Recent developments in small arms and light weapons manufacturing, technology and design and their implications for the International Tracing Instrument

The International Tracing Instrument (ITI) emphasises “timely and reliable” weapons tracing. This necessitates that States ensure the ITI provisions remain effective in light of current technological trends.

The ITI text itself draws attention to the issue of manufacturing advances by encouraging industry to develop measures to counter the removal or alteration of markings.¹

Since the ITI’s adoption in 2005, weapon design and production methods have emerged that have consequences for international efforts to address the illicit trade in small arms, particularly those that could have an impact on weapons marking, recordkeeping and tracing.

Non-metal materials, such as polymers, and modularity in weapon design have the potential to fundamentally alter the way weapons are marked and traced as well as how records are kept.

**Assets and challenges**

Some technologies, such as laser marking, microstamping and automatic electronic data collection, could serve as assets in implementing the ITI, but could pose corresponding challenges: related to financial and technical resources, as well as regulatory and service requirements. 3D-printing, although not yet considered a universally-available technology, presents unique proliferation risks.

**State of discussions**

The challenges and opportunities posed by new technologies have been discussed at the technical level in the framework of the ITI beginning in 2011.

The first Meeting of Governmental Experts (MGE1) called the attention of States to the difficulty of durably marking polymer-frame firearms and the challenges posed by modular design.

The second Meeting of Governmental Experts (MGE2) in 2015 expanded discussions to 3D printing and potential opportunities offered by new technology for enhanced SALW control. The Chair’s summaries for MGE1 and MGE2² reflect important observations of States on the implications of these technologies for the ITI.

**Report by the Secretary-General**

Subsequent to the technical discussions at MGE1, at the 2012 Second Review Conference of the Programme of Action and ITI, Member States requested the Secretary-General to submit an initial report, drawing on the views of Member States, on implications of recent developments in SALW technology.

States requested that the report consider consequences for effective marking, record keeping and tracing and relevant practices in relation to international assistance and capacity-building. In this regard, States acknowledged both the potential advantages and challenges associated with such developments.

This report was submitted to the Fifth Biennial Meeting of States in 2014.³ It provided a comprehensive, easy-to-understand review of technological developments considering weapons tracing requirements under the ITI, including implications for ITI implementation.

The report addresses materials, design and production techniques as well as new technology applications such

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¹ A/60/88, Section III, 8e.
² undocs.org/A/CONF.192/MGE/2015/1.
³ A/CONF.192/BMS/2014/1, undocs.org/A/CONF.192/BMS/2014/1.
as laser marking, microstamping, radio-frequency identification, and barcoding.

For each material, technique and technology, the Secretary-General comments on potential implications for the ITI underscoring the paramount importance of the durability and consistency of marking regardless of material used or design employed.

Potentially advantageous technologies for enhanced stockpile management and weapons tracking are also detailed. The Secretary-General notes that utilization of technologies such as satellite tracking, biometrics and/or radio frequency identification could positively serve the ITI’s implementation. At the same time, it is noted that adequate marking and record-keeping does not necessarily need state-of-the-art technology.

Recommendations
The SG report concludes with recommendations which underscore the value of harmonized, regional approaches to assessing the possibilities and limitations of available SALW technologies and encourages dialogue to that end.

Most concretely, the Secretary-General invites States to discuss the possibility of negotiating a document supplementary to the ITI, such as an annex, which would reflect the implications of recent technical developments in marking, recordkeeping and tracing.

Such a document would ensure that emerging technologies do not render the ITI less effective.

The Secretary-General notes that the agreed schedule of meetings under the Programme of Action could guide such discussions.

Building on the second round of technical exchanges at MGE2, States at the Sixth Biennial Meeting of States (BMS6) echoed the fundamental conclusion of the Secretary-General that the ITI’s commitments on marking, record-keeping and tracing remain necessary regardless of the materials or methods used for manufacture.4

States also noted the importance of enhancing dialogue with industry, especially regarding effective marking practices in light of recent technological developments.5

BMS6 mandated the Third Review Conference of the Programme of Action and ITI in 2018 to once again consider the topic of recent developments in SALW technologies, manufacture and design.

Follow-up
Drawing upon the wealth of observations made since 2011, the Third Review Conference may wish to consider taking a decision to advance collective State action to address the implications of new developments in technology, manufacture and design.

Such implications have been consistently acknowledged as potentially problematic since 2011.

Buttressed by the report of the Secretary-General and the Chair’s summaries of MGE1 and MGE2, Member States are well-equipped to consider focused deliberations on actions that may be required to ensure the sustained effectiveness and applicability of the ITI in line with the proposal by the Secretary-General.

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4 A/CONF.192/BMS/2014/1, para. 60

5 A/CONF.192/BMS/2014/1, para. 79.