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# **A Fresh Start of Conventional Arms Control in Europe Will Face Many Structural Problems**

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## Summary

With the illegal Russian annexation of the Ukrainian peninsula of Crimea and the destabilisation of eastern Ukraine in 2014, the previous cooperative European security order has broken down and a new confrontation with Russia has emerged. A new arms race between NATO and Russia is looming. In parallel, the existing conventional arms control regimes, the *CFE Treaty*, the *Vienna Document on Confidence- and Security-Building Measures* (CSBM) from 2011 and the *Open Skies Treaty* (OS) are at risk of further deterioration. Since August 2016, Germany has responded to this with the Steinmeier initiative for a relaunch of conventional arms control, which is now supported by 22 states. In the OSCE, this led to the *Structured Dialogue* of all OSCE states in 2017, in which a factual but contentious debate on threats, military doctrines and military postures takes place. It aims for new talks on a mandate for new negotiations on conventional arms control.

However, this faces a plethora of structural problems at the political and military level that render a speedy start of negotiations unlikely. Politically, Russia and the U.S. (for different reasons) are currently not interested in such negotiations, and the tensions between them are being further exacerbated due to the American arms deliveries to Ukraine. The prospects for a speedy settlement of the Russia-Ukraine conflict and the development of a new common European peace order are therefore bleak. In addition, at the military level there are asymmetries in the potentials and doctrines as well as the development of new arms technologies, whose impacts on European stability and security are currently difficult to gauge. This reduces the prospects for conventional arms control negotiations in the near future and raises the question of what can be done instead in the short, medium and long term.

At first, it must be a-priority to preserve the existing arms control regimes until they are replaced by new agreements. They ensure communication channels on security policy with Russia maintain military predictability and avoid a complete rupture with Moscow over European security policy.

In parallel, the *Structured Dialogue* of the OSCE must be continued in order to clarify the convergence and divergence in the threat perceptions and current military postures and the impact of the development of military technologies on future arms control agreements. It also allows for discussions with Russian military experts that have been suspended the NATO-Russia Council since the Russia-Ukraine conflict.

As a supplement, the like-minded group supporting conventional arms control should hold talks on the goals and other parameters (new weapons to be included, area of application, etc.) and thus provide additional impetus for the *Structured Dialogue* if needed.

But the broadening of these important discussions currently faces a double shortage. The arms control departments in many European governments have been reduced, sometimes drastically, and long-serving experienced personnel are retiring due to their age. A similar development is occurring in the international academic field. There, too, many experienced professionals have been leaving due to their age for years. This shortage has to be

counteracted by the governments of the OSCE and EU states and in particular the German government in order to maintain the necessary expertise on arms control policy also in future; otherwise there will soon be a shortage of apt expert personnel for the governments concerned, for international institutions and in the academic field.

This is also necessary for creating a wider acceptance in society for the relaunch of arms control and for mobilising the societies concerned. In parallel, an international debate among academic experts is needed that can contribute via conferences and workshops. Beyond this, the EU Consortium, which advises the EU on matters of nuclear non-proliferation and on small arms, can in future also confer on problems of traditional conventional arms control in order to highlight the importance of this topic for European security.

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## 1. Introduction

The illegal annexation of the Ukrainian peninsula of Crimea in 2014 and the subsequent intervention in eastern Ukraine ended cooperative security policies in Europe and ushered in a new confrontation between Russia and the Western states. This has resulted in a restricted application of the three existing regimes of conventional arms control (CFE Treaty 1990), of military confidence-building (Vienna Document 2011) and of transparency (Open Skies Treaty 2002). Moreover, the outdated CFE Treaty and the Vienna Document on Confidence- and Security-Building Measures no longer reduce all current risks and threats in Europe, as they were created for a different security situation (see Chapters 3 and 4). They, too, are therefore in urgent need of modernisation. However, this is currently not possible because the previously existing foundations<sup>1</sup> of European arms control policy have been largely shattered and a new common security framework is not in sight. At the same time, the political interest in conventional arms control, military confidence-building and transparency has increased again in many states in Europe due to the new confrontation and the ensuing armament measures on both sides.

In his capacity as chair of the Organisation for Security and Cooperation in Europe (OSCE), the former German foreign minister Frank-Walter Steinmeier therefore launched a new initiative in late August 2016 that intends to revive the process of conventional arms control (Steinmeier 2016). Drawing on the Harmel formula<sup>2</sup> from 1967, which states that only deterrence and détente can create common security, the growing military confrontation in Europe is to be met with a security dialogue which allows for new negotiations on conventional arms control and the modernisation of the Vienna Document. The goal is to avoid further escalation in the relations with Russia, a new dangerous arms race and the associated risks for Europe. New ceilings, minimum distances to the border and transparency measures are to create more security and stability in sensitive regions such as the Baltics; new military capabilities (higher mobility and transport capability) and new weapons (unmanned aerial vehicles) are to be covered and to become more transparent through more effective verification.<sup>3</sup> Moreover, areas with contested territorial status, such as Abkhazia as a part of Georgia, are no longer to remain excluded from arms control.

- 1 With its annexation and intervention into Ukraine, Russia has violated several principles of the CSCE Final Act of 1975 and of the Paris Charter of 1990 at once, including: respect for territorial integrity and sovereignty, refraining from the threat or use of military force, principle of peaceful settlement of disputes (Charter of Paris 1990).
- 2 It originated with former Belgian foreign minister Harmel, on whose initiative the Harmel Report was prepared for NATO that created the foundations for the alliance's subsequent political demands regarding arms control.
- 3 The proposals listed in the initiative serve as examples that do not prejudge the content of future negotiations.

Steinmeier's proposal led to the founding of a like-minded group of 16 European states that has by now grown to 22 states.<sup>4</sup> In late November 2016, 14 of them advocated a relaunch of conventional arms control in a joint declaration and for this purpose proposed an exploratory dialogue in the OSCE.<sup>5</sup> On December 9, 2016, the OSCE Ministerial Council in Hamburg then decided to establish a *Structured Dialogue* that is to generally address the current and future security challenges and risks in the OSCE area, lead to a better understanding of them and form the common basis for the road ahead.<sup>6</sup>

At American and Russian request, this dialogue is at first focusing on other security matters (threat perceptions, doctrines and military postures). Later, issues of conventional arms control are also to be discussed, which can then lead to mandate talks and negotiations. On April 7, 2017, the first meeting of the *Structured Dialogue* took place in Vienna with more than 50 OSCE states present, including the U.S. and Russia.<sup>7</sup> This was the start of a constructive discussion on convergent and divergent threat perceptions that was continued at the doctrine seminar in Vienna on May 4 and 5 in a contentious but factual manner. On June 6, a second meeting followed, at which the trends of the military postures were discussed with respect to both potentials and exercises.<sup>8</sup> On July 11, the first results of the *Structured Dialogue* were debated at an informal meeting of the OSCE foreign ministers. Two further meetings took place on September 5 and October 10. Since 2018, the talks are being continued under the new OSCE chair Italy, with Belgian leadership.

This report first provides a short historical overview of how the current blockade in conventional arms control came about. This also serves as a point of departure for analysing the experience with conventional arms control and military confidence-building in the past, during the phase of security confrontation, the transformation phase and the cooperation phase. The section ends with the question of what can be derived from this for the current confrontation phase. This is followed by a brief description of the security deficits of existing arms control regimes. Subsequently, the most important structural problems of

4 This group includes Germany (Chair), Austria, Belgium, Switzerland, the Czech Republic, Spain, Finland, France, Italy, the Netherlands, Norway, Romania, Sweden, Slovakia, Bulgaria and Portugal. On September 29, 2017, Hungary, Liechtenstein, Latvia and Luxembourg joined, on January 19, 2018, Ireland, and on April 25, 2018, Greece joined the group, cf. <http://osce-network.net/coordinators/coordinators-of-arms-control-and-csbms/>; June 15, 2018.

5 Cf. Ministerial declaration by the foreign ministers of the like-minded group supporting a relaunch of conventional arms control in Europe from November 25, 2016 in Berlin, in: <https://www.auswaertiges-amt.de/en/Newsroom/161125-erkl-freundesgruppe-konv-ruestungskontrolle-europa/285610>; April 6, 2018. For different reasons, Romania and Portugal did not back the declaration.

6 Cf. Germany, Organisation for Security and Co-operation in Europe 2016: From Lisbon to Hamburg: Declaration on the Twentieth Anniversary of the OSCE Framework for Arms Control, December 9, 2016, <http://www.osce.org/cio/289496>; April 6, 2018.

7 Cf. OSCE 2017: OSCE to Explore Common Ground on Current and Future Security Challenges, Vienna, April 7, 2017, [www.osce.org/chairmanship/310481](http://www.osce.org/chairmanship/310481); April 6, 2018.

8 Cf. OSCE 2017: Trends in Military Posture in Focus as OSCE Participating States Continue the Structured Dialogue on Current and Future Security Challenges, Vienna, June 6, 2017, [www.osce.org/forum-for-security-cooperation/321641](http://www.osce.org/forum-for-security-cooperation/321641); April 6, 2018



conventional arms control are examined more closely on the political and military level, and initial potential solutions are discussed. On this basis, the consequences for the future of conventional arms control and military confidence-building are discussed in conclusion.

## **2. Growing Mistrust: On the Emergence of the Current Blockade**

Before the Russia-Ukraine conflict, the NATO states had already begun preparing a new framework for further developing conventional arms control. However, the necessity of modernising the CFE Treaty was contested. A mutual threat no longer seemed to exist for many, and the arms race with Russia had largely ceased. The military modernisation programme of the Kremlin since the Georgian war in 2008 rather appeared to counter-balance the modernisation of the Chinese armed forces feared in Moscow. For this purpose, Germany even intended to deliver one of the most modern combat training centres to Russia, and France several helicopter carriers. The military cooperation in the NATO-Russia Council (2002) and the Strategic Partnership with Russia and NATO (2010) launched with the *reset*<sup>9</sup> raised hopes that, with their further development, the security functions of arms control might even be replaceable. Moreover, with its declared reorientation towards Asia, in 2011 the U.S. planned to further reduce its armed forces in Europe by 2017.

However, the conflicts and the distrust between Russia and the Western states also increased early on. The debate on NATO enlargement in the first half of the 1990s offered the Kremlin the first occasion for this. For this reason, in the NATO-Russia Founding Act agreed on in 1997 the alliance states assured Russia that, in addition to renouncing nuclear weapons, nuclear depots and nuclear carrier systems in the new alliance states, they would also not permanently station any substantial conventional combat forces (land and air forces) there (NATO-Russia Founding Act 1997: Chapter IV). Russia responded to this with a corresponding restraint towards the Baltic states and bilaterally towards Norway. As a supplement, in the adapted CFE Treaty (aCFE) signed in 1999, the ceilings were to be lowered further for reasons of stability, and their temporary exceedance, for example in manoeuvres, was to be made transparent and observable in the framework of a new

9 The relations between the U.S. and Russia deteriorated drastically with the NATO decision in Bucharest in 2008 to one day also admit Ukraine and Georgia into the alliance and with the subsequent attack by Georgia against South Ossetia. U.S. President Obama tried to fix this at the beginning of his term in office with the so-called *reset*.

limitation concept<sup>10</sup>. The new agreement was open to all European countries, including the new NATO states<sup>11</sup> that were not part of the CFE Treaty. It was intended to mitigate Moscow's security worries about NATO enlargement. However, the aCFE Treaty never entered into force. The American government under President George W. Bush was not interested in conventional arms control, and in 2002 the NATO states linked its ratification to additional political demands towards Russia for the unsettled territorial conflicts in Georgia and Moldova in the territory of the former Soviet Union (Prague Summit Declaration 2002: Para. 15). However, Putin only fulfilled a part of them, for the Kremlin had by then instrumentalised these conflicts against the enlargement of the alliance.

Moreover, in 2002, the U.S. withdrew from the Anti-Ballistic Missile (ABM) Treaty and thus abolished a core element of global nuclear strategic stability. The second NATO enlargement in 2004 with the Baltic states, which were not parties to the *CFE Treaty*, prompted Russia, Belarus, Kazakhstan and Ukraine to ratify the adapted CFE Treaty in the hope of persuading the Western alliance states to follow suit. However, the latter continued the debate on the alliance's enlargement and planned to station new U.S. missile defence systems in Europe to protect against future Iranian missiles. But in Russia's view, this also threatened its nuclear strategic second-strike capability in the long term. Since bringing the aCFE into force was not successful by late 2007, Putin suspended the CFE Treaty. He no longer wanted to tolerate separate limits on his territory for the northern and southern flanks while more and more countries were joining NATO which, like the Baltic states in contrast to the Russian enclave of Kaliningrad, were not subject to any arms control limitations whatsoever.

