

Education and CWC National Authorities

Insights from an Executive Course on CBRN-
relevant dual-use technology transfers

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Master's course project

- Targeted Initiative on Export Controls of Dual-Use Materials and Technologies
 - Funded by *European Commission, Directorate-General for International Cooperation and Development (DEVCO)*
 - Implemented by
 - *International Science and Technology Centre (ISTC), Nur-Sultan, Kazakhstan*
 - *Science and Technology Centre in Ukraine (STCU), Kyiv, Ukraine*
- Target audiences
 - Government officials, universities and academia
 - *Central Asia: Afghanistan, Armenia, Georgia, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan → ISTC*
 - *GUAM countries: Georgia, Ukraine, Azerbaijan and Moldova → STCU*

Master's course design

- **Modular approach**
 - Full course = 60 credits
 - 9 self-contained modules:
 - 2 introductory;
 - 4 substantive;
 - 3 seminar modules
- **Can fit different educational contexts, e.g.**
 - Government officials – short time frame
 - Universities –integration into broader educational programmes (e.g. economics, international law, science education, political science, etc.)
 - Individual module topics as elective courses
 - Etc.

Modules

- **Introductory modules**
 - 1. CBRN basic knowledge and concepts
 - 2. Frameworks, instruments and responsibilities
- **Substantive modules**
 - 1. Threats, risks and their mitigation
 - 2. Transfer controls (International)
 - 3. Transfer controls (national requirements)
 - 4. Promoting responsible behaviour
- **Seminar modules**
 - 1. Reinforces the objectives of Substantive Module 1
 - 2. Scenarios involving national regulatory frameworks and institutions (follows Substantive Module 3)
 - 3. May combine two objectives;
 - Expose students to various educational strategies and acquire practical insights into their design and objectives.
 - Interactive review of the whole course

Executive Course in Nur-Sultan

- **Two objectives**
 - Testing parts of the master's course in a real university setting
 - Attracting interest in organising the full master's course from other Central Asian academic institutes
- **Educational goals**
 - Deepen the general understanding of the security concerns about dual-use technologies
 - Make participants understand how these might affect their own work and responsibilities both as a professional and an individual, and
 - Help them to identify and address issues of dual-use concern.
 - Strategy based on recommendations in *ABEO Report On The Role Of Education And Outreach in Preventing The Re-emergence of Chemical Weapons* (2018)
- **Duration**
 - Two weeks; 5 days/week
 - 9 a.m. – 1 p.m. / 2 – 5 p.m.



Audience

- 21 participants
 - University professors and academics (mostly law and economics)
 - Scientists
 - Government officials and national export control practitioners
 - Experts from regional international organisations
 - Students.
- Armenia, Georgia, Kazakhstan, Mongolia, Pakistan, and Uzbekistan
- Perfect mix from perspective of course objectives



Teaching strategy

- Basic knowledge transfer (lectures)
- Interactive exercises
- Breakout groups and interactive discussions



Adaptation

- **Principal challenges encountered**
 - Language
 - Limited familiarity with core concepts
 - Limited familiarity with treaties and regulatory mechanisms, and their objectives and functioning
 - As good as no familiarity with document hierarchy and structured searches on the internet
- **Adaptations implemented on the spur**
 - Individual courses switched from briefings & exercises to self-discovery
 - Breakout groups
 - Permanent tutor guidance
 - Introduction to structured searches
 - Exercises in breakout groups (different themes / group)
 - Plenary presentations and building the bigger picture

Examples of adaptation

- Introducing humour
 - How could Chemy have forgotten about the CWC General Purpose Criterion?
- Case study: Exporting isopropanol to Syria

What about this?

$$\text{CH}_3\text{CHOHCH}_3$$

Isopropanol

+

$$\text{CH}_3\text{POF}_2$$

Methylphosphonyl difluoride (DF)

→

$$\text{C}_4\text{H}_{10}\text{FO}_2\text{P}$$

(RS)-Propan-2-yl methylphosphonofluoridate
= **SARIN**



Now you realise

OMG! The GPC ...

