GUIDELINES FOR RESEARCHERS ON DUAL USE AND MISUSE OF RESEARCH

VLIR

2022

Contents

Introduction

These guidelines describe the expectations and obligations of researchers in research which might be dual use or misused. You may not have heard of these concepts before or you may not be very sure what they mean. This publication explains everything step by step so it is clear what you can and/or should do.

First, we will discuss the concept of dual use research and its legal ramifications. Then we will turn to the broader concept of misuse of research and the ethical obligations when there is a risk of dual use and misuse of research. After that, we will discuss what concrete steps researchers should take, and finally we will give some specific examples for illustration and refer to further sources and contact addresses for more information.

But, first things first: what do the concepts dual use and misuse mean?

A Chinese doctoral student is coming to Flanders to conduct research. Can I give him/her access to our data, knowledge or infrastructure?

I publish articles on 3D printing of energetic materials. Do I need an export licence?
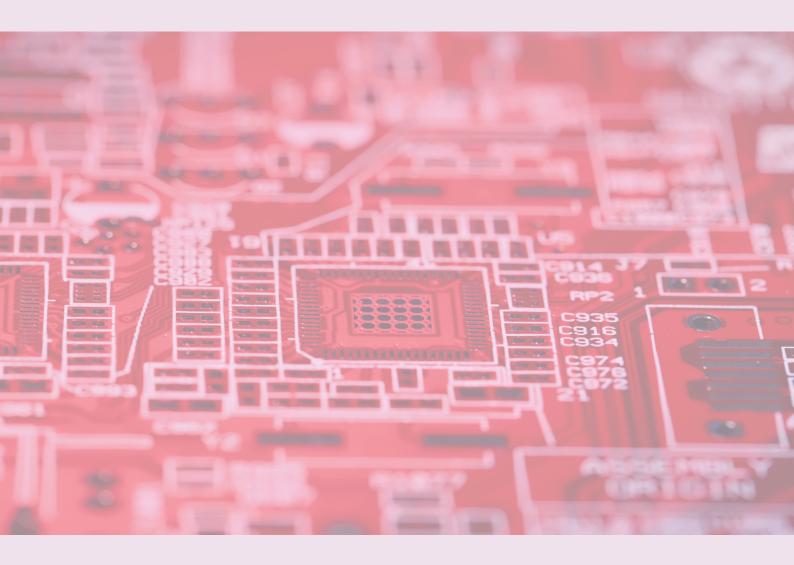
I have seen an interesting call under the European Defence Fund. Can I apply for funding?

Dual-use items are materials, fabrics, techniques, etc. which can be used for both civil and military purposes. This does not mean that you as a researcher are aiming for a military application of your research, but rather that your research or the materials you use may lend themselves to this. There is a European regulation where you will find a list of all dual-use items.

Misuse is defined as the misuse of research/research results for unethical purposes. The focus here is mainly on misuse for terrorist or criminal activities and on applications that are or can be used to violate human rights or compromise the safety of people, animals or the environment. As a researcher, you can conduct your research with the best of intentions, but that does not mean that in the wrong hands it cannot potentially turn out differently.

Thus, it involves an interplay of **legal and ethical obligations** that do not necessarily coincide completely. For example, research that does not raise particular ethical questions may still be subject to legal obligations regarding the export of dual-use technology. Conversely, a research institution may also impose ethics reviews that go beyond the export controls that follow from the legislation.

As a researcher, you are in the best position to assess the nature and severity of possible misuse. Therefore, it is primarily your personal responsibility to report this and to inform the appropriate ethics committee or contact point within your research institution and/or the funder. When in doubt, you can also seek advice from the appropriate department in your research institution.

2. Legal perspective: dual-use regulations

Definition

In summary, dual-use items are goods, software and technology which can be used for both civil and military purposes. Think, for example, of items that have applications in academia, medicine or industry, but can also be used for military purposes. These include items that can be used for the design, development, production or use of weapons (biological, chemical or nuclear) and/or the transportation of these weapons.

Article 2 of the European Dual-Use Regulation defines the term **dual-use item** as follows:

'items, including software and technology, which can be used for both civil and military purposes, and includes items which can be used for the design, development, production or use of nuclear, chemical or biological weapons or their means of delivery, including all items which can be used for both non-explosive uses and assisting in any way in the manufacture of nuclear weapons or other nuclear explosive devices'.

Importantly, it is not just about physical goods, but also software and technology. Technology refers to knowledge necessary for the development, production or use of dual-use items.