In 2008, NATO decided to one day also accept Ukraine and Georgia into the alliance and thus expand further into the territory of the former Soviet Union beyond the Baltic states. This new conflict culminated at first in the war against South Ossetia in the same year, which was started by the Georgian President Saakashvili because he felt provoked by Russia. The EU under French leadership mediated a ceasefire and the withdrawal of most Russian troops from the Georgian heartland. Shortly after, however, Russia recognised the independence of the two Georgian entities of Abkhazia and South Ossetia and thus exacerbated the existing territorial conflicts in Georgia. The Geneva talks under the joint leadership of the EU, UN and OSCE have since served to manage this conflict politically.

U.S. President Obama then initiated a short turn in the relations with Russia with his *reset* in 2010. While the conclusion of a new parity-based nuclear strategic arms reduction agreement for offensive weapons (NSTART) was successful, a parallel bilateral agreement

10 The limitation concept of the aCFE no longer included any regional ceilings but only national and territorial ceilings. National ceilings limit the armed forces of a country in the entire area of application, and territorial ceilings limit the total strength of the armed forces for a country, including all stationed troops. For reasons of flexibility, limited temporary (153 battle tanks, 241 armoured combat vehicles and 140 artillery systems) and limited extraordinary temporary exceedances (459 battle tanks, 723 armoured combat vehicles and 420 artillery pieces) of the territorial ceilings, including regular inspections on the ground, were permitted. Cf. aCFE Treaty, Art. 2, Para. 4, Art. 8 and Protocol on Inspection Section IX.

11 This now includes Latvia, Estonia, Lithuania, Slovenia, Albania, Croatia and Montenegro.

for the U.S. missile defence system planned in Europe was not possible (see Chapter 6.4). Moreover, the informal talks in the “36 format”<sup>12</sup> on a new framework for conventional arms control that were started after the NSTART agreement failed. The reason was the American demand to additionally link the general formulation on the principle of host-country consent<sup>13</sup> in the aCFE Treaty to the restoration of the borders of Georgia before the Georgian war in 2008. Russia rejected this and in May 2011 left the talks that had begun in late 2010.

In 2009, as a reaction to the Medvedev Initiative for a new European security treaty in 2008 that was rejected by the West, Greece initiated the Corfu Process for reviving military confidence-building. Its results were confirmed at the OSCE summit in Astana in 2010 and generated many modernisation proposals for the Vienna Document. However, this process came to a standstill in 2011. Subsequently, the U.S. and the remaining NATO states with Georgia and Moldova withdrew from the annual CFE data exchange with Moscow in autumn 2011.<sup>14</sup> In response, Russia discontinued the annual information on its numbers of total holdings for the respective CFE weapons categories and host countries that it had still been providing unilaterally after its suspension of the CFE Treaty. The NATO states, however, continued internal negotiations on a new framework for future conventional arms control negotiations that was then adopted in autumn 2014 despite the Russia-Ukraine conflict (Jahresabrüstungsbericht 2014: 52). When this will form the basis for new negotiations depends on the further development of the Russia-Ukraine conflict.

### **3. Past Experience with Conventional Arms Control**

The Russia-Ukraine conflict ended a 24-year phase of cooperative security in Europe. A new phase of military confrontation has begun. This firstly raises the question of what experience was gained in the past with conventional arms control and military confidence-building under confrontative military conditions? Secondly, what events and actions contributed to the new military confrontation in the ensuing cooperation phase? Until 2014, the development can be divided into three phases in a simplified model: a phase of military confrontation from 1975 (Helsinki) to mid-1989, a transformation phase from mid-1989 to 1992 and a cooperation phase from 1993 to 2014. When these phases are examined with respect to what kinds of conventional arms control agreements were able to succeed in them, the following becomes clear:

12 The format included the participation of all NATO and CFE signatories.

13 The principle states that foreign troops may only be stationed with the consent of the host country.

14 This is more a political-symbolic step, as Russia continues to receive the CFE data exchange from either Belarus or Armenia.

In all three phases, so-called soft agreements on transparency and on military confidence-building were possible.<sup>15</sup> However, comprehensive agreements on conventional arms control only succeeded in the short transformation phase (CFE Treaty 1990, CFE 1A Agreement 1992, Tashkent Agreement 1992). The greatest successes for military confidence-building and conventional arms control were achieved in this phase. Conventional arms control failed completely, however, in the phase of military confrontation, apart from possible negotiations. In the phase of military confrontation, the MBFR negotiations<sup>16</sup> in 1989 failed because due to the distrust at the time the chosen area of application in Central Europe was much too small for reasonably regulating the military asymmetries existing at the time. They were replaced by the spatially much more extended CFE talks that spanned Europe from the Atlantic to the Urals.

In the transformation phase, the democratisation of the Eastern states and the disintegration of the Warsaw Pact and of the Soviet Union led to the end of the conventional arms race in Europe. Thus, conventional arms control's function for arms race stability and the resulting pressure for its speedy modernisation were gone. Secondly, the function of reassurance through the CFE Treaty against a renewed military confrontation, which was initially particularly highlighted, fell into oblivion.

While there were comprehensive negotiations on conventional arms control in the cooperation phase, there was no successful conclusion: First, the politically binding negotiations on harmonisation failed between 1994 and 1995 mainly because there was no military threat emanating from the countries covered (Schmidt 2004: 229–235). These talks, which had started in 1992, were to limit the Neutral and Non-Aligned States (N+N States), by analogy with the CFE Treaty. Secondly, the legally binding aCFE Treaty, which had been intended as a successor to the CFE Treaty, failed in 2007 because Russia, which at the time was still deemed to be militarily weak, did not pose a genuine threat under cooperative conditions. The Western states attached more importance to the political settlement of territorial conflicts in Georgia and Moldova as well as to NATO enlargement than to a comprehensive reconciliation of interests with Russia regarding conventional arms control policy. At least, two limited conventional arms control agreements were achieved in the cooperation phase in 1997. On the one hand, there were the politically binding regulations in the NATO-Russia Founding Act (1997), and on the other, the legally binding

15 Confrontation phase 1975 to mid-1989: 1975: voluntary confidence-building measures of Helsinki; 1986: confidence- and security-building measures of the Stockholm Agreement; transformation phase mid-1989 to 1992: CFE Treaty 1990, Vienna Document 1990, Vienna Document 1992, CFE 1A Agreement; cooperation phase 1993–2014: Vienna Documents from 1994, 1999 and 2011, Agreement on Global Exchange of Military Information from 1994, Open Skies Treaty 2002, many supplementary bilateral CSBM agreements. The Sub-Regional Arms Control Agreement for Serbia, Bosnia-Herzegovina and Croatia in 1996 as well as the CSBM agreement for Bosnia-Herzegovina in the same year are not included since they were enforced arms control regimes based on the Dayton Peace Agreement from 1995.

16 With the MBFR = Mutual Balanced Force Reduction negotiations, the conventional armed forces of both sides in Central Europe (NATO: West Germany and the Benelux states; WTO: East Germany, Poland, the ČSSR and Hungary) were to be disarmed asymmetrically to the same ceilings from the Western perspective and with symmetrical disarmament measures to asymmetric ceilings from the Eastern perspective.

modification of the CFE flank rule (1997) in favour of Ukraine and Russia. However, in the cooperation phase, the West missed the opportunity to modernise the existing agreements and to better prepare them for the stabilization of crisis situations as well as for a possible deterioration of the relations.

Although the circumstances of the Cold War are not fully comparable to the current situation, past experience with conventional arms control is hardly encouraging for the new phase of military confrontation. For the past has taught us that comprehensive agreements were not possible in such a phase, neither in confidence-building nor in conventional arms control. Only limited agreements on confidence-building and limited negotiations on conventional arms control were realisable. However, conventional arms control negotiations were of some relevance for security policy in the military confrontation phase, especially in the first half of the 1980s. In this phase of deteriorating relations between the NATO states and the Soviet Union after the Soviet intervention in Afghanistan in 1979, they were at times the only permanent channel of security talks. Moreover, these talks helped both sides learn more about the mutual threat perceptions, the differences in strategic thinking and the military asymmetries. Western thinking on arms control thus also entered the Eastern European and Soviet discourses on arms control policy. This later facilitated the talks on the CFE Treaty. In the new *Structured Dialogue* in the OSCE, all member states are faced with a similar process, albeit under changed circumstances.

#### **4. Deficits of Existing Regimes**

The main problem of the existing regimes lies in the fact that they were created for a political and military threat situation that has long ceased to exist. This applies especially to the CFE Treaty, which limits the conventional potentials. Its regulations refer to the two groups of states from the two former alliances at the end of the East-West conflict. They were separated by the former East-West border in Central Europe. In a cumulative regional limitation concept between the Western and Eastern groups of states, parity-based limitations were used to drastically reduce the military threat from Central Europe and to prevent a surprise and comprehensive attack. The scope of deployments admissible based on parity for the limited weapons categories (battle tanks, armoured combat vehicles and artillery with a calibre of 100mm and above) of the land forces was therefore the lowest in the region of Central Europe, which also includes Germany, and increased in two other regions towards the Atlantic and the Urals. The flanks in the north and south of Europe were combined into a region for each group of states and limited separately for stability reasons, in order to avoid destabilising concentrations of weapons there.

However, after the disintegration of the Warsaw Pact and the Soviet Union in 1991 and even before the CFE Treaty entered into force in November 1992, the regional limitation

concept based on the numerical balance between two military blocs became obsolete.<sup>17</sup> The subsequent enlargement of the alliance and the EU led to all states in the central region by and by joining NATO and the EU. Its division into two groups of states based on parity for arms control purposes has thus been rendered meaningless for security policy. This applies similarly to the flank regions. Romania and Bulgaria used to belong to the Eastern group of states but joined the Western alliance in 2004. Since 2006/2007, American rotating combat formations are stationed there, too (Richter 2016).

The outdated regional CFE limitation concept with its bloc-to-bloc approach is not suited for settling the current military security problems of Poland, Ukraine, the South Eastern European states and Russia. The separate CFE limits of the former military district of Kiev in Ukraine no longer do justice to today's security situation. Moreover, despite the armament to be observed there in a region that is very sensitive with respect to security policy, the Baltic states do not belong to the CFE Treaty, and since late 2007, Putin has suspended the implementation of the CFE Treaty.

In addition, for most member states the CFE Treaty's national ceilings in the limited five weapons categories are significantly higher than their holdings. Due to the alliance's enlargement with Bulgaria, the Czech Republic, Hungary, Poland, Romania and Slovakia, the sum of all national ceilings of the NATO states belonging to the CFE Treaty amounts to 25,992 battle tanks, 25,111 artillery pieces, 39,822 armoured combat vehicles, 8,297 combat aircraft and 2,515 attack helicopters. However, in 2016 their holdings only amounted to 9,660 battle tanks, 11,831 artillery pieces, 21,119 armoured combat vehicles, 2,880 combat aircraft and 750 attack helicopters.<sup>18</sup> In view of the new confrontation with Russia, there is enormous scope for armament for the NATO countries: 16,332 battle tanks, 13,280 artillery pieces, 18,703 armoured combat vehicles, 5,417 combat aircraft and 1,765 attack helicopters. In addition, the Baltic states, Slovenia and Albania are not subject to any CFE limits. Consequently, the treaty has neither a dampening nor a stabilising effect there.

This also applies similarly, although not as drastically, to the member states of the Collective Security Treaty Organisation (CSTO) that are covered by the CFE Treaty, i.e. to Armenia, Kazakhstan, Belarus and Russia. The sum of their CFE ceilings amounts to 8,420 battle tanks, 8,315 artillery pieces, 14,300 armoured combat vehicles, 3,825 combat aircraft and 1,005 attack helicopters. However, in 2016 their holdings only amounted to 6,552 battle tanks, 7,278 artillery pieces, 12,204 armoured combat vehicles, 2,045 combat aircraft and 472 attack helicopters.<sup>19</sup> In this case, the options for armament are significantly lower than for the NATO states.

17 The strengthening of the national ceilings at the extraordinary conference of parties to the CFE Treaty on June 5, 1992, only included a limited adjustment, since other parts of the treaty continued to be based on the bloc-to-bloc approach (Schmidt 2004: 192–193).

18 Own calculations based on the Annual Disarmament Report (Jahresabrüstungsbericht 2016: 94).

19 The CFE data on holdings from 2007 were used for the author's own calculations for Russia. They are no longer up to date and are therefore probably now slightly higher than the numbers indicated.

So far, conventional arms control in Europe has only covered the land and air forces of the participating states; the naval forces were largely excluded. Russia has been wanting to include them for a long time. Their relevance for military operations on land is increasing due to their equipment with accurate long-range missiles that can also be used against land targets. Moreover, the definition of the five weapons categories covered has not been adapted to the current development of military technologies. Today, light battle tanks and armoured combat vehicles play a greater military role in the land forces because of their increased mobility and better armament. However, the existing definitions of the CFE Treaty cover them at most partially, as so-called *look-alikes*<sup>20</sup> of armoured combat vehicle types limited by the Treaty, and thus they are only subject to transparency and verification rules. These rules also apply to multi-purpose attack and unarmed transport helicopters as well as primary trainer aircraft.

