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Report
of the Federal Council on Switzerland's arms control, disarmament and non-proliferation policy 2017

of 2 June 2017

Overview

The 2017 Report of the Federal Council on Switzerland's arms control, disarmament and non-proliferation policy provides an overview of Switzerland's efforts and activities in these areas since the last report was published in 2012. The Federal Council presents information on the objectives, priorities and outlook of its arms control, disarmament and non-proliferation policy– to the Swiss Parliament once during each legislative period, a practice that dates back to 1996. Since 2002, the report has been prepared in compliance with postulate 02.3541 ('Disarmament report'). In the interests of continuity and comparability, the present report closely follows the form and layout of earlier versions.

As the Federal Council stated in its Foreign Policy Strategy 2016–2019, Switzerland's commitment to arms control, disarmament and preventing proliferation is one of the thematic priorities in strengthening international security and making a contribution to an international order that is both viable and fair. Its aim is to enhance international stability and security by empowering international organisations to take action, establishing a functioning multilateralism, improving transparency and building confidence. Similarly, in keeping with its humanitarian tradition, Switzerland advocates multilateral agreements which, in addition to prioritising security, stability and peace, aim to reinforce respect for international humanitarian law and human rights, alleviate the suffering caused by armed conflicts, protect the civilian population and promote human security in general. In doing so, Switzerland seizes every available opportunity to exert its influence at both the multilateral and bilateral level.

Switzerland actively supports banning and eliminating all categories of weapons of mass destruction as they represent a serious threat to both international security and the general population. Switzerland strives to preserve the existing norms in this area and to protect them from dilution. Moreover, in addition to promoting disarmament efforts, it also seeks to combat the dangers of proliferation. In the area of conventional weapons, Switzerland advocates adherence to the norms and instruments of international humanitarian law which restrict or prohibit their use. Switzerland is also committed to better control of the arms trade and to act against the uncontrolled proliferation of small arms, light weapons and ammunition, especially in conflict areas. The aim is not only to mitigate the direct effects of armed violence on the victims but also to combat the indirect consequences for social and economic development in the countries affected.

After outlining relevant international developments since 2012 and setting out the principles that underpin Switzerland's policy on arms control, disarmament and non-proliferation, this report describes Switzerland's engagement in relation to weapons of mass destruction, conventional weapons and transfers of arms, goods and technology. There then follows a look at what lies ahead for Swiss policy in these areas. The report places a special focus on the challenges for arms control, disarmament and non-proliferation policy arising from technological progress and on the many aspects of Switzerland's commitment in this area.

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Report

1   Context in which Swiss arms control, disarmament and non-proliferation policy operates

1.1   International developments since 2012

The transition from a unipolar to a multipolar world is a continuing trend that has become even more accentuated since the last reporting period. While the economic, military and technological supremacy of the US and a few European and East Asian nations remains largely intact, states such as Russia and China have been expanding their capabilities and sphere of influence, especially in the military arena. Non-state actors, such as the grouping known as «Islamic State», have also gained influence and shown that they are capable of mounting a persistent challenge to the established world order. Against this backdrop of growing diversity and the readiness of some states to enforce their interests using both military and non-military instruments, the existing conflict-resolution mechanisms have become increasingly paralysed. Additionally, international organisations, such as the UN or the EU, as well as groups of states and individual states, have imposed economic sanctions on other countries, entities and individuals. The sanctions regimes against North Korea, Iran and Syria can be taken as examples.

The repeated deployment of military means in armed conflicts was observed during the reporting period. The most obvious examples here are the armed conflicts in Syria, Iraq, Yemen and Ukraine. This unfolded against the backdrop of growing financial expenditure and the development and procurement of modern weapons and delivery systems, including drones and cyber technologies, by an increasing number of state and non-state actors. Cyber operations against critical infrastructures also took place, although not exclusively in the contexts referred to above, along with propaganda and disinformation activities attempting to undermine the legitimacy of state and non-state actors and influence political processes.

Increasing tensions in Europe

The annexation of Crimea in violation of international law and the armed conflict in eastern Ukraine brought a long period of military disarmament in Europe to an end, prompting a contrary development. Thus, NATO sent signals intended to deter Russia at its summit meetings in both 2014 and 2016 and began increasing the military presence on its eastern flank, i.e. in the Baltic region and Poland, since 2015. For its part, Russia has conducted a greater number of military exercises since the beginning of the Ukraine crisis, these frequently involving nuclear components.

The deployment of missile defence systems in Europe, North America and Asia, announced during the last reporting period, continued apace. This led Russia to contend that the stationing of systems of this kind in Europe destabilises the strategic balance, and respond by introducing technologies of its own which are capable of fending off short- and medium-range missiles. In reaction to this development, Russia has positioned military assets at its western borders since 2014, prompting the United States to assert that the assets deployed by Russia are noncompliant with the *Intermediate-Range Nuclear Forces Treaty* (INF) of 1987, if not breaching the agreement entirely. Mutual recriminations regarding compliance or non-compliance

with the INF Treaty are likely to continue in the coming years and remain an important indicator of the overall relationship between the two countries.

The *New Strategic Arms Reduction Treaty* (New START Treaty) agreed by the US and Russia in 2010 helped effectively reduce the number of nuclear weapons on either side. However, both Russia and the US launched ambitious modernisation programmes for their nuclear capabilities in parallel with the implementation of the New START Treaty. Russia is currently pushing ahead with renewing its nuclear arsenal and has introduced new delivery systems. The US nuclear modernisation programme has yet to get under way (particularly for air-launched cruise missiles, free-fall bombs and intercontinental missiles).

The military build-up – in terms of both quantity and quality – near the NATO-Russian border and the geographic concentration of these instruments of power also pushed the topic of conventional arms control higher up the agenda in Europe. The fact that the existing confidence-building and conventional arms control instruments in Europe were not designed to prevent or cope with a conflict like the one in Ukraine requires new approaches to be taken. The confidence- and security-building regime that has been in place in Europe since the end of the Cold War is largely based on a quantitative approach to conventional arms control. While this approach remains valid, there is an additional need for instruments to be developed and updated in order to take due account of current forms of warfare and modern weapons technology.

Provocations in Asia

After several years, China's programme of building islands from reefs in the South and East China Seas has now reached the stage where Beijing is in a position to deploy military assets, including missile systems, on those artificial islands. China's actions have met with resistance from a number of states in the region as well as the US. In the military realm, this opposition was expressed through «freedom of navigation» operations repeatedly conducted by the US and its allies in the territories claimed by China. It does not seem likely that the tensions will be diffused any time soon. The confrontation between Japan and China in the East China Sea continues. In particular, it should be noted that the government in Tokyo is taking steps to expand the measures open to it under Japan's mutual defence treaty with the US, as enshrined in its constitution.

On the Korean peninsula, the regime in North Korea began expediting its nuclear weapons programme in 2012. The regime has since conducted three further nuclear tests. The UN Security Council imposed its strictest range of sanctions to date against North Korea in spring 2016, before tightening them even further that autumn. The announcement that the THAAD anti-ballistic missile system was to be stationed in South Korea by the United States to protect against missile attacks from North Korea sparked vociferous protests from Beijing, which believes the system could potentially be deployed as part of a US missile defence shield also capable of targeting China.

The Middle East: also a disarmament hotspot

The signing and start of implementation in early 2016 of the *Joint Comprehensive Plan of Action* (JCPoA) regarding the Iranian nuclear programme marks a major achievement in non-proliferation efforts since 2012. Iran's nuclear programme is subject to a clearly defined set of requirements over a ten-year timeline until 2025,

in return for the lifting of international sanctions. Technical implementation has made positive progress thus far, despite facing numerous challenges, but relies to a large extent on the political will of the two main protagonists: the US and Iran.

During its course, the Syrian conflict has seen the repeated use of chemical weapons for the first time since the *Chemical Weapons Convention* (CWC) entered into force in 1997. The use of sarin in the area around Damascus at the end of 2012 and beginning of 2013 forced the Syrian government to join the Chemical Weapons Convention under international pressure, which subsequently led to the elimination of its officially declared chemical weapons programme. However, weapons of this kind have since been used on further occasions, prompting the establishment and operation of a Joint Investigative Mechanism by the United Nations and the *Organisation for the Prohibition of Chemical Weapons* (OPCW). The Mechanism's reports presented findings which showed that both the Syrian Armed Forces and the grouping known as «Islamic State» were involved in the use of chemical weapons.

As far as conventional weapons are concerned, the region spanning from Morocco to Saudi Arabia is home to a massive military arsenal, making it one of the most highly armed in the world. At the same time, it is a major trading hub for weapons of all kinds, a circumstance which poses a huge challenge to international security. One side effect of the weakening of state structures in many regions of North Africa and the Arab world in the wake of the Arab Spring was the uncontrolled spread of conventional weapons and related ammunition, often from unsecured stockpiles. This has a destabilising effect on the countries of the Middle East and North Africa, as was shown in the uncontrolled transfer of arms and ammunition from Libya to Mali for example, where they contributed to the outbreak of civil war. Another factor observed in the various conflicts in the Middle East was the widespread use by state and non-state actors of *improvised explosive devices* (IEDs), often manufactured using illicitly transferred ammunition or parts and components thereof and sometimes on a semi-industrial scale.

Continuing uncertainty

The developments outlined above have repercussions for multilateral security structures. Social, political, technological and economic interconnectivity has increased around the world, creating an environment in which information and technologies can circulate faster and weapons systems can be deployed more quickly and effectively. At the same time, political upheavals in the Euro-Atlantic area, such as the United Kingdom's role within Europe following «Brexit» or the ongoing positioning of the new US administration in foreign and security policy issues, have triggered a wave of uncertainty regarding the future of existing international structures. Similarly, the increasingly divergent interests of the individual centres of power throw the capacity for joint action on arms control and disarmament policy issues into question. Many actors seem to have realised that the existing arms control, disarmament and non-proliferation architecture needs to be adapted in line with the new security situation and technological and military developments. However, the international community of states has yet to reach agreement on which direction this development should take.

1.2   Challenges posed by technological progress

The far-reaching scientific breakthroughs now being achieved with increasing frequency have brought about an unprecedented aggregation of technological innovation («emerging technologies»). Relevant developments can be seen in many different fields, especially in IT and communications («big data»), mechanical engineer-engineering and robotics, nanotechnology and materials science, neuroscience and cognitive science («artificial intelligence»), biotechnology, genetics as well as chemistry. These technological advances are not occurring in isolation, but overlap. They build on one another, converge («convergence») and become particularly relevant when they interconnect with one another – in some cases, with unforeseeable knock-on effects. Many of these technologies and their applications have a decidedly positive impact and can be used for both civilian and military purposes («dual-use»). Nevertheless, certain developments present society with challenges as they not only permit beneficial use, but can also be misused for harmful or undesired purposes or may have unintended consequences.

Accordingly, technological developments have the potential to overcome existing deficiencies and gaps as well as to open up new capabilities. At the same time, certain of these technologies also give rise to known and unknown risks. Both these dimensions are likely to have far-reaching implications for today's armed forces, particularly in the industrially developed nations. A number of different military areas are affected: weapon systems and types of ammunition on the one hand, methods of warfare on the other. In many of these fields, the related military capabilities increasingly tend to place weight on quality at the expense of quantity. New technologies with military implications will presumably continue to play a decisive role in the development of modern armed forces, which could necessitate adjustments to arms control, disarmament and non-proliferation instruments.

The multiplication of available technologies with potential military applications makes new types of weapons systems possible. For instance, it is currently possible to deliver highly potent agents to targeted areas within the body, thus enabling certain illnesses to be treated more effectively. However, the skills and knowledge involved can also be used to develop new kinds of chemical weapons. Similarly, advancements in biotechnology, such as synthetic biology, create a host of new possibilities for fighting outbreaks of disease – whether natural, unintended or deliberate – while also fuelling fears they could be misused to develop pathogens that are easier and more effective to deploy than past biological weapons. Developments of this kind could make these banned categories of weapons more attractive, and provide a perfect example of why any technology-driven erosion of existing prohibition or restriction standards must be prevented without simultaneously making beneficial applications impossible. That is why Switzerland promotes a dialogue on the related issues and problem areas under the respective treaties and agreements.

The increasing availability and attractiveness of new technologies with military potential is likely to be accompanied by a rise in demand for related applications. Firstly, modern weapons systems hold great promise in terms of military and industrial policy, given their professed strategic, operational and economic advantages. Secondly, the growing availability of such technologies and weapons systems and the ease of access this entails could lead more actors, including non-state parties, to (successfully) seek to acquire them. This creates new challenges for controlling goods and exports, which also involves regulating the new technologies in such a

way that their civilian use is not restricted unnecessarily. As many of the technologies referred to above are already available worldwide – along with the associated know-how – for civilian purposes in particular, it is proving difficult to control and prevent the proliferation of weapons-specific applications. Consequently, the problem of quantitative and qualitative proliferation is likely to become exacerbated.

Technological developments also facilitate and favour new forms of warfare. They result in new challenges for international and human security and bring about changes in patterns of conflict, which are increasingly taking on hybrid forms – for instance, the previously encountered combining of conventional warfare and covert operations now comes with the added dimension of attacks or disinformation campaigns in cyberspace. Thus, a modern arms race is being conducted in the virtual arena, without visible weapons and identifiable actors. Owing to the number of services that depend on it, the way in which cyberspace is used in future is crucial to international security and poses a challenge for arms control policy. Developments in this field enable brand new means of attack; some armed forces have built up their capacities accordingly and many are in the course of strengthening their defence capabilities. However, this distinction is fluid. The international community of states faces considerable challenges regarding these developments. Switzerland believes there is a need for cyberspace to be regulated, yet any possible approaches are still at the initial stage and the states vary widely in their opinions on the matter. Outer space is also gaining in significance given the number of services – both military and civilian in nature – that rely on space-based technology. For example, the fields of communication, information exchange, intelligence, surveillance and navigation benefit from the increased use of space-based systems. Beyond that, technological developments are growing ever more important in asymmetric warfare, where they potentially expand the body of instruments available to non-state armed groups.