In a research context, this means that you need to consider whether

•   physical goods (e.g., machine parts, reagents...), software or technology (e.g., knowledge, in the form of reports, designs, training) are used or shared during the research which can be used for both civil and military purposes;

•   the research results (goods, software or technology) can be used for both civil and military purposes

Compulsory export licence
Overview

European legislation requires an export licence for the export of dual-use goods, software and knowledge **to countries outside the European Union**. The control system for the export of dual-use items is part of the international obligations of the EU and its Member States to ensure non-proliferation, regional peace, security and stability and respect for human rights and international humanitarian law.

Export does not only mean the physical shipping/transportation of material goods. The transfer of intangible goods (knowledge) is also considered export, for example when software or technology is shared through electronic media (e-mail, cloud, online repositories, etc.). Export can also be verbal, for example when technology is described by phone, online calls, etc.

Exceptionally, a licence is also required for export *within* the European Union when highly sensitive items are involved. These include stealth technology, cryptanalysis technology, missile guidance technology, ricin, saxitoxin and nuclear items.

Furthermore, not only exports are targeted, but also the provision of '**technical assistance**' related to dual-use items outside the EU. This comprises any form of technical support, such as instructions, advice or training in the repair, development, manufacture, assembly or maintenance of dual-use items.

To find out if an item requires a licence, you need to go through three consecutive steps. This is best done in collaboration with the appropriate department or ethics committee within your research institution (see page 28-29 for contact details). First, you check whether the item is listed in the European legislation (item screening). Next, you consider whether the country of destination might be problematic (route screening). Indeed, some countries are subject to embargoes or sanctions that may (indirectly) also affect scientific collaboration. Third, you need to identify both the end-user and the possible end-use of the item to be exported (end-use(r) screening). Finally, you check whether an exception applies that would make an export licence unnecessary after all.

When applying for an export licence, you can always turn to the government for assistance. In Flanders, this is the Flemish government's Strategic Goods Control Unit. In Brussels, this is the Licensing Unit of Brussels International. The contact point within your knowledge institution will review the file, decide if contact should be made, and conduct the discussion together with you. Each researcher is required to report within the institution when dual-use items are shared outside the EU so that a legally required licence can be applied for.

Item screening

As a first step, you check whether the items shared in the context of the research are listed in Annex I of the European Dual-Use Regulation. In this Annex I, items are listed based on their technical characteristics, regardless of the destination, end-use or end-user of the item in question.

Dual use items in Annex I are classified into categories (linked to the possible uses of the item) and sections (linked to the material nature of the item).

Article 2 of the European Dual-Use Regulation defines the term **technical assistance** as follows:

'any technical support related to repairs, development, manufacture, assembly, testing, maintenance, or any other technical service, and may take forms such as instruction, advice, training, transmission of working knowledge or skills or consulting services, including by electronic means as well as by telephone or any other verbal forms of assistance'.

If an item is listed in Annex I, sharing the item is subject to licensing, even if it is exported to a trusted partner in a friendly country. Annex I is updated annually. The most recent version of the Dual-Use Regulation (with annexes) can be found here: Dutch/English. The Regulation is several hundreds of pages long. To find out if your item is listed, it is best to scroll to the most relevant category/ies.

Please note: Publications are considered dual-use technology when they contain knowledge necessary for the development, production or use of dual-use items. When these publications are shared with an audience outside the EU, a licence is necessary regardless of the concrete purpose of the collaboration or the concrete use of the research results.

Please note: Items that do not appear in Annex I are also sometimes dual-use items when they fall under the 'catch-all clause'. See p.11 End-use and end-user screening.

Category	Section
0: Nuclear materials	A: Systems, equipment and components
1: Special materials and related equipment	B: Test, inspection and production equipment
2: Materials processing	C: Materials
3: Electronics	D: Software
4: Computers	E: Technology
5: Telecommunications and "information security"	
6: Sensors and lasers	
7: Navigation and avionics	
8: Marine	
9: Aerospace and propulsion	

