

School of Informatics

Export Control Due Diligence

Introduction

You may think you never export anything but it's a surprisingly broad concept. Exporting isn't just shipping packages overseas: unsecured electronic transfers, whether by email or upload to a website/repository, file sharing and allowing downloads from overseas are also exports; taking material overseas on a laptop or giving someone else material to take overseas is also exporting, even if the material isn't going to be shared with anyone else; technical discussions held, e.g. from your office via phone/Zoom/Skype with someone overseas could also be exporting. Sending project deliverables to an overseas project sponsor/partner; submitting a publication to an overseas conference review committee and **uploading software to an overseas repository without unrestricted public access** are all examples of exporting. Even accessing your work email from an overseas location is technically exporting.

The UK Govt. (like most governments) want to control the export of 'sensitive' materials and technology. This concept is also rather broadly construed - a 300 page list of controlled items is published and updated periodically - but the focus is on material/technology which could help 'the wrong people' develop Weapons of Mass Destruction (WMD's), modern weapons systems in general, or things which facilitate acts of terrorism. This includes a large number of 'dual-use' items, whose primary purpose is not military/weapons related but which could play a role in the development of such systems, e.g. centrifuge technology developed for medical research can also be used in the uranium enrichment process.

In most cases, the things you wish to export will not be controlled, but for some categories of material/technology and/or some destinations, exporting is simply illegal and you could be subject to criminal prosecution if caught doing it. For controlled categories, exporting would require a licence. The University's Research Office will apply for any required licences, but the due diligence process to understand if a licence might be required is one with which you must personally engage. The School's Export Control Champion and the Edinburgh Research Office can provide assistance, but cannot complete the due diligence on your behalf – your engagement is required because detailed knowledge of the relevant research outputs is an essential ingredient in the process. If your research is in the areas of robotics, computer hardware, sensors, signal processing, quantum computing or information security/cyber security, be aware that control classifications do apply in these areas. Even if your research is in a different area, control classifications may still apply. The Informatics Export Control Due Diligence process includes a topical checklist, but it is not definitive. A link to the current Export Control Lists is also provided - if you are working in an area where export controls may apply, it is ultimately your responsibility to know about it.

Controlled exports also include some transfers of material within the UK, if you are aware or are informed they are related to WMD's.

US Export Control laws operate extra territorially and can restrict access to controlled technologies to nationals or dual nationals of certain countries – even if that access occurs here in the UK.

If you are potentially exporting hardware, software, data or technical information – whether as Principal Investigator of a research collaboration, supervisor of a studentship or student project,

consultant to industry or simply a researcher wishing to collaborate with or academics or students overseas, you need to be aware of your **personal responsibility** for export control compliance and you need to ensure that any staff/students working under you are also aware of their responsibility for it.

The Informatics Export Control Due Diligence process is in place to ensure that all staff and students who might be involved in exporting materials are aware of their personal responsibility for compliance with the University's policy and procedures for Export Control and Sanctions, which reflect UK legal requirements. It also aims to signpost the guidance and sources of help available.

The UK Govt. sanctions regulations cover certain individuals, organisations, and regimes and can restrict or proscribe financial exchanges or supply of certain classes of technology.

Non-compliance with export control and sanctions legislation is a serious criminal offence and can result in very significant financial penalties or custodial sentences of up to 10 years for the individuals concerned, as well as constituting a disciplinary offence in University terms. Please be sure you understand this point – the regulations apply to the person doing the exporting, not merely their employer, i.e. to individual staff and/or students, not merely to the University.

Before starting this due diligence process, and *definitely before exporting anything* please, be sure to have read:

[The University of Edinburgh Export Control and Sanctions Policy](#)

[University of Edinburgh Export Control and Sanctions Compliance Procedure](#)

The Edinburgh Research Office guidance pages on Export Control and Sanctions are [here](#).

The UK Govt. guidelines on export controls applying to academic research are here:

<https://www.gov.uk/guidance/export-controls-applying-to-academic-research>

Three relevant case studies are presented here:

<https://www.gov.uk/government/case-studies/export-controls-on-academic-research>

If you would like to talk to someone about Export Control and Sanctions, please contact [the School's Export Control Champion](#).