The development, introduction and application of new weapons systems and new methods of warfare is set to raise familiar and brand new questions regarding compliance with international law, especially international humanitarian law (IHL). In this context, Switzerland is emphatic that the existing rules of international law apply to all weapons, including new categories of such. Since it is not possible at present to fully gauge the extent to which new weaponry is compatible with IHL, Switzerland resolutely highlights and promotes the existing universal legal obligation to examine the compatibility of new weapons with existing international law and offers implementation support in this area. For example, when it comes to autonomous weapons systems, Switzerland actively campaigns for the weapons review processes to be applied universally and to all weapons systems, and for these processes to be adapted where necessary. In particular, the challenges posed by new technologies should be discussed and categorised.

As some of the relevant technologies and processes are only partly covered – if at all – by the existing body of regulations, and users of new weapons systems tend to reinterpret the existing rules, gaps could arise in the provisions of the respective agreements. It may therefore be necessary to amend the relevant norms and processes based in international law. Also from a political or ethical viewpoint, a new course may need to be set for arms control policy in certain areas, an undertaking that would raise several questions. In the first place, in a large number of technological fields, it is not yet clear what form the challenges to be mastered actually take. These questions must be addressed at greater length on a sector and thematic basis and the key issues defined in more detail. Previous experiences in handling such

developments indicate that the international community will likely find it difficult to make a decisive move forward in addressing complex problems of this kind in arms control policy – not least because the potential civilian and military uses are too relevant and the risks too diffuse for the states to be able to muster the political will to impose (preventive) restrictions on themselves. The interdisciplinary nature of technology also touches on legal, security policy, military and social issues, making it even more difficult for existing regimes and agreements to be adapted in a timely and appropriate fashion to take account of new developments. Likewise, new treaties are likely to be tough to negotiate in the current geopolitical climate.

Moreover, new developments in technology not only have an impact on security and existing norms, they also influence the perceived possibility and legitimacy of using military force. On the one hand, military interventions in recent years that have made use of precision ammunition, stand-off weapons and unmanned aerial vehicles have breathed new life into the notion that modern weapons technology makes it possible to wage war with minimal losses. On the other, the willingness to tolerate casualties and damage through the use of military force has decreased.

The global challenges described here suggest that such questions must be discussed in more detail in partnership with the key actors in the appropriate multilateral arms control bodies and processes. The primary task is to encourage a risk dialogue and technology assessment, as called for, and to promote understanding of the respective issues within the bodies in question. Secondly, as soon as humanitarian problems or questions of international law become apparent, the relevant forums should serve as a platform for discussing worrying technological advances in the context of arms control in a timely fashion and for insisting on the application of international law. Thirdly, it will be important to safeguard the relevance of existing norms and regimes in light of technological developments. This will require existing commitments to be fully implemented, but does not exclude efforts to identify the need for additional regulation.

Tackling this set of issues is relevant for Switzerland in terms of its foreign and security policy, but also due to its status as a high technology hub, as it is affected both directly and indirectly by the challenges outlined above. Switzerland already plays an active role in the relevant multilateral disarmament, arms control and non-proliferation forums when it comes to scientific and technological developments and their consequences. As several of the following chapters make clear, its engagement is based on building confidence and transparency; prompting discussions and making suitable platforms available; offering its expertise to complex issues and promoting awareness-raising and consensus-finding; as well as on making concrete suggestions on how to respond to the challenges described.

2   Aims and instruments of Switzerland's arms control, disarmament and non-proliferation policy

2.1   Principles of Swiss policy

Switzerland's arms control, disarmament and non-proliferation policy is based on foreign, security and peace policy deliberations as well as humanitarian considerations. It refers to Article 2 paragraph 1 of the Federal Constitution, which defines the aim of the Swiss Confederation as safeguarding the country's independence and

security. It also draws on Article 54 paragraph 2, which aims to safeguard Switzerland's independence and welfare while also requiring it to assist in the alleviation of need and promote respect for human rights and the peaceful coexistence of peoples, among others. Against this backdrop, Switzerland pursues an active, pragmatic and realistic arms control, disarmament and non-proliferation policy based on the principle of preserving security on a level of regional and global armaments that is as low as possible. Switzerland's commitment in this area forms part of the activities defined in its 2016 Security Policy Report for realising the specified security policy interests and goals. Strengthening international security and contributing to a viable and just international order is also one of the priorities set out in Switzerland's Foreign Policy Strategy 2016–2019.

Maintaining, consolidating and further developing multilateral regimes is of central importance to Switzerland, alongside their universal implementation. As a neutral and non-aligned state, Switzerland has a vital interest in ensuring that compliance with international law takes precedence over political or military might, thus ensuring predictability and stability in international relations. These deliberations lead Switzerland to participate, with a few exceptions, in all the legally binding arms control and disarmament instruments that are open to it and actively to support their implementation. When it comes to developing the necessary joint responses to new global challenges, Switzerland attaches great importance to the international organisations' capacity to act and to its cooperation with partner states and civil society.

Switzerland is an advocate for disarmament and arms control treaties that are non-discriminatory and as verifiable as possible. As a rule, it gives precedence to instruments which are binding under international law over agreements that are purely political, although it also considers the latter to be binding and is resolute in its implementation of them. To ensure the most broadly based support for the treaties and agreements in question, it campaigns for an inclusive approach involving all the main actors. In addition, conventions that are open to all states and espoused by as many states as possible take precedence for Switzerland over arrangements between individual groups of states. Switzerland deviates from this principle in relation to the export control regimes. As a result of the technology gap and in view of the special requirements they impose on individual states, export control regimes do not have universal membership.

Switzerland actively supports banning and eliminating all categories of weapons of mass destruction as they represent a serious threat to both international security and the general population. Switzerland strives to preserve the existing norms in this area stipulated in weapons-specific treaties as well as other applicable areas of existing international law, in particular international humanitarian law, and to protect them from dilution. Moreover, in addition to promoting disarmament efforts, it also seeks to combat the dangers of proliferation. It believes that these two dimensions are closely related and that progress in one aspect can only be achieved by taking the other into consideration. Switzerland attaches great importance to a comprehensive understanding of non-proliferation – one that takes in both demand- and supply-side aspects. On the supply side, access to goods and know-how must be regulated to render the manufacture of weapons of mass destruction impossible. At the same time, the demand for these weapons must be curbed. In this context, the instruments and conventions on transparency in the military area have an important role to play and are crucial to the implementation of Swiss arms control policy. By making military activities more transparent and predictable, these measures help create

stability, build confidence between states and prevent the destabilising procurement of weapons.

Switzerland pursues several avenues also in relation to conventional weapons. Firstly, the country advocates adherence to the norms and instruments of international humanitarian law which restrict or prohibit the use of conventional weapons. Where, by their nature, certain conventional weapons systems can only be used in conformity with international law under specific circumstances, if at all, it champions tighter rules against the use of such weapons, or even a complete ban. Secondly, Switzerland is committed to better control of the arms trade and to act against the uncontrolled proliferation of small arms, light weapons and ammunition, especially in conflict areas. The aim is not only to mitigate the direct effects of armed violence on the victims but also to combat the indirect consequences for social and economic development in the countries affected. Switzerland, which applies restrictive criteria to the export of conventional weapons, campaigns at the international level for the rigorous and universal implementation of strict and harmonised norms. Stemming the illicit trade and the negative impact of small arms, light weapons and ammunition requires specific operational measures, such as the safe and secure management and disposal of weapons and ammunition stockpiles and the reliable identification and tracing of arms.

In addition, Switzerland focuses on the inclusion of relevant aspects of scientific and technical progress in many areas of its activities within arms control, disarmament and non-proliferation forums. Examining their impact on the treaty in question, and on adherence to international law and its evolution, is crucial to maintaining the long-term relevance and effectiveness of the associated norms and instruments.

Lastly, Switzerland champions functioning and efficient processes in all areas and works actively to strengthen the UN's disarmament mechanisms. International Geneva is accorded special attention in this respect as a central, global venue for disarmament. Thanks to the particularly dense network of relevant actors and processes here, Geneva is uniquely positioned to come up with responses to the challenges in the field of disarmament and arms control.

2.2 Weapons of mass destruction

2.2.1 Nuclear weapons

Switzerland has been working for quite some time to stigmatise the use of nuclear weapons, in the same manner as the use of biological and chemical weapons, and ultimately to prohibit the possession of nuclear weapons and bring about their verifiable elimination. It encourages and supports unilateral and bilateral efforts to reduce existing arsenals, while also playing an active role in the relevant multilateral forums.

At the multilateral level, the immediate focus lies on implementing the *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT). Switzerland takes a pragmatic and balanced approach to promoting the Treaty's three pillars: disarmament, non-proliferation and the peaceful use of nuclear energy. While much has been achieved with regard to non-proliferation, there has been a distinct lack of progress in relation to disarmament goals. Differing viewpoints regarding how the disarmament obliga-

tions set forth in the NPT are to be implemented have an adverse effect on this key instrument and could undermine its stability in the long term.

At the Ninth NPT Review Conference in 2015, Switzerland called for an assessment of how the action plan adopted five years previously was being put into practice, advocating that the plan be updated by taking stock of its achievements to date and developed further where appropriate. Specifically, Switzerland called for efforts to accelerate the pace of implementation of these ongoing actions during the 2015–2020 cycle. Reflecting its traditional role as a bridge-builder, it chaired the Subsidiary Body 1 on nuclear disarmament. Owing to differences of opinion over the creation of a weapons of mass destruction free-zone in the Middle East (see below), the Review Conference failed to reach consensus on an outcome document, which in turn made the document on disarmament facilitated by Switzerland obsolete and resulted in a failure to generate any positive momentum for disarmament measures going forward. The Review Conference highlighted the lack of common ground among the states, in particular regarding the disarmament pillar, as well as the ever more complicated geopolitical situation.

Nuclear disarmament

In the debates on disarmament – both in an NPT context and in other relevant forums – Switzerland welcomed the progress made by the nuclear-weapon states, specifically the ongoing implementation of the US-Russian *New START Treaty.* First and foremost, it recognised the increased transparency and the willingness of the five official nuclear-armed states to work together. At the same time, it emphasised its viewpoint that efforts to-date do not go far enough and that certain activities on the part of the nuclear-armed states are in direct contravention of their disarmament obligation. In doing so, it voiced its concerns regarding the quantitative and qualitative modernisation programmes for nuclear weapons.

In this connection, and as a reflection of its pragmatic approach, Switzerland has consistently drawn attention to the significant risks that emanate from the estimated 2,000 nuclear weapons which remain on high alert. It continued to work together with Chile, New Zealand, Nigeria, Malaysia and Sweden and with experts from civil society in all the relevant multilateral forums. These efforts led to a broader acceptance of this particular issue and a significantly improved outcome in the vote on the Resolution on De-creasing the Operational Readiness of Nuclear Weapons Systems («De-Alerting» Resolution) at the *UN General Assembly* (UNGA).

There was a lack of progress in the reporting period in the step-by-step process of disarmament towards a world free of nuclear weapons as agreed under the NPT: The sole permanent multilateral forum for negotiations on arms control and disarmament, the *Conference on Disarmament* (CD), based in Geneva, remained deadlocked despite numerous attempts at revitalisation. Owing to the continuing resistance of Pakistan, the CD was unable to commence talks on a *Fissile Material Cut-off Treaty* (FMCT). Although the Group of Governmental Experts mandated by the UNGA in 2014 and 2015 to put forward recommendations for a fissile material treaty delivered preparatory work of added value, it was unable to end the political stalemate. Other priorities on the CD agenda likewise remained deadlocked due to the disparate interests and reservations of the nuclear-armed states. Most of these states continued to oppose any negotiations on nuclear disarmament in the CD context. Progress also failed to materialise on the issue of negative security assurances. The long-standing attempts of the non-nuclear-weapon states to negotiate legally binding guarantees

were additionally polarised by the annexation of Crimea and the violation of the *Budapest Memorandum*.[1]

As far as the 1996 *Comprehensive Nuclear-Test-Ban Treaty* (CTBT) is concerned, further states have become party to the treaty and achieving its entry into force remains top priority. However, this is unlikely to happen any time soon as a number of states whose ratification is required for the treaty to enter into force have yet to join. Nevertheless, the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), based in Vienna, operates on a global scale and has done some excellent work in recent years, not least in helping detect several nuclear tests conducted by North Korea (see below).

The main reason for the difficulties in achieving progress in any of these implementation steps, which are enshrined in the NPT, is the geopolitical situation – along with the fact that nuclear weapons continue to play a prominent role in many security doctrines even now, a good 70 years after the detonation of the only two nuclear bombs ever to be used in the context of an armed conflict. And the fact that they do not play the same role in every state is another stumbling block to disarmament efforts. For example, in some states nuclear weapons are not only seen as a strategic deterrent, they are also a means of compensating for conventional military inferiority. Accordingly, there is no consensus among the nuclear-armed states – not all of which are parties to the NPT – regarding the necessity, nature or sequence of the next steps to be taken. Forty-five years after the adoption of the NPT, there is no real prospect of the treaty's disarmament obligation being implemented on the basis of the procedures followed so far. This has caused a number of states to look into new approaches.

The inclusion for the first time of «the catastrophic humanitarian consequences of any use of nuclear weapons» in the Final Document of the 2010 NPT Review Conference was followed by three international conferences on the subject. The focus of debate shifted more towards the global consequences of a nuclear explosion or of a war conducted with nuclear weapons instead of following the lines of the traditional, geopolitically dominated discourse on security. A joint «humanitarian statement» whose key demand was that nuclear weapons should never again be used, under any circumstances, was supported by 155 states. The nuclear powers and most other states with nuclear-based security concepts («umbrella states») did not support this shift in the debate, rejecting the stigmatisation approach, illustrated by what is known as the «Humanitarian Pledge».[2] Building on this «humanitarian initiative» and in response to the failed NPT Review Conference of 2015, an *Open-ended Working Group* (OEWG) was set up by a majority vote of the UNGA in 2016 and subsequently recommended launching negotiations on a treaty banning nuclear weapons. This resolution was adopted by the UNGA in December 2016 with a two-thirds majority despite the fact that the five nuclear-armed signatories to the NPT, other nuclear-weapon states, NATO members and US allies either expressed scepticism regarding this avenue of prohibition or rejected it outright.

