament and security" cluster, permanent Mission of the Russian Federation to the UN, 2018 available at https://russia.un.org/en/news/eq_dismar1com

27. US Department of State, "Revitalizing Military Confidence-Building, Risk Reduction, and Arms Control in Europe", Remarks by Bruce I. Turner, Deputy Assistant Secretary, Bureau of Arms Control, Verification and Compliance, at the OSCE Security Days Round Table on Re-launching Conventional Arms Control in the OSCE Context, Vienna, Austria, 3 October 2016 in Eloise N. Watson, Strengthening Conventional Arms Control in Europe: Small steps to overcome big hurdles" Fondation pour la Recherche Stratégique and EUNPD, (2020): 11.

28. Alexander Great and Mortiz Kutt, "New Opportunities to Build Trust and Ensure Compliance: Using Emerging Technologies for Arms Control and Verification", IFSH, (2020):6.

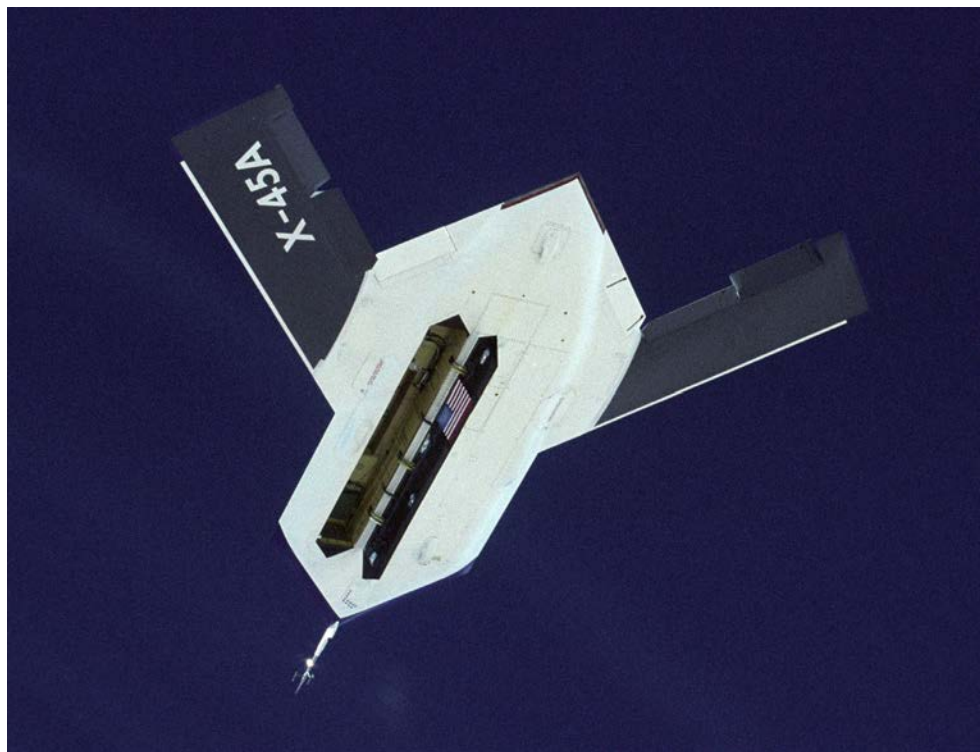
29. Eloise N. Watson, Strengthening Conventional Arms Control in Europe: Small steps to overcome big hurdles" Fondation pour la Recherche Stratégique and EUNPD, (2020): 27.

30. Lucien Kleinjan, "Conventional Arms Control in Europe: Decline, Disarray, and the Need for Reinvention", Arms Control Association, June 2016, <https://www.armscontrol.org/act/2016-05/features/conventional-arms-control-europe-decline-disarray-need-reinvention>

as to nullify any cooperative effort made so far in transparency and predictability of military forces in Europe.³¹

The main problem with the CFE system is its quantitative limitation of weapons, i.e. it limits the number of specific weapons categories, based on a simple headcount of weapons systems. Cutting-edge technologies have transformed weapons, making them less easily quantifiable and identifiable. The technological developments applied in the military field caused qualitative changes in weapons structures, making them more precise or fast. It

means that the importance of the quality of a weapon surpasses the importance of the quantity of forces. For instance, innovations in stealth technologies or in the range and lethality of multiple launch rocket system should be considered when updating the existing CFE categories.³² The quantitative control core of the CFE has two undesirable characteristics emphasised by technological progress: firstly, it incentivises quality improvements for the regulated arms categories; secondly, it incentivises developments on non-regulated categories, causing diverging development



