Programme of Action on Small Arms and Light Weapons
Second Open-ended Meeting of Governmental Experts 2015
Chair’s summary

Overview
In the drafting of the Chair’s summary, the Chair has taken into account discussions by States during MGE2, expert technical presentations offered under each agenda item and the MGE2 working papers prepared by delegations, and presentations by international organizations and civil society organizations.

The Chair heard strong requests by States at MGE2 to include in the Chair’s summary concrete measures for taking forward the issue of recent developments in small arms and light weapons technology under the Programme of Action process. He also heard calls from States for initial conclusions on ways forward to address the challenges posed by these technologies. As such, these elements have been addressed in the current summary.

There were many considerations emerging from discussions. These include – firstly, a technological divide between States means that new developments in small arms and light weapons technology affect States differently. While some States are weighing the potential implications of 3D printing, many still face barriers in implementing the basic requirements of the Programme of Action and the International Tracing Instrument. Therefore there was a strong emphasis at MGE2 for more in-depth consideration of new and existing technologies, including in the light of international cooperation and assistance, capacity-building, and the transfer of technology and knowledge.

States unanimously reaffirmed the validity of the Programme of Action and the International Tracing Instrument, while some States indicated that extra guidance is required in the International Tracing Instrument particularly regarding modular weapons and other new developments.

While recognizing the need to continue tackling existing challenges, there was general agreement that in addressing new developments in technology, States are looking to ensure that they are well prepared to address issues that may become challenges in the future, thus ensuring that the international community remains ever ready and ahead of the curve in addressing the illicit trade in small arms and light weapons.

The present summary outlines core elements as they were discussed during MGE2. The summary was prepared by the Chair under his own responsibility and reflects his interpretation of the main points under discussion. It cannot represent a full record of all issues discussed during the week.

1. Consideration of the implications of recent developments in small arm and light weapon manufacturing, technology and design for effective marking, record-keeping and tracing

Materials: How to mark?
1. Until the third quarter of the twentieth century, essential parts of small arms were generally made of steel. Since then, aluminium, titanium and other metals have come into use, and polymers were introduced.

2. Polymers are now being more often used in the production of firearm frames and receivers as well. Polymers provide lower cost, lighter weight, resistance to moisture, ergonomic design and thermal neutrality. However, they offer less tensile strength than steel or aluminium and are more susceptible to
accidental damage. Polymers are cheaper in general, but it is more expensive to customize them to specific SALW requirements.

3. At MGE2, States considered the implications for effective marking of the use of polymer in small arms frames. They noted that durable marking, as prescribed by the International Tracing Instrument (para. 7) was more difficult to achieve in the case of polymer, especially after the time of manufacture—for example, at the time of import.

4. Laser marking and micro-percussion (dot-pee) were cited as suitable marking methods for polymer frames. States noted that the cost of laser marking was relatively high, however, while in the experience of some delegations, dot-pee was not particularly effective. The ability to recover laser or dot-pee marks that had been erased or altered was also very limited.

5. In order to ensure that a polymer frame firearm received a durable marking, one option recommended was to use a traditional stamping method of marking on metal parts of the weapon, such as the barrel or bolt. Another option was to require manufacturers to insert a metal tag or plate in the polymer frame. While some states noted that it was possible, in some cases, for an arms trafficker to easily remove such a tag, many manufacturers were now embedding the metal tag in such a way that it could not be removed without damaging the frame.

6. Some States pointed out that the use of metal tags did not necessarily resolve the difficulty of marking polymer frame firearms after the time of manufacture as there might be insufficient space on the metal tag for such markings. While manufacturers could leave some space on the metal tag for post-manufacture markings, space might still be insufficient if the arm was imported into several countries.

7. Another possible solution was for the manufacturer to include the import marking during time of manufacture. Some States also raised the question of whether a specially designated area on a weapon could be ensured during manufacture for dot-pee marking.