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[1]   The Budapest Memorandum guarantees respect for Ukraine's borders, among other states, in return for its giving up the nuclear weapons it inherited from the Soviet Union.

[2]   Switzerland did not sign the appeal launched by Austria, as it did not consider the Pledge's approach suitable to ensuring the involvement of states whose security strategies rely on nuclear weapons. However, it did endorse related UNGA resolutions as the humanitarian concerns over the use of nuclear weapons represent a major driving force of disarmament measures.

Switzerland played an active role in both the humanitarian initiative and the OEWG process. It shares the concerns over the catastrophic consequences that would arise from the use of nuclear weapons and agrees that the latter cannot be reconciled with the requirements of international law, especially those of international humanitarian law. Switzerland also reiterated that the disarmament obligation derived from the NPT must be implemented and that, compared to other weapons of mass destruction, a legal gap exists in relation to nuclear weapons which must be closed expressly by means of further legal instruments. At the same time, Switzerland voiced certain reservations with regard to the negotiation of a treaty banning nuclear weapons, especially given that legitimate security concerns were being pushed into the background and the process barely included states whose security doctrines feature nuclear weapons. With this nuanced position, Switzerland established itself as a moderating force.

Numerous aspects of the negotiating process, which is scheduled to begin in 2017, are not yet known at the time of writing this report. Under certain circumstances, a treaty banning nuclear weapons could have the potential to break through the deadlock in nuclear disarmament. Over time, a prohibition norm could exercise legal and political pressure on the legitimacy of possessing and using nuclear weapons and ultimately reduce the role of nuclear weapons in security concepts. A ban on nuclear weapons could underscore the fact that, for humanitarian reasons and under international law, a majority of states do not believe that nuclear weapons should ever be used. Over and above that, a prohibition norm could strengthen the non-proliferation norm enshrined in the NPT in a similar way to the already existing nuclear-weapon-free zones. In the long term, a ban on nuclear weapons could become an important step along the way to establishing a more comprehensive and universal nuclear weapons convention.

At the same time, Switzerland believes the negative aspects of such a treaty are to be avoided. The negotiations on a ban on nuclear weapons could accentuate the existing divisions regarding this issue even further. Rather than having a concrete impact on disarmament, any treaty that does not involve the possessors of nuclear weapons and their allies could remain largely declaratory in nature, effectively diminishing the added value of the prohibition process, as the non-nuclear-weapon states are already legally subject to a prohibition on development and possession by virtue of the NPT. Specifically, Switzerland believes that such a treaty must not be allowed to restrict economic activity, industry, research and the civil use of nuclear energy. Neither should it encroach on nuclear and radiological defence or prevent Switzerland in a crisis situation from freely choosing its defence-policy partners if the latter's security policies are based on nuclear weapons.

Switzerland also seeks to build its cooperation with states that are not involved in the prohibition process. Special mention must be given here to the *International Partnership for Nuclear Disarmament Verification* (IPNDV), which the USA was instrumental in launching. The Partnership underscores the fact that, as nuclear powers, the US and the United Kingdom are striving to make concrete progress despite the current situation and are willing to come up with solutions that address even the most difficult disarmament issues. Specifically, the IPNDV endeavours to further understand the challenges associated with potential future options for multilateral nuclear disarmament verification and to develop technical and procedural answers to as yet unanswered questions. Switzerland actively took part in several plenary and working group meetings, including the training of inspectors. Together

with Norway and a cross-regional group of states, Switzerland submitted a corresponding resolution to the UNGA in 2016. The main objective of the resolution on nuclear disarmament verification is to firmly embed the work of the IPNDV within the UN framework and create a future multilateral disarmament instrument.

Non-proliferation

While the established nuclear disarmament machinery faced growing challenges, a certain degree of progress was made in the sphere of non-proliferation. In the case of the Iranian nuclear programme, the *Joint Comprehensive Plan of Action* (JCPoA) – a historic agreement finalised in July 2015 – came into effect in January 2016, launching an implementation phase that is set to last for more than a decade.[3] Throughout this process, Switzerland was noted for its role as initiator of ideas, facilitator and host. Despite numerous challenges, technical implementation has been progressing positively so far, but nevertheless depends on the political will of the protagonists – the US and Iran – to keep the agreement on track, even in the face of mutual provocations in other areas. Although a large part of the sanctions have been lifted, Iran will remain a focus of attention for the *International Atomic Energy Agency* (IAEA) and the export control regimes covering nuclear supplies and missile technology (see section 2.5.2). After years of efforts for a diplomatic solution, Switzerland will continue to follow the situation closely at the technical level. The channel established under the JCPoA for exporting certain dual-use goods to Iran is hardly being used at present, yet its proper functioning is key to the agreement's long-term success. In addition to economic prospects, the agreement also presents the opportunity to engage with Iran's long-isolated nuclear sector from the viewpoint of nuclear safety, and possibly persuade Iran to join the international treaties in this field.

When it comes to regional disarmament and non-proliferation efforts, attempts to move forward with a series of structured talks on establishing a zone free of weapons of mass destruction in the Middle East were less successful. The Final Document of the 8th NPT Review Conference called for a conference on the subject to be convened by 2012. Switzerland subsequently supported the Finnish Under-Secretary of State appointed as facilitator and hosted several rounds of multilateral consultations on Swiss soil in 2013 and 2014. Ultimately, irreconcilable differences regarding the agenda meant that the conference was never convened and, in 2015, the Ninth NPT Review Conference failed when Egypt and the US were unable to reach agreement on the next steps.

The six-party talks (between China, Japan, North Korea, Russia, South Korea and the USA) have remained on ice since being broken off by North Korea in 2009. A second (2009), third (2013) and ultimately fourth and fifth nuclear test (2016) marked subsequent low points in the ups and downs of this protracted crisis. These tests, and the launch of delivery vehicles, attracted strong global condemnation, including that of Switzerland, and led to the continuous tightening of sanctions by the UN Security Council.[4] Meanwhile, North Korea is pushing ahead with its nuclear and missile programmes in an attempt to present credible deterrence threats, including a second strike capability using submarines.

At the nexus of non-proliferation and the peaceful use of nuclear energy, former US president Obama set up the *Nuclear Security Summit* (NSS) process in an attempt to

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[3] Formalised by Security Council Resolution 2231 (2015).
[4] Resolutions 1718 (2006), 1874 (2009), 2094 (2013), 2270 and 2321 (2016).

inject nuclear security with fresh political momentum. The main aim was to take steps to secure nuclear material and thus prevent access by terrorists in particular. The four summits held between 2010 and 2016 have brought about the repatriation and a worldwide reduction in stockpiles of sensitive nuclear material. More than a dozen nations have removed all their highly enriched uranium and separated plutonium during the process.[5] The high levels of political attention generated by the process ensured that important international agreements, such as the *International Convention for the Suppression of Acts of Nuclear Terrorism* and the amended *Convention on the Physical Protection of Nuclear Material*, reached much wider adherence. The summits culminated in a series of action plans for the various actors in the nuclear-security area, among which the IAEA's special coordinating function was recognised. The IAEA organised two international conferences in 2013 and 2016.

It should be noted that Switzerland has now carried out several technical measures for nuclear security as a result of these political agreements. They include designating the Spiez Laboratory as the national competence centre for nuclear forensics, installing detectors in the vicinity of scrap treatment and waste disposal plants, introducing mobile and stationary measurement systems to combat the smuggling of radioactive material, and increasing the number of radioactivity checks on land transport and air traffic. At the political level, an informal *Nuclear Security Contact Group* has been established as an offshoot of the NSS process. Switzerland is involved in this informal body, whose primary objective is to uphold the political commitment to nuclear security issues. The question of how nuclear materials used for military purposes[6] should be addressed in the international efforts to strengthen nuclear security remains unanswered. To date, only civilian material has been taken into consideration. Switzerland has spoken out in favour of a comprehensive nuclear security agenda which would also include military materials.

In the wake of the accident at the Fukushima reactor in 2011, work on reinforcing nuclear safety was stepped up. In February 2015, Switzerland was instrumental in getting a Diplomatic Conference of the *Convention on Nuclear Safety* (CNS) to adopt the improvement of safety at new and existing nuclear power plants as a goal in the so-called «Vienna Declaration».

2.2.2 Chemical weapons

The *Chemical Weapons Convention* (CWC)[7] of 1997 prohibits the development, production, acquisition, and use of chemical weapons. The Convention contains four key provisions: destroying all declared chemical weapons; operating a global verification regime for the relevant chemical industry and state institutions; providing assistance and protection against chemical threats; and encouraging international cooperation to promote the peaceful use of chemistry. The CWC has achieved near universal membership since it was first enacted. To date, 192 states have ratified the Convention. Only Egypt, Israel, North Korea and South Sudan have not yet joined. The *Organisation for the Prohibition of Chemical Weapons* (OPCW), headquartered

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[5] Switzerland also transported its separated plutonium to the US in 2016.
[6] Approx. 83% of the fissile material available worldwide.
[7] Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction.

in The Hague, is the body responsible for implementing the provisions of the CWC. It monitors the destruction of declared stockpiles of chemical weapons and carries out inspections in relevant industrial enterprises and government research laboratories in the member states. In 2013, the OPCW was awarded the Nobel Peace Prize in honour of its achievements in the field of international disarmament. In accordance with the principle of rotation, Switzerland is represented on the OPCW Executive Council from May 2016 to May 2018.

Under the OPCW's supervision, 94% of the world's declared stockpiles of chemical weapons have been destroyed to date. Of the eight countries that declared chemical weapons inventories on joining the CWC, Albania, India and South Korea have destroyed their stockpiles. In 2014 and 2017, the Libyan arsenal was destroyed with international assistance, some of it outside the country. Syria's declared chemical weapons programme was also completely eliminated; however, there are serious discrepancies between Syria's official declaration and its alleged actual arsenal, which the OPCW is currently investigating (see below). The USA and Russia, the two nations with the most significant stockpiles of chemical weapons, failed to meet a deadline that had already been extended and are now subject to additional reporting and inspection requirements. The USA expects to have completed the elimination of its chemical weapons arsenal by 2023. Russia has set 2020 as the deadline for the destruction of its stockpiles. In addition, declared legacy chemical weapons still have to be removed at two locations in Iraq.

The events surrounding the conflict in Syria were the main focus of attention for the OPCW and Switzerland's efforts during the reporting period. Although Syria bowed to international pressure by acceding to the CWC in 2013, with its declared chemical weapons then being removed from the country and eliminated under the supervision of a mission tasked by the UN Security Council and the OPCW Executive Council, chemical weapons continued to be used in Syria. After the UN Secretary-General's investigation into the devastating sarin gas attacks of 2012/2013, this triggered several fact-finding missions conducted under the auspices of the OPCW. At the beginning of August 2015, the Security Council unanimously voted to establish an OPCW-UN *Joint Investigative Mechanism* (JIM), giving it a mandate to identify – on the basis of OPCW indicia – the individuals, groups or governments involved in the use of chemicals as weapons in Syria.[8] The interim JIM final reports appeared in autumn 2016, for the first time naming those responsible for four of the nine incidents investigated: the Syrian Armed Forces for three attacks using chlorine and the grouping known as «Islamic State» for the use of mustard gas. Aside from extending the JIM mandate until the end of 2017, no consensus has been reached in the Security Council thus far on the steps to be taken against these breaches of international law. However, in November 2016, the OPCW Executive Council succeeded in pushing through a majority decision subjecting Syria to a stricter inspection regime and further investigative missions. Nevertheless, the OPCW has shown that sarin or a sarin-like substance was used in a further attack in April 2017 which claimed dozens of victims. The perpetrators have yet to be established.

Switzerland supported these decisions and condemned the repeated use of chemical weapons in Syria in the strongest terms. If the credibility of the international norm against chemical weapons is to be upheld, Switzerland considers it essential that such acts are neither tolerated nor left unanswered. To counter the impunity, Swit-

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[8]   Formalised by Security Council Resolution 2235 (2015).

zerland has been calling on the Security Council since 2013 to refer this and other serious breaches of international humanitarian law to the International Criminal Court. Moreover, through its Spiez Laboratory, which analysed samples from the initial sarin attacks as well as the OPCW missions and the JIM, Switzerland was actively involved in investigating these incidents and provided support for the destruction of the Syrian chemical programme as well as for various UN and OPCW missions to Syria in the form of funding, material and personnel. In addition, in May 2017, an expert from the Spiez Laboratory was appointed by the UN to the three-person leadership panel of the JIM for the second phase of investigations until the end of 2017.

The next few years will be particularly challenging for the OPCW and the Convention: the advent of the post-destruction era makes a discussion on future priorities, roles and functions inevitable. Switzerland is of the opinion that it will be necessary to shift the focus away from destruction and onto preventing the re-emergence of chemical weapons. This will not only mean addressing the threat from non-state actors but also, crucially, maintaining the OPCW's expertise. Another key aspect in this context is taking into account scientific and technological progress on an ongoing basis – an area in which Switzerland is particularly active. For example, it is regularly represented on the *Scientific Advisory Board* of the OPCW, a body it has previously chaired. The Spiez Laboratory is one of 19 designated laboratories around the world that works closely with the organisation's own laboratory, which it provides with free data on the analysis of chemical substances and samples of chemical agents for reference purposes. In 2014, Switzerland launched a new series of workshops tackling the increasing convergence of chemistry and biology. The «Spiez Convergence» event provides a platform for experts from academia, industry and the political arena to discuss the implications of this development for the relevant arms control treaties, specifically the CWC and the Biological Weapons Convention (see section 2.2.3). For several years now, Switzerland has also been leading an initiative that seeks to achieve clarity under the Convention regarding incapacitating chemical agents and the problematic status of these novel types of substances.

As part of its undertaking to provide assistance to other members of the Convention in the event of the use of chemical weapons, Switzerland has protective equipment, decontaminants, detection equipment and field laboratories ready to be made available at short notice at the OPCW's request. To ensure this material is handled correctly, Switzerland holds training courses at home and abroad for foreign civilian and military instructors. The focus lies on the French-speaking countries of West and Central Africa. Switzerland also advocates comprehensive national implementation of the CWC in all states parties, to which end it became actively involved in a capacity-building programme with Namibia in 2016.

