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**Academic WMD
Proliferation: does the need
of security could affect the
academic freedom ?**

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Five dimensions to explore:

1. **Academic proliferation**: what are we talking about ?
2. A **new responsibility** for the scientific community ?
3. Adjusting a system drafted for **industries**
4. Academic **freedom** versus security
5. An uneasy **implementation**

1. Academic proliferation: **what are we talking about ?**

Scientific community contribution to weapons development

- **Conventional explosives: Alfred Nobel** and dynamite
- **Chemical weapons: Kaiser Wilhelm Institute** for Physical Chemistry founded 1911 who applied its expertise with gas chemistry to the use of chlorine clouds at Ypres 1915

- **Nuclear Weapons and the US Manhattan** Project initiated 1941 to conceptualize and develop an nuclear explosives device
- **Pakistan** nuclear weapon and **A Q Khan** who obtained a Ph.D. in metallurgical engineering from the Catholic University of Leuven in Belgium and work for Urenco uranium enrichment consortium

Academic **direct** contributions to the elaboration of WMD are by principle **prohibited**

- Infringements will be prosecuted like it is the case for operators excepted in the proliferating countries

Main risk is academic **indirect** contributions as long as it could be an access for proliferators to:

- Controlled items

- new items they could open paths to not (yet) controlled weapon development

2. A new responsibility for the scientific community ?

Potential academic contribution to military application development has often been a **element of concern** for researchers

Individual awareness

Progressively consideration on security have been **requested** to the research community by State Authorities

Research activities are not exempted from trade control system

The scope of control has also progressively been enlarged by authorities to include

- More than WMD related:

Potential contribution to human security violations : cyber technology (misused of research)

- More than transfers involving financial transaction:

Scientific publication, cooperation, collaboration

Three main possibilities

Potential contribution to WMD and/or misuses of research activities have to be considered by Universities when :

1. Applying for **research funds** within the framework of certain programs.
e.g. : Horizon Europe or European Defence Fund
2. Their research activities involve **listed** items and /or technology.
3. Their research activities might be accessible to an **sensitive counterpart**.

- Researcher is transferring a listed item **outside** of its country (material, technology)
- Laboratory equipment, material used or technology are listed and third countries researchers **will have access** to it
- Researcher is **making available** controlled technology (publications)

- Items listed or **NOT** listed
- Countries, entities, individual under UN, Regional, National **sanctions**
- Potentials risks of **misuse** (aware, ground for suspecting)

3. Adjusting a system drafted for **industries**

Fighting the proliferation risk of academics/research activities induces the **assumption** that academics are or should be aware of WMD proliferation potential applications of their activities

Therefore, its implementation requires that academics are aware of:

- items and technology listed
- the potential end-uses of their research
- potential end users and of their sensitivity

Awareness for **applied research**, almost similar to industrial activities:

- Potential end-uses are **known** during the research;
- End-uses are the **objectives** for the researcher;
- Assessing WMD proliferation risks could be achieved

Awareness for **fundamental research**

- Difficult to define the **limit** between applied and fundamental
 - Technology Readiness Level (TRL) scale ?
- Fundamental research is (in principle) **not** submitted to export control

End-uses awareness for **fundamental research** is uneasy to identify due to :

- Potential end-uses are **unknown** during the research
- End-uses are **not an objective** for the researcher
- Research results might be published **before** proliferation risks could be assessed

For **fundamental research**, almost unknown and difficult to identify due to

- Scientific publication
- Collaboration agreement
- Open science principle

For **applied research** potential end-users are known during the research

However applied research is also subject to publication, cooperation

4. Academic freedom versus security

Charter of Fundamental Rights of the European Union

Article 13 : *“The arts and scientific research shall be free of constraint. Academic freedom shall be respected”.*

Salamanca Declaration of 2001

“European universities be empowered to act in line with the guiding principle of autonomy with accountability ... (and) ... confirm their adhesion to the principles of the Magna Charta Universitatum of 1988 and, in particular, academic freedom”.

- Does a researcher could be constraint to conduct some research if he doesn't share the objective ?
- Does a researcher could be constraint, in the name of security, to submit his activities to transfer authorisation?

Does academic freedom could be constraint in the name of security ?

- Issues has not (yet) been debated
- Some States have not adopted academic exception in their national trade control system
- Some States have included consideration on academic freedom:

Walloon Region Guidelines: Academic Freedom as guaranteed by article 13 of the Charter of Fundamental Rights of the European Union doesn't exclude that restrictions could be applied to certain transactions. The aim of export control is not to restrict research or censor its results but to prevent their misuse.

5. An uneasy implementation

Elements to consider when considering an ICP for Universities and Research Centres

- Most universities view dual use trade control as regulations that **is not related or concerned** their activities

Fundamental research, no commercial activities, activities not related to weapons or military ...

