Japan is pleased to submit the following ideas and suggestions based on the informal discussions that were held in New York and Geneva.

1. MGE2: Agenda and Participation
   - Japan expects that discussions between governmental experts at MGE will be reported at BMS6 and be valuable for effective implementation of the PoA and ITI.
   - International cooperation focusing on technical cooperation is one of the main pillars for the implementation of the PoA and ITI. Japan supports the inclusion of international cooperation as a main agenda item.
   - As the MGE2 is expected to discuss technical issues, Japan supports the engagement of Civil Society Organizations (CSO), including industry and research organizations. Furthermore, side-events held by the industry on the margins of the MGE2 could provide a useful opportunity for States to better understand the latest technology relating to small arms.

2. Emergence of new technology and its application
   - We appreciate the report of the UN Secretary-General which contains comprehensive information on new technology and is therefore useful for the MGE2. As outlined in the report, with the emergence of new technology such as 3D printing, diversified new materials, such as plastics and metals, are being used in the production of weapons, and new concepts in design and new production methods are also being developed.
   - The emergence of new technology will inevitably have an impact on the management of Small and Light Weapons. It is therefore important to include marking and tracing of weapons as a matter for further consideration and discussion. Though ITI 7 stipulates that the choice of methods for marking small arms and light weapons is a national prerogative, ITI 8 requests that States require unique marking at the time of manufacture for each small arms or light weapon under their jurisdiction or control, or that they maintain alternative unique user-friendly marking.
   - While new technology can help reduce cost and increase design flexibility and
miniaturization, it also poses new challenges relating to copyrights and marking due to the complexity and diversity of parts and components.

● In order to deal with new technology, it is important to share information on best practices in marking and tracing at the bilateral and regional levels, and to improve exchange of information on the results of marking and tracing at the national, regional and international level.

● 3D printer is a machine that creates solid objects layer by layer out of material (such as resin or metal) in accordance with specifications that are stored and displayed in electronic form as a digital model. 3D printers can create three-dimensional objects as if printing a paper, and do not require any special tooling devices or special works’ technology to do so.¹

● The process of printing a 3D model varies depending on the material used to create the object. For example, Fused Deposition Modeling (FDM) is used to fuse layers of plastic together, material jetting process uses photopolymer and wax, as well as powder bed fusion process uses metallic or plastic powder.²

● There are still many technical challenges for industrial 3D metal printers.

● New technology such as 3D printing can be revolutionary and therefore attract attention from the manufacturing industry such as aerospace, automotive and consumer electronics as well as in the medical field. 3D printers can make any product we want with 3D data, and are therefore a great tool that can realize people’s dreams and contribute to society, the economy, and industry.

● It is important to ensure sound industrial development by preventing illegal use of 3D printers.

3. Research and development for 3D printing technology in Japan

● It is said that 3D printing technology, which is described as a new technology in the report by the UN Secretary-General, was invented in Japan in 1980, with the development of a three-dimensional plastic model with photopolymer³

● As for industrial 3D printers in Japan, TRAFAM (Technology Research Association for Future Additive Manufacturing), a large scale research development project was established by the Industry, the Government and Academics to develop

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¹ “Material Technology of 3D Printer and its Market Prospect” CMC Research 2015
³ “Material Technology of 3D Printer and its Market Prospect” CMC Research 2015
next-generation industrial 3D printers and ultra-precise 3D modeling systems

TRAFAM develops machines, software for control as well as powder material in order to develop additive manufacturing technology suitable for the structure of the product and components of high-mix low-volume and high value-added, technology development such as diversification and high-performance composite of the powder material, and foundry technique. In addition, export control, prevention of illegal activities, safety measures are also considered.

We should note that the 3D printer industry, like other machinery industry, must take into account the need to prevent the production of weapons or illicit transfer in export control.

In 2014, the person who manufactured firearms with a 3D printer was arrested for possession of 3D printed guns in violation of the Firearm and Sword control law in Japan. The production of firearms without permission is illegal and violates the ordnance manufacturing law in Japan.

After the above-mentioned case, a council promoting 3D printer was created in June 2014. It is composed of 12 3D printer manufacturers and aims to promote the sound development 3D printer technology and industry in Japan. The Council conducts activities to raise awareness of illegal use of 3D printers, including by posters and lectures on the prevention of illegal weapon production at 3D printer-related exhibitions.

Multifunction machines with 3D printing technology, have been developed as 3D printers in Japan. Being machine tools, their export might be restricted.

4. Technical assistance

(1) Japan’s assistance related to small arms and light weapons

ITI 27 and 28 encourage international cooperation and capacity-building in the areas of marking, record-keeping and tracing, and support the effective implementation of this instrument by States. They also encourage the consideration of technologies that would improve the tracing and detection of illicit small arms and light weapons.

Between April 2014 and March 2015, Japan provided assistance related to small arms and light weapons in the amount of 258 million Dollars.

The development of a system that allows police-led initiatives is crucial to improve small arms and light weapons control. Since small arms and light weapons control is closely linked to issues such as public security, governance, delay in rural development, and unemployment, it is desirable to have a cross-sectoral approach and

4 Please see Website of TRAFAM  https://trafam.or.jp/top/about/
make necessary efforts as part of the security sector/system reform, governance reform, and agricultural development, among others.

(2) Points for attention for providing equipment and machines

● When conducting police reforms, developing countries are often interested in introducing high technology tools. Given that these tools require careful, steadily criminal investigations by police officers, Japan has been conducting training programmes, which include visits to the scientific police research center of national police, fingerprint center, and command communication center in Japan.

● Indeed, it is necessary to note that high technology tools should be introduced gradually according to the level of human resources development and the system reform at recipient countries before considering their technical and maintenance ability (including climate condition of these tools).

● It is too early to introduce high technology tools in the field of scientific criminal investigation for those countries whose forensic technologies, such as collection of evidentiary material have not well advanced. The introduction of an Automated Fingerprint Identification System (AFIS) requires a crime investigation system and specific infrastructure (information and communication network), which is not aimed for the extra crime collation but for utilizing for searching criminals by the identification of the testation fingerprints.

(3) Examples of Japan’s assistance

The Project for Promoting Cross-Border Cooperation through Effective Management of Tajikistan’s Border with Afghanistan (in cooperation with UNDP)

In 2015, Japan launched a project to promote cross-border cooperation through effective management of Tajikistan’s Border with Afghanistan. Through this project, Japan will provide a total of 468 million yen ($3.9 million).

This project supports the construction of additional border and customs checking units as well as the provision of equipment and furniture to enhance cross-border trade. This project aims at improving border management, including strengthening weapons and narcotics control by the border officers, as well as enhancing the standard of living in the local area by maintaining local markets.