Remote-controlled weapons systems – such as unmanned aerial vehicles – are also gaining in military relevance. The development of new weapons technologies, such as laser cannons, other directed-energy weapons and railguns, has not yet been taken into account at all. So far, transport aircraft have been completely and transport helicopters partly excluded, although they are very important for the quick transfer of highly mobile combat formations. Combat support systems, such as air and missile defence systems, should also be covered for reasons of stability. It should be discussed to what extent further combat support systems are to be taken into account when they are used as force multipliers, such as the airborne warning and control aircraft. Moreover, in dynamic wars fought with modern conventional weapons, logistics plays an increasing role, but it is not yet covered by conventional arms control. It should be discussed with respect to stability criteria to what extent such weapons and support systems should be included in transparency and verification measures as well as in limits, in order to achieve a sustainable increase in military predictability.

In contrast to the CFE Treaty, the Vienna Document of 2011, which is meant to render military activities more transparent and predictable in order to prevent conflicts, extends to all OSCE states (without Mongolia). While it was modernised in 1992, 1994, 1999 and 2011, little has changed so far with respect to its basic structure, which is still oriented towards the old East-West conflict. This document has deficits in three major areas. For one thing, its efficiency under the changed practice of military exercise (smaller exercises with smaller formations) has decreased (von Arx 2014). The threshold values for giving notice of and observing military activities are too high and would have to be adapted to the changed

20 The so called *look-alikes* consist of armoured combat vehicles (armoured personnel carriers or armoured infantry fighting vehicles) which have the same chassis as a limited vehicle type but are either unarmed or does not correspond to the limited weapons system because of other criteria. Since these systems that resemble combat vehicles can quickly be retrofitted in order to bypass the ceilings, their holdings must also be reported and verified.

military structures and exercise practice.<sup>21</sup> Moreover, the notification and monitoring of military activities should not be tied to the assignment to a single operational command, as the assignment to several commands is being used to circumvent the threshold values. Since 2013, snap exercises have increasingly been used by Russian armed forces in particular in order to circumvent the prior notification of military activities. As far as these exercises are carried out outside of military facilities and near the border, they weaken the warning and conflict prevention function of the Vienna Document for neighbouring states. Moreover, the efficiency of inspections could be increased if the permitted number of inspectors and accompanying persons would at least allow for forming two inspection teams per observation. Furthermore, defence is increasingly being organised multinationally and in cross-national cooperation. The establishment of multinational formations creates an increasing grey area with their activities that has so far not been covered by the Vienna Document and conventional arms control.

Secondly, due to the new confrontation, there is a need for measures that better capture the military dynamics of preparing a possible military engagement and render them more transparent (von Arx 2014). This includes more transparency in mobilising and transferring armed forces with strategic relevance, e.g. by subjecting the transit of formations and the transfer of quick (multinational) intervention formations into staging areas or near the border to notification and, from a certain size upwards, also to observation. The transfer of naval forces in and between the European marginal seas should also be taken into account in future, as their relevance for land war operations is increasing.

Thirdly, the experience in the Russia-Ukraine conflict (Richter 2014:4) has revealed the deficits in the crisis mechanism of the document. The number of three permitted inspections per year and country for monitoring military activities is far too low for crisis situations. Moreover, there is a lack of regulations that allow for follow-up inspections also outside of the usual quotas during crises. In addition, the OSCE has so far not been allowed to conduct any fact-finding missions of its own for clarifying the security situation on the ground before, during and after conflicts.

21 The notification thresholds (at the divisional level) are: 9,000 troops, including support troops, 250 battle tanks, 250 artillery pieces or 500 armoured combat vehicles; 200 sorties by aircraft; engagement of 3,000 troops in an amphibious landing, a heliborne landing or a parachute assault. The thresholds for observation (at the corps level) are: 13,000 troops including support troops, 300 battle tanks, 500 armoured combat vehicles or 250 artillery pieces; engagement of 3,500 troops in an amphibious landing, a heliborne landing or a parachute assault (Vienna Document 2011: 21, 24).



## 5. Political Structural Problems of Conventional Arms Control

Conventional arms control is facing significantly more problems than the three conventions on biological, chemical and nuclear disarmament, for example, or the convention on mines and cluster bombs, since it is not about abolishing an entire category of weapons but, apart from transparency and verification, merely about their limitation and partial disarmament. The goal of completely disarming a weapons category, as in the case of the Landmine Convention, is clear and unequivocal and easier to implement, once the states have agreed on it. By contrast, the situation is more complex in the case of conventional arms control, as something is always meant to be maintained for defence. Even if policy-makers agree on the goals and the criteria of conventional arms control, there is still a spectrum of different legitimate assessments in and among the states regarding the military capabilities of the remaining potentials. This variance in assessment complicates arms control. Moreover, usually the militarily stronger party is less interested in conventional arms control while the weaker party is all the more interested. In addition, there is a conflict of interests because the stronger party usually wants to secure its superiority with arms control policies, while precisely this is questioned by the weaker party.

Furthermore, there is the issue of defining stability. In the CFE Treaty, the parity between the two military alliances NATO and the former Warsaw Pact as well as the reduction of their large troop concentrations formed the basis for stability in Central Europe<sup>22</sup>. However, parity became obsolete with the dissolution of the Eastern alliance. The national ceilings of the CFE Treaty, however, are so high for many states that – without further limitations – they hardly create stability, especially for smaller neighbouring states. Additional criteria are needed for strengthening stability. For one thing, according to the criterion of sufficiency, only those armed forces are to be maintained that are actually required for defence. For this purpose, the current national ceilings would have to be lowered significantly and adapted to existing holdings. Secondly, larger destabilising troop concentrations, especially near the border, should be avoided through additional limits on the land forces. For land-based troops remain decisive for conquering and occupying foreign territory, independently of new forms of warfare and the use of digital means of war.

Moreover, the existing European security order has been shattered with the Russia-Ukraine conflict, and a new one is not in sight. But Europe-wide arms control agreements in particular need to be based on a common understanding regarding the security order, otherwise they are hardly possible. Furthermore, the existence of unresolved territorial conflicts creates an additional problem. For new measures cannot be negotiated without the consensual determination and recognition of state borders. Areas with territorial conflicts either have to be excluded from arms control, or new ways have to be found of including them in arms control. These problems will be considered in depth in the following.

22 Parity *per se* does not enhance stability. If both sides are structured for military offence, parity can also have a destabilising impact.

## 5.1 Decreasing interest

For many reasons, the interest in conventional arms control and its modernisation has strongly decreased in the Western states and in the U.S. in particular since the end of the East-West conflict. The Warsaw Pact fell apart in 1991, and the Soviet Union dissolved into 15 successor states only one year later. Through the arms reductions planned until late 1995 in the framework of the CFE Treaty, Russia (succeeding the Soviet Union) did not pose a military threat to the NATO states for many years. The U.S. became the only military superpower and took on its new leadership role for global security in the course of the 1990s. The result of the U.S. congressional elections in 1994 accelerated this change. The Republicans, who were critical of arms control, won the majority with Senator Jesse Helms and lastingly weakened the independent U.S. Arms Control and Disarmament Agency by integrating it into the State Department by the end of the decade.

In contrast to the U.S. government, the conservative majority of the U.S. Congress at the time was hardly interested in a reconciliation of interests with Russia regarding arms control policy. Instead, they tried to strengthen the sovereignty of the small Soviet successor states in the territorial conflicts with Russia, for instance with the 14 conditions on ratifying the Flank Agreement in 1997<sup>23</sup>. This qualitative reorientation of conventional arms control policy was later adopted by the American government and the alliance partners. The principle of host-country consent gained in political importance for the sake of promoting the withdrawal of Russian stationed troops from Georgia and Moldova. In addition, new violent conflicts mainly emanated from non-state actors, who were very difficult to cover with the existing instruments of intergovernmental arms control. This strengthened the critics of conventional arms control.

The election of U.S. president Obama did bring some progress in nuclear strategic arms control and disarmament with the NSTART Treaty, but not in the conventional area. When the president advocated complete worldwide nuclear disarmament in his Prague speech, many at the expert level were conscious that this could only be realised at the regional and global level if the conventional military forces were also correspondingly stabilised through limits. Thus, with this speech the U.S. should have become a worldwide driver of conventional arms control. However, the further reduction of nuclear weapons was to be compensated by new conventional weapons and capabilities in missile defence, for instance, for which limits were to be avoided, the “conventional long-range strike” and the “conventional prompt global strike” (Nuclear Posture Review 2010: IX, X, XII, 24). The United States continued to adhere to its ambition of being militarily superior to everyone else (National Security Strategy 2010: 5, 14, 17–18). However, with this stance the U.S. government could hardly become the promotor of conventional arms control and disarmament.

23 Cf. U.S. Senate, 1997: Text of the Senate Resolution of Advice and Consent on the CFE Flank Document, May 15, 1997, in: *Arms Control Reporter*, 5: 97, 407, D, 110–116.

Moreover, the U.S. armed forces saw an opportunity in the new confrontation with Russia to avoid further cuts in their budget in the course of the U.S. national budget consolidation. Since 2015, their most important commanders have therefore been referring to Russia as the new main threat to the U.S., and they use this for new demands that benefit their armed forces.<sup>24</sup> A strategic debate on what goals the U.S. should pursue with conventional arms control has thus not existed. American advocates of conventional arms control are now only to be found in a few liberal think tanks such as the Arms Control Association and the Brookings Institution, in the State Department and in NATO.

The new U.S. president Donald Trump initially wanted to improve relations with Russia, but his business relations with Russia and possible collusion of his election team with Moscow are currently being investigated by the U.S. Congress. Especially the Republicans supporting him are very critical of Russian attempts at manipulating elections. A speedy permanent improvement of relations therefore seems rather unlikely.

In addition, Trump wants to shift the costs of military alliances towards the alliance partners with his America First policy. Therefore, he insists that all NATO states adhere to the two-percent rule, which obliges them to expend this percentage of their GDP for defence. Since most NATO states apart from Poland, Greece, the United Kingdom and Estonia do not achieve this target, new proposals on conventional arms control would be rather counterproductive in this respect from the American perspective. The new national defence strategy of the U.S. and the Nuclear Posture Review (NPR) from 2018 could also impede conventional arms control. The U.S. views China and Russia as its new authoritarian strategic competitors; together with the NATO alliance, the U.S. wants to maintain military superiority over them and negotiate from a position of strength (NDS 2018: 1, 4–6, 8–9; NPR 2018: I, V). This is met with rejection in Russia. On the other hand, the U.S. is potentially willing to extend the NSTART Treaty for another five years until 2026 (NPR 2018: 73). It would then remain committed to the principle of parity at the nuclear strategic level. The planned modernisation and expansion of the U.S. nuclear weapons also reduces the pressure to further conventionalise nuclear options; “conventional long-range strike” and “prompt global strike” are no longer mentioned in the new NPR. This can also facilitate conventional arms control.

Moreover, the conservatives who are critical of arms control have a blocking minority against any legally binding arms control agreement, since the U.S. constitution requires a two-thirds majority for the ratification of treaties. When countries such as Russia and Turkey demand a legally binding international treaty, it is unclear how it is to successfully pass the U.S. Senate. However, in the past, Republican presidents had an easier time getting

24 According to General Joseph Dunford, Chairman of the Joint Chiefs of Staff, cf. N.N. 2017: Joseph Dunford Says Russia Most Military Capable Country of Those Posing Threat to US, (2017), in: ITAR-TASS, July 23, 2017, <http://tass.com/world/957384>; April 6, 2018. The USMC Commander, General Robert Neller, also refers to Russia as the “greatest potential threat”. Cf. Gould, Joe 2015: Aspiring USMC Chief: Russia Threat On Par With Radical Extremism, in: Defense News, July 23, 2015, [www.defensenews.com/congress/2015/07/23/aspiring-usmc-chief-russia-threat-on-par-with-radical-extremism](http://www.defensenews.com/congress/2015/07/23/aspiring-usmc-chief-russia-threat-on-par-with-radical-extremism); June 10, 2018.

arms control treaties passed by the U.S. Senate because they had less to fear from the blocking minority of the conservative Senators. Whether this also applies to Trump seems rather doubtful at the moment, given the Republican members of Congress critical of Russia.

Moreover, the Western states and Russia are pursuing contrary goals regarding arms control policy. In view of the great distrust, the NATO states first want to focus on improving military confidence-building and transparency as well as the associated Vienna Document from 2011. By contrast, Russia wants to know how conventional arms control in Europe will proceed. It wants concrete de-escalatory steps and rejects mere negotiations on more military transparency and confidence-building. At least, Putin took up a Finnish proposal in 2016 not to switch off the transponders in military aircraft in the Baltic area and issued an invitation to military expert discussions on this in Moscow. However, the concessions are not far-reaching enough for the NATO states. After all, from the Russian perspective the continued sanctions against Moscow because of the Russia-Ukraine conflict are not compatible with the goal of confidence-building.