Route screening

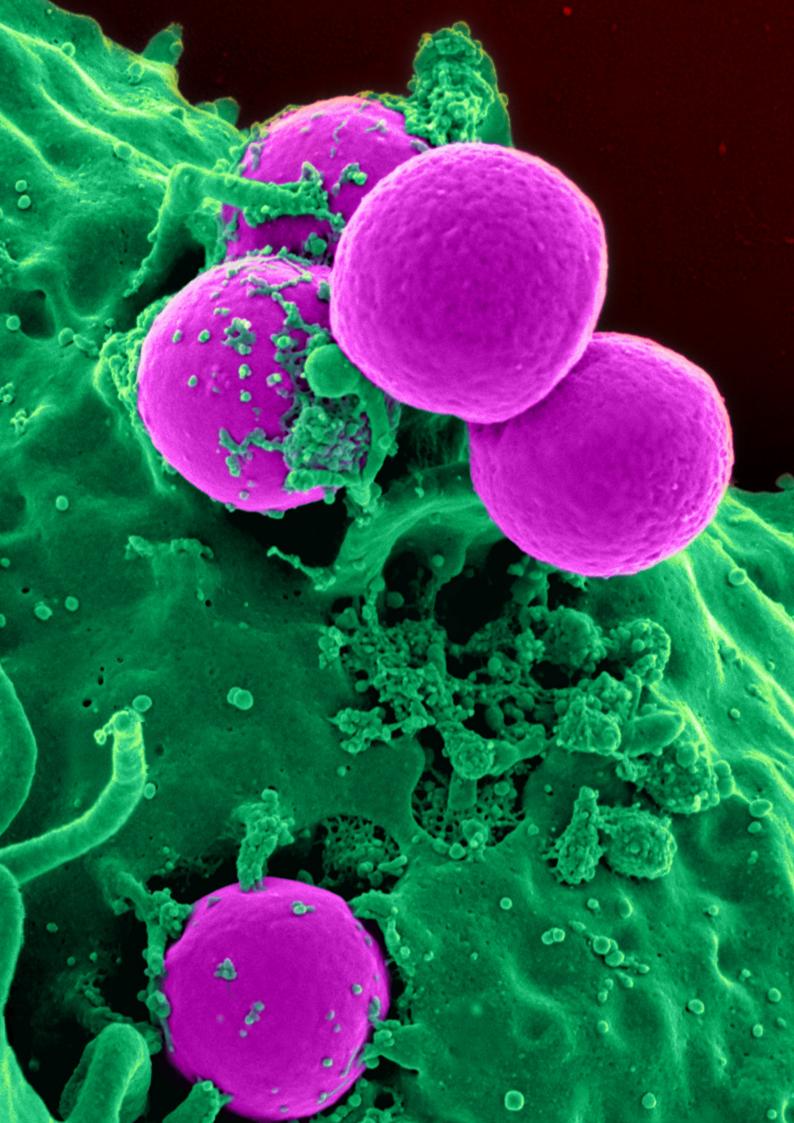# End-use and end-user screening: catch-all

As a second step, you check whether the country of final destination is subject to embargoes or sanctions that prohibit the sharing of (certain) dual-use items. This list includes Afghanistan, Iran, Ivory Coast, Yemen, Libya, North Korea, Russia, Sudan, Syria, Belarus, Zimbabwe and South Sudan. It is relatively easy to find out whether a country is subject to sanctions by using the 'EU Sanctions Map' website. Click on a country to see what sanctions are currently in place.

As a final step, you consider, for items not listed in Annex I, whether the goods, software or technology you share can be used **by the end-user**:

•   for the development, production, handling, operation, maintenance, storage, detection, identification or dissemination of chemical, biological or nuclear weapons, or for the development, production, maintenance or storage of missiles capable of delivering such weapons to their targets;

•   for military end-use, if the purchasing country or the country of destination is subject to an arms embargo (see 'EU Sanctions Map');

•   as parts or components of military products that have been illegally exported.

With regard to cyber-surveillance items, you also need to verify that the goods, software or technology cannot be used by the end-user for domestic repression or to commit serious violations of human rights or humanitarian law. Cyber-surveillance items are those *'specially designed to enable the covert surveillance of natural persons by monitoring, extracting, collecting or analysing data from information and telecommunication systems.'*

An export licence is required if the researcher was informed of such a risk, if he knew about such a risk, or if he should have known such a risk. So, as a researcher, you must inform yourself, through public sources, about the

Decontrol: exceptions to licence requirements

end-user (researcher, research institution, company, etc.). This is best done in collaboration with the appropriate department or ethics committee within your research institution.

The basis for these catch-all clauses can be found in Articles 4 and 5 of the Dual-Use Regulation.

If, in principle, an export licence is required, then you can check if there is no specific exception. If this is the case, there is 'decontrol' and therefore no export licence is required.