8. States noted that while the utmost should be done to ensure that a durable mark is emplaced, criminals with the will and time to do so can often remove such markings.

9. Several States called for further consultations with manufacturers on these issues of weapon marking. While they noted that some details of implementation should be left to producers, they stressed that it was the responsibility of governments to develop the applicable rules in this area.

Initial conclusions [to be completed…]

10. Some traditional methods of marking weapons are not ideal for marking polymer weapons and while laser marking works well, it is also more expensive. Possible other partial solutions to marking polymer weapons include inserting a metal plate or tag in the polymer weapon for the specific purpose of embedding marks or, where possible, requesting import markings to be embedded at the point of manufacture. Further guidance or harmonization on these modalities may be required.

Modular Weapons: Where to mark?

11. As national armed forces sought to prepare for a wide range of operational scenarios, they were driving demand for the development and production of modular weapons featuring a core or fixed component around which most other components of the rifle can be changed, allowing for fundamental changes in the weapon’s configuration and even calibre.
12. The fact that modular weapons can be fitted with different components, including from other weapons, could result in different serial numbers appearing on the same weapon, increasing the risk of misidentification.

13. At MGE2, States heard from expert presentations that with the advent of modular weapons, the question of where best to mark a weapon becomes an increasingly salient point. The International Tracing Instrument prescribes the application of a unique marking to an essential or structural component of the weapon, such as the frame and/or receiver, and also encourages the marking of other parts of the weapon, such as the barrel and/or slide or cylinder.¹

14. However, it was pointed out that some weapons have split receivers, which makes it more difficult to identify the essential or structural component for purposes of unique marking. At the same time, the upper receiver and the barrel of the weapon were in some cases connected to the upper receiver and in other weapon types, this was not necessarily the case. A major challenge in this regard is that many States have not decided at the national level which weapon component constitutes the core component.

15. Several States recommended that the original manufacturer of a modular weapon determine what part of the weapon was the core or essential component. That component would serve as the ‘control component’ of the weapon. This component would receive the unique markings prescribed in the International Tracing Instrument (para. 8). At the same time, only the markings on the control component would be used to create the record for the weapon.

16. There were several proposals regarding the marking of modular weapons. In the view of some States, the markings on the control component could be preceded by the number “(1)”, with the markings on other components of the weapon preceded by the number “(2)” — in order to distinguish the control component from the weapon’s other components. Some States proposed that only the control component be marked, while others saw no problem in continuing to mark the non-control components of a modular weapon provided it was clear which component served as the control component—in essence, represented the weapon—for purposes of tracing.

Initial conclusions [to be completed…]
17. The part of the modular weapon which is the core component (and thus bears the actual serial number of the weapon for record-keeping purposes) needs to be identified. Such a core component can be designated with a pre-serial number “(1)” to make it easily recognizable. Although modular weapons are not yet found in many States, further guidance or harmonization on these modalities may be required going forward.

2. Consideration of practical steps to ensure the continued and enhanced effectiveness of national marking, record-keeping and tracing systems in the light of such developments, including ways to support the transfer, uptake and effective utilization of relevant tools and technologies

Production: Potential challenges?
18. In three-dimensional (3D) printing, a machine reads the design from a 3D-printable file and lays down successive layers of liquid, powder, paper or sheet material to build the model from a series of cross sections. These layers are joined or automatically fused to create the final shape.

¹ Paragraph 10.
19. 3D printing using metals is an option, though a weapon’s reliability produced this way is not high for the moment. This may change as technology progresses.

20. At MGE2, a potential challenge highlighted was that 3D printers can be used to make a weapon that is virtually undetectable. Tests have shown that 3D printed weapons, even when containing metal elements, have passed through traditional walk-through metal detectors.

21. States further heard from expert presentations that specialized, high-end 3D printers have an associated high cost: US$500,000 to US$1 million which at present, would put them out of reach of most individuals. Technological improvements will likely decrease the cost of high-end 3D printers. Low-end printers on the other hand cost from US$1,500 onwards.