2.2.3 Biological weapons

The *Biological Weapons Convention* (BWC)[9] prohibits the acquisition, development, production and possession of biological and toxin weapons as well as equipment or means of delivery designed to use such agents. It was ratified by Switzer-

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[9] Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriologial (Biological) and Toxin Weapons and on Their Destruction.

land in 1976. Like the Chemical Weapons Convention, the BWC emerged from the *Geneva Protocol of 1925*[10], which bans the use in war of asphyxiating, poisonous or similar gases, and of bacteriological methods of warfare. Unlike the CWC, the BWC does not have an organisation responsible for its implementation or a legally binding verification system for monitoring adherence to its provisions.

The rapid pace of development in the life sciences, coupled with the inherently dual-use nature of the related technologies, poses a fundamental challenge to the Convention. There is a risk here that the same processes, technologies and materials which are being developed and used for peaceful purposes, could also be misused to develop and produce biological weapons. In light of this issue and the diffuse threat posed by biological weapons and non-state actors, the lack of effective verification procedures is a long-standing shortcoming of the treaty that creates uncertainty and mistrust. Negotiations on a verification protocol broke down in 2001 in the face of resistance by certain nations. Failure to overcome the resulting political stalemate has since prevented the Convention from being amended in line with current challenges. Switzerland has no fundamental objections to the resumption of negotiations on an additional protocol being called for by a number of states. However, proposals to this effect have not reached consensus so far and would intensify the existing polarisation without any prospect of delivering the intended result. Furthermore, this issue is being instrumentalised by a number of states for political purposes.

From 2007 to 2015, annual meetings of experts and states parties were held between the five-yearly review conferences in an attempt to reach a common understanding on specified topics. However, this intersessional process, which was chaired by Switzerland in 2014, had no mandate to take formal decisions and did not prove able to live up to its aim of strengthening the Convention. At the most recent Review Conference in November 2016, Switzerland spoke up in favour of giving the Meeting of States Parties the power to take decisions in clearly defined areas and of setting up working groups with a focus on specific topics. Since 2013, Switzerland has taken the lead in advocating for the establishment of a body of experts to systematically address scientific and technological developments and their consequences for the BWC («Science & Technology Review»). However, the Review Conference was held in a very difficult climate. Diverging views among the main actors made it impossible to reach consensus on the core issue of revitalising the intersessional process, and other concerns. As of 2017, the process consists of nothing more than an annual meeting of states parties mandated to renew discussions on this issue.

During the reporting period, Switzerland also championed the strengthening of the existing confidence-building measures under the BWC, which are seen as a key factor in creating a certain degree of transparency and trust in the absence of a verification system. Switzerland also took an active part in voluntary initiatives to assess the implementation of the Convention by participating states parties. This involved the mutual exchange of information among experts, reviewing the relevant national legislation, and transparency visits to laboratories, for example. During the reporting period, Switzerland hosted three such visits to the Spiez Laboratory.

In the context of the BWC provisions on international cooperation and assistance, Switzerland particularly collaborated with Iraq and Chile. In both cases, the central elements of the cooperation were training projects and the sharing of experience in

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10 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare.

the areas of biosafety and biosecurity. Switzerland also supported the *World Health Organization* (WHO) in related legislative activities in countries such as Vietnam and Pakistan. As part of the international reaction to the Ebola epidemic in West Africa, Switzerland sent an expert from the Spiez Laboratory to the crisis area to support a temporary diagnostic laboratory. In addition, Switzerland places great value on cooperating with civil society and provided a variety of projects with financial and substantive support.

Alongside its engagement in the framework of the BWC, Switzerland continued its efforts to bolster the UN Secretary-General's Mechanism for Investigation of Alleged Use of Chemical and Biological Weapons. These included taking part in field exercises and expert workshops as well as organising a series of workshops aimed at ensuring that the laboratories designated by UN member states for investigations of alleged uses of biological weapons define and meet the required quality assurance criteria and standards. In 2014, the Spiez Laboratory opened its new biocontainment facility that operates at the highest biosafety level. In addition to its main task of analysing biological agents and pathogens, the new laboratory also offers national and international training courses.

To raise awareness among the country's researchers of the dual-use problem and the risks of the potential misuse of advancements in the life sciences, Switzerland contributed to a number of events on the subject at Swiss academic and research institutions during the reporting period. In addition, the Swiss Academy of Sciences' Forum for Genetic Research ran a variety of workshops at universities in 2016 at which it discussed with researchers a responsible approach to their work. The involvement of researchers will remain key to preventing misuse in the field of life sciences and continues to be an important factor in implementing the BWC in future.

2.3 Space security and delivery systems

Outer space is currently being used more intensively and comprehensively than ever before. In recent years, it has become an indispensable part of networked infrastructures. Satellite-based applications, both civilian and military, such as global positioning systems, are used the world over. The rise in space-based applications and growth in the number of actors present in outer space only serve to increase its strategic relevance, while at the same time adding to the significance of safety and security in space and the sustainability of space-based systems.

Space- and Earth-based anti-satellite weapons have already been developed or are in development, although no weapons aimed at Earth have been stationed in outer space as yet.[11] However, intentions of this kind cannot be ruled out and could have a destabilising effect. Regardless of the issue of weapons in outer space, the possibility of conflicts taking place in space is another unsettling prospect as this could lead to the collapse of vital yet highly vulnerable infrastructures. Furthermore, the destruction of a single satellite could produce thousands of pieces of debris, which would render orbits unusable and endanger other space systems, as was observed when China shot down one of its own satellites in 2007.

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[11] There is no clear definition of what constitutes a space weapon as satellites or frequency jammers, for instance, could be used to destroy other space systems.

There are only a few legally binding regulations on safeguarding space security. Thus, the most important agreement in this area – the *UN Outer Space Treaty*[12] – merely prohibits the stationing of nuclear weapons or any other weapons of mass destruction in outer space, but makes no reference to conventional weapons. On the other hand, the Treaty states that the UN Charter is applicable. Consequently, the use of force in outer space is forbidden – except with regard to the right of self-defence if an armed attack occurs.[13] However, the ability of existing international norms to curb new developments which pose a threat to security in space is likely to be limited. That is why Switzerland is committed to ensuring the peaceful use of outer space and improving security there. Outer space must be prevented from becoming a hotspot of aggression or theatre of war. Switzerland advocates the drafting and further development of binding legal instruments to prevent the stationing of weapons in outer space and the use of force against space systems.

In the Conference on Disarmament based in Geneva, Switzerland supports negotiations on the *prevention of an arms race in outer space* (PAROS). It considers the *Draft Treaty on the Prevention of the Placement of Weapons in Outer Space and the Threat or Use of Force against Outer Space Objects* (PPWT), first proposed by China and Russia in 2008 and updated in 2014, as a constructive basis for commencing negotiations. However, the 20-year deadlock in this body continues to impede any further progress in this area.

In 2014, Russia submitted a draft resolution on *No First Placement of Weapons in Outer Space* to the UN General Assembly (UNGA). Switzerland abstained in the vote as it saw weaknesses in both the concept and substance of the chosen approach. Elsewhere, work continues on the recommendations contained in the 2013 report of the *Group of Governmental Experts on Transparency and Confidence-building Measures in Outer Space Activities* (GGE), which was set up by the UNGA. Since that date, the UNGA has made efforts to gain a big-picture view of outer space security and the long-term sustainability of outer space activities, taking both military and civilian standpoints into account. Switzerland actively supports these efforts.

In parallel with this, Switzerland supports the establishment of confidence- and transparency-building measures and steps that will contribute to the security, stability and long-term sustainability of outer space. To this end, it took part in the talks organised by the European Union to hammer out an international code of conduct on space activities (*Draft International Code of Conduct on Outer Space Activities*, ICOC), an initiative it will continue to follow closely. An instrument of this kind could build mutual confidence and trust by reinforcing certain basic rules and defining a series of measures that promote transparency. Guidelines for the long-term sustainability of outer space activities are being drawn up by the *UN Committee on the Peaceful Uses of Outer Space* (COPUOS) with Switzerland's involvement. They will also serve as confidence-building measures as well as helping to increase the security and safety of outer space and enhancing its long-term sustainability.

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[12] Treaty of 1967 on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.
[13] The term «armed attack in space» likewise raises various questions regarding its definition.

Delivery systems

The close relationship between programmes for developing ballistic missiles and outer space programmes, coupled with the rapid pace of technological progress in these areas, poses a major challenge. The ongoing evolution of ballistic missiles and the growing proliferation of cruise missiles and other unmanned aerial vehicles (drones) not only add to conventional threat scenarios: given their potential to launch nuclear, chemical or biological weapons, systems of this kind are also a factor in the proliferation risk with regard to weapons of mass destruction. Countries that possess the corresponding capabilities – or are suspected of doing so – tend also to run programmes for the development of related delivery systems. Several nations have begun developing or stationing anti-missile defence systems to protect themselves from the threat of missile attacks.

To date, this problem has been addressed only sporadically at the multilateral level. There is no legally binding treaty in this area. The *Missile Technology Control Regime* (MTCR), an informal grouping of countries, aims to control and limit the spread of missiles and missile technologies (see section 2.5.2). The *Hague Code of Conduct against Ballistic Missile Proliferation* (HCOC), adopted in 2002, is based on a general undertaking to exercise restraint with regard to such missiles and introduced measures to promote transparency, such as the advance notifications for planned missile launches. However, this instrument has weaknesses: its remit does not extend particularly far (e.g. its provisions do not apply to cruise missiles), several key states (such as China and Pakistan) have failed to sign up, and implementation is inadequate.

Switzerland strives to prevent the proliferation of missiles by strengthening the aforementioned mechanisms. In addition, it supports efforts to draw up legally binding and non-discriminatory norms in this area. As far as the stationing of missile defence systems is concerned, Switzerland fears that developments in this field will have damaging consequences and could contribute to tensions unless there is mutual consultation on the subject. Therefore, Switzerland is advocating for greater dialogue and transparency in this area.

2.4 Conventional weapons

2.4.1 Small arms and light weapons

Switzerland plays an active role in the international struggle against the illicit supply, excessive accumulation, uncontrolled proliferation and misuse of small arms and light weapons. Through its adopted strategy[14], Switzerland seeks to create a world in which people no longer suffer from the negative consequences of the illicit trafficking and misuse of small arms and light weapons and in which peace, security and sustainable economic and social development are possible. To achieve this, it has set itself the following objectives: Firstly, the multilateral agreements are to be fully implemented and universally applied, where relevant. Secondly, human security must be enhanced by reducing and preventing armed violence and improving the conditions for peace and sustainable economic and social development. And lastly,

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[14] Switzerland's strategy 2017–2020 for the international fight against the illicit trade in and misuse of small arms and light weapons.

all states should be capable of assuming long-term ownership of the problems associated with small arms.

Particular successes have been notched up in recent years, first and foremost at the normative level: Thus, Switzerland successfully lobbied for small arms and light weapons to be included in the *Arms Trade Treaty* (ATT; see section 2.5.1). In addition, the issue of small arms was placed on the *2030 Agenda for Sustainable Development* in September 2015, with specific targets and indicators on reducing illicit arms flows and armed violence. Global awareness of the correlation between armed violence and development, as proclaimed under the *Geneva Declaration on Armed Violence and Development* since 2006, provides a basis for integrating more and more activities to combat the illicit trade in and misuse of small arms and light weapons within a development-policy context and including them in relevant programmes.

Switzerland has also contributed to the universalisation, full implementation and consolidation of existing multilateral instruments related to small arms and light weapons. In particular, it campaigned at the Meetings of States held under the *United Nations Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects* for the current provisions to be amended in line with today's needs and specifically championed the establishment of sustainable, effective and adequate assistance processes that cover the entire life cycle of small arms and light weapons. Performing official functions at various Meetings of States under the UN Programme of Action enabled Switzerland to exercise a greater influence on discussions and negotiations, in which it supported consensus-oriented decision-making.

At the operational level, Switzerland supported states seeking assistance under multilateral treaties, especially through Trust Fund projects of the *Partnership for Peace* (EAPC/PfP), the OSCE and the UN. Here, Switzerland primarily supports capacity-building projects for the safe and secure management and disposal of arms and ammunition by providing financial contributions, material supplies, advice at the military-policy level and the technical expertise of its armed forces. Thanks to its long-standing and sustainable positioning in this area, backed up by relevant operational experience, Switzerland continues to enjoy considerable credibility within the multilateral bodies and organisations in question. It applies a holistic approach and – assuming that the receiving state is willing to take national ownership – offers its support for training and institutional capacity-building as well as for renewing relevant infrastructures in line with international norms and standards. It also advises receiving states on the life-cycle management of weapons and ammunition, and encourages them to embed this concept within their institutions.

Switzerland works together with the partner states of the *Multinational Small Arms and Ammunition Group* (MSAG) to offer training courses for small arms and ammunition specialists that help maintain the required expertise at the national level and place it on a firm footing at the international level. Switzerland hosted the MSAG Symposium, which meets twice yearly, in 2013 and 2016. Further activities include lobbying for the effective application of the existing UN standards, such as the *International Small Arms Control Standards* (ISACS) and the *International Ammunition Technical Guidelines* (IATG). It also supports measures for their uniform application in projects on the ground, in part through its support for the UN in setting up an international validation process – based in Switzerland – for ammunition technical expertise.

At the regional level, Switzerland supported the implementation and evolution of the *OSCE Document on Small Arms and Light Weapons* and the *OSCE Document on Stockpiles of Conventional Ammunition*, among others, and contributed subject-matter expertise to the revision of the relevant guidelines. During its OSCE Troika years (2013–2015), including its year of OSCE Chairmanship (2014), it actively supported activities for the safe and secure management and disposal of small arms and ammunition (including in Bosnia and Herzegovina, Moldova, Montenegro and Serbia). Moreover, at the OSCE Ministerial Council meeting in Basel in 2014, a decision was made to facilitate the provision of support for assistance projects in the form of resources and technical expertise.