Dual-use **software** does not require an export licence if:

• the software is a commercial product in that (1) the software is already generally available to the public and (2) was designed for installation without substantial assistance from the supplier; or

• the software is already 'available to everyone' (open-source software). Please note: This exception applies only to software that is already open-source and is subsequently exported, not to making the software open-source itself; or

• the export is limited to the minimum 'object code' necessary for the installation, operation, maintenance (inspection) or repair of goods whose export is permitted.

The first two exceptions do not apply to software for nuclear dual-use items.

A **TRL** (**Technology Readiness Level**) is a tool to allow estimation of what stage of development a particular technology is at. The (current) TRL scale consists of nine subdivisions. The higher the TRL, the more developed the technology already is.

An adequate source can be found in Annex G of the Horizon Europe project applications. The nine possible TRLs are:

TRL 1 – Basic principles observed

TRL 2 – Technology concept formulated

TRL 3 – Experimental proof of concept

TRL 4 – Technology validated in lab

TRL 5 – Technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)

TRL 6 – Technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)

TRL 7 – System prototype demonstration in operational environment

TRL 8 – System complete and qualified

TRL 9 – Actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

Sharing dual-use **technology** does not require a licence if it concerns fundamental scientific research. This is experimental or theoretical research which is done primarily to obtain new knowledge about the fundamental principles of phenomena or observable facts, and is not primarily directed towards any particular practical purpose or goal. Whether you are engaging in fundamental research is decided in part on the basis of the TRL that the technology meets.

If it concerns technology with a TRL of 1 or 2, then fundamental scientific research is assumed. Research on technology with a TRL of 3 or 4 must be evaluated case by case by taking into account, among other things, the source of funding of the research (government grants, private sector funding, etc.), the research programme (VLAIO, Horizon Europe, ERC, etc.), the arrangement regarding the ownership of the results (is the ownership transferred to the funder, is there shared ownership, does the research institution retain the ownership rights?), the type of results expected (new knowledge or building on existing knowledge). With a TRL higher than 4, the research is never considered to be of a fundamental nature.

Sharing dual-use **technology** also does not require an export licence if it is already 'available to all' or freely commercially available (e.g. through web lectures, publications if they are accessible to all, possibly against payment). Copyright restrictions are not relevant. Please note: again, this is only about the further sharing of information that has already been published. Publishing technology for the first time may be subject to licensing. Finally, the information that must be provided to apply for a patent is not subject to licensing either.

Special considerations when sharing dual-use items within the EU with persons temporarily residing in the EU

In exceptional cases, you will need an export licence to share knowledge about dual-use items within the European Union, even within the premises of your research institution. This is the case when you share knowledge with non-EU citizens who are only 'temporarily' residing in the territory of the European Union and when you know that this knowledge can be used for (missiles for) nuclear, chemical or biological weapons, for military purposes in a country subject to an arms embargo, or for military goods that have been illegally exported. This situation is rare, but it demonstrates the importance of informing yourself about the identity and intentions of the individuals with whom you share dual-use knowledge.

Special considerations for research with a military purpose

Special considerations regarding US law

Some research programmes impose special research conditions. For example, for research funded by Horizon Europe (HE) and Digital Europe (DEP), an exclusive focus on civil use is required. However, this does not preclude the participation of military partners or the development of generic technology, products or knowledge that can also be used for military purposes.

Then there is the European Defence Fund (EDF), Defence-related Research Action (DEFRA) and Belgian and Flemish funding for research on items specially designed or adapted for military use. Some examples of military items include: fire control and thermal imaging equipment, demining drones, weapons, ammunition, war vehicles, manned and unmanned warplanes, warships and war submarines, some chemicals such as nerve gases, armour, ballistic protection, explosives and propellants.

To share military items (listed on the Common Military List of the European Union), you need a specific export licence. For this type of research, contact the relevant department or ethics committee within your own research institution.

The United States Export Administration Regulation (EAR) applies when you share controlled American technology. The EAR has extraterritorial effect. This means that items manufactured outside the US are also considered by the US to be American technology (i) if they incorporate items of American origin, or (ii) if they are developed directly from items of American origin ('foreign direct product rule').

In general, it can be said that re-export of controlled 'US' items (or items derived therefrom) may only take place with an export licence from the US government. If the partner you are working with (even within the EU!) is listed on the US Entity List, sharing the item will often be difficult. Contact the relevant department or ethics committee within your own research institution if you wish to share controlled American items.