In addition, since the failure of the aCFE, the lead in arms control matters has passed from the Russian foreign ministry to the defence ministry, which is significantly less interested in arms control. There, arms control will only be back on the agenda once the modernisation of Russia's own armed forces has been accomplished.<sup>25</sup> Russian advocates of conventional arms control are now only to be found in a few think tanks such as the PIR centre, the Institute of World Economy and International Relations (IMEMO), at Carnegie Moscow and in the Russian foreign ministry. At least, the new military doctrine from 2014 continues to emphasize that Russia is willing to engage in conventional arms control and military confidence-building.<sup>26</sup> Therefore, for different reasons neither Russia nor the U.S. has a very strong interest in conventional arms control, whereas in Europe the interest is increasing again.

## **5.2 European security order shattered**

The expansion of the EU and NATO has significantly changed the political and security landscape in Europe since the end of the East-West conflict. Russia had indeed always criticised the enlargement of the Western alliance. Up to the enlargement decision on Georgia and Ukraine in 2008 and the Georgian war, Russia had accepted the principle of free choice of alliance in many documents (CFE Treaty, failed aCFE Treaty and NATO-Russia Founding Act), with the caveat of excluding the territory of the former USSR. With his Ukraine policy, Putin is apparently making it clear that, having regained its strength, Russia will resist a further expansion of the Western alliance in the area of the former Soviet

25 Information from a conversation with a former Russian general on April 23, 2015 in Berlin.

26 Cf. Military Doctrine of the Russian Federation as amended on December 26, 2014, Moscow 2014, item 21, j).

Union, if necessary by violent means. But Western states refuse to acknowledge a Russian sphere of influence. This has resulted in a rupture of the cooperative European security order. Russia, however, is indirectly threatening that it can question the current status of the Baltic states and thus aggressively pushes back against this enlargement of the alliance.<sup>27</sup> It is contested whether Russia could conquer and hold the Baltic states, but in any case, it would be capable of destabilising them (Bonds/Johnson/Steinberg 2015: 7–8). However, a further destabilisation of Ukraine, Georgia and Moldova seems more probable due to the significantly smaller risk.<sup>28</sup>

European security policy is currently faced with a double demarcation problem: On the one hand, Putin deliberately wants to increase Russian unpredictability in order to increase its deterrence effect, precisely because of its own weakness. For this reason, he leaves open whether Russia tends towards defensively maintaining and securing its influence in the area of the former Soviet Union. Or whether Russia wants to also go on the offense, aggressively destabilising the Baltic states that belong to NATO and the EU or maybe even other former member states of the Warsaw Pact, or even initiate a revision of the NATO (and EU) enlargement. Brexit, the growing conflicts and differences in interests within the EU, the increasing influence of right-wing political forces in many EU states, which are partly supported by Moscow, and growing Russian capabilities in cyber attacks increase the chances of Putin exerting influence offensively. On the other hand, the NATO states are faced with the question of whether and under what circumstances they want to continue to adhere to the alliance's enlargement, especially in the territory of the former Soviet Union – for example, in the cases of Georgia and Ukraine. For a further enlargement of the alliance that would bring the territorial conflicts existing there into its fold could quickly push NATO into a direct confrontation with Moscow (Pifer 2017). This does not lead to more, but to less security and stability. *De jure*, the alliance may adhere to the principle of free choice of alliance, but *de facto*, a further expansion of the alliance into the territory of the former Soviet Union is dangerous and can jeopardise the security of Ukraine, Georgia, Moldova as well as the Baltic states, but also of other NATO countries.<sup>29</sup>

The shattered consensus on the European peace order also has negative impacts on future regional or sub-regional arms control agreements in Europe. For as long as the new security relationship between Russia and the NATO states has not been clarified under the

27 Cf. N.N. 2015: Generalstaatsanwaltschaft prüft Gesetzlichkeit der Souveränität des Baltikums, July 2, 2015, [www.russland.ru/generalstaatsanwaltschaft-prueft-gesetzlichkeit-der-souveraenitaet-des-baltikums/](http://www.russland.ru/generalstaatsanwaltschaft-prueft-gesetzlichkeit-der-souveraenitaet-des-baltikums/); April 6, 2018. A Kremlin spokesperson later denied this report.

28 In Russia, the discussion about a land bridge between the occupied parts in eastern Ukraine and Crimea and about Novorossiia is largely off the table, because in 2014, Moscow did not succeed in mobilising the Russian minorities in Ukraine for this in the regions concerned. However, since the war with Georgia and Ukraine, Putin has tied the geographical entities Abkhazia and South Ossetia more closely to Russia with new treaties. The political leadership in Moldovan Transnistria has aimed at political integration with Russia since 2014.

29 See also U.S. ambassador to NATO Douglas Lute on April 22, 2016 in London. Cf. N.N. 2016: U.S. Envoy to NATO Sees No Expansion of Alliance in 'Next Several Years or Even Longer', in: *Civil.ge. Daily News Online*, April 23, 2016, [www.civil.ge/eng/\\_print.php?id=29115](http://www.civil.ge/eng/_print.php?id=29115); April 6, 2018.

new confrontational circumstances, all European states will hesitate to enter into new arms control commitments.

On the one hand, if the states that lie between NATO and Russia were to be excluded from arms control in future due to the new demarcation problems, the negotiations would be easier – also because the contested territorial conflicts with all their problems would be excluded. On the other hand, this would result in a deterioration of the security of the countries between NATO and Russia, and the principle of equal security in Europe would no longer apply to them. The result would be a new zone of unequal security between the alliance and Russia. In the states<sup>30</sup> located in this new zone, aspirations would increase to join either the alliance with Moscow (Collective Security Treaty Organisation = CSTO) or the one with the West, with NATO definitely being the more attractive alliance. Against this background, Moscow should also have an interest in not creating new zones of unequal security via arms control.<sup>31</sup> There were some indications of this before the Russia-Ukraine conflict. Russia was advocating that not only all NATO countries, but also other European states should participate in future negotiations on conventional arms control.<sup>32</sup>

A speedy end to this fundamental disagreement is not in sight. For the Western states want Russia to correct its misconduct towards Ukraine and thus give proof of its return to the principles of the Paris Charter from 1990 (Weißbuch 2016: 32). Russia, on the other hand, wants to exempt its behaviour towards Ukraine from this. There are several possibilities for a solution. First, the West relents and accepts Russia's misconduct. This is hardly likely, since the Western states would thereby betray their values. Second, Russia relents and accepts Minsk II with the Ukrainian demands. This is also hardly likely under President Putin, but it might stand a chance under a new Russian president and in case of a renewed democratisation of Russia. Third, a new government in Ukraine is possible that reaches a joint compromise with Moscow in bi- or multilateral negotiations. A mix between options two and three is also possible. Currently, there is no indication of any of the three options being realised. As long as this remains the case, a new conventional arms control agreement for Europe is unrealistic.

30 These states include Sweden, Finland, Austria, Switzerland, Bosnia-Herzegovina, Serbia, Montenegro, Macedonia, Moldova, Ukraine, Belarus, Georgia, Armenia and Azerbaijan. Belarus and Armenia, however, belong to the Collective Security Treaty Organisation (CSTO) under Russian leadership.

31 Sweden and Finland expanded their military cooperation with NATO in 2014 at the Wales summit.

32 Russia had taken this position in the informal talks in the 36 *Format* between December 2010 and May 2011, which have failed for the time being.

### 5.3 More unsettled territorial conflicts

With Crimea and eastern Ukraine, two new territorial conflicts were added to the existing ones. By now, there are eleven of them in Europe.<sup>33</sup> In six states affected by them (Georgia, Ukraine, Moldova, Azerbaijan, Cyprus, Serbia), an average of 10 percent of the territory and about 10 percent of the population are affected. By contrast, at 18 to 26 percent the proportion of armed forces in the contested territories of the entities is significantly higher in relation to the remaining regular armed forces of the six states concerned.<sup>34</sup> This demonstrates the explosive relevance of these conflicts for security policy. The most recent military conflict in early April 2016 between Azerbaijan and Armenia over the contested Nagorno-Karabakh area with more than 200 dead and several hundred injured highlights this point (De Waal 2016).

Territorial conflicts create additional problems for intergovernmental arms control and its implementation: The governments that are not internationally recognised in the contested areas or entities are usually open to arms control, since they hope to gain more international recognition and security from it.<sup>35</sup> Yet states affected by such secession conflicts deny the entities striving for independence in their country the participation in intergovernmental arms control to avoid enhancing their status and recognising them. But this excludes precisely those armed forces from arms control which can locally and regionally give rise to a particular danger for crisis stability and the prevention of war. Moreover, a neighbouring state supporting the secession can station its troops there in order to support the separatists. This is the case in Abkhazia, South Ossetia, Transnistria, eastern Ukraine and Crimea with Russian, and in Nagorno-Karabakh with Armenian stationed troops. However, this violates the principle of host-country consent, which is important for arms control.<sup>36</sup>

While these stationed troops are still being reported in the annual data exchange of the relevant arms control regimes, they can no longer be verified due to the existing status conflicts. Moscow is generally willing to have them monitored, but only if the other states acknowledge the status desired by Russia. Since the other participants in the regime reject

33 Abkhazia and South Ossetia in Georgia; Transnistria in Moldova; Nagorno-Karabakh between Armenia and Azerbaijan; Crimea, Luhansk People's Republic, Donetsk People's Republic in Ukraine; Kosovo in Serbia and Northern Cyprus between Turkey and Greece; Gibraltar between Spain and the UK and Catalonia in Spain.

34 The data on the strength of the armed forces in the areas of the unsettled territorial conflicts are estimates that include stationed troops where applicable. This indicates the range of estimates. The data are based on the author's own calculations according to IISS (ed.) 2014: *The Military Balance*.

35 This interest was used in 1991 and 1992, when the Soviet Union fell apart, in order to keep the successor states in the CFE Treaty and to settle the apportionment of the Soviet weapons potentials. The Baltic states did not join the CFE Treaty in October 1991 because they did not consider themselves successors of the USSR and wanted to encourage the withdrawal of Russian troops. Ukraine, however, joined the CFE Treaty with the same legal understanding in order to weaken Russia's military power through the additional apportionment of the Soviet weapons.

36 See footnote 13.

this, the armed forces there can no longer be monitored. Status conflicts thus remain a decisive obstacle for implementing existing and negotiating new arms control regimes.

In addition, there is the problem that the states concerned tend to include such conflicts in their arms control policy in order to increase the political pressure for their speedy settlement. One example of this is the decision of the NATO states at the Prague summit in 2002 to make the ratification of the aCFE dependent on progress in the unsettled territorial conflicts of Moldova and Georgia. Another one is the Nagorno-Karabakh conflict between Armenia and Azerbaijan: While Armenia has stationed its own troops in the entity Nagorno-Karabakh (which not even Armenia recognizes) along with the entity's troops, it has reported them neither to the Vienna Document nor to the CFE Treaty. Consequently, there is no transparency for these armed forces, and their monitoring is impossible due to the existing status conflict with Azerbaijan (Jahresabrüstungsbericht 2014: 51). In order to emphasise its claim of sovereignty over this area, Azerbaijan itself has reported peacetime locations for its armed forces in Nagorno-Karabakh since 2001. However, since it has not been possible to station the reported troops there, as the area is controlled by Armenian troops and the armed forces of Nagorno-Karabakh, Baku has withdrawn them from arms control, by analogy with Armenia (CFE Compliance Report 2015). Because of the conflict, both sides increasingly overstep their CFE ceilings in some weapons categories of the ground forces (Jahresabrüstungsbericht 2016: 94). Moreover, due to the constant shootouts, safe inspections are hardly possible, especially close to the border.

States with territorial conflicts are ambivalent towards arms control. On the one hand, they welcome their additional gain in security and stability; on the other, this can transform the existing dispute into a frozen conflict and thus impede a political settlement. For this reason, Azerbaijan has always been a difficult partner in new arms control agreements. Due to the Russian-Ukrainian conflict, it is safe to assume that Ukraine will exacerbate these problems, given its size and relevance. Ukraine can cooperate with Moldova, Azerbaijan and Georgia in order to strengthen the position of these countries in future negotiations. But since Ukraine, Moldova and Georgia depend on Western aid, the Western states would have instruments for exerting a moderating influence, in contrast to the case of Azerbaijan.

New forms of status-neutral arms control are now being considered which could rather be used in such conflicts, if the parties to the conflict accept this (Kapanadze et al. 2017). For example, in such cases trustworthy private firms of neutral states could be used for inspections in order to avoid recognition of entities through state inspections. While the status problem could be settled by this, the risk of a frozen conflict would remain.