Switzerland also worked tirelessly to promote and strengthen Geneva as a venue for disarmament in relation to small arms. It promoted action-based research into combating the illicit trafficking and misuse of small arms through its continuing support for the *Small Arms Survey,* a research programme based at the *Graduate Institute of International and Development Studies* (IHEID). The 2015 relocation of the Small Arms Survey to the *Maison de la paix* in Geneva enabled Switzerland to enhance its cooperation with the three Geneva centres supported by the Confederation and thus to adopt a comprehensive and interdisciplinary approach to tackling all aspects of small arms issues.

Swiss weapons legislation has also continued to evolve. The 2012 implementation of the *UN Firearms Protocol*[15] and the *UN Tracing Instrument*[16] enshrined the marking of imported firearms in Swiss law. In addition, the storage time for data on the acquisition and possession of weapons in the cantonal weapons registers has been extended to 30 years. The *Federal Act on Improving the Exchange of Information between the Authorities on Handling Weapons* was adopted in July 2016, enhancing the exchange of information between military and civilian authorities and creating a legal basis for consulting all the cantonal weapons registers and the Confederation's *ARMADA* weapons information platform by means of a single online search.

2.4.2 Mines, ammunition, explosives and incendiary weapons

Switzerland's commitment to action against mines, cluster munitions and explosive remnants of war has lost none of its relevance. In spite of the many, durable successes achieved in recent years, residual contamination from previous armed conflicts and the massive jump in the level of new contamination as a result of current conflicts in the Middle East and Sub-Saharan Africa both pose long-term challenges for the international community, including Switzerland. Thus, in a large number of regions, the civilian population and members of international missions still require protection from mines, cluster munitions and explosive remnants of war, and the conditions for sustainable economic and social development still have to be created. Humanitarian demining remains crucial in paving the way for peace, security, humanitarian aid and sustainable development. This understanding informs Switzer-

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15 Protocol against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition Protocol, supplementing the United Nations Convention against Transnational Organized Crime.

16 International Instrument to Enable States to Identify and Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons.

land's commitment, and the current Mine Action Strategy for the period 2016-2019 defines three strategic objectives:

- The relevant multilateral treaties (see below) are fully implemented and universally applied.
- Safety from mines, cluster munitions and explosive remnants of war is increased and the conditions for sustainable development improved.
- Ownership of mine action rests entirely with those affected on the ground.

The adoption of the global *2030 Agenda for Sustainable Development* in 2015 firmly established an understanding of the peace-development nexus. It was against this backdrop that Switzerland first began integrating at operational level its humanitarian demining activities within long-term development cooperation programmes a few years ago. At the same time, it seconds Armed Forces personnel to UN demining programmes, as well as providing support in the areas of explosives clearance, finance, information and data management, and logistics. It also runs basic and advanced training courses with selected partners. Switzerland additionally supports the *Geneva International Centre for Humanitarian Demining* (GICHD), an international centre of expertise on mine action, with a core contribution of some CHF 9 million.

At the political level, Switzerland is active in the multilateral forums on the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (*Anti-Personnel Mine Ban Convention*, APMBC), the *Convention on Cluster Munitions* (CCM) and the corresponding protocols to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (*Convention on Certain Conventional Weapons*, CCW), where it encourages states to honour the commitments they have entered into by implementing them in full, and tries to prevent standards being eroded due to issues such as the increasing tolerance of delays in implementation or the lack of transparency in reporting by the states. Switzerland continues to provide financial support totalling CHF 16 to 18 million for humanitarian demining each year, making it one of the few donor countries not to have reduced its level of funding during the last few years. This is the basis for Switzerland's close partnership with the countries in question and with other donor states (e.g. through the informal *Mine Action Support Group*, MASG), as well as UN organisations and civil society. Switzerland works with these partners to support international efforts to implement the APMBC and the CCM as fully as possible by 2025 and 2030 respectively.

In the context of the links between peace, security and development, in recent years Switzerland has expanded its commitment to the *safe and secure management of ammunition* (SSMA), a subject that is thematically related to humanitarian demining and combating the proliferation of small arms. Switzerland has been engaged in a diplomatic initiative in this area since 2015, commonly referred to as the *ammunition initiative*. As unsecured and unsafe ammunition stockpiles in a great many countries constitute a source of proliferation and create the risk of accidents, thus promoting armed violence, including conflicts, terrorism and (organised) crime, Switzerland has now embarked on a first phase of awareness-raising among political decision-makers. These efforts focus on the added value delivered by safe and secure management of ammunition in terms of peace, stability, security and sustainable development. The international meetings held by Switzerland in Geneva in 2015 and 2016 confirmed the global community's interest in this subject. Switzer-

land itself can draw on substantial experience in managing the ammunition of its own armed forces as well as engagements such as those in Bosnia and Herzegovina (EUFOR), Mali (UNMAS) and Moldova (OSCE). This expertise can now provide valuable input for the diplomatic initiative. The long-term goal of the ammunition initiative is to establish the management of ammunition on the political agenda as a third pillar of conventional arms control, disarmament and non-proliferation policy alongside humanitarian demining and combating the proliferation of small arms.

For Switzerland, the CCW is an important arms control platform, not least owing to the participation of most of the militarily relevant actors and the balance it achieves between the military use of weapons systems and humanitarian concerns. The CCW, in its five protocols, bans or regulates the use of certain conventional weapons that may be deemed to be excessively injurious or have indiscriminate effects.[17] Switzerland took part in meetings of experts and meetings of states as well as the 2016 Review Conference, at all of which it advocated improving implementation of the CCW, further universalising it and amending it to take account of the relevant developments in relation to conventional weapons.

The use of *improvised explosive devices* (IEDs) is shaping the pattern of asymmetric confrontations around the globe involving the use of force by non-state actors. The regular use of IEDs has serious humanitarian consequences. What is more, IEDs pose a major challenge for military and security forces, causing many casualties and using up significant resources. A lively exchange among experts has taken place against this background since 2009 under the auspices of the CCW Amended Protocol II (Mines). Switzerland supported this work, although its believes the CCW can only make a limited contribution to resolving the IED challenge. Switzerland argued for the CCW to address the topic from the point of view of compliance with international humanitarian law by all conflict parties rather than that of combating terrorism. It strives to resist efforts to restrict the subject of IEDs exclusively to certain groups (terrorists and illegally armed groups). The question of respect for international humanitarian law is also pertinent with regard to the use of conventional ammunition in armed conflicts and its impact on civilians.[18]

Everyday chemicals are frequently used to create the explosive components of IEDs. International efforts to counter this misuse have been stepped up in recent years. In December 2016, the Federal Council decided to regulate the trade in the substances in question with the aim of making it harder for people to get hold of these ingredients – both in Switzerland and abroad. Legislative work began in January 2017 and should be concluded by 2020. Immediate measures were resolved to cover the intervening period. These include vendors voluntarily flagging up transactions of a suspicious nature, and awareness-raising campaigns.

Switzerland also supports the further inclusion of anti-vehicle mines, officially referred to as *mines other than anti-personnel mines* (MOTAPM), within the CCW. These are weapons systems and effectors of military relevance whose use could be regulated in order to minimise the humanitarian and development-policy impacts. In

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[17]　In this way, mines (Protocol II and Amended Protocol II), incendiary weapons (Protocol III), blinding laser weapons (Protocol IV) and non-detectable fragments (Protocol I) have been regulated and partly prohibited. Through Protocol V on Explosive Remnants of War, the CCW has also become an instrument of post-conflict rehabilitation and humanitarian demining.

[18]　This area is also referred to by the term «explosive weapons in populated areas» (EWIPA).

addition, in the wake of numerous reports about the use of *incendiary weapons* against civilians, specifically in Syria, Switzerland called for compliance with international humanitarian law and the specific provisions of Protocol III. It also welcomed a discussion on whether Protocol III in its current form and level of implementation adequately protects civilians and combatants from weapons systems or effectors with incendiary effects.

Finally, Switzerland called for the CCW to keep pace with technological developments and for it to attach greater weight to this aspect. In response to Switzerland's proposal, it was decided at the end of 2016 that the 2017 Meeting of States should take an in-depth look at the implications for the CCW of developments in science and technology. Switzerland will continue to play an active role here and contribute to safeguarding the CCW's continued relevance for future challenges in this area.

2.4.3   Autonomous weapons systems

The rapid pace of technological advancement in the field of sensor systems, robotics and artificial intelligence means that weapons systems can increasingly be automated or even designed to function autonomously. This capability affects systems in every sphere of operation (air, ground, on and under water, outer space and cyberspace) and will lead to wide-ranging changes in the military arena. The potential development of *autonomous weapons systems* (AWS) raises hopes of a more targeted and efficient use of force in armed conflicts. However, it also fuels fears that war will become increasingly dehumanised. The topic has gained international recognition thanks, among other things, to a civil-society campaign which called for a preventive prohibition on the development, production and use of fully autonomous weapons systems. Proponents of an AWS ban argue that delegating life-and-death decisions to machines is inherently wrong from an ethical standpoint. They also assume that AWS will never be capable of fully respecting international humanitarian law.

Like the majority of nations, Switzerland remains cautious about a preventive ban of AWS under international law at the present time. As Switzerland sees it, increasing autonomy in weapons systems should not in itself be stigmatised, nor can it be averted. Nevertheless, Switzerland generally supports measures that will permit any negative consequences of the trend towards greater autonomy to be identified at an early stage, along with the timely exploration of new arms control policy avenues, if necessary to prevent such repercussions. That is why it welcomes the debate on numerous technical, military, international law-related and ethical considerations regarding AWS that has been taking place at the CCW informal meeting of experts in Geneva since 2014.[19] It campaigned for the establishment of a CCW Governmental Group of Experts, which will address this complex set of issues in greater detail from 2017 onwards. The CCW would also appear to be a suitable forum for an in-depth study of the issue of AWS and for placing AWS firmly on the political agenda. Reaching an international consensus on where to draw the line between desirable, acceptable and unacceptable autonomy in weapons systems is one of the key challenges. The CCW serves as a platform for discussing with the relevant developer

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[19]   The term «lethal autonomous weapons systems» (LAWS) is used in the context of the CCW.

states any regulation that may be required. However, discussions on the challenges to be faced and on potential regulatory approaches capable of achieving global support are still in their infancy.

In parallel with the ongoing CCW process, an informal, interdepartmental working group is elaborating the Swiss position. Given the current status of progress in robotics and artificial intelligence, it is difficult to imagine that the use of AWS without human control will ever be capable of complying with all applicable principles of international humanitarian law, specifically those of distinction, proportionality and precaution. This gives rise to the key question of how human-machine interaction should be designed and how much human control will be required at given points in time to ensure that functions related to target selection (i.e. search, identification, tracking, selection) and target engagement (i.e. use of force, neutralisation, destruction) can be performed by a machine in a lawful manner.

Since the beginning of the debate, Switzerland has repeatedly emphasised that any and all use of force by weapons systems, i.e. including AWS, must respect international law, most notably international humanitarian and human rights legislation, regardless of whether such use is offensive or defensive. Taking these principles – that the existing body of international law applies to all weapons and must be respected in all circumstances – as its starting point, Switzerland underlined what precisely compliance with international humanitarian law means. It spelled out and reiterated the provisions of international law that apply to AWS in a CCW working paper in 2016, thereby demonstrating how high the bar for lawful use is set. In addition, Switzerland recommended starting talks on practical methods of ensuring compliance with international law. In this connection, it attaches special importance to the requirement under international law to review the legality of weapons[20], through which all states are obliged to determine whether new weapons comply with the applicable rules. Switzerland recommended taking measures to update the legal weapons review system in order to take full account of the inherent challenges of AWS.

Aside from questions of international law, political and military considerations must also be pursued further. The extent to which a far-reaching technological revolution of this kind will change the face of warfare calls for closer investigation. It is theoretically possible that the trend towards more AWS could lower the threshold for the use of force and/or disrupt international stability. It is equally likely that non-states actors could develop or acquire AWS. First and foremost, however, fundamental ethical questions remain to be tackled: above all, whether the confrontation between human dignity and life-and-death decisions being delegated to machines represents the crossing of a red line. These and other issues must be dealt with in the context of the CCW.

2.4.4 Conventional arms control and confidence-building in Europe

The primary instruments of conventional weapons control in Europe consist of arms control and disarmament treaties alongside confidence- and security-building

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[20] Article 36 of the Protocol Additional to the Geneva Conventions relating to the Protection of Victims of International Armed Conflicts (Protocol I).

measures (CSBM). The major conventional weapons systems covered by such treaties include battle tanks, armoured combat vehicles (and look-alikes), anti-tank guided missile launchers mounted on vehicles, large-calibre artillery systems, armoured vehicle launched bridges, combat aircraft and attack helicopters, as well as warships and submarines.

The system of conventional arms control that has existed in Europe since the end of the Cold War rests on three pillars: the *Vienna Document on confidence and security-building measures* (VD), the *Treaty on Conventional Armed Forces in Europe* (CFE) and the *Open-Skies Treaty* (OST). Although Switzerland only participates in the Vienna Document regime through the *Organization for Security and Cooperation in Europe* (OSCE), it continues to view conventional arms control as an indispensable cornerstone of a cooperative security architecture in Europe.

In view of the changes brought about by military operations and technology, there is great pressure to adapt and modernise the instruments referred to above, not least as a result of the Ukraine conflict and the tense relations between the USA and Russia. Germany's proposal to revive the dialogue on conventional arms control brought fresh impetus to the process in 2016. Switzerland supports this initiative as a founding member of the Group of Like-Minded States and is actively involved in the structured dialogue on present and future security policy challenges within the OSCE area, which was launched by the OSCE Ministerial Council in December 2016. It also supports the Austrian 2017 Chairmanship of the OSCE in its efforts to modernise the Vienna Document 2011.