3.   Ethical perspective

In addition to any legal obligations, you should also consider whether there are any ethical issues associated with the research. These ethical aspects may overlap with the legal ones but are not identical.

Ethical reflection on dual use of research and military-oriented research

The Flemish universities primarily conduct research focused on civilian applications. Nevertheless, research that is also militarily useful (dual use) or has a military focus may also take place. Think, for example, of collaborations with the Royal Military Academy or projects under the Defence-related Research Action (DEFRA, funded by the Ministry of Defence) and the European Defence Fund (EDF, funded by the European Union) that launch military-oriented research calls.

As a researcher, in principle, you are free to participate in projects whose research results can also be militarily useful, within the ethics framework of your research institution. Thus, participation in such projects requires personal ethical reflection based on your own values and standards. In addition, you must also consider the policies of your own institution and the conditions of the research funder. For example, Horizon Europe has an exclusive focus on civil applications (see above). Contact the ethics committee on dual use and misuse (and military use) associated with your research institution, see p. 28-29.

Ethical reflection on misuse of research

The ethical reflection should consider the risk of misuse of the research. Misuse refers to the use of the research or research results for unethical purposes. Think, for example, of artificial intelligence technology that can (unintentionally) lead to discrimination or the curtailment of civil rights, research into vaccines where the knowledge is misused to spread viruses, or interrogation techniques that can be used for domestic repression.

In the wrong hands, research results can cause serious harm to people, animals and the environment, even when the research is conducted with the best of intentions. This risk arises in particular with technology or knowledge (1) which terrorists or criminals may misuse, or (2) which may contribute to violations of human rights or is detrimental to the security of individuals, groups, or countries.

Thus, in the ethical reflection on misuse, it is not only important to look at the research topic, but you should also consider whether the funder or the research partners could potentially use the results for unethical purposes.

While misuse of research must be distinguished from dual-use research, it is clear that there is also some overlap. Research that is useful for both civil and military applications is also (more) prone to misuse. Thus, the risk of misuse of research results is a cross-cutting issue. For applications under Horizon Europe, the question of potential misuse of research results is asked in both the Ethics Section and the Security Section.

Research that is most prone to misuse is research that:

• generates knowledge, materials, methods, technologies that can be used in the context of crime or terrorism;

• could result in chemical, biological, radiological or nuclear weapons and their means of delivery;

• is aimed at the development of surveillance technology that could curtail human rights or citizens' freedom;

• refers to minorities or vulnerable groups or develops social, behavioural or genetic profiling technologies that could be misused to stigmatise, discriminate or intimidate people.

In this reflection, it is good to keep in mind at least the following ethical principles.

First, the focus is on the principle of damage control. Estimate the risk of the design and results of your particular research being misused. Pay attention to the funder, partners and the end-users you have in mind.

Second, the principle of fairness is also important. You must prevent your research from leading to unfair bias, discrimination, stigmatisation, or physical harm to individuals and/or populations. Pre-eminently, attention

must be paid to human rights. The application of your research must not result in the violation of human rights. Likewise, the partner you work with must not be directly or indirectly involved in serious human rights violations. You can use the VLIR human rights test to ask some critical questions to determine whether your research or the research partners are respecting these human rights. Do you have questions about this or have you encountered potential problems? Then contact the contact point for human rights of your research institution, see p. 28-29.

Finally, the principle of due diligence is also something to keep in mind. As a researcher, you are responsible for the careful handling of your research data. Especially when it comes to sensitive data related to applications, technologies and information useful for military purposes, you need to determine before you start your research how you will secure your data and how you will limit access.

Ethical obligations

With these principles in mind, you can ask a number of questions, and depending on the answer to these questions, also take a number of measures to mitigate the risks.

First, you need to consider whether there are risks of direct or indirect damage. Guiding questions include the following:

• Could the research results be used for other (unethical) purposes?

• Can the research results cause harm to humans, animals, or the environment (whether or not after modification or enhancement)?

• What can happen if the research results end up in the wrong hands?

• Can the research results lead to a violation of human rights?

• Is the partner institution trustworthy, or is it involved in the development of technology used for human rights violations or military technology?