22. Experts pointed out that the manufacture of a 3D weapon requires no small amount of resources and time to produce. At the same time, the private assembling of a 3D printer and its use for the production of a functioning weapon has already been shown to be possible.

23. Some States highlighted that they have already put in place measures to mitigate the risks associated with 3D printing of weapons. Such measures include laws prohibiting making available 3D weapon designs on the Internet, and instituting national awareness-raising programmes targeted at 3D printer manufacturers of the potential risks.

Initial conclusions [to be completed…]

24. 3D printing of weapons is at a nascent phase. It could soon develop into a serious threat for those who wish to make a virtually undetectable weapon. While costs and technologies are currently prohibitive, its use in medical sciences and aerospace fields will drive the technology forward. A consideration of regulations on 3D printers may be required.

Marking, record-keeping and tracing: Existing and new practices

25. The International Tracing Instrument\(^2\) requires that unique markings are applied to small arms and light weapons at the time of manufacture, including the name of the manufacturer, the country of manufacture, the serial number or any alternative unique user-friendly marking with simple geometric symbols in combination with a numeric and/or alphanumeric code, which would permit ready identification by all States of the country of manufacture. The Instrument also requires, to the extent possible, that appropriate simple markings be made on each imported weapon that will permit the identification of the country of import and, where possible, the year of import.

26. Under this agenda item, States heard from experts regarding the current and effective methods for marking weapons. Although polymer weapons now pose a different question for marking, traditional methods such as dot-peen, engraving and hand stamping remain tried and true methods for most requirements.

27. This could also be a solution where challenges are faced with the breakdown or unreliability of marking machines, particularly where they need to be transported to different locations.

28. States also considered micro-stamping technology which enables for instance a mark to be imprinted on an ammunition cartridge when the weapon is fired with the aim of enhancing tracing. Experts highlighted that this technology was easily erasable and was hence not a viable solution. However, if desired, it can complement other types of marking.

\(^2\) Paragraph 8.
29. States highlighted that beyond the marking of weapons, the accurate recording of such marks – even by hand – was key, as in the end, this was what could help enable a successful trace.

Initial conclusions [to be completed…]

30. Technology requires consistent care and maintenance which can be a challenge. Sometimes traditional methods may provide a more hassle-free solution to the marking, record-keeping and tracing of weapons.

Stockpile management: New methods for traditional tasks

31. The PoA provides that UN Member States should ensure that their armed and security forces ‘establish adequate and detailed standards and procedures relating to the management and security of their stocks of these [small arms and light] weapons’. These standards and procedures are to include ‘physical security measures; control of access to stocks; inventory management and accounting control … [and] accounting and control of small arms and light weapons held or transported by operational units or authorized personnel’ (PoA, para. II(17)).

32. Experts shared national practices and regulations regarding marking, record-keeping and tracing, and in this regard considered barcodes, radio frequency identification (RFID) and biometrics which electronically identify objects, collect data on them and enable data to be entered automatically into record-keeping systems.

33. Some States shared their practice of using blue-tooth and other technologies to support the inventory management of their stockpiles, which enabled the real-time tracking of inventoried items for example from manufacturer to storage.

34. In a similar vein, States also considered the feasibility of RFID technologies in limiting the use of the weapon to only authorized users. States were reminded that for armed and security forces, this may create operational challenges which could put personnel at risk. At the same time, some States noted that the application of such technologies to civilian-owned weapons could be a possibility in the future for those States which wished to use it.

Initial conclusions [to be completed…]

35. A differentiation was made between technologies used for tracing, as per the International Tracing Instrument, and technologies used for stockpile and inventory management. RFID and other tracking technologies were notably more used for the latter purpose currently.

