TOPIC 3: Current and future space-to-space threats by States to space systems

Dual-use and dual-purpose objects

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OUTLINE

1. What are States concerned about?
2. What are dual-use and dual-purpose objects?
3. Can they be targeted?
1. WHAT ARE STATES CONCERNED ABOUT?

- Objects used for military and civilian purposes
  - Are they targetable?

- Objects with capabilities that can be repurposed
  - Can they be used to attack another satellite?

Under outer space law, outer space shall be used for “peaceful purposes”, which is often understood as non-aggressive / non-hostile.
2. WHAT ARE DUAL-USE AND DUAL PURPOSE OBJECTS?

Distinction between “use” and “purpose” comes from the law of targeting.

“Attacks shall be limited strictly to military objectives. In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.”

Art. 52.2 Protocol Additional I to the Geneva Conventions

“The criterion of 'purpose' is concerned with the intended future use of an object, while that of 'use' is concerned with its present function. (...) in case of doubt, [the object] must be presumed to serve civilian purposes.”

Commentary of 1987 to the Protocol Additional I to the Geneva Conventions, ¶2022
A. WHAT ARE DUAL-USE OBJECTS?

- Function
  - Military and civilian / commercial
  - Alternating or simultaneous
  - Non-aggressive

- Operator
  - Military
  - Civilian / commercial

- Terminology
  - “Use” refers to the present function of an object
### A. WHAT ARE DUAL-USE OBJECTS?

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<tr>
<th>Function</th>
<th>Military use</th>
<th>Civil / Commercial use</th>
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<td><strong>Early Warning</strong></td>
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<td>• Nuclear explosion monitoring</td>
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<td>• Rocket tracking</td>
<td>• Volcano monitoring</td>
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B. WHAT ARE DUAL-PURPOSE OBJECTS?

Function
- Benign, non-aggressive
- Possesses capabilities that can be repurposed

Operator
- Civilian / commercial

Terminology
- “Purpose” refers to the intended future use of an object
2. WHAT ARE DUAL-USE AND DUAL PURPOSE OBJECTS?

- Active debris removal satellites
  - Robotic debris capture
  - Lasers
- On orbit servicing satellites
  - Robotic arms
  - On board sensors
- Rendezvous and proximity operations
  - On board sensors
  - Manoeuvrability

- GNSS
- Communication satellites
- Earth observation satellites

Manoeuvrability
3. CAN THEY BE TARGETED?

Article 2(4) UN Charter → States are forbidden to “threat[en] or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations”.

Article 51 UN Charter → States have “the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security.”

Article 52 Protocol Additional I → “Attacks shall be limited strictly to military objectives. In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.”
3. CAN THEY BE TARGETED?

**Ius ad bellum** scenario

- Use of force principles
  - Necessity
  - Timeliness
  - Proportionality

**Ius in bello** scenario

- IHL principles*
  - Distinction
  - Military necessity
  - Proportionality
  - Precautions

*Some have expressed concerns about discussing the applicability of IHL to outer space
Thank you

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