A second step is to anticipate the identified risks and mitigate them as much as possible during and after the research. Possible measures include the following:

• imposing physical security measures (e.g. access restrictions, use of a safe) or designating certain research results as confidential. It is also recommended to check, based on the available sources, both for the potential partner researcher and partner institution, whether any alarm bells are ringing (e.g. in the areas of human rights, research, affiliation with a military government);

• providing mandatory safety training for research staff, or designating an independent ethics adviser or ethics board associated with the research project (separate from the institutional research committee);

• adapting the research design, for example by using dummy data;

• limiting the dissemination of research results, for example by publishing only part of the research results.

Here as well, each researcher has his or her own responsibility. If there is a significant risk of misuse, you have an obligation to report to the relevant ethics committee within your institution. See next section.

4.   Reporting obligation of the researcher

The export of dual-use items (section 2), dual use of research, military-oriented research, and research with a risk of misuse (section 3) are associated with special legal and/or ethical obligations. The researcher also has a personal responsibility and has to meet the obligations listed below.

First of all, as a researcher, you need to determine if the research involves dual-use items. Check both the research results and the resources used. Then, see if you would need an export licence if you were to share the items outside the EU, or if an exception applies. In addition, as a researcher, you must also consider the risk of misuse of your research and what measures you can take to reduce this risk.

All of these steps fit within the broader concept of 'knowledge security', which involves unwanted transfer of sensitive knowledge and technology, covert influence, and ethical issues that may come into play when working with individuals and institutions involved in fundamental rights violations. (This is based on the definition of knowledge security used by the Dutch government.)

If you conclude that an export licence for dual-use items is required, and/or that there is a dual use, military use or a real risk of misuse of research, then there is a reporting obligation to the appropriate department or ethics committee within your research institution (see Chapter 6 for contact information). This also applies to applications (research activities and/or partners) that appear to be potentially problematic in terms of human rights (VLIR human rights test). In cooperation with the appropriate contact person, department or ethics committee, an export licence must be applied for and/or measures must be taken to reduce the risk of misuse.

In summary, reporting is required when:

•   the research funder (e.g., EDF, FWO, IOF, BOF) or scientific journal requests ethics approval because you are conducting dual-use or military-oriented research, or because there is a significant risk of later misuse;

•   your project proposal comprises research activities and/or partners that appear to be potentially problematic in terms of human rights (VLIR human rights test);

•   your project proposal includes a collaboration with military purposes (e.g. in collaboration with the Ministry of Defence, the Royal Military Academy, the US Department of Defense, AFOSR, DARPA or (private) institutions/companies developing defence technology, etc.);

•   your project requires an export licence.

When in doubt, you can seek advice from the appropriate department in your research institution.

5. Some examples

To determine if a product is a dual-use item, check whether the technical characteristics of your items match the descriptions in Annex I of the European Dual-Use Regulation.

Examples of items on the dual-use list (depending on the specific technical parameters):

materials, chemicals, microorganisms and toxins (structural, chemical, biological); EU Dual-Use List Category 1:

Aluminum, filamentary materials, graphite, zirconium, phosphorus compounds, human pathogens, zoonoses and toxins (Viruses: Dengue, Ebola, Variola (smallpox) - *Rickettsiae*: *Coxiella burnetii* (Q fever) - Bacteria: *Bacillus anthracis* (anthrax), *Yersinia pestis* (plague) - Toxins: *Botulinum* toxins, Ricin, Cholera);

material processing; EU Dual-Use List Category 2:

Filament winding machines, machine tools, isostatic presses, remote manipulators, furnaces, pressure transducers, chemical reaction vessels, heat exchangers, multi-walled pipe, fermenters; electronics, sensors and lasers, integrated circuits, A/D converters, capacitors, frequency changers, detonators, mass spectrometers, electronic cameras.

Example of a dual-use item not related to the development and production of weapons of mass destruction (taken from the User Guide on Strategic Goods and Services in the Netherlands: https://www.government.nl/documents/directives/2012/04/12/user-guide-on-strategic-goods-and-services):