Vienna Document

The *Vienna Document on confidence and security-building measures*, first adopted in 1990 and last reissued in 2011 (VD11), is a unique, politically binding agreement between all 57 OSCE participating states to build transparency and confidence in Europe. Its provisions apply throughout the whole of Europe from the Atlantic to the Ural Mountains, as well as the territories of the participating states in the Caucasus and Central Asia, and the adjoining sea area and air space. One of the regime's features is the annual exchange between states of information about their armed forces and major weapons and equipment systems (i.e. defence planning and budgeting as well as the notification of military activities, verification and consultation mechanisms, military contact events and a communication network). Switzerland is committed to the full and correct implementation of all provisions throughout the entire geographical area of application and to preserving the achievements of arms control thus far (the «acquis»).

During its OSCE Chairmanship, Switzerland adopted the objective of promoting full implementation of the Vienna Document. It subsequently worked towards updating the Vienna Document to reflect 21st-century military and military-policy realities by moving away from a purely quantitative approach and shifting the focus onto verifiable qualitative information about military capabilities and doctrines when considering arms control policies. However, in view of the Ukraine crisis, no tangible progress could be achieved in the planned modernisation of the Vienna Document. CSBM were applied consistently throughout that crisis, underscoring their usefulness and preserving the acquis of the Vienna Document in its present form, while simultaneously demonstrating the limits of such measures and their applicability and revealing the need for modernisation.

From the outset, the Ukraine conflict was subject both to normal verification activities and the voluntary hosting of visits in accordance with the VD11. Other risk-reduction mechanisms were applied and observation flights carried out under the OST. The verification measures under the VD11 presented the opportunity to establish a rapid presence and to independently gather information on military activities and, by extension, the security situation on the ground. However, the Russian Federation did not take part in the VD11 Mechanism for Consultation and Co-operation as regards unusual Military Activities, which was activated by Ukraine. In view of the security situation, implementation of the VD11 is not possible in eastern Ukraine and the Crimea. The same is true of other regions experiencing protracted conflicts such as Abkhazia, South Ossetia, Transnistria, Nagorno-Karabakh and Northern Cyprus. Alongside security considerations, the question of status-neutral application of CSBM[21] in these conflict areas still needs to be clarified.

It can generally be stated that the transparency and verification measures under the VD11 are not effective enough in terms of crisis management and detecting crisis-related developments. The necessity of strengthening the VD11's resilience to crises is one of the main lessons learned from the Ukraine crisis. Moreover, the VD11 must be updated to cope with the new military and security-policy realities in 21st-century Europe, taking into account the modernisation of armed forces and operational doctrines. The task at hand is to expand the Document's scope to include verifiable transparency concerning qualitative developments in military forces and capabilities (as opposed to the quantitative information on holdings presently included) along with information on military activities below the currently applicable thresholds and short-notice military exercises.

Additionally, rapid reaction forces, training formations and military units and formations that do not answer to the description of combat troops should also be subject to transparency and verification measures. Units of this kind play an increasingly significant role when it comes to evaluating or strengthening military capabilities (force multipliers, mobility capabilities, etc.), also when taking into account perceptions and misconceptions and the security and information requirements of all OSCE participating states. Moreover, current military exchanges of information fail to cover a growing number of conflict parties and their major weapons systems (separatist forces, paramilitary forces, security forces that do not form part of the armed forces, non-governmental forces, private security organisations, mercenaries, etc.).

A consensus on modernising the VD11 has not yet been reached among the OSCE participating states. Like Switzerland before it in 2014, Germany adopted the goal of modernising the VD and breathing new life into conventional arms control in Europe during its Chairmanship of the OSCE in 2016. However, due to the ongoing conflict in Ukraine, which resulted in the OSCE bodies becoming deadlocked, no significant progress was made. These efforts are being continued under Austria's 2017 Chairmanship with continuing support from Switzerland, which, for instance, is providing the coordinator for the VD in the OSCE *Forum for Security Cooperation*'s (FSC) for many years, who leads the respective consultations.

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[21] «Status-neutral application of CSBM» refers to the conflict-specific implementation of arms control, disarmament and non-proliferation measures with the involvement of non-state actors, without officially recognising their status.

Treaty on Conventional Armed Forces in Europe

The legally binding *Treaty on Conventional Armed Forces in Europe* (CFE) was concluded in 1990 between the then members of NATO and the Warsaw Pact. Its aim was to establish a secure and stable balance of conventional armed forces in Europe at lower levels than before and eliminate the capability for launching surprise attacks and initiating large-scale offensive actions in Europe. The Treaty restricts the number of Treaty-limited conventional armaments and equipment that may be held, and increases mutual confidence by requiring detailed notifications to be made of quantities and movements of weapons systems across zones in addition to on-site inspections of the notified systems.

Efforts to realign the conventional arms control regime in Europe have not met with success thus far due to a lack of consensus. The failure of NATO states to ratify the *Adapted Treaty on Conventional Armed Forces in Europe* (ACFE) of 1999 and Russia's subsequent suspension of its implementation of the original CFE in December 2007 followed the collapse of talks on a mandate for future negotiations to modernise the conventional arms control regime. These negative events culminated in Russia's withdrawal from the CFE Joint Consultative Group in March 2015.

Open-Skies Treaty

The legally binding *Open-Skies Treaty* (OST) is a complementary regime to that of CSBM and arms control and disarmament measures, which permits unarmed observation flights to be conducted by licensed aircraft equipped with sensors (cameras, video cameras, infra-red devices and radar). The Treaty entered into force on 1 January 2002 and covers an area extending from Vancouver to Vladivostok. Unlike other CSBM regimes, it also includes the entire territory of both the United States and Russia.

At present, 34 of the 57 OSCE participating states are parties to the Treaty and more than 1,200 observation flights have now been conducted since it was first introduced. At the three review conferences held to date, initiatives were discussed for expanding the mechanism in support of international crisis management (possibly within a UN framework) and to enable observation and surveillance flights to be used in disaster relief operations or for coping with migration flows and taking atmospheric measurements. In addition, the changeover from analogue to digital technology and the modernisation of sensor technology (more refined sensors, use of additional sensors such as infra-red detectors and residual light amplification or area scanners) was discussed and decisions reached on certain aspects of this issue.

Switzerland has not yet acceded to the OST. An internal study conducted in 2003 came to the conclusion that the high costs of procuring an OST observation aircraft and building the capability to analyse air data would be disproportionate in relation to the benefits delivered by the Treaty. However, it did sign the Transit Agreement in 2002, allowing the parties to the Treaty to fly over Swiss territory and make an intermediate landing in Switzerland, after which it was accorded observer status. At the end of 2015, Germany offered to let Switzerland share in the use of the new observation aircraft it is currently procuring and which will be ready for operation in 2020. An interdepartmental group of experts will produce a basic concept document by the end of 2017 and provide recommendations for the next steps.

2.5 Export controls and sanctions

Control regimes for transfers of goods and technology are a key instrument in curbing the proliferation of weapons of mass destruction and eradicating the uncontrolled trade in conventional weapons as well as the undesired spread of relevant technologies and intangible goods such as know-how. Switzerland regulates the export of military goods as well as dual-use goods (which can be used for both military and civilian purposes) on the basis of the control lists that form part of the four international export control regimes (see below). Export controls help states to implement the commitments entered into under multilateral arms control treaties, in particular the *Arms Trade Treaty* (ATT), the *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT), the Chemical Weapons Convention (CWC), the Biological Weapons Convention (BWC) and *UN Security Council Resolution 1540*, which requires them to take legal measures to prevent the spread of weapons of mass destruction. Export controls can only be effective if applied uniformly by all the leading supplier countries. Switzerland therefore participates in coordinated measures at the international level.

2.5.1 Arms Trade Treaty

The UN General Assembly adopted the ATT on 2 April 2013 by a large majority, marking the first occasion on which the community of states had reached agreement on legally binding international rules for the cross-border trade in conventional weapons. The object of the Treaty is to establish the highest possible common international standards for regulating the international trade in conventional weapons, eradicate the illicit trade in conventional arms and prevent their diversion. This is done for the purpose of reducing human suffering and contributing to international and regional peace, security and stability. The ATT further seeks to promote cooperation, transparency and responsible action by states parties in the international trade in conventional arms, thereby building confidence among them.

Switzerland played an active role in the negotiations and continues to speak out for full, effective and universal implementation of the ATT. It signed the Treaty on 3 June 2013 and ratified it on 30 January 2015, with the ATT subsequently entering into force for Switzerland on 30 April 2015. The Head of the Federal Department of Foreign Affairs (FDFA) took part in the first Conference of States Parties in August 2015 in Cancún, Mexico, at which it was decided to locate the permanent ATT secretariat in Geneva. As a recognised centre of expertise in security, human rights and trade policy and home to a tight-knit diplomatic network, Geneva offers favourable conditions for inclusive and effective implementation of the Treaty. To lay the groundwork for this decision in particular, Switzerland hosted a preparatory meeting in Geneva in July 2015, which was attended by 400 participants. In order to emphasize the significance of the Treaty and underline Switzerland's ongoing commitment, the President of the Swiss Confederation and the Head of the Federal Department of Economic Affairs, Education and Research (EAER) officially opened the second Conference of States Parties in Geneva in August 2016. Following completion of a successful first phase focusing primarily on administrative questions, many of which related to the secretariat, greater weight has subsequently been given to matters of substance in order to fulfil the obligations under the Treaty. In 2017, Switzerland and Costa Rica are co-chairing a working group on effective implemen-

tation of the ATT, which will submit recommendations on future implementation work to the third Conference of States Parties.

Switzerland has considerable expertise at its disposal in the ATT's core areas and is able to make a substantial contribution to furthering the Treaty's aims thanks to its many years of extensive experience in export controls. It has led the way in international endeavours to control exports of war material at their destination (*post-shipment verification*, PSV). In addition, Switzerland supports ATT implementation in countries that do not yet have a properly functioning trade control regime in place by providing expertise and financial backing for education and training projects. It promotes the universality and operationalisation of the ATT by conducting seminars and awareness-raising activities in regions particularly affected by uncontrolled arms trafficking and supporting the participation of financially weak countries at Treaty conferences.

Lastly, Switzerland was actively involved in drafting the transparency measures and reporting duties included in the text of the ATT. In this connection, it campaigned for reporting under the ATT to be coordinated closely with the exchange of information already in place under the UN *Register of Conventional Arms* (UNROCA), to which it also contributes regularly.

2.5.2 Export control regimes

Switzerland is a member of all four export control regimes, in which some 40 industrial nations have come together to coordinate their efforts in this area and supplement the provisions of legally binding treaties. They are: the *Nuclear Suppliers Group* (NSG), the *Missile Technology Control Regime* (MTCR), the *Australia Group* (AG) for biological and chemical weapons and the *Wassenaar Arrangement* (WA), which regulates conventional arms and the goods used to produce them.

What all these treaties have in common is their lack of binding status under international law. Instead, they are political agreements between participating states. Detailed lists of items to be controlled are approved through a process of negotiation based on consensus, which are then incorporated by the participating states into their own national legislation. The power to assess exports lies solely with the member states. To prevent circumventions, the countries share information about export licence denials. This creates a uniform process and ensures that control measures are coordinated between participating states as well as establishing consistent rules for the industries in question. In line with its non-proliferation policy, Switzerland has an interest in effectively implementing the export control regime. In doing so, it not only performs the duties and pursues its interests arising from the constitution and its foreign and security policy, but also protects its private-sector export companies from reputational damage and makes certain they have unrestricted access to advanced technologies. If Switzerland were not to carry out effective export controls, this access would be brought into question as potential supplier countries are unwilling to risk becoming involved in the uncontrolled spread of sensitive technologies. At the international level, Switzerland specifically calls for targeted and clearly defined controls, transparency and improved harmonisation.

The question of expanding membership of these regimes, especially to include India, dominated discussions during the reporting period. India became a member of the

MTCR in June 2016. New Delhi's ambitions to join the NSG, on the other hand, have not yet been satisfied. As with Pakistan's application for membership, which was submitted at the same time, the problem lies in the fact that – unlike the Group's existing members – neither candidate is a party to the NPT, which was previously considered an important criterion for membership. Switzerland believes that NSG membership should encompass all the relevant suppliers of nuclear goods if the Group is to remain effective and therefore supports India's bid to join. The Group has not yet reached a consensus on the possible participation of non-NPT signatories. That is why Switzerland advocates a bridge- and consensus-building solution that would result in non-discriminatory criteria being applied to all candidates as well as strengthening the principles of nuclear non-proliferation and disarmament. Although the idea of generally valid criteria appears to enjoy widespread acceptance at present, there is still a lack of unity on how strongly it should be formulated. Geostrategic considerations play an indirect role in shaping the discussion. This topic will continue to occupy the Group at its NSG Plenary session to be held in Bern in June 2017 and chaired by Switzerland. India's inclusion is also on the AG agenda, although no formal application for membership has yet been submitted. The accession process is currently being addressed by the WA.

Given the worldwide proliferation of key technologies, technological advances such as additive manufacturing processes («3D printing»), synthetic biology or the increasingly commercialised access to space flight create new challenges for export regimes, alongside the fact that many potential suppliers are not members of the NSG (India, Israel and Pakistan), the MTCR (China and Israel) and the other export control regimes. The international structure of global corporations is yet another factor that creates difficulties in coordinating the state-based implementation of export controls.

2.5.3 War material exports, sanctions and private security services provided abroad

Switzerland's export controls for war material are based on the *War Material Act* (WMA)[22] and *War Material Ordinance* (WMO).[23] The authorities authorise the export of war material only if it does not contravene international law, international obligations and the principles of Swiss foreign policy, while at the same time striving to maintain an industrial capacity in Switzerland that is adapted to the requirements of its national defence. Article 5 WMO sets forth the criteria for assessing export transactions involving war material along with the reasons for not granting a licence. On 19 September 2014, the Federal Council responded to a motion of the Security Policy Committee of the Council of States by deciding to adapt the licensing criteria, with the aim of reducing the regulatory disadvantage experienced by Switzerland in comparison with other European nations.[24] The revised provisions came into force on 1 November 2014.

Export licences for war material are issued by the State Secretariat for Economic Affairs (SECO) in agreement with the Federal Department of Foreign Affairs

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[22] Federal Act of 13 December 1996 on War Material (SR 514.51, WMA).
[23] Ordinance of 25 February 1998 on War Material (SR 514.511, WMO).
[24] Cf. Motion 13.3662 of 25 June 2013 «Benachteiligung der Schweizer Sicherheitsindustrie beseitigen» («Ending Discrimination of the Swiss Security Industry»).