31. Ibid.

32. Łukasz Kulesa, "Making Conventional Arms Control Fit for the 21st Century", European Leadership Network, Post-Conference Report, (2017): 8.

paths.³³ This contributes to the concept of obsolescence of this conventional arms control systems.³⁴ Moreover, the regulatory framework created by the CFE is a “symmetrical” arms control: the value of a specific category of weapons is defined by the fulfilment of specific criteria.³⁵ The technological innovation makes an “asymmetrical” approach that values a specific category of weapons in accordance with its specific performance parameters necessary, assessing its real power.³⁶

The Vienna Document is the main regional framework for confidence and security-building measures. In accordance with this document, member states are annually able to exchange information about their military power and defence budget. The first attempts to modernise the Vienna Document started in 2016. Although some states claimed that the current level of mistrust could not allow the possibilities of modernisation negotiations, the Ukraine conflict demonstrated how it is important to update the Vienna Document’s verification methods. In 2019, during the German chairmanship of OSCE, proposals to update the Vienna Document and make it effective with regard to technological developments were promoted.³⁷ This process is ongoing but it acknowledges the necessity to bring the Vienna Document in line with the requirements of new developments, such as high-precision weapons. The German chairmanship proposed NATO countries to develop a package of measures to modernise

the Vienna Document.

Moreover, the modernisation process focusses on enhanced inspections. Indeed, verification process are crucial for the compliance of arms control regulations.³⁸ Effective verification tools ensure transparency and predictability, creating trust and confidence between states. Emerging technologies can be implemented to make existing verification methods more effective and efficient, for instance they can provide a valid alternative to on-site inspections, considered too intrusive by states.³⁹ The application of emerging technologies in CAC verification methods could help revive these treaties and interrupt their journey towards complete obsolescence. These new verification procedures, being easier to use and more precise, could create a favorable environment for states to generate new agreements.⁴⁰

Emerging Technologies And Traditional Dichotomies

The application of technological innovations in the military sector is necessary to preserve advantages in war and secure weaponry effectiveness. China, Russia, and the US seem engaged in a competitive race to acquire and possess the most innovative and powerful military tools in quantum computing, hypersonic, robotics, AI and cybertechnologies. The risks and ramifications of the military application of this cutting-edge technology is not yet fully understood and recognised and it

33. Torben Schutz, “Asymmetrical Arms Control: How to Account for Innovation and Diversity in European Armed Forces”, *DGAP Kompakt Nr. 12*, (2019):5.

34. *Ibid.*

35. *Ibid.*

36. *Ibid.*

37. “Modernising International Arms Control in Europe”, German Federal Foreign Office, October 2019, <https://www.auswaertiges-amt.de/en/aussepolitik/themen/abruistung/vienna-document-osce/2260098>

38. Alexander Great and Mortiz Kutt, “New Opportunities to Build Trust and Ensure Compliance: Using Emerging Technologies for Arms Control and Verification”, *IFSH*, (2020):6.

39. *Ibid.*

40. *Ibid.*

raises challenges for an effective arms control system. Applying these technologies can represent added value; indeed, they can improve the weapons' performance and provide more application and verification methods. But if use is not well-addressed under international control, it could negatively affect, providing more powerful capabilities for harm and destruction. Monitoring developments and understanding their application in the military realm is crucial in providing predictability in military situations. This is why we need that predictability tools and agreements that keep in line with these developments. Effective arms limitation should mitigate the ongoing competition between states whilst at the same time accounting for technological progress which is necessary to preserve military effectiveness. Therefore, arms control should be flexible enough to account for the continuing development of weapons.⁴¹

The application of technological developments in the military field makes the distinction between traditional dichotomies less clear.⁴² Some of these "familiar and comfortable" distinctions are: war-peace; combat-civilians; offensive-defensive; conventional-nuclear; internal-external.⁴³ Cyber capabilities, for instance, can be used in war and non-war settings. The main problem of the obfuscation of the dichotomy between war and peace would be to apply a legal framework, i.e. to apply the international humanitarian law or not.⁴⁴ Moreover, in the event of a cyber-at-

tack, it may be difficult to attribute responsibility to a state or another entity.⁴⁵