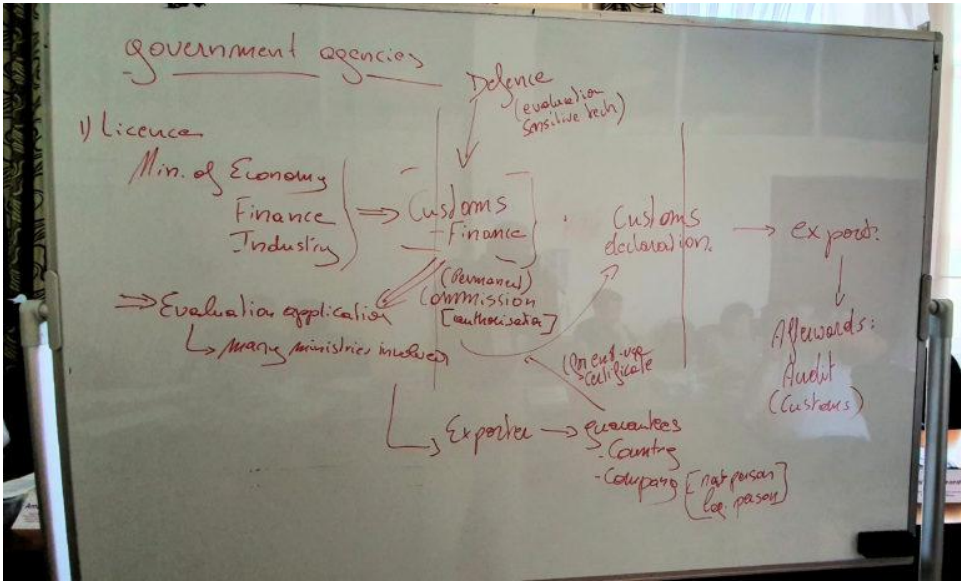
Examples of adaptation

- Case study of CW factory at Rabta, Libya
 - Proliferation case before CWC & early stages of Australia Group
- Presentation cut short; 2nd half replaced by questions
- Segued into national implementation requirements for transfer controls

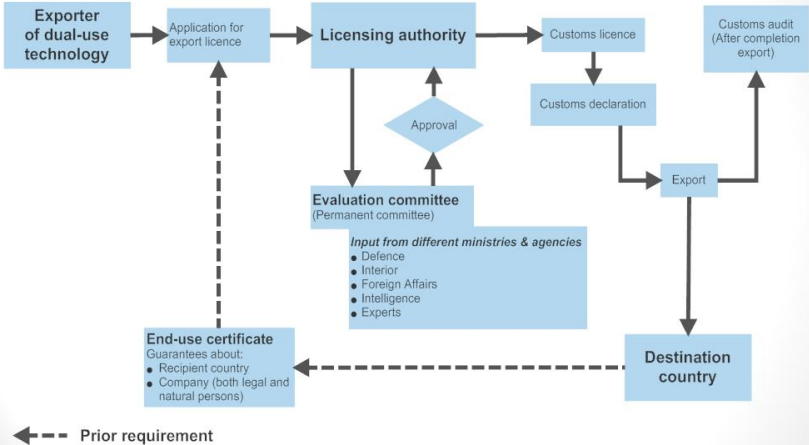
Critical questions for you to ask

- Which elements make up an export control regime?
- Which government agencies are involved in export control?
- What international treaties, legal instruments or arrangements inform export control regimes?
- Who are your partners in a technology transfer process?
- How would you know that an illicit technology transfer
 - Is taking place?
 - Is being prepared?