## **6. Military Structural Problems**

### **6.1 Military asymmetries**

Military asymmetries and differences in doctrines pose lesser problems for conventional arms control under cooperative security conditions but greater problems under confrontational conditions. Already at the level of threat perception, there are serious differences. Both the NATO states and Russia fear new forms of “hybrid” warfare, but they would define them very differently (Charap 2015: 51–52). While Russia understands this to refer to democratic colour revolutions in its immediate neighbourhood, the eastern alliance partners fear the use of unmarked Russian special forces in combination with means of electronic disinformation and warfare, as were successfully used by Putin in the annexation of Crimea. These forms of “hybrid” warfare are very hard to cover with an arms control regime.

At a military level, three kinds of asymmetries can be distinguished: firstly, asymmetries in the conventional area that can complicate (parity-based) limits; secondly, asymmetries in the nuclear area that complicate (parity-based) nuclear limits but are not included here, and thirdly, asymmetries in the doctrines and potentials, in which nuclear weapons compensate conventional disparities and vice versa. They constitute a particular impediment to arms control because a direct offsetting of potentials is not possible and a lot of mutual trust is needed for an indirect compensation.

For instance, with the end of the East-West conflict, it was only the Soviet abandonment of quantitative conventional superiority that made parity-based conventional arms control between NATO and Warsaw Pact states through the CFE Treaty possible. However, after the disintegration of the Warsaw Pact and the dissolution of the Soviet Union, Russia compensated its new conventional inferiority and weakness with a reduced willingness to disarm its tactical and sub-strategic nuclear weapons. Moreover, since 2000 its military doctrine has threatened first use of nuclear weapons in case of a conventional attack, and sub-strategic nuclear weapons can also be used for the “de-escalation” of a conventional conflict (Sokov 2014). This means that Russia intends to force the end of the war by being the first to use nuclear weapons in a conventional military conflict. Moreover, since then, sub-strategic nuclear weapons have increasingly been used by the Russian armed forces in exercises of conventional armed forces for reinforcing their firepower. After the new confrontation with Russia, at the Warsaw summit in 2016 NATO felt compelled to point out to Russia that it would consider any military escalation at the nuclear level as “fundamentally alter[ing] the nature of [a] conflict” in order to deter Moscow from such an approach (Warsaw Summit Communiqué 2016: Para. 54).

In general, two different trends can be observed for Russia and NATO up to 2014. Although the NATO states had never fully renounced the first use of nuclear weapons, thanks to their conventional superiority, they were able to drastically reduce the number of sub-strategic weapons and their relevance for their armed forces, whereas this did not happen on the Russian side. There, the relevance of nuclear weapons has increased in the doctrine and in the armed forces because of the growing conventional weakness. With more

than 3,000 sub-strategic weapons, Russia has significantly more systems in this category than the alliance. Some of them are being modernised with a high priority. The Russian orientation has so far been the main obstacle for arms control and disarmament of sub-strategic nuclear arms in Europe. Conversely, the existing and expected future conventional disparities in military capabilities and military technology compared to the U.S. and the remaining NATO states are the main reason for Moscow's current unwillingness to negotiate on these weapons. The Kremlin first wants to ensure that the conventional asymmetries that are significant for Russia are settled via arms control before it is prepared to reduce its sub-strategic nuclear weapons; it has long been criticising the decreasing willingness of the West to engage in conventional arms control.

Moreover, Russia is the biggest land power on earth. It has the military advantage of interior lines. By contrast, the Western alliance is spread over a distance of 7,000 km on two continents, and even within Europe it is geographically discontinuous. For this reason, Russia should hardly feel militarily threatened by the remaining European states, even if the sum of their military spendings is several times higher than the Kremlin's. No other European country has the military capability to attack Russia as the second largest nuclear power on earth with any chance of success. Even all European states together would not have it. Only the (Western) European air forces can be quickly deployed for setting flexible military priorities and compensate the Russian advantage of interior lines to a limited extent (Blechmann 2015: 3).

From the Russian perspective, the biggest threat thus emanates from the American armed forces and the American leadership within NATO. In the alliance, only the U.S. is capable of reacting to new military challenges very quickly and comprehensively by itself. However, in contrast to the Cold War era, when the U.S. had stationed around 20 percent of its armed forces in Europe and was planning comprehensive reinforcements, with approx. 68,000 soldiers it now has less than five percent of its forces on the ground in Europe.<sup>37</sup> So far, Washington has hardly shown any interest in stationing significant combat-capable brigade-size forces in the Baltic states or in Poland, since this would be very expensive and would impede and delay a quick transfer of these troops via the existing U.S. hubs in Europe (e.g. Ramstein, Aviano) into other crisis areas in Asia, the Middle East or Africa (Kacprzyk 2015: 16). Therefore, US forces in Europe primarily rely on a quick, easily reversible temporary transfer of smaller rotating units and thus more on a tripwire strategy of deterrence. Moreover, the temporary stationing of additional rotating units in existing facilities can be effected very quickly and cheaply, whereas setting up infrastructure for the permanent stationing of new battalions and brigades would take several years and would be

37 Drucin, Heath 2015: Europe, Pacific not Entirely Spared from Army Force Cuts, in: Stars & Stripes, July 13, 2015, [www.stripes.com/news/europe-pacific-not-entirely-spared-from-army-force-cuts-1.357821](http://www.stripes.com/news/europe-pacific-not-entirely-spared-from-army-force-cuts-1.357821); April 6, 2018.

more expensive. Under Trump, however, the permanent stationing of an additional U.S. brigade in Europe is now under discussion.<sup>38</sup>

Russia possesses another military advantage. Due to its size, it is the only country apart from the U.S. that disposes of large strategic capacities for air transport and can transfer and concentrate strong combat formations very quickly over great distances (Gressel 2015: 32). Despite the partly existing EU pooling<sup>39</sup> of their tactical transport aircraft, the European NATO states are only capable of this when supported by large American military transport aircraft. However, these would first have to be flown in by the U.S. from a larger distance compared to Russia. Regionally, this represents a disadvantage for the European NATO states, especially with respect to protecting the Baltic countries, which only possess small armed forces themselves. Conversely, the Russian enclave of Kaliningrad is surrounded by NATO territory, except for its access to the Baltic Sea, and here Moscow would be vulnerable. However, the land supply of the Baltic states has to occur along the Polish-Lithuanian border, through the 65 km wide Suwalki Gap between Kaliningrad and Belarus. Cutting off this supply route would only be possible for Russia with the support of Belarus. In the past, both sides have been able to live with this, since a system of mutual military restraint had been agreed on via arms control and the NATO-Russia Founding Act. This is all at risk of coming to nothing, and because of the particular sensitivity of the area for the security of both sides, it could very quickly trigger a new arms race. Therefore, it would be important for both sides to continue to adhere to the military limits in the NATO-Russia Founding Act in this area (Richter 2016: 9).

Around two-thirds of Russia's armed forces are standing in Europe. Limits in Europe would thus affect the mass of the Russian, but only a small part of the American troops. Moreover, with the land and air forces that have so far been covered by arms control, the essential military instruments of a land power are included in the case of Russia, whereas in the case of NATO, the naval forces as its essential instrument are largely disregarded. In addition, there is the qualitative superiority of Western military technology that has so far hardly been covered by conventional arms control. Therefore, the interest of the Russian armed forces in the CFE Treaty is no longer very pronounced. It is often linked to the demand of including the Western naval forces in order to thus also cover an essential military element of the NATO states. However, this is currently still being rejected by the traditional sea powers in the alliance, the U.S., the UK and France.

From the Russian perspective, further developments reinforce the conventional asymmetries: For one thing, the introduction of the three-tier American missile defence

38 Stoutamire, Dan 2017: Acting Secretary of the Army Visits Europe with Eye on Budget Talks, in: Stars and Stripes, September 1, 2017, Europe Edition, [www.stripes.com/news/acting-secretary-of-the-army-visits-europe-with-eye-on-budget-talks-1.485545](http://www.stripes.com/news/acting-secretary-of-the-army-visits-europe-with-eye-on-budget-talks-1.485545); April 6, 2018.

39 For joint pooling and sharing, seven EU states (Germany, France, the Benelux countries, Spain and Italy) have assigned their transport aircraft to the multinational European Air Transport Command (EATC) founded in 2006. Every country can thus dispose of more transport capacities than it owns. Cf. <http://eatc-mil.com/>; April 6, 2018.

programme by 2018 or 2022 in the European part of NATO, which is accompanied by an American-Japanese armament programme in North-East Asia and in the Pacific, also joined by South Korea in 2017. Secondly, the increasing capabilities to attack land targets with air- and sea-based long-range cruise missiles, also outside of Europe, in the framework of the conventional Long-Range Strike Program. Thirdly, a fast and extremely accurate conventional attack capability (Prompt Global Strike) within one hour against any target in the world has so far been planned, which, however, according to the recent U.S. Nuclear Posture Review (NPR 2018: XII, 53–54), is rather to be taken over by accurate nuclear strategic submarine-based missiles with low explosive powers. Fourthly, the U.S. has so far excluded space from further arms control measures. There, the Pentagon is testing an unmanned mini space shuttle (X-37B Orbital Test Vehicle) that is largely guided autonomously and has undisclosed military tasks (Weinberger 2014). Moreover, the U.S., Russia and China are now trying out hypersonic space gliders with more than five times the speed of sound (Acton 2015). The lack of transparency in these endeavours fosters distrust. Fifthly, the U.S. is leading in the development of network-enabled semi-autonomous and autonomous weapons. They might further revolutionise conventional warfare under American leadership in the next 10 to 20 years.

These asymmetries, which are disadvantageous from the Russian perspective, provide Moscow with arguments why it feels inferior to NATO and why it relies more strongly on nuclear weapons as compensation in its military doctrine and war planning. On the other hand, Russia's conventional modernisation programme in particular will be expanding its conventional strategic capabilities in the coming years (McDermott 2017). This can reduce the asymmetry and facilitate conventional arms control in the long run.

There are two main problems here for reviving conventional arms control: Firstly, how can the problem of nuclear-conventional asymmetry between Russia and the NATO states be addressed constructively, and secondly, how can the remaining conventional asymmetries be dealt with reasonably? Indirect offsetting requires a lot of trust that currently does not exist. The trust destroyed through the Ukraine conflict cannot be restored overnight and would be a central problem of future negotiations if these disparities are to be limited and rendered more predictable via military confidence-building and arms control.

## **6.2 The growing number of multinational commands and formations**

Since nation states are less and less capable of defending themselves on their own, they increasingly seek military cooperation with other states. Military alliances are particularly suited to this purpose. In NATO and the EU, the establishment of bi- and multinational formations and commands is therefore increasing. A similar development can be observed in Moscow's CSTO, though not quite to the same extent. Their military significance compared to national formations is increasing, although this has so far not been rendered transparent to an adequate degree (von Arx 2014) and is not verifiable through arms control.

This raises the question of how in future formations such as the new Very High Readiness Joint Task Force (VJTF), as a brigade-sized formation, are to be covered by and monitored in multilateral arms control treaties. So far, only the respective national proportions of such multinational formations have been reported and monitored by the nation states, but never a formation and its activities as a whole. New procedures and rules are required for this to become possible, and very likely also a more flexible understanding of sovereignty. For at the command level, more and more officers with different nationalities are directly working next to one another, and this will in future also extend to the leadership and composition of operative formations as well as their logistics. In order not to unnecessarily increase the complexity of future arms control negotiations, multinational commands and institutions should remain excluded from them. The transparency and monitoring of such formations can continue to be carried out on a national basis. The responsibility for reporting data and carrying out inspections should lie with the host country in order to strengthen its sovereignty. However, new rules will then be needed regarding the way in which soldiers and formations of other nations may be included in such special inspections in future and whether there should be a separate quota for inspections of multinational formations in order not to limit national inspection quotas by this. The growing nationalism in some states of the EU and beyond could, however, impede such negotiations.

### **6.3 Globalisation of conventional warfare**

The high accuracy of conventional weapons and their global interconnectedness with command, control and reconnaissance systems makes it possible now to attack military targets over large distances with a high chance of success. This means that in local combat, regional and global military means can reinforce the fire- and penetrating power of the local formations. It is therefore increasingly difficult to limit conventional arms control only to Europe, since external potentials can gain increasing influence on European security. Therefore, new possibilities for taking them into account in arms control must be found, but without going so far as to globalise the area of application. For conventional arms control talks would currently not stand a chance at the political level. Mutual declarations of restraint in the use of military means with global range with respect to the European area of application could provide an interim solution to this. Moreover, transparency and potentially also verification should be established at an early stage if such means are temporarily or permanently deployed to or withdrawn from the area of application.