Another dichotomy at risk is that of conventional and non-conventional weapons. Indeed, emerging technologies are not used just in the modernisation and enhancement of nuclear forces, they can also be applied to conventional forces, affecting the nuclear domain. This creates a convergence between conventional and nuclear capabilities. Artificial Intelligence is increasingly used for military purposes, especially in the development of nuclear-capable forces.⁴⁶ For instance, France, the UK, and the US are working on the improvement of new classes of nuclear-powered ballistic missile submarines and AI will be implemented to improve their underwater detection.⁴⁷ AI is used in many more non-nuclear military applications. AI implementation is used to increase precision in selection and tracking, thus, increasing the lethality of conventional arms⁴⁸. The improvement made by AI on conventional weapons makes them adequate "to target hardened nuclear launchers, which until now needed nuclear weapons to breach their defences".⁴⁹ In this way the strategic role of conventional weapons is highly improved, undermining the conventional-nuclear balance.

Moreover, a perceived inferiority in conventional forces may lead to an emphasis on nuclear weapons, potentially increasing the number of nuclear weapons and lowering the threshold for the use of at least tactical nucle-

41. Nicholas Williams and Simon Lunn, "Modernising conventional arms control: an urgent imperative", European Leadership Network, (2020): 9.

42. Siyille Bauer, "New Technologies and Armament: Rethinking Arms Control", July 2020, Clingendael Institute, <https://spectator.clingendael.org/en/publication/new-technologies-and-armament-rethinking-arms-control>

43. Ibid.

44. Ibid.

45. Johan Tureel, Fei Su and Vincent Boulanin "Cyber-incident Management", SIPRI, (2020): 50.

46. Petr Topychkanov, "The impact of Artificial Intelligence on strategic Stability and Nuclear Risk", SIPRI, SIPRI, South Asian Perspectives, Volume III, (2020): 72.

47. Ibid.

48. Ibid.

49. Ibid, p. 13-14.

ar warheads in a conflict.⁵⁰ AI application in the improvement of weapons' speed is an example. If AI application continues to increase autonomous weapon speed, we will reach the point where only other autonomous weapons will be fast enough to respond.⁵¹ This could trigger countries to undertake an arms race to

acquire these new and more effective systems. In this context, conventional arms control that assesses the role of emerging and disruptive technologies is fundamental for monitoring other states' military capabilities to avoid miscalculation and misunderstanding.

CONCLUSION

This paper analysed the major tools of conventional arms control in Europe. Their political foundation has been undermined by renewed confrontation between the US and Russia. The lack of trust between the two blocs has triggered a new arms race in applying technological innovations. Such an application in the military sector makes weapons more difficult to identify and count. Therefore, the three agreements on conventional arms control became outdated and unable to cope with such innovations. However, a solid CAC system is essential to guarantee security and peace. Since technological innovations have blurred the dichotomy between conventional and non-conventional weapons, strategic stability can be challenged by conventional precision-strike systems as well as nuclear weapons.⁵² A control on conventional weapons can hinder military escalation, in particular nuclear escalation. Moreover, conventional arms, in particular SALW, are increasingly common and are widely used: fuelling instability. Usually, the relationship between the US and

USSR is thought to have given shape to the CAC framework, indeed, the EU and its predecessors have often been criticised for being a bystander.⁵³ In recent years, Europe has become increasingly important in arms control, realising that a system to ensure transparency and exchange information is essential for peace and security. Although there have been several attempts to renew the CAC system, the situation still seems to be stuck and for the moment, there is no political will to start a real renovation.

This paper supports the idea that technological advancement should be completely integrated into the CAC system to ensure the effectiveness of validation mechanism and to secure greater transparency on states' military capabilities. The EU in this context should benefit from a more important role, bringing balance between NATO and Russia and taking into consideration all new players, such as China. The EU should lead to the renewal of these treaties by pushing both NATO and Russia to accept increasingly restrictive measures on

50. Torben Schutz, "Asymmetrical Arms Control: How to Account for Innovation and Diversity in European Armed Forces", DGAP Kompakt Nr. 12, (2019):5.

51. Ibid.

52. Lukasz Kulesa, "Making Conventional Arms Control Fit for the 21st Century", European Leadership Network, Post-Conference Report, (2017): 8.

53. Benjamin Hautecouverture, "Europe, Arms Control and Strategic Autonomy: Understanding the Equation for Effective Action", FRS, (2020): 9.

military capabilities and improvements in military transparency. A new international arms control architecture should be reshaped, first of all, identifying all new key players and then assessing a system flexible enough to be

able to ensure the legitimate security interests of all states and at the same time adequate to limit their race to the technological application in the military field.

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