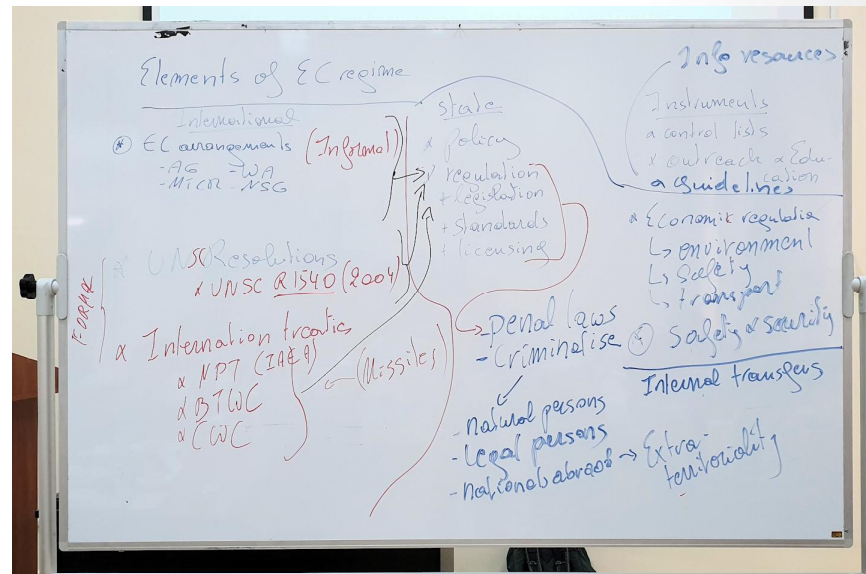
Examples of adaptation



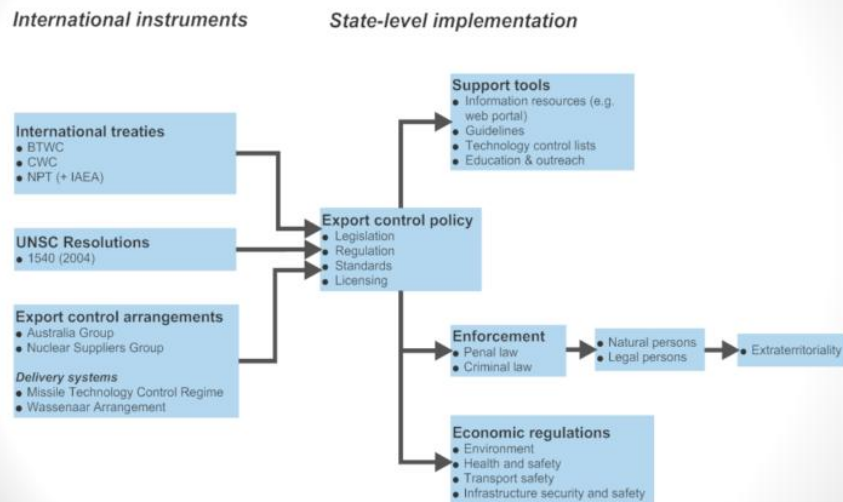
Applying for an export licence



Examples of adaptation



Elements of an export control system



Outcomes

- The course's greatest impact was highly increased awareness among all participants of the issues involved in managing dual-use technology transfers.
- They grasped the complexity of the subject matter, understood the great variety of tools, and the importance of their integration.
- Practical examples introduced via a variety of interactive exercises made the issues concrete.
- Collaboration in breakout groups enabled people from different professional, academic and cultural backgrounds and with different levels of understanding of the topics to share experiences and knowledge.

What we did ...



- **Basic knowledge about CBRN and underlying (tangible & intangible) technologies**
- **Identification and understanding threats and risks**
- **Understanding transfer patterns and controls**
 - Knowing relevant international and national prohibitory and regulatory frameworks
 - → *structured searches*
 - → *gap analyses*
 - Knowing the country to whom you intend to transfer (dual-use) technology
 - Knowing clients and transaction partners
- **Understanding individual responsibilities**
 - General Purpose Criterion – Catch-all principle
 - General situational awareness
 - Communication of concerns

Conclusions

- The shift had one significant implication:
 - the emphasis came to lie with **building capacities for research and analysis** in the specific area of dual-use technology transfer controls
 - rather than on **transmitting** a comprehensive information package
- This may clash with formal teaching requirements set by national laws or academic institutions
- It ought to be less of an issue when engaging with National Authorities and local stakeholders
- Key issues:
 - How much time will be available for such a course?
 - One session may be insufficient

More information

Disarmament education: Road-testing a master's course on CBRN dual-use technology transfer controls

<http://www.the-trench.org/disarmament-education-road-testing-a-masters-course-on-cbrn-dual-use-technology-transfer-controls/>