This would apply to the following military means: The U.S., for instance, has already conventionalised its globally operational naval forces, except for the strategic submarines. This means that the nuclear warheads on U.S. warships and their carrier systems have been withdrawn. In exchange, large American naval surface warships (from the destroyer class onwards) and part of the nuclear-powered submarines are now equipped with a large number of long-range (up to 2,500 km) conventional cruise missiles that can be used flexibly against sea as well as land targets (Gormley 2009: 43–45; Eshel 2017). According to the Nuclear Posture Review (2018), the U.S. additionally wants to rearm its warships with

new nuclear sea-based cruise missiles from 2024 onwards.<sup>40</sup> Since 2015, Russia has been equipping its naval forces (corvettes and submarines) with the Kalibr missile, which is said to have a range of 1,500 km. Moreover, as agreed in the NSTART Treaty, the major part of the strategic U.S. bombers is being conventionalised and equipped with long-range air-to-surface missiles – such as the Joint Air-to-Surface Standoff Missile (AGM-158 JASSM) with a range of up to 960 km.

Russia attaches strategic significance to these weapons because it fears that due to their high accuracy they can also threaten nuclear strategic potentials such as the missile silos of nuclear intercontinental missiles. By contrast, the U.S. attests these weapons a strategic range to some extent, but no strategic significance, since they would not be suited for attacking Russia's nuclear strategic potential. This bilateral controversy has not been resolved and contributes to the mutual distrust.

The existing regimes do not cover such growing conventional attack capabilities of the U.S. and Russia. The functional approach in the Vienna Document, which only covers military activities of the naval forces if they are relevant for land warfare, e.g. in land exercises, does not provide a solution here, either, since the military ambivalence in view of a possible use in Europe of neither the cruise missiles stationed at sea nor the strategic bombers stationed in the U.S. and Russia can currently be captured by this.

Through the increase in power of China and other regional powers and the relative loss of power of the U.S. the world is slowly developing from a unipolar to more of a multipolar structure. In future, the NATO states will thus possibly no longer be confronted only with Russia as a new opponent, which will complicate regional conventional arms control even more. Since the Ukraine conflict, Russia has intensified its military cooperation with Beijing and is again delivering the most recent military technology to China. However, a military alliance is not envisaged so far. In 2015, Chinese and Russian naval forces carried out joint exercises in the Black Sea and the Mediterranean for the first time.<sup>41</sup> This was followed by a joint sea manoeuvre in the Baltic Sea in 2017. China is thus strengthening its role and its cooperation with the Kremlin. An exacerbation of the Western conflict with Russia in Europe and between the U.S. and China over the South China Sea, China's territorial claims in the region and the American missile defence in North-East Asia can thus make an alliance between the two states more likely. Conventional arms control with Russia would be an instrument for preventing such an exacerbation of the conflict and the military alliance between Moscow and Beijing possibly resulting from it. At the same time, this is an indispensable prerequisite for maintaining a regional European approach to arms control.

40 The U.S. is planning this missile as a reaction to the Russian violation of the INF Treaty and thereby wants to compensate the Russian superiority in sub-strategic nuclear weapons as well as other deficits. The U.S. might potentially dispense with this weapon if Russia made sufficient concessions (NPR 2018: 55).

41 Alexandrova, Lyudmila 2015: Russia-China Naval Exercise in Mediterranean Makes World Headlines, in: TASS, May 18, 2015, <http://tass.ru/en/opinions/795340>; April 6, 2018. Since 2012, Russia has supported China in Pacific Asia with such naval exercises; in exchange, China has supported Russia in European waters since 2015.

The longer it takes to start new conventional arms control talks for Europe, the harder it will likely be to limit the area of application in Europe from the Atlantic to the Urals.

#### **6.4 Contested missile defence**

So far, arms control talks on conventional missile defence have largely remained a bilateral matter between the U.S. and Russia, of which Washington assured Russia for settling stability problems when the ABM Treaty was abrogated in 2002. Since the Russia-Ukraine conflict, however, the U.S. has suspended these talks, and they were also suspended in the NATO-Russia Council. Yet the approach of including Moscow via military cooperation, which was pursued until the Russia-Ukraine conflict, can only continue to work if Western missile defence will not be directed against Russia in future. In view of the growing military confrontation with Russia, however, this is rather uncertain (Kubiak 2017: 24–26). Military confidence-building and arms control could thus gain relevance also in this area. Temporarily, from 2011 until 2013, additional voluntary confidence-building measures were already in place between the NATO states and Russia in the area of tactical missile defence, at the suggestion of the German government. They included the mutual invitation to corresponding exercises with these systems, until Moscow unilaterally suspended these measures in late 2013 (Jahresabrüstungsbericht 2014: 66–67).

In the past, the structure of Russia's missile defence was nuclear, but now Russia has begun to develop its own conventional capabilities (S-400/S-500) in this area. This may facilitate future limits. Although the Kremlin is following the Western arms development in this regard, it will not obtain the capabilities of the West, in particular of the U.S., in the foreseeable future. Russian experts therefore emphasise that a further reduction of sub-strategic nuclear weapons is not conceivable without limiting the Western systems (Arbatov 2013; Miasnikov 2013: 1–3).

If a bilateral settlement between the U.S. and Russia is not possible in this regard, Moscow could demand the inclusion of missile defence in multilateral talks on conventional arms control. The European states are increasingly participating in the territorial U.S. missile defence system for NATO against limited missile attacks from the Middle East. Germany, the Netherlands, France, Spain, Greece and Italy already have tactical missile defence capabilities at their disposal. Poland, Romania and Turkey are planning to acquire them (Stewart 2016). The UK is building a land-based radar system and is testing the equipment of Type 45 destroyers with missile defence systems. Germany, the Netherlands, Spain, Norway and Denmark are developing ship-based radar systems for missile defence. Consequently, the territorial missile defence of the NATO states is becoming multinational and therefore, this capability can also be negotiated multilaterally.

Tactical missile defence systems such as the American Patriot III system, the future German tactical air and missile defence system TLVS (*Taktisches Luftverteidigungssystem*) or Medium Extended Air Defense System (MEADS) and the Russian S-300/S-400 systems can also be used for air defence. This is just a question of the software control and ammunition of these systems. When stationed near the border, they can be used –

depending on the range of the systems – for threatening air traffic far into the enemy country (up to 100-150 km in medium and great heights).<sup>42</sup> This plays a role particularly in the relations between the Russian enclave of Kaliningrad and the Baltic states, since in a crisis situation, the Kremlin could severely limit the space for Western combat aircraft operating there, for instance against the Baltic Air Policing Mission over the Baltic Sea and in Poland, by stationing long-range air defence systems such as the S-300/S-400. Conversely, the NATO states with their long-range air defence systems can do the same against Kaliningrad. For stability reasons, it may thus make sense to limit the stationing of long-range air defence and tactical missile defence systems in future, especially in such sensitive areas.

In case of stability problems, Russia wants to station e.g. the Iskander missile system with a range of 500 km – as announced in 2011 (Medvedev 2011) – and the Backfire bomber Tu-22M3<sup>43</sup> with air-to-surface missiles on the Crimean peninsula against new American missile defence systems in Europe. However, the three-tier American conventional missile defence programme with the SM3 defensive missiles on Aegis warships and on land (Romania, Poland), currently in the planning stage, is not yet a serious threat to Moscow's nuclear second-strike capability (Dvorkin 2013: 208). If it were possible to limit the programme in Europe to these capabilities, the Russian security interests would be sufficiently taken into account. For security reasons, however, the Kremlin demands a legal provision. The U.S. government has so far only been willing to accept a political settlement, as the conservative Republicans with their blocking minority would prevent any legal provision in the U.S. Congress.

Although the development of Iranian missiles was not limited in the nuclear deal with Iran, Moscow hoped that Tehran would nevertheless renounce the development of intercontinental ballistic missiles and that NATO would not need further modernisation of its missile defence in this area.<sup>44</sup> However, it remains to be seen whether Tehran will forego increasing the range of its medium-range missiles if the American-Iranian tensions were to mount and the U.S. were to stay outside the Iran agreement. Parts of the American armed forces are rather critical of a further expansion of territorial missile defence. For the costs of strengthening this defensive capability are significantly higher than the costs for offensive missiles and come at the expense of other weapons programmes, especially as more

42 The NATO states are stationing their Patriot air defence missile system for protecting Turkey relatively far from the Turkish-Syrian border in order to not create the political impression that they support the Turkish demand to the UN of a no-fly zone over Syria by stationing near the border.

43 Cf. N.N. 2015: Russia's Supersonic Response to US Missiles in Europe, in: Sputnik, July 24, 2015, <http://sputniknews.com/military/20150724/1024993449.html>; April 6, 2018.

44 Cf. N.N. 2015: State Dept: Ballistic Missile Defenses to Remain in Europe Despite Iran Deal, in: SputnikNews, July 15, 2015, <http://sputniknews.com/military/20150715/1024631357.html>; April 6, 2018.



defensive missiles are usually required for one attack missile in order to achieve a high probability of interception.<sup>45</sup>

A new scope for arms control can open up here in the future. A limitation of Western missile defence would then also have to include a limitation of Russian ballistic short-range missiles (Iskander). By contrast, new demands of the conservatives in the U.S. and in Europe to realign the missile defence programme towards Russia as a reaction to the Ukraine conflict are counterproductive (Osborn 2014; Oswald 2014; Blank 2014; Gramer 2015). They exacerbate the conflict dynamics and the arms race. As a response, Moscow might revoke the INF Treaty and generally push nuclear armament. The result would be less security and stability in Europe.

### **6.5 Autonomous weapons<sup>46</sup> and conventional stability**

The outdated CFE Treaty and the failed aCFE Treaty are very progressive in one respect. With their definitions of weapons categories to be covered, they already include semi-autonomous and autonomous weapons systems<sup>47</sup>. Initially, all definitions of the five weapons categories covered (battle tanks, armoured combat vehicles, artillery of calibre 100 mm and above, combat aircraft and attack helicopters) included the term “manned”. The U.S., however, had it removed in the negotiations in order to deprive the Soviet Union of the possibility to one day circumvent the limits of the treaty (which has no expiry date) with automatic weapons. For stability reasons, this must continue to be maintained in future. The development of semi-autonomous guided weapons already began in the 1990s, and there are currently various semi-autonomous weapons systems such as remote-controlled drones, torpedoes, submarines, combat aircraft, helicopters and armoured combat vehicles. But even semi-autonomous guided weapons already create a stability problem, because they increase the risk of war.

While there are now discussions on an international prohibitory norm for autonomous weapons, it is uncertain whether this is feasible. Even if a global prohibitory norm is

45 As Admiral Bill Gortney, commander of NORAD and U.S. Northern Command, states: “Not only is it unaffordable, it will not work [...]. But no matter how good our interceptors are, he said, we’ll never have enough of these expensive systems to shoot down every cheap incoming missile.” Quoted after Freedberg Jr., Sidney J. 2015: DepSecDef Explores New Missile Defense Approach, in: *Breaking Defense*, August 11, 2015, <http://breakingdefense.com/2015/08/depsecdef-launches-new-missile-defense-approach/>; April 6, 2018.

46 The ethical problems of using autonomous weapons will not be discussed as they are not relevant here.

47 There is no generally acknowledged definition of semi-autonomous and autonomous. A simplified distinction can be made as follows: In a semi-autonomous guided weapon, the operator chooses the target or the target group, engaging the target or the target group is supported by computer-based assistance systems, and the burden on the operator is reduced. So-called fire-and-forget weapons systems are also included here. In an autonomous weapon, even if it is still being supervised by the operator, the system itself decides after its activation and according to its programming when it engages whom or what, where, how and with what. Cf. DoD Directive 3000.09 2012, November 21, 2012, 13, [www.dtic.mil/whs/directives/corres/pdf/300009p.pdf](http://www.dtic.mil/whs/directives/corres/pdf/300009p.pdf); April 6, 2018.

achieved, it must be assumed that some states, presumably including the U.S., will not recognise it. Moreover, it is likely that weapons systems will continue to be developed that can come very close to complete autonomy, depending on the precise definition of the prohibitory norm. This would still result in the emergence of the stability problems described in the following, though perhaps to a lesser extent.

The development of autonomous weapons is a problem for military stability for three reasons: Firstly, it can increase the risk of war, because it diminishes the threshold for using them (UK-MoD 2015: 32). Some soldiers are at first not jeopardised in their mission. This weakens the prevention of war. Secondly, the risk of a war can grow accidentally, since programming mistakes and technical defects cannot be excluded in these weapons (Altmann 2013; Scharre 2014). Thirdly, due to their increased effectiveness, the use of such network-enabled weapons systems in connection with automated combat support systems can significantly accelerate the war dynamics and thus the escalation (Tucker 2015). Political efforts at keeping escalation and conflict under control could thus be undermined.