Image intensifier tubes are used in military night vision equipment as well as in security or (certain) television cameras. Depending on the design, the tubes are labelled as military goods, dual-use goods, or not subject to a licence. Because it is not the use, but the design that is decisive, it can happen that military tubes are actually used for civilian purposes and that tubes that fall under the dual-use list (and in practice will be slightly inferior in quality) are nevertheless built into night vision equipment for the military. In many cases this is not a problem, but sometimes it is not desirable for foreign armed forces to receive equipment with Dutch dual-use components – think, for example, of the armed forces of countries subject to an arms embargo. Through the export licence requirement, it can be enforced that the foreign buyer only processes the tubes in equipment for countries for which the Netherlands would also license direct delivery.
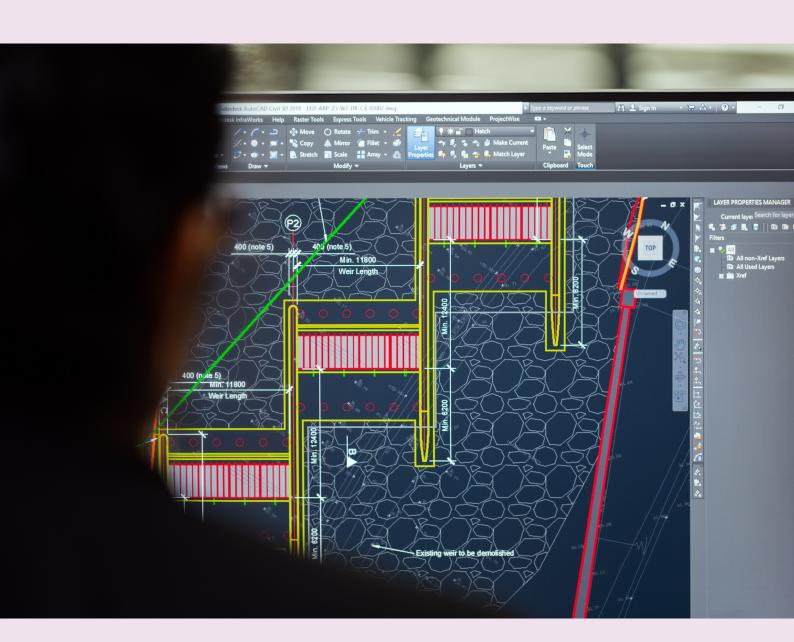
Example of a dual-use item related to the development and production of weapons of mass destruction:

Certain flame retardants, which are commonly used in the construction or plastics industries, can be used to produce toxic gases by combining or reacting with other chemicals. The Netherlands has no objection to the civilian use of flame retardants. However, through the export licence requirement, the Ministry of Foreign Affairs wants to ensure that the flame retardants are used only for the specified civilian purpose. The more sensitive the country, the more stringent the required safeguards are. This ranges from a simple end-user statement to agreements on inspections of the plant where the particular flame retardant is processed. If the Ministry of Foreign Affairs believes that there are insufficient safeguards for civilian end use, the licence application will be denied.

Examples of experiments with high potential for misuse in biology and medicine are those that increase the capacity to:

• manipulate pathogenicity, virulence, host specificity, transmissibility, drug resistance, or the ability to overcome host immunity to pathogens;

• synthesize pathogens and toxins without using microorganisms in culture or natural sources;

• develop new mechanisms to spread biological agents and toxins.

Research on metal alloys, composites, semiconductor electronics, thermal cameras, encryption and Internet monitoring devices, intrusion software, pathogens and toxins potentially touches on listed (and therefore subject to licensing) physical goods (groups A, B, C), software (group D), or technology (group E). Other examples include the transfer of a hyperspectral camera, a bioculture vessel, a high-speed camera, listed reagents, LiDAR, quantum, AI, etc.

6. Would you like support or more information?

Contact points for dual use, misuse and human rights at the Flemish research institutions

- **University of Antwerp**

dual use and misuse: dualuse@uantwerpen.be
+32 3 265 90 63

https://www.uantwerpen.be/en/research/management/assessment-ethics-integrity/ethics-screening/ethics-committee-du/ (Ethics committee for Science and Technology)

human rights: humanrights@uantwerpen.be
+32 3 265 90 63

https://www.uantwerpen.be/en/research/management/assessment-ethics-integrity/human-rights/

- **Ghent University**

dual use and misuse: meldpuntDU@ugent.be
+32 9 264 95 29

https://www.ugent.be/intranet/en/research/ethics/dual-use

human rights: mensenrechtenbeleid@ugent.be
+32 9 264 95 29

https://www.ugent.be/en/ghentuniv/mission/human-rights

- **KU Leuven**

ethical aspects of dual use and misuse: ecdmm@kuleuven.be

export control: legal@kuleuven.be (central services) or lrd.export@kuleuven.be (LRD)

https://set.kuleuven.be/ethicsatarenberg/expertise-center-ethics-arenberg-1/copy_of_dual-use/dual-use

human rights: humanrights@kuleuven.be

- **Hasselt University**

dual use and misuse: dualuse@uhasselt.be

human rights: mensenrechten@uhasselt.be and

https://www.uhasselt.be/en/about-hasselt-university/policies/integrity-policy

- **VUB**

DMD@vub.be

https://www.vub.be/en/our-research/policy-and-structure/ethics-committees-data-protection-office#paragraph--id--84478

human rights, ethics and international cooperation: https://www.vub.be/en/our-research/policy-and-structure/ethics-committees-data-protection-office#paragraph--id--84492