3. The transfer of technology and equipment, as well as capacity-building, in particular training, for the full and effective implementation of the Programme of Action and the International Tracing Instrument

International cooperation and assistance: Needs and challenges

36. At MGE2, a recurring theme was the technical divide between States which did not have or use new technologies and those which did. It was emphasized that the traditional methods of marking, record-keeping and tracing were often still valid and reliable. States considered international cooperation and assistance including the transfer of technology and equipment to be a central component for the full and effective implementation of the Programme of Action and the International Tracing Instrument.
37. States heard from expert presenters that in the provision of assistance, key issues included taking into account the national priorities of the beneficiary countries and crucially, the inclusion of national authorities in the entire cycle of the project implementation, beginning with their involvement in the planning, design and assessment phase.

38. The sustainability of assistance, including the development of a regulatory environment, and the transfer of knowledge was emphasized along with the need to take into account the local environment such as the need for the provision of training in local languages. The need for a common agreement of terms between donors and beneficiary countries was also highlighted.

39. It was underscored that coordination remained a key issue be addressed in providing international assistance, as there were often several donor countries, international or regional organization and non-governmental organizations, each with different projects, providing assistance in the same country. Good practice highlighted included regular coordination meetings between assistance providers, including through the United Nations, and including in the early project planning phase to prevent duplication.

40. In considering international cooperation and assistance, the engagement of regional and subregional organizations was also emphasized, given their particular knowledge of the countries and circumstances of the region and subregion. Regional and subregional organizations may have a role to play in the coordination of assistance.

41. It was highlighted that international assistance is a partnership in which donors and beneficiaries should work closely together. Donors highlighted that they also face several challenges in the provision of assistance and urged for the consideration of regulations, structures, infrastructure and support mechanisms, including adequate national personnel management practices to be put in place in recipient States.

Initial conclusions [to be completed…]

42. Further attention needs to be given to the issue of international cooperation and assistance including the transfer of technology, particularly in light of the discussions at MGE2 of new developments in small arms and light weapon technology. The modalities of international cooperation and assistance could be further fine-tuned and may be a topic to be considered at BMS6.

International cooperation and assistance: Trust funds

43. States considered the question of strengthening the mechanisms for the provision of assistance under the Programme of Action and the International Tracing Instrument.

44. There were calls for the establishment of a UN trust fund dedicated to the implementation of the Programme of Action and the International Tracing Instrument. Some States also suggested additional modalities for the trust fund, including funding through UN regular budget and also similar trust funds at the regional levels, through the Regional Centres of the UN Office for Disarmament Affairs. There were also suggestions for a database of donor resources.

45. Some States highlighted the existence of the UN Trust Facility Supporting Cooperation on Arms Regulation (UNSCAR), through which a group of donors providing for the implementation of the Arms Trade Treaty as well as the Programme of Action. States in a position to do so were urged to contribute to existing trust fund arrangements including UNSCAR.

46. As per the outcome document of BMS5, the Secretariat was requested to present for consideration at the BMS6, options for the enhanced funding of activities relating to the implementation of the Programme of Action and the International Tracing Instrument, including trust fund arrangements; and for the
establishment of programmes for the training of relevant officials, nominated by their respective Governments, in areas related to the implementation of the Programme of Action and the International Tracing Instrument;

47. The Secretariat was also requested, as per the outcome document of BMS5, to carry out a comprehensive study on the adequacy, effectiveness and sustainability of financial and technical assistance, including the transfer of technology and equipment, particularly to developing countries since 2001, for the full implementation of the Programme of Action, and to submit this study for consideration before the Sixth Biennial Meeting of States (2016).

48. With regard to the above, the Secretariat was requested to send a note verbale to States requesting their inputs.

Initial conclusion [to be completed…]

49. States could consider existing trust fund mechanisms as well as how they may wish to take these forward for the more effective implementation of the Programme of Action and the International Tracing Instrument

4. Additional issues related to the implementation of the Programme of Action and the International Tracing Instrument

[to be completed after the conclusion of the session]