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This online process is intended to cover the main issues and is designed as far as possible for convenience, but it may lead to a longer, more exhaustive process, assisted by an academic colleague and the School's Export Control champion. It is structured as follows:

- Am I exporting?
- Sanctions
- End-use Control
- Exemptions
- Topical checklist
- US export control regulations
- Sign-off

<'Next' button>

I. Case details

Project type:	Choose an item.
Project title (if any):	
Project field/area:	
Your name:	
Project industry sponsor/partner (if any):	
Primary export destination* (or 'publish'/'open source'):	
Secondary export destination(s)† (if any):	

* The country where your recipient is located. For example, if you are sending material to Samsung Electronics Co. Ltd. and dealing with their main office, the location would be 'Republic of Korea'; if you are sending a draft publication to a US conference review committee, the location would be 'USA'.

† If your recipient is located in the UK, but works for a UK subsidiary of a foreign-owned company/organisation and you know or suspect that the recipient will share whatever you send to them with colleagues located overseas, please enter those overseas locations. For example, if you plan to send deliverables to people in the UK working for 'Huawei Technologies R&D UK Ltd' but you know colleagues from Shenzhen and Huawei's Zurich Research Center are engaged in their side of the project, you should write 'China, Switzerland' as secondary export destinations. We have an obligation to inform UK based project partners if, in our view, an export licence would be required for them to export our deliverables.

<'Next' button>

2. Am I exporting?

The range of material *potentially* subject to Export Control includes hardware, software, data and any kind of technical information, including research results, papers, abstracts, designs, even proposals or project plans. Please construe the concept broadly. The range of activities which constitute exporting is also broad. Please consider the questions below. Although they are all phrased "I wish to..." please consider this to include "I wish to arrange for someone else to..."

Also, the questions below all refer to "an overseas location". If your intended recipient is in the UK, but you suspect they will send or take the material you wish to share with them to an overseas location (e.g. if you are dealing with a UK company whose parent company is overseas), please answer the questions as if your recipient were already in an overseas location.

If you can answer 'no' to all of the questions below, you are not exporting and no further export control due diligence is required.

I wish to ship/send physical materials (inc. documents) to an overseas location. No Yes

I wish to take physical materials (inc. documents) with me to an overseas location.† No Yes

I wish to take files comprising software, data or technical information to an overseas location on a laptop, or other portable device/storage medium.†* No Yes

I wish to access software, data or technical information stored on a UK based file system, from an overseas location, via remote login, intranet, VPN etc.[†] No Yes

I wish to send email^{**}/chat messages containing source code, data, or technical information (within the body or as attached files^{*}) to a recipient in an overseas location. No Yes

I wish to discuss/describe/present technical information, via telephone, videoconference, Skype/Zoom, screen-sharing etc. with/to someone in an overseas location. No Yes

I wish to send an audio/video recording or screenshots of a discussion/presentation of technical information to someone in an overseas location. No Yes

I wish to upload files^{*} to a (cloud) server/repository for **restricted** access by one or more individuals in an overseas location. (The physical location of the server doesn't matter, that of the recipients does.) No Yes

I wish to upload files^{*} to a (cloud) server/repository for **unrestricted public** access. No Yes

[†] even just for personal use, with no intention to disseminate or share them with anyone.

^{*}The encryption status of any files/data above has no bearing on whether or not you are exporting.

^{**}even, for example, to a .co.uk or .org.uk email address if the recipient accesses it from overseas.

<'Next' button, inactive if no No/Yes buttons selected>

<if all statements have a 'no' response, save and exit>

3. End-Use Controls

You must not export any items if you suspect, or have been informed, that the items might be used to make chemical, biological or nuclear Weapons of Mass Destruction (WMD) or for other military purposes. This includes:

- brokering of controlled dual use items intended for WMD purposes
- transfer of software or technology for a WMD purpose, within the UK, out of the UK or from outside of the UK to another country
- the provision of technical assistance for a WMD purpose, out of the UK or from outside of the UK to another country

If you suspect that the material you wish to export could be used in the development of WMDs, or for other military purposes, please provide details below and your Export Control champion will be in touch to discuss it.

check if applicable

The material I wish to export has a potential WMD or military end use.