- **imec**

ExportControl@imec.be

Export control compliance | homepage (sharepoint.com)

- **Vlaams Instituut voor Biotechnologie (VIB)**

dualuse@vib.be
+32 9 244 66 11

- **Institute of Tropical Medicine**

dualuse@itg.be

- **VITO**

dualuse@vito.be

- **FlandersMake**

info@flandersmake.be
+32 11 790 590

National resources

European resources

- Website of the Flemish government agency for export control on strategic goods: http://www.fdfa.be/csg

- Website of the Brussels government agency for export control on strategic goods: https://international.brussels/who-are-we/licensing-office-old/?lang=en

- Belgium's website of Foreign Affairs, Foreign Trade and Development Cooperation on export control on strategic goods: https://diplomatie.belgium.be/en/policy/policy-areas/peace-and-security/disarmament-and-non-proliferation/export-control-strategic

- Guidelines of the German Auditor Oversight Body (BAFA): https://www.bafa.de/EN/Foreign_Trade/Export_Control/export_control_node.html

- General information: http://ec.europa.eu/trade/import-and-export-rules/export-from-eu/dual-use-controls

- Guidelines for compliance in academia: http://data.europa.eu/eli/reco/2021/1700/oj

- Guidelines on research and dual use: https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide_research-dual-use_en.pdf

- Guidelines on research and misuse: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/guidance-note-potential-misuse-of-research-results_he_en.pdf

- Guidelines on research with a purely civilian approach: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/guidance-note-research-focusing-exclusively-on-civil-applications_he_en.pdf

- Tool for European Sanctions: https://www.sanctionsmap.eu/

American resources

Academic resources and other tools with explanations

•	EAR (Export Administration Regulation): https://www.bis.doc.gov/index.php/regulations/export-administration-regulations-ear

•	ITAR (International Traffic in Arms Regulations): https://www.pmddtc.state.gov/ddtc

•	Office of Foreign Assets Controls: https://www.treasury.gov/resource-center/sanctions

•	King's College London, Centre for Science & Security Studies: https://www.kcl.ac.uk/csss/research/strategic-trade/controls

•	The website of the Centre for Science & Security Studies of King's College London mentions interesting training initiatives: https://www.kcl.ac.uk/csss/research/strategic-trade/controls

•	Leopoldina, the German Academy of Sciences: https://www.leopoldina.org/en/about-us/cooperations/joint-committee-on-dual-use

•	Case Studies in Dual-use Biological Research, an 8-module resource that has been developed by the Federation of American Scientists: http://www.fas.org/biosecurity/education/dualuse

•	The European Commission's TIM Dual-Use tool: https://knowledge4policy.ec.europa.eu/text-mining/tim-dual-use_en

7. Flowchart

Key

A. This Military List is available here.
B. This list of dual-use items is available in Annex I here.
C. In this context basic scientific research is understood to mean 'experimental or theoretical work undertaken principally to acquire new knowledge of the fundamental principles of phenomena or observable facts, not primarily directed towards a specific practical aim or objective'.
D. Exceptions are listed in Annex IV here.

Does your research concern technology that is on the Military List or that is specifically intended for military purposes? (See point A of the key)

yes → Consult the Dual Use Contact Point

no ↓

Will your research generate software or technology which is specified on the list of dual-use items? (See point B of the key)

no → Is the end-user a sensitive country or actor? OR Is the end-user defence-related and subject to an arms embargo?

yes ↓

yes → Authorisation requirement

no → No authorisation requirement Check the Misuse guidelines!

Will you perform basic scientific research? (See point C of the key)

yes → No authorisation requirement Check the Misuse guidelines!

no → Will you be using software or technology which is in the public domain or generally available to everyone?

yes → No authorisation requirement Check the Misuse guidelines!

no ↓

Will the knowledge, goods or software be exported to a non-EU country? (See point D of the key)

no → No authorisation requirement Check the Misuse guidelines!

yes → Does a general export authorisation apply to this country?

yes → Authorisation requirement AND simplified registration requirement

no → Authorisation requirement