(FDFA) and any other offices specified under Art. 14 WMO. If the authorities are unable to agree on the assessment of an export application or if such applications involve major foreign or security policy considerations, they are submitted to the Federal Council for decision. Switzerland pursued a restrictive policy on war material exports in the reporting period. Exports of war material came to CHF 411.9 million in 2016 (2015: CHF 446.6 million; 2014: CHF 563.5 million; 2013: CHF 461.2 million; 2012: CHF 700.4 million).

As a reaction to the Swiss-made hand grenades which found their way into Syria in summer 2012, the Federal Council decided on 10 October 2012 to insert a new provision into the War Material Ordinance (Art. 5a para. 3 WMO), which provides a formal basis in law for Switzerland to conduct on-site inspections of exported war material (*post-shipment verification*, PSV), thereby enabling a systematic review of the receiving country's compliance with the obligation not to re-export Swiss war material. These inspections are planned on a risk-driven basis, with five to ten PSVs conducted annually. The PSVs conducted so far have confirmed that this confidence-building measure is one of the best ways in which to prevent the undesired transfer of exported war material. At the same time, it reiterates – for the benefit of the countries affected – the importance of complying with non- re-export declaration procedures and obligations under international law.

Sanctions

Borrowing from the sanctions imposed by the EU, the measures to prevent the circumvention of international sanctions in relation to the situation in Ukraine, first approved by the Federal Council in April 2014 and subsequently amended on several occasions, introduced restrictions on the export of goods for the arms industry. These measures affect exports both to Russia and Ukraine. Following the conclusion of the nuclear treaty between Iran and China, France, Germany, Russia, the United Kingdom and the USA, the Federal Council decided on 11 November 2015 to completely revise the Ordinance on Measures regarding Iran. This entered into force on 17 January 2016, lifting the majority of sanctions previously imposed. The remaining Swiss sanctions against Iran are based on UN and EU sanctions. Like the UN and EU measures, the Swiss ordinance requires the trade in nuclear and dual-use goods and related services with Iran to be licensed.

Private security services provided abroad

The *Federal Act on Private Security Services Provided Abroad* (PSSA),[25] which entered into force in September 2015, regulates the provision of private security services outside Switzerland. The FDFA is the authority responsible for the declaration procedure under the PSSA. The term «security service» covers activities such as operating and maintaining weapons systems and providing operational or logistical support, as well as advising or training members of armed or security forces. The services falling into these categories are often encountered in the context of exporting war material or other goods that require a licence. Since this gives rise to overlaps with the SECO licensing procedure, a coordinated procedure has been established.

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[25] Federal Act of 27 September 2013 on Private Security Services provided Abroad (SR 935.41, PSSA).

2.5.4   Export of dual-use goods and specific military goods

In Switzerland, the trade in goods that may be used for both civilian and military purposes («dual-use» goods), and specific military goods, is governed by the *Goods Control Act* (GCA) and associated ordinances.[26] These also make it possible to refuse authorisation for the export and brokerage of non-controlled goods that could contribute to weapons of mass destruction programmes (under a «catch-all» clause). Thanks to its highly developed, export-oriented industry, Switzerland is one of the leading suppliers of dual-use goods. In 2015, the value of export licences issued amounted to CHF 1.7 billion. Applications worth around CHF 6 million were denied. The export licences issued in 2016 totalled CHF 1.1 billion in value, as against CHF 2.8 million worth of applications for which permission was refused.[27]

SECO decides on applications for individual licences, approving them where there is no evidence of grounds for refusal in terms of Article 6 GCA or refusing them if such grounds for refusal clearly exist. In all other cases, it decides in agreement with the responsible offices of the FDFA, the Federal Department of Defence, Civil Protection and Sport (DDPS) and the Federal Department of the Environment, Transport, Energy and Communications (DETEC), and in consultation with the Federal Intelligence Service (FIS). The Swiss Federal Office of Energy (SFOE) rather than SECO is in charge of the licensing process for exports of certain nuclear materials (e.g. uranium or thorium and particularly fissile material) and of software and technology related to these materials. SECO is authorised to grant or deny general export licences at its own discretion. Border controls, on the other hand, are the responsibility of the customs authorities.

The following amendments to goods control legislation have come into force in the last four years: the totally revised *Chemicals Control Ordinance[28]* on 1 October 2013 and the totally revised *Goods Control Ordinance[29]* on 1 July 2016; these changes took place in parallel with the approval by Parliament in 2014 of the Cooperation Agreement between Switzerland and the EU and its Member States on the European Satellite Navigation Programmes. Finally, special mention must be given to the entry into force on 13 May 2015 for a limited period of time of the independent *Ordinance on the Export and Brokerage of Goods for Internet and Mobile Communication Surveillance*,[30] which ushered in a new criterion for denying export licences for goods of this kind: permission to export goods for internet and mobile communication surveillance has since been denied if there is reason to believe that the item to be exported or brokered will be used by the end recipient as a means of

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[26]   Federal Act of 13 December 1996 on the Control of Dual-Use Goods, Specific Military Goods and Strategic Goods (SR 946.202); Ordinance of 3 June 2016 on the Export, Import and Transit of Dual Use Goods, Specific Military Goods and Strategic Goods (SR 946.202.1); Ordinance of 21 August 2013 on the Control of Chemicals Suitable for Civilian and Military Purposes (SR 946.202.21); Ordinance of 13 May 2015 on the Export and Brokerage of Goods for Internet and Mobile Communication Surveillance (SR 946.202.3).

[27]   A detailed breakdown of the licences issued and permissions denied can be found on the SECO website.

[28]   Ordinance of 21 August 2013 on the Control of Chemicals Suitable for Civilian and Military Purposes (SR 946.202.21).

[29]   See Chapter 8.1.1 of the Federal Council's Foreign Trade Policy Report 2016 for a detailed description of the amendments to the GCA and GCO.

[30]   Ordinance of 13 May 2015 on the Export and Brokerage of Goods for Internet and Mobile Communication Surveillance (SR 946.202.3).

repression. Neither is it permitted to transfer intangible goods if such transfer is related to a good which it is believed will be used for purposes of repression.

3 **Outlook for Switzerland's arms control, disarmament and non-proliferation policy**

As the Federal Council stated in its Foreign Policy Strategy 2016–2019, Switzerland's commitment to arms control, disarmament and preventing proliferation is one of the thematic priorities in shaping globalisation with respect to peace and security. Its aim is to enhance stability and international security by empowering international organisations to take action, establishing a functioning multilateralism and building transparency and confidence. Similarly, in its 2016 Security Policy Report, the Federal Council made it clear that, in keeping with its humanitarian tradition, Switzerland advocates multilateral agreements which, in addition to promoting security, stability and peace, aim to reinforce respect for international humanitarian law and human rights, alleviate the suffering caused by armed conflicts, protect the civilian population and promote human security in general. In doing so, Switzerland seizes every available opportunity to exert its influence at both the multilateral and bilateral level.

While existing arms control and disarmament policy instruments are being challenged by current developments and changing risks, the multilateral negotiation forums are unlikely to make significant headway in the immediate future. This can be explained above all by the tendency to consider arms control and disarmament, first and foremost, from a national security standpoint. The inflexible negotiating positions that frequently result then have a direct impact on the momentum of negotiations. Moreover, domestic and financial policy realities influence the allocation of resources for the development of new measures and full implementation of existing regimes. Switzerland lobbies for global, all-encompassing aspects to be taken into consideration alongside those of national security, without ever losing sight of its national interests. Switzerland's pragmatic and realistic approach can contribute to break through entrenched positions.

Secondly, strategic interests and expectations regarding what the multilateral arms control and disarmament structure should be trying to achieve vary considerably from state to state. Certain states see non-proliferation, particularly that of technologies and expertise, as the main goal. Others focus on time-bound disarmament and demand unrestricted access to highly specialised technologies. These contrasting positions have a paralysing effect on the forums for international negotiation, particularly when it comes to weapons of mass destruction, where there often seems to be little to no room for negotiation. In this context, Switzerland strives to steer the discussions towards aspects that have the potential to overcome traditional differences and create room for pragmatic progress.

Thirdly, current geopolitical tensions and conflict hotspots have a direct impact on the multilateral security and disarmament architecture. A state's geopolitical situation, its membership of alliances and regional animosities not only define that country's national security interests, they consequently also determine its position within the multilateral security architecture. Thus, differences between the US and Russia and between India and Pakistan or in the Middle East have direct consequences for the multilateral disarmament forums. What is more, certain international arms con-

trol and disarmament forums, which are generally strongly geared towards state participation, now face additional challenges from non-state actors, bringing them up against institutional and political limits. The discussions in these forums on the extent to which the threat from non-state actors should or can be covered are ongoing. Depending on the instrument, however, this issue is mainly one of national implementation, and certain norms do, in fact, address non-state actors directly.

Against this backdrop, Switzerland strives to safeguard its interests while making the best possible use of the scope available and act as a bridge-builder. Four goals can be defined in respect of Switzerland's international arms control, disarmament and non-proliferation policy: Firstly, Switzerland is in favour of strengthening the existing agreements and processes institutionally, both by universalising them and ensuring their full implementation. Here, Switzerland considers verification measures to be an essential element of numerous international treaties and therefore believes sufficient resources should be allocated to their implementation at the national level. Secondly, Switzerland has a strong interest in compliance with international law and in its further evolution, where necessary. For this reason, it continues to give priority to legally binding multilateral arms control and disarmament measures. Thirdly, in the global forums, Switzerland pursues the goal of finding the necessary balance in moving processes forward, as only a balanced approach can strengthen international security across the board in the long term. Thus, for example, an equilibrium needs to be established between demands for non-proliferation and those for disarmament. Due consideration for humanitarian and military aspects is just as important. Fourthly, in view of the difficulties involved in updating the multilateral disarmament regimes, Switzerland is in favour of strengthening existing confidence-building measures or creating new ones. This also includes activities for assessing new technologies and their implications for existing regimes.

Closing – existing or emerging – gaps in arms control, disarmament and non-proliferation instruments is another key factor in maintaining their credibility, along with amending multilateral agreements to bring them into line with the changes in the international security situation. In keeping with its pragmatic and realistic approach, Switzerland thus supports the negotiation of additional instruments in areas where there is a recognised need for such. This covers negative security assurances, for example, or efforts to create further zones free of nuclear weapons, as in the Middle East. Adjustments to arms control and disarmament regimes on the basis of progress in science and technology are just as essential in maintaining their relevance. The systematic consideration of the security and arms control policy implications of new technologies is a focal point of Swiss efforts in many multilateral forums. Here, Switzerland places value on the inclusiveness of such processes and on cooperation between the main actors in order to maximise the impact.

In the nuclear area, Switzerland strives – with due regard to its national interests – to ensure that the newly launched process for a ban on nuclear weapons will arrive at an outcome that delivers the greatest possible added value while entailing the least possible risks to the existing disarmament processes and norms. For instance, this could mean that negotiations in this area exert a positive influence on other processes, specifically on faster and fuller implementation of the disarmament obligation under the *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT). Beyond that, making full use of the established forums, processes and partnerships and improving their effectiveness remains a Swiss priority. Against the backdrop of the more forceful rhetoric coming from some states in relation to the use of nuclear weapons,

Switzerland continues to draw attention to the violation of international law that is highly likely to accompany any such use. Together with like-minded states, it also continues to pursue proposals for reducing the risks of nuclear weapons, namely by reducing their alert levels. Alongside the faithful implementation of its international commitments on limiting the spread of nuclear weapons among state and non-state actors, Switzerland will continue to make its good offices available in the search for diplomatic solutions in cases of proliferation. Its assumption of the chairmanship of the *Nuclear Suppliers Group* (NSG) in 2017-2018 also underscores its efforts to promote the global nuclear non-proliferation architecture. During its year as Chair, Switzerland will attempt to stimulate serious reflection on institutional questions within the Group and strive to create a more structure framework for outreach to non-members.

The reporting period saw the systematic use of chemical weapons by state and non-state actors for the first time since the *Chemical Weapons Convention* (CWC) came into force in 1997; these circumstances require Switzerland to remain actively involved in upholding the credibility of the prohibition norm, which is binding under international law, and in strengthening the OPCW. In addition, Switzerland is devoting attention to the question of refocusing the OPCW's efforts in view of the foreseeable destruction of the world's declared chemical weapons stockpiles. As with biological weapons, the challenges presented by the rapid progress in science and technology and their increasing convergence must also be faced. In this connection, Switzerland will continue its «Spiez Convergence» series of conferences. Switzerland's interim success in getting a considerable number of states parties to support increased transparency in relation to incapacitating chemical agents must also be leveraged. By the same token, Switzerland's efforts to facilitate implementation of the Treaty, for instance by running training courses, encouraging capacity building and providing other forms of support, are to be continued.

Within the framework of the *Biological Weapons Convention* (BWC), Switzerland continues to work towards the long-term goal of a verification mechanism, for which no consensus can be reached at present. It actively supports the further development of confidence- and other transparency-building measures as a pragmatic intermediate step towards establishing a minimum degree of confidence and transparency. Switzerland continues to focus its efforts on strengthening the intersessional process, in particular through a structured and systematic consideration of the scientific and technical progress that affects the Convention, and strives to raise awareness of the dual-use issue among researchers.

To make the cross-border trade in conventional weapons subject to legally binding international standards, Switzerland supports the full and effective implementation of the *Arms Trade Treaty* (ATT) and speaks up for the realisation of its potential. To this end, it continues to take part in assistance and capacity-building programmes that benefit states in need of support, as well as the reporting process, and actively supports efforts to achieve universalisation of the Treaty. Switzerland will also continue to foster the exchange of information under the *UN Register of Conventional Arms* (UNROCA) going forward. As far as other relevant multilateral instruments in the field of small arms and light weapons and humanitarian demining are concerned, Switzerland will pursue its adopted strategies. In particular, it will champion full and universal implementation of the instruments in question, along with the reduction of armed violence, as well as working to improve the conditions for sustainable economic and social development. In addition, it will strive to ensure that

all states can take complete ownership of efforts to overcome small arms- and mine-related problems in the long term. It is committed to the elaboration and adoption of mechanisms and framework conditions which support the states in their implementation of existing instruments and create a favourable environment for pertinent expert missions worldwide. Switzerland would particularly like to see consideration of the issues regarding small arms and humanitarian demining placed in a broader peace, security and development policy context and to promote this. The close relationship between peace, security and development, which achieved global recognition under the *2030 Agenda for Sustainable Development* and is also enshrined in the Federal Council's Dispatch on Switzerland's International Cooperation 2017–2020, is a cornerstone of these efforts. It applies specifically to those global objectives through which illicit weapons flows are to be reduced, people's livelihoods improved and human security promoted.