Please provide details below:

[Click here to enter text.](#)

<'Next' button>

<if check-box checked / text entered, save, notify Export Control champion, and exit>

4. Exemptions

Export controls do not apply to technology or software “in the public domain” or which are “basic scientific research”, but these terms have specific meanings:

“in the public domain”

applies to material which is **already** in the public domain, however the intention to, for example, publish a paper containing controlled technology does not in itself place that information in the public domain. Any collaboration or sharing of controlled technology overseas, such as through a peer review before publication of a technical paper or the results of research and development, would require a licence.

In general, to qualify for exemption “in the public domain” any software/data/technical information must be **“available without restriction upon further dissemination”** (other than copyright).

The exemption **does** apply to uploading software/data/technical information to a repository, e.g. Github, **provided** the material is available for **unrestricted public access**. However, private exchanges of such material, e.g. via email with overseas project collaborators, **prior to** it being made available for unrestricted public access, **do not** benefit from this exemption.

If you are contacted by an overseas user of software/data/technical information you have open sourced, with feedback, questions, requests for information etc., be aware that any private exchange or dialog between you will **not** benefit from the ‘public domain’ exemption and could be subject to export control.

The ‘public domain’ exemption **does** apply to private transfers to an overseas person of material sourced from a public repository, e.g. Github, **provided** the material is available for **unrestricted public access** via the repository.

“basic scientific research”

To qualify for exemption as “basic scientific research”, the research giving rise to the material must be **“experimental or theoretical work undertaken principally to acquire knowledge of the fundamental principles or phenomena or observable facts and not primarily directed towards a specific practical aim or objective”**.

This exemption only applies to controlled dual-use technologies. It does not apply where there are end-use, end-user or destination concerns. By definition military listed technology is for a specific application, and therefore is not basic scientific research.

Most industry sponsored research will not qualify for this exemption as it is likely, to at least some extent, to be applied research with 'practical aims or objectives' as described above. For grant funded research, a judgement call is required as to whether the work is "primarily directed" towards a theoretical or practical aim, but the nature/terms of the funding programme should give some guidance.

If you wish to claim either exemption, please check the box and provide details below.

check if applicable

The material I wish to export is all "in the public domain" as described above.

Please explain how the material you wish to export fits this exemption:

[Click here to enter text.](#)

The material I wish to export is all "basic scientific research" as described above.

Please explain how the material you wish to export fits this exemption:

[Click here to enter text.](#)

<'Next' button>

<if either check-box checked / text entered, go to section 7>

5. Sanctions

The UK Sanctions policy includes trade restrictions in relation to certain countries, financial sanctions against some individuals/organisations/governments and some thematic sanction regimes.

Please consult the current list of [countries subject to arms embargo, trade sanctions and other trade restrictions](#). Exports of any controlled goods or technology to these destinations may be prohibited or require a licence.

check if applicable

The country to which I wish to export is listed on the UK Govt. web page "Trade sanctions, arms embargoes, and other trade restrictions"

Financial sanctions are enforced through the HM Treasury and can take various forms, but the most relevant for our purposes is an asset freeze, which effectively prohibits any form of business or collaboration with a 'Denied Person' (which can be an individual or an organisation). HM Treasury's guidance on financial sanctions is available here:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/961516/General_Guidance_-_UK_Financial_Sanctions.pdf

HM Treasury provides a search interface for Denied Persons here:

<https://sanctionssearch.ofsi.hmtreasury.gov.uk/>

check if applicable

The individual or company/organisation to which I wish to export matches an
Entry on the HM Treasury Financial Sanctions Search list

<'Next' button>

<if either check-box checked save, notify Export Control champion, and
exit>

6. Export Control Lists – topical checklist

The topical checklist has been compiled from the UK Govt. Consolidated Strategic Export Control Lists, with the intention of highlighting categories of controlled materials or technologies most likely to be relevant for Informatics researchers (as of April 2021). The topics are, in some cases, quite broad and a 'Yes' response will trigger a more detailed set of sub-topics to consider. A 'Yes' response to any topic or sub-topic does not mean that an export licence will definitely be required, it simply means that you will need to do more detailed checking of the Export Control lists along with the School's Export Control Champion and an independent academic's views may also be