- Universities are usually **decentralized** in a myriad of autonomous research units with one **central** administration

To face those new obligations research risks assessment procedures have been **institutionalized** by Universities and research centres:

- Enlargement of the scope of concern of their **University Ethic Committees**
- Submission of certain research projects to **risk assessment/review**

- Academics authorities have no **real hierarchical power** on their academics but the rector is often, the only one who could legally commit its institution
- High staff **mobility/turnover**
Short term contracts, changing institutions,...
- Cooperation, collaboration, exchanges with others academics worldwide is a **University DNA**

Principle: It is the responsibility of **each** University researcher to consider the potential **risks** associated with the misuse or dual-use of their research.

It concerns:

- issues related to research objectives that are generally prohibited (WMD, conventional weapons)
- unintentional indirect contributions of research to WMD and conventional weapons as well prohibited or adverse purposes (human rights violations, terrorism)

The principle of centralize **procedure** and decentralize **assessment**

- One authority who may commit the institution and therefore signs the licence application if necessary
- High diversity and technicality of research activities: only the researcher has sufficient knowledge to assess if his activities are targeted or not by the trade control system

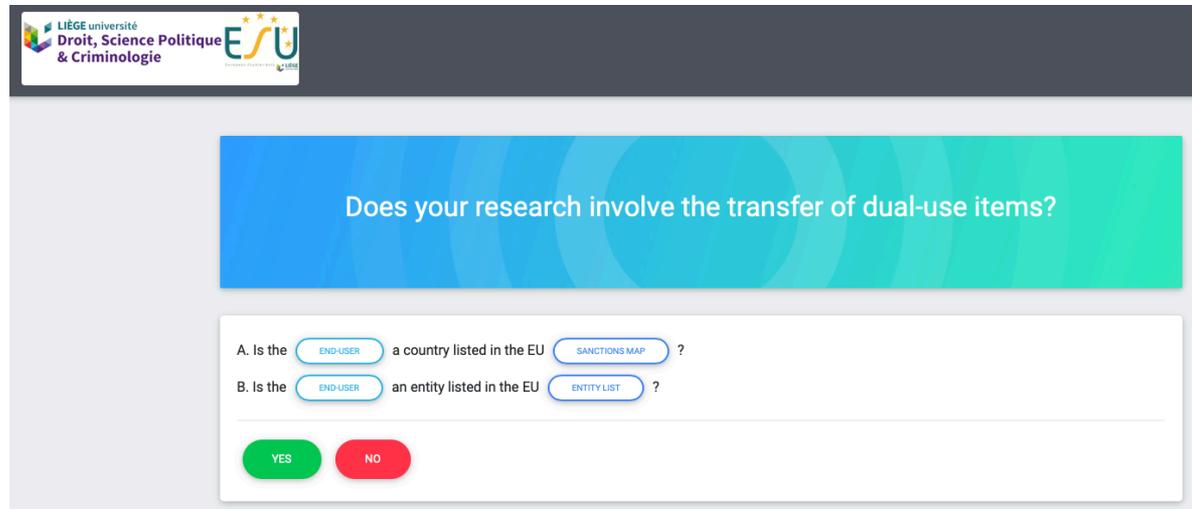
- Necessity of constant awareness raising

High staff mobility

- Necessity of “translating” trade control system and the list in a language that could be understood by academics and researcher

From soft science to hard science

- Online tool: Trade Control App



The screenshot shows the interface of the Trade Control App. At the top, there is a header with the logos of LIÈGE université, Droit, Science Politique & Criminologie, and ESU. Below the header is a large blue banner with the question: "Does your research involve the transfer of dual-use items?". Underneath the banner, there are two questions: "A. Is the [END-USER] a country listed in the EU [SANCTIONS MAP] ?" and "B. Is the [END-USER] an entity listed in the EU [ENTITY LIST] ?". At the bottom, there are two buttons: a green "YES" button and a red "NO" button.

Clause to be added in all research contracts (cooperation, collaboration, export, ...):

Where fulfilment of contractual obligations of XXXX requires an authorization due to applicable law or regulation, including an embargo (and/or other sanctions), contractual performance will be subject to said authorization by the competent authority; in case the authorization is not granted, there shall be no breach of contract or contractual obligation on XXXX's part. The same applies if fulfilment of the contract should be prohibited due to the law or regulation cited.

Any damage compensation obligation due to delays or obstructions to performance resulting from procedures to obtain the required authorization is expressly barred. The same applies to other claims (such as repayment or guarantee claims, which are due to advance payment bonds, etc.).

- Necessary to have a person in charge of the implementation in each research institution: interface between researchers and licensing authorities
 - Like the ECO for industrial operators
- Necessary to develop a network of universities confronted to the same trade control system
 - Common database of cases, drafting and adopting guidelines, unformal no undercut mechanism
- Necessity to establish an common (regional, world) level playing field for Universities of rules that are defined by international regimes