Moreover, there is a race for the shortest response time in the development of semi-autonomous and autonomous weapons. The combat robot that reacts fastest to a threat or an attack also has the greatest chance of prevailing in combat (Schörnig 2014: 35). This dynamic has two consequences. Firstly, remote control increasingly becomes a military disadvantage, especially at large distances, because it takes too much time during quick responses. Secondly, humans as supervisors and controllers will increasingly degenerate into mere accessories in the use of weapons (Schörnig 2015; Dickow 2015: 10). Because of these destabilising impacts, semi-autonomous and autonomous weapons systems should under no circumstances be excluded from arms control and military confidence-building. Since they lower the threshold for war prevention, make accidental wars more likely and at the same time increase the escalation risk, limits for these kinds of weapons are to be recommended for military stability to be sufficiently ensured.

Moreover, since the production of autonomous combat machines can occur much faster than the training of human soldiers, its limitation would be indispensable for reasons of military stability. Otherwise, this could create new incentives for developing weapons of mass destruction and particularly of nuclear weapons as a response. This might apply similarly to the development of conventional swarm robots<sup>48</sup> (Scharre 2014; Velez-Green 2014).

While the development of network-enabled autonomous weapons is still in its infancy, rapid progress in the next 10 to 20 years is very likely, due to the close interlocking with civil developments. Since a speedy beginning of new negotiations is not to be expected, it will likely prove necessary to discuss and assess this problem in the *Structured Dialogue*.

48 A swarm of 1,000 network-enabled mini-robotic weapons serves to overload the enemy's defence, is hard to combat due to the multitude of targets and can be used effectively against area and spatial targets.

## **7. Consequences for Conventional Arms Control**

Due to the new confrontation with Russia, all states in Europe are faced with a new arms race. The Steinmeier initiative for a relaunch of conventional arms control tries to prevent or at least limit this. For many reasons, however, the prospects for this are bleak. The future of the EU and Eastern Europe is uncertain. Both sides try to use this for expanding their political influence. The political tensions between Russia and the U.S. are further increasing because the U.S. government wants to supply defensive weapons to Ukraine for the defence of eastern Ukraine. There is a fundamental disagreement with Moscow regarding the future security order in Europe. In addition, there are the military structural problems described above, such as the asymmetries in military doctrines and the dynamic development of new military technologies. They change the concept of war, but the consequences of this development are as yet difficult to gauge. Negotiations for a new comprehensive conventional arms control agreement and the modernisation of the Vienna Document are therefore hardly realisable in the near future. This raises the question of what can instead be done for conventional arms control and military confidence-building in the short, medium and long term.

In the short term, it is important to prevent a further deterioration of the now more difficult implementation of the three existing agreements (CFE Treaty, Open Skies Treaty, Vienna Document) in order to maintain the existing predictability as well as communication channels on security policy with Russia and to avoid a complete rupture with Moscow over arms control policy. In the framework of the Vienna Document, for example, the Western states should stop testing the status of eastern Ukrainian territory via inspections, as this is not the original function of the agreement. The contested status of this territory has to be clarified in the Minsk negotiations. Otherwise, there is a risk of further Russian restrictions in implementing the Vienna Document, and the chances for the urgently needed modernisation of the agreement might be diminished further.

Despite the loss of relevance of the CFE Treaty, its data exchange and its inspections remain meaningful for the time being. They provide important insights into the military development of Belarus and Poland, in the Black Sea region and in the unsettled territorial conflicts, particularly between Armenia and Azerbaijan, although Russia and the Crimean peninsula illegally annexed by Russia can no longer be monitored due to Moscow's suspension of the regime. Russia can verify military changes in NATO countries indirectly, via the cooperation with Belarus, if this is not possible through inspections of the Vienna Document or observation flights of the Open Skies Treaty.

There are also problems with the Open Skies Treaty (OST). In violation of the treaty, Russia limited the flight distance of observations flights over its enclave of Kaliningrad to 500 km. In response to this, the U.S. analogously limited observation flights over Hawaii as

well as the number of airports that can be used for entering and leaving.<sup>49</sup> Moreover, already in 2011 Georgia, in violation of the treaty, refused Russian OS flights over its territory because the two sides cannot agree on the distance to the border with Abkhazia and South Ossetia for such flights. Russia recognises the independence of these two entities, whereas Georgia regards them as its own territory.<sup>50</sup> Since then, Moscow has not carried out OS observation flights over Georgia, but for 2018 it is insisting on a flight quota. As a consequence, an agreement on the quotas for all OS observation flights in 2018 is still pending.

If the confrontation between the U.S. and Russia escalates further, there is a growing danger that the implementation of these agreements will increasingly be suspended. The German government should thus strengthen its commitment, potentially together with the like-minded group it is chairing, to preserving the existing regimes. Their preservation would facilitate the *Structured Dialogue* on a fresh start of conventional arms control.

Since NATO suspended its military dialogue with Russia in the NATO-Russia Council on April 1, 2014 due to the Russia-Ukraine conflict, the new *Structured Dialogue* in the framework of the OSCE serves an important communicative function. It reopens the possibility of engaging in direct factual military talks with Russia on the military structural problems addressed in the report. This is supported and supplemented by the mapping meetings that began in November 2017, in which the differences in postures of armed forces and in military exercises between the involved states are to be clarified in order to thus create a joint military fact base for further talks.

In parallel, the goals of future conventional arms control negotiations and further parameters (area of application, weapons categories to be covered, etc.) would have to be discussed and clarified in the short and medium term. The like-minded group would be in a good position to support this fresh start of conventional arms control. It could develop first proposals and drafts that would have to be properly connected with the common fact base yet to be created in the mapping meetings. The definition of the goals and principles of future arms control negotiations is of central relevance, since everything else is to be derived from this. Should they continue to deal only with preventing a surprise attack and a comprehensive attack? Or should future talks be broadened to include new goals such as new agreements that also support nuclear disarmament? This would have far-reaching consequences for the armed forces and weapons categories to be included, as conventional missile defence and naval forces could then hardly be excluded from future negotiations. Beyond this, the question arises whether talks on conventional arms control would also have to be accompanied by separate talks on modernising the Vienna Document and separate talks on binding confidence-building measures in cyber security in order to achieve

49 Liewer, Steve 2018: Rollback of Open Skies Treaty Comes as Relationship between Russia, U.S. Gets Chillier, in: Omaha World-Herald, January 13, 2018, [www.omaha.com/news/military/rollback-of-open-skies-treaty-comes-as-relationship-between-russia/article\\_bee746b7-c7f7-5da3-ac9f-b640de7e528e.html](http://www.omaha.com/news/military/rollback-of-open-skies-treaty-comes-as-relationship-between-russia/article_bee746b7-c7f7-5da3-ac9f-b640de7e528e.html): April 6, 2018.

50 According to the OS Treaty, observation flights are to keep a distance of 10 kilometers from borders with other states. In contrast to Russia, Georgia does not recognize this.

more stability and predictability (Prezelj/Harangozo 2018: 152–164). The definition of the goals and of the area of application determines the degree and scope of the strategic competition between the U.S. and Russia as well as the remaining European states.

Apart from this, the dynamic development of new weapons technologies and their computer-based networked character require further comprehensive investigations and talks on how they change the concept of war and how they can best be included in conventional arms control. But this necessary broadening of the discussion currently faces a double shortage. Firstly, because of the dwindling relevance of conventional arms control, all governments in Europe and North America have reduced the qualified personnel this requires in their foreign and defence ministries as well as verification agencies, sometimes so drastically that these tasks can hardly be accomplished without a new increase in staff, especially since experienced professionals are retiring due to their age. Secondly, the same development is occurring in the international academic field. Here, too, experienced professionals in the area of arms control are retiring, but hardly any young ones are succeeding them. The governments of the OSCE states, the EU and particularly the German government, which is committed to a fresh start of conventional arms control, should counteract this; otherwise the necessary qualified base in the governments, the international institutions dealing with this as well as in the supporting academic field will soon be lacking.

The fresh start of conventional arms control requires a stronger support in society. Academic groups should generate public interest through workshops, conferences and publications, inform the public and thus mobilise support in society. In order to highlight the political relevance of this topic for European security, the EU Consortium that has so far supported and advised the EU in other matters of nuclear and conventional arms control (small arms, arms exports) should in future also regularly discuss matters of conventional arms control on a separate panel at its annual international meetings in Brussels.

In the medium and long term, the political structural problems of European arms control have to be settled, and the cooperation with Russia has to be improved again. Without progress in the Russia-Ukraine conflict, the relaunch of conventional arms control does not have a chance. A comprehensive agreement, however, will presumably only be realisable if the relations between Russia and the Western states are transformed anew.

## References

- aCFE Treaty* 1999: Agreement on Adaptation of the CFE Treaty, Istanbul November 19, 1999, <https://www.osce.org/library/14108?download=true>; June 12, 2018.
- Acton, James M. 2015: Hypersonic Boost-Glide Weapons, in: *Science & Global Security*, 23: 3, 191–219; DOI: 10.1080/08929882.2015.1087242.
- Agreement on Sub-Regional Arms Control* 1996, [http://www.racviac.org/downloads/treaties\\_agreements/aIV.pdf](http://www.racviac.org/downloads/treaties_agreements/aIV.pdf); April 9, 2018.
- Altmann, Jürgen 2013: Arms Control for Armed Uninhabited Vehicles: an Ethical Issue, in: *Ethics and Information Technology* 15: 2, 137–152, Doi: 10.1007/s10676-013-9314-5.
- Arbatov, Alexei 2013: US-Russian Reset Four Years Later: State and Challenges in: *European Leadership Network*, March 25, 2013, <https://www.europeanleadershipnetwork.org/commentary/us-russian-reset-four-years-later-state-and-challenges/>; March 28, 2018.
- Blank, Stephen 2014: Missile Defense Can't Wait, in: *Telegram.com*, December 31, 2014, <http://www.telegram.com/article/20141231/NEWS/312319993/1017>; March 28, 2018.
- Blechmann, Barry 2015: Protecting U.S. Security by Minimizing the Role of Nuclear Weapons: A New Nuclear U.S. Policy, Testimony before the Strategic Subcommittee of the House Armed Services Committee on November 3, 2015.
- Bonds, Timothy M./Johnson, Michael/Steinberg, Paul S. 2015: Limited Regret: Building the Army We Will Need, in: CA: RAND Corporation, [https://www.rand.org/pubs/research\\_reports/RR1320.html](https://www.rand.org/pubs/research_reports/RR1320.html); March 28, 2018.
- CFE 1A Agreement* 1992: Concluding Act of the Negotiation on Personnel Strength of Conventional Armed Forces in Europe, <https://www.osce.org/library/14093?download=true>; June 12, 2018.
- CFE Compliance Report 2015*: U.S. Department of State (ed.) 2015: Compliance with the Treaty on Conventional Armed Forces in Europe. Condition (5) (C) Report, in: *Compliance Report 2015*, January 15, 2015, <https://www.state.gov/t/avc/rls/rpt/2015/243232.htm>; March 28, 2018.
- CFE Treaty* 1990: Treaty on Conventional Armed Forces in Europe, <https://www.osce.org/library/14087?download=true>; June 12, 2018.
- Charap, Samuel 2015: The Ghost of Hybrid War, in: *Survival* 57: 6, 51–58, DOI: 10.1080/00396338.2015.1116147.
- Charter of Paris* 1990: Charter of Paris for a New Europe, November 19–21, <https://www.osce.org/mc/39516?download=true>; March 28, 2018.
- De Waal, Thomas 2016: Dangerous Days in Karabakh. War and Peace in Caucasus, in: *Carnegie Moscow Center*, April 2, 2016, <http://carnegie.ru/commentary/2016/04/02/dangerous-days-in-karabakh/iwui>; March 28, 2018.
- Dickow, Marcel 2015: Robotik – ein Game-Changer für Militär und Sicherheitspolitik? (SWP-Studie S 14, June), Berlin,