At the operational level, Switzerland intends to expand its involvement with states seeking assistance, in both quantitative and qualitative terms, as proposed in its 2016 Security Policy Report. The focus here is on the safe and secure management and disposal of weapons and ammunition. Alongside training and institutional capacity-building plus the modernisation of relevant infrastructures in accordance with international standards, particular emphasis is placed on advising the receiving states and encouraging them to establish a sound conceptual and institutional basis for the life-cycle management of arms and ammunition. Moreover, together with selected partners from the *Multinational Small Arms and Ammunition Group* (MSAG), Switzerland will continue its active involvement in multinational education and training activities in order to ensure that knowledge is built up and retained at the national level.

As far as the *Convention on Certain Conventional Weapons* (CCW) is concerned, Switzerland supports the development of legally binding instruments that will improve the protection of the civilian population, military personnel and humanitarian aid workers. Above and beyond that, new challenges related to conventional weapons – especially those resulting from technological advancements – should be explored in greater detail and any need for regulation discussed. With regard to autonomous weapons systems, Switzerland favours practical and, where necessary, normative measures that ensure adherence to international law. To achieve this, full use must be made of the available room for manoeuvre in negotiations. In moving forward with these efforts under the CCW, equal attention must be paid to humanitarian principles and considerations of international law, as well as security-policy and military interests.

In view of the stagnation within the multilateral bodies, Switzerland will continue to press the issue of revitalising the UN disarmament machinery. This concerns the *Conference on Disarmament* (CD) in Geneva, at which Switzerland will continue to launch proposals as part of the pro-reform camp, and other disarmament-related UN bodies. Switzerland supports efforts to reform the disarmament machinery.

Switzerland continues to attach special importance to Geneva's role as an arms control and disarmament venue in light of its status as a leading global hub of expertise. The concentration of actors and available know-how, and the many pertinent topics dealt with there, make the city pre-destined to serve as a location for moving arms control and disarmament efforts forward. Switzerland will maintain its efforts to promote Geneva as a venue for disarmament matters, in particular by providing needs-based support to the processes and institutions based there. In this context, the

Geneva Disarmament Platform was set up in 2016 at Switzerland's suggestion. It not only permits greater interaction between the relevant actors, but also provides an informal discussion forum for taking an in-depth look at arms control and disarmament topics.

The conventional arms control and confidence- and security-building measures (CSBM) regime in Europe is in fundamental need of modernisation. The related political processes are largely deadlocked, a circumstance that has become further accentuated since the outbreak of the Ukraine conflict, which created tension in relations between the USA, NATO and Russia. In light of the changed conditions that apply to military operations and technology, there is a need for the existing instruments and measures to be submitted to a thorough review and refocused to cope with the new challenges. Switzerland continues to view conventional arms control and CSBM as an indispensable cornerstone of a cooperative security architecture in Europe. It has taken part in the German initiative to revitalise conventional arms control right from the outset, and supported the decision of the OSCE Ministerial Council in December 2016 to launch a structured dialogue on present and future challenges and risks to security within the OSCE area. Switzerland is determined to play an active role in shaping the resumed discussion on conventional arms control and CSBM, including through its Chairmanship of the OSCE *Forum for Security Cooperation* (FSC) in 2019, to which end it supports a sustainable, structured, broad and inclusive dialogue. At the same time, Switzerland is interested in the evolution, modernisation and evaluation of existing instruments. The following steps are planned in this context: Firstly, the Vienna Document must be amended to reflect the politico-military and military technology-related challenges of the 21st century. Confidence and security in the OSCE area can be strengthened, for example, by focusing the existing CSBM on modern operational capabilities and creating verification opportunities for the OSCE's Conflict Prevention Centre in crisis and conflict situations. At the same time, any achievements to date must be preserved and the treaty commitments implemented in full. Secondly, a new instrument which builds on tried-and-tested elements of the *Treaty on Conventional Armed Forces in Europe* (CFE) could present one possible way to break the ongoing stalemate. Switzerland is keen to help shape any negotiations on a new instrument, with due consideration for its national and military interests. In addition, Switzerland's accession to the *Open-Skies Treaty* (OST) is currently being evaluated. An interdepartmental group of experts has been tasked with elaborating the conceptual basis by the end of 2017 with recommendations for the next steps.

In conclusion, it should be noted that Switzerland continues to pursue a pragmatic and realistic arms control, disarmament and non-proliferation policy. In other words, Switzerland endorses initiatives which are based in reality and promise to deliver added value – initiatives from which a real security gain can be expected and which act as bridge-builders, including as many states and principal actors as possible. It does so because arms control and disarmament arrangements lose some of their relevance if they are not accepted by the major powers or other key states. In addition, Switzerland is convinced that international arms control and disarmament can only be sustainable in the long term if supported by a large majority of states and implemented by means of tailor-made, needs-based projects. For this reason, coordination and cooperation with other states and communities of states with regard to verification, disarmament cooperation and capacity-building will remain of vital importance. Over and above that, in many areas in which it is active, Switzerland

places importance on the involvement of and the fruitful cooperation with relevant civil society organisations, with which it works together to deliver added value. Drawing on civil society expertise can provide the arms control and disarmament agenda with fresh impetus and thus boost the effectiveness and efficiency of Switzerland's arms control, disarmament and non-proliferation policy.

Overview of international arms control, disarmament and non-proliferation instruments*

	Nuclear weapons	**Chemical weapons**	**Biological weapons**
Treaties	**Non-Proliferation Treaty** Section 2.2.1 www.un.org/disarmament/wmd/nuclear/npt/ **Comprehensive Nuclear-Test-Ban Treaty** Section 2.2.1 www.ctbto.org/the-treaty/ **International Convention for the Suppression of Acts of Nuclear Terrorism** Section 2.2.1 www-ns.iaea.org/security/ nuclear_terrorism_convention.asp **Convention on the Physical Protection of Nuclear Material** Section 2.2.1 www-ns.iaea.org/security/cppnm.asp	**Chemical Weapons Convention** *Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction* Section 2.2.2 www.opcw.org/chemical-weapons-convention/	**Biological Weapons Convention** *Convention on the Prohibition of the Development, Production, Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction* Section 2.2.3 www.unog.ch/bwc
		Geneva Protocol of 1925 *Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare* Section 2.2.3 www.un.org/disarmament/wmd/bio/1925-geneva-protocol/	
Organisations Secretariats	**International Atomic Energy Agency** Section 2.2.1 www.iaea.org/ **Comprehensive Nuclear-Test-Ban Treaty Organization** Section 2.2.1 www.ctbto.org/	**Organization for the Prohibition of Chemical Weapons** Section 2.2.2 www.opcw.org/	**BWC Implementation Support Unit** Section 2.2.3 www.unog.ch/bwc
Political initiatives and instruments	**Nuclear Security Summit** Section 2.2.1 www.nss2016.org **International Partnership for Nuclear Disarmament Verification** Section 2.2.1 www.state.gov/t/avc/ipndv/	*UN Secretary-General's Mechanism for Investigation of Alleged Use of Chemical and Biological Weapons* Sections 2.2.2 and 2.2.3 www.un.org/disarmament/wmd/secretary-general-mechanism/	
Export control Non-proliferation	**Nuclear Suppliers Group** Section 2.5.2 www.nuclearsuppliersgroup.org/	**Australia Group** Section 2.5.2 www.australiagroup.net/	
	UN Security Council Resolution 1540 Section 2.5 www.un.org/en/sc/1540/		

*This overview is intended to give a schematic overview of the key instruments and makes no claims to completeness.

	Conventional weapons	In Europe	**Delivery systems**
Treaties	**Convention on Certain Conventional Weapons** Sections 2.4.2 and 2.4.3 www.unog.ch/ccw **Arms Trade Treaty** Section 2.5.1 http://thearmstradetreaty.org/ **Firearms Protocol** Section 2.4.1 www.unodc.org/unodc/en/firearms-protocol/ **Convention on Cluster Munitions** Section 2.4.2 www.clusterconvention.org/ **Anti-Personnel Mine Ban Convention** Section 2.4.2 www.apminebanconvention.org/	**Treaty on Conventional Armed Forces in Europe** Section 2.4.4 www.osce.org/library/14087 **Open-Skies Treaty** Section 2.4.4 www.osce.org/library/14127	
Political initiatives and instruments	**UN Programme of Action on Small Arms and Light Weapons** Section 2.4.1 www.poa-iss.org/ **International Tracing Instrument** Section 2.4.1 www.poa-iss.org/InternationalTracing/InternationalTracing.aspx	**Vienna Document** Section 2.4.4 www.osce.org/fsc/86597 **OSCE Document on Small Arms and Light Weapons** Section 2.4.1 www.osce.org/fsc/20783 **OSCE Document on Stockpiles of Conventional Ammunition** Section 2.4.1 www.osce.org/fsc/15792	**Hague Code of Conduct against Ballistic Missile Proliferation** Section 2.3 www.hcoc.at/
Organisations Secretariats	**CCW Implementation Support Unit** Sections 2.4.2 and 2.4.3 www.unog.ch/ccw **ATT Secretariat** Section 2.5.1 http://thearmstradetreaty.org/ **CCM Implementation Support Unit** Section 2.4.2 www.clusterconvention.org/isu/ **APMBC Implementation Support Unit** Section 2.4.2 www.apminebanconvention.org/	**Organization for Security and Co-operation in Europe** Section 2.4.4 www.osce.org/ **Forum for Security Cooperation** Section 2.4.4 www.osce.org/forum-for-security-cooperation	
Export control	**Wassenaar Arrangement** Section 2.5.2 www.wassenaar.org/		**Missile Technology Control Regime** Sections 2.3 and 2.5.2 http://mtcr.info/

List of abbreviations

ACFE	Adapted Conventional Forces in Europe Treaty
AG	Australia Group
APMBC	Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction
ATT	Arms Trade Treaty
AWS	Autonomous weapons systems
BWC	Biological Weapons Convention *(Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction)*
CCM	Convention on Cluster Munitions
CCW	Convention on Certain Conventional Weapons *(Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects)*
CD	Conference on Disarmament
CFE	Conventional Forces in Europe Treaty
CNS	Convention on Nuclear Safety
COPUOS	UN Committee on the Peaceful Uses of Outer Space
CSBM	Confidence- and security-building measures
CTBT	Comprehensive Nuclear-Test-Ban Treaty
CTBTO	Comprehensive Nuclear-Test-Ban Treaty Organisation
CWC	Chemical Weapons Convention *(Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction)*
DDPS	Federal Department of Defence, Civil Protection and Sport
DETEC	Federal Department of the Environment, Transport, Energy and Communications
EAER	Federal Department of Economic Affairs, Education and Research:
EAPC	Euro-Atlantic Partnership Council
EU	European Union
EUFOR	European Union Force
EWIPA	Explosive Weapons in Populated Areas
FDFA	Federal Department of Foreign Affairs
FIS	Federal Intelligence Service
FMCT	Draft Fissile Material Cut-Off Treaty
FSC	OSCE Forum for Security Co-operation

GCA	Federal Act on the Control of Dual-Use Goods and of Specific Military Goods
GCO	Ordinance on the Export, Import and Transit of Dual Use Goods and Specific Military Goods
GGE	Group of Governmental Experts
GICHD	Geneva International Centre for Humanitarian Demining
HCOC	Hague Code of Conduct against Ballistic Missile Proliferation
IAEA	International Atomic Energy Agency
IATG	International Ammunition Technical Guidelines
ICOC	Draft International Code of Conduct on Outer Space Activities
IED	Improvised explosive devices
IHEID	Graduate Institute of International and Development Studies, Geneva
IHL	International humanitarian law
INF	Intermediate-Range Nuclear Forces Treaty *(Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles)*
IPNDV	International Partnership for Nuclear Disarmament Verification
ISACS	International Small Arms Control Standards
JCPoA	Joint Comprehensive Plan of Action
JIM	Joint Investigative Mechanism *(OPCW-UN Joint Investigative Mechanism in Syria)*
MASG	Mine Action Support Group
MOTAPM	Mines other than anti-personnel mines
MSAG	Multinational Small Arms and Ammunition Group
MTCR	Missile Technology Control Regime
NATO	North Atlantic Treaty Organisation
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NSG	Nuclear Suppliers Group
NSS	Nuclear Security Summit
OEWG	Open-ended Working Group
OPCW	Organisation for the Prohibition of Chemical Weapons
OSCE	Organisation for Security and Co-operation in Europe
OST	Open-Skies Treaty
PAROS	Prevention of an arms race in outer space
PfP	Partnership for Peace
PPWT	Draft Treaty on the Prevention of the Placement of Weapons in Outer Space and the Threat or Use of Force against Outer Space Objects
PSSA	Federal Act on Private Security Services Provided Abroad

PSV	Post-shipment verification
SALW	Small arms and light weapons
SECO	State Secretariat for Economic Affairs
SFOE	Swiss Federal Office of Energy
SSMA	Safe and secure management of ammunition
START	Strategic Arms Reduction Treaty *(Treaty between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms)*
THAAD	Terminal High Altitude Area Defense *(US anti-ballistic missile system)*
UAV	Unmanned aerial vehicle
UN	United Nations Organisation
UNGA	United Nations General Assembly
UNMAS	United Nations Mine Action Service
UNROCA	UN Register of Conventional Arms
VD	Vienna Document
WA	Wassenaar Arrangement
WHO	World Health Organisation
WMA	Federal Act on War Material
WMO	Ordinance on War Material