- [https://www.swp-berlin.org/fileadmin/contents/products/studien/2015\\_S14\\_dkw.pdf](https://www.swp-berlin.org/fileadmin/contents/products/studien/2015_S14_dkw.pdf);  
March 28, 2018.
- Dvorkin, Vladimir* 2013: The Prospects for Cooperation between the U.S./NATO and Russia on BMD, in: Arbatov, Alexei/Dvorkin, Vladimir/Bubnova, Natalia (eds.): *Missile Defense: Confrontation and Cooperation*, Carnegie Moscow Center – Moscow, 204–225, [https://carnegieendowment.org/files/Missile\\_Defense\\_book\\_eng\\_fin2013.pdf](https://carnegieendowment.org/files/Missile_Defense_book_eng_fin2013.pdf);  
March 28, 2018.
- Eshel, Tamir* 2017: Tomahawk Cruise Missiles to Become Dual-Mission. Assume Anti-Ship Role, in: *Defense Update*, January 17, 2017, [http://defense-update.com/20170117\\_tomahawk-2.html](http://defense-update.com/20170117_tomahawk-2.html); March 28, 2018.
- Global Exchange on Military Information (GEMI)* 1994: OSCE, November 28, 1994; <https://www.osce.org/fsc/41384?download=true>; June 12, 2018.
- Gormley, Dennis M.* 2009: The Path to Deep Nuclear Reductions. Dealing with American Conventional Superiority (Ifri Proliferation Papers 29), <https://www.ifri.org/sites/default/files/atoms/files/pp29gormley1.pdf>; March 28, 2018.
- Gramer, Robbie* 2015: Can Missile Defense Counter Russia's Nuclear Saber Rattling?, in: Atlantic Council, July 8, 2015, <http://www.atlanticcouncil.org/blogs/natosource/can-missile-defense-counter-russia-s-nuclear-saber-rattling>; March 28, 2018.
- Gressel, Gustav* 2015: Russia's Quiet Military Revolution and What It Means for Europe, in: European Council on Foreign Relations (London), October 12, 2015, [http://www.ecfr.eu/page/-/Russias\\_Quiet\\_Military\\_Revolution.pdf](http://www.ecfr.eu/page/-/Russias_Quiet_Military_Revolution.pdf); March 28, 2018.
- Jahresabrüstungsbericht* 2014: Bericht der Bundesregierung zum Stand der Bemühungen um Rüstungskontrolle, Abrüstung und Nichtverbreitung sowie über die Entwicklung der Streitkräftepotenziale, Berlin 2015.
- Jahresabrüstungsbericht* 2016: Bericht der Bundesregierung zum Stand der Bemühungen um Rüstungskontrolle, Abrüstung und Nichtverbreitung sowie über die Entwicklung der Streitkräftepotenziale 2016, Berlin 2017.
- Kacprzyk, Artur* 2015: U.S. Military Presence in Central and Eastern Europe: Consequences for NATO Strategic Adaptation, Deterrence and Allied Solidarity (PISM Report, Warsaw), <https://www.files.ethz.ch/isn/193644/US-Military-Presence-in-Central-and-Eastern-Europe.pdf>; March 28, 2018.
- Kapanadze, Sergi/Kühn, Ulrich/Richter, Wolfgang/Zellner, Wolfgang* 2017: Status-Neutral Security, Confidence-Building and Arms Control Measures in the Georgian Context. (CORE Working Paper 28), Hamburg, [https://ifsh.de/file-CORE/documents/Working\\_Papers/CORE\\_WP28\\_en\\_.pdf](https://ifsh.de/file-CORE/documents/Working_Papers/CORE_WP28_en_.pdf); March 28, 2018.
- Kubiak, Katarzyna* 2017: Raketenablehr: Potentiale einer Kooperation mit Russland (SWP-Studie S 13, July), Berlin, [https://www.swp-berlin.org/fileadmin/contents/products/studien/2017S13\\_kuk.pdf](https://www.swp-berlin.org/fileadmin/contents/products/studien/2017S13_kuk.pdf);  
March 28, 2018.
- Kulesa, Lukasz* 2014: The Role of Arms Control in Future European Security, in: *Security and Human Rights*, 25, 221–234.

- McDermott, Roger* 2017: Moscow Pursues Enhanced Precision-Strike Capability, in: Eurasia Daily Monitor, January 17, 2017, <https://jamestown.org/program/moscow-pursues-enhanced-precision-strike-capability/>; April 6, 2018.
- Medvedev, Dmitry* 2011: Statement in Connection with the Situation Concerning the NATO Countries' Missile Defense System in Europe, Moscow, November 23, 2011, <http://en.kremlin.ru/events/president/news/13637>; April 6, 2018.
- Miasnikov, Eugene* 2013: Non-Strategic Nuclear Weapons in Europe: Possible Scope and Conditions for Information Sharing, Transparency Measures and Verification, Warsaw, February; [https://www.pism.pl/files/?id\\_plik=12843](https://www.pism.pl/files/?id_plik=12843), April 6, 2018.
- National Security Strategy* 2010, <http://nssarchive.us/NSSR/2010.pdf>; April 9, 2018.
- NATO-Russia Founding Act* 1997: Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation, Paris, May 27, 1997, [https://www.nato.int/cps/su/natohq/official\\_texts\\_25468.htm](https://www.nato.int/cps/su/natohq/official_texts_25468.htm); June 12, 2018.
- NDS* 2018: Summary of the National Defense Strategy 2018 of the United States of America. Sharpening the American Military's Competitive Edge, Washington DC, January, <https://www.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>; March 28, 2018.
- NPR 2010: Nuclear Posture Review* 2010, Washington DC, April, [www.defense.gov/Portals/1/features/defenseReviews/NPR/2010\\_Nuclear\\_Posture\\_Review\\_Report.pdf](http://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf); April 9, 2018.
- NPR 2018: Nuclear Posture Review* 2018: Washington DC, February, <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>, April 6, 2018.
- Open Skies Treaty* 2002: <https://www.osce.org/library/14127?download=true>; June 12, 2018.
- Osborn, Kris* 2014: Ukraine Refocuses Debate on US Missile Defense, in: Military.com, March 12, 2014, <https://www.military.com/daily-news/2014/03/12/ukraine-refocuses-debate-on-us-missile-defense.html>; March 28, 2018.
- Oswald, Rachel* 2014: U.S. Lawmakers Explore Faster Missile-Interceptor Fielding in Europe, in: NTI, April 3, 2014, <http://www.nti.org/gsn/article/amid-concerns-about-putin-us-senator-asks-about-speeding-deployment-missile-interceptors-europe/>; March 28, 2018.
- Pifer, Steven* 2017: Order from Chaos. Will Ukraine Join NATO? A Course for Disappointment, in: Brookings, July 25, 2017, <https://www.brookings.edu/blog/order-from-chaos/2017/07/25/will-ukraine-join-nato-a-course-for-disappointment/>; March 28, 2018.
- Prague Summit Declaration* 2002: November 21, <https://www.nato.int/docu/pr/2002/p02-127e.htm>; March 28, 2018.
- Prezelj, Iztok/Harangozo, Daniel* 2018: Confidence and Security Building Measures at the Crossroads, Baden-Baden (forthcoming).



- Richter, Wolfgang* 2014: Rüstungskontrolle und militärische Transparenz im Ukraine-Konflikt (SWP Aktuell, 59, September),  
[https://www.swp-berlin.org/fileadmin/contents/products/aktuell/2014A59\\_rrw.pdf](https://www.swp-berlin.org/fileadmin/contents/products/aktuell/2014A59_rrw.pdf);  
March 28, 2018.
- Richter, Wolfgang* 2016: Sub-Regional Arms Control for the Baltics: What Is Desirable? What Is Feasible?, Deep Cuts Working Paper 8, July,  
[http://deepcuts.org/images/PDF/DeepCuts\\_WP8\\_Richter\\_UK.pdf](http://deepcuts.org/images/PDF/DeepCuts_WP8_Richter_UK.pdf); March 28, 2018.
- Rose, Frank A.* 2015: Remarks at Multinational Ballistic Missile Defense Conference, Seville, Spain, October 6, 2015; <https://2009-2017.state.gov/t/avc/rls/2015/248035.htm>; April 9, 2018.
- Scharre, Paul* 2014: America's Secret Weapon for Battlefield Dominance: Build the Swarm, in: The National Interest, November 3, 2014,  
<http://nationalinterest.org/feature/americas-secret-weapon-battlefield-dominance-build-the-swarm-11588>; April 6, 2018.
- Schmidt, Hans-Joachim* 2004: Der Wandel in der konventionellen Rüstungskontrolle 1989–1996, Frankfurt a. M.
- Schörnig, Niklas* 2014: Automatisierte Kriegsführung – Wie viel Entscheidungsraum bleibt dem Menschen?, in: bpb – Bundeszentrale für politische Bildung, August 18, 2014,  
<http://www.bpb.de/apuz/190115/automatisierte-kriegsfuehrung-wie-viel-entscheidungsraum-bleibt-dem-menschen?p=0>; March 28, 2018.
- Schörnig, Niklas* 2015: Von der quantitativen zur qualitativen Rüstungskontrolle: Die Herausforderungen moderner Waffenentwicklung, in: Roth, Michèle/Ulbert, Cornelia/Debiel, Tobias (eds.): Globale Trends 2015. Perspektiven für die Weltgesellschaft, Frankfurt a. M., 91–106.
- Sokov, Nikolai N.* 2014: Why Russia Calls a Limited Nuclear Strike „De-Escalation“, in: The Bulletin of Atomic Scientists, March 13, 2014; <http://thebulletin.org/why-russia-calls-limited-nuclear-strike-de-escalation>; April 6, 2018.
- Steinmeier, Frank-Walter* 2016: Mehr Sicherheit für Alle in Europa – Für einen Neustart der Rüstungskontrolle, in: FAZ – Frankfurter Allgemeine Zeitung, August 26, 2016.
- Stewart, Mallory* 2016: Taking Stock of U.S. Policy on Ballistic Missile Defense, Remarks at Multinational Ballistic Missile Defense Conference in London, November 1, 2016,  
<https://2009-2017.state.gov/t/avc/rls/263946.htm>; April 6, 2018.
- Tashkent Agreement* 1992: Agreement on the Principles and Procedures for the Implementation of the Treaty on Conventional Armed Forces in Europe, Tashkent, May 15, 1992, <http://fas.org/nuke/control/cfe/text/tashka.htm>; April 6, 2018.
- Tucker, Patrick* 2015: In the War of 2050. The Robots Call the Shots, in: Defense One, July 22, 2015; <http://www.defenseone.com/technology/2015/07/war-2050-robots-call-shots/118398/>; March 28, 2018.
- UK-MoD* 2015: Strategic Trends Programme: Future Operating Environment 2035, London,  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/646821/20151203-FOE\\_35\\_final\\_v29\\_web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/646821/20151203-FOE_35_final_v29_web.pdf); April 9, 2018.

- Velez-Green, Alex* 2014: Swarm Robotics and the Future of the Military, in: Harvard Political Review, September 21, 2014, <http://harvardpolitics.com/world/swarm-robotics-future-americas-global-military-supremacy/>; April 6, 2018.
- Vienna Document* 2011: On Confidence- and Security-Building Measures; <https://www.osce.org/fsc/86597?download=true>; June 12, 2018.
- von Arx, Pierre* 2014: Vienna Document 2011: Achievements and Prospects for Further Updates, 14.8.2014, <http://www.osce.org/fsc/103978>; June 12, 2018.
- Warsaw Summit Communiqué* 2016: Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Warsaw 8–9 July 2016, July 9, 2016, [https://www.nato.int/cps/en/natohq/official\\_texts\\_133169.htm](https://www.nato.int/cps/en/natohq/official_texts_133169.htm); March 28, 2018.
- Weinberger, Sharon* 2014: What is the Pentagon's Secret Space Drone Doing?, in: The New York Post, September 28, 2014, <http://nypost.com/2014/09/28/what-is-the-pentagons-secret-space-drone-doing/>; April 6, 2018.
- Weißbuch* 2016: Zur Sicherheitspolitik und zur Zukunft der Bundeswehr, June, Berlin, <https://www.bmvg.de/resource/blob/13708/015be272f8c0098f1537a491676bfc31/weissbuch2016-barrierefrei-data.pdf>; March 28, 2018.

## List of Abbreviations

aCFE	adapted CFE Treaty
APuZ	Aus Politik und Zeitgeschichte
CAC	Conventional Arms Control
CEIP	Carnegie Endowment for International Peace
CFE	Conventional Armed Forces in Europe
CSBM	Confidence- and Security-Building Measures
ČSSR	Czechoslovak Socialist Republic
CSTO	Collective Security Treaty Organisation
EATC	European Air Transport Command
EU	European Union
FSC	Forum for Security Co-operation
GEMI	Global Exchange on Military Information
HSFK	Leibniz-Institut Hessische Stiftung Friedens- und Konfliktforschung; see also PRIF
IISS	International Institute for Strategic Studies (London)
INF	Intermediate (Range) Nuclear Forces
JASSM	Joint Air to Surface Stand-off Missile
MBFR	Mutual Balanced Force Reductions
MEADS	Medium Extended Air Defense System; see also TVLS
MoD	Ministry of Defense
NATO	North Atlantic Treaty Organization
NDS	National Defense Strategy
NGO	Non-Governmental Organization
N+N States	Neutral and Non-Aligned States
NPR	Nuclear Posture Review
NRC	NATO-Russia Council
NSTART	New Strategic Arms Reduction Treaty
OS	Open Skies; see also OST
OST	Treaty on Open Skies
OSCE	Organization for Security and Co-operation in Europe
PRIF	Peace Research Institute Frankfurt, Member of the Leibniz Association; see also HSFK
TLVS	Taktisches Luftverteidigungssystem; see also MEADS
UK	United Kingdom
UN	United Nations
USMC	United States Marine Corps
VD	Vienna Document
VJTF	Very High Readiness Joint Task Force
WTO	Warsaw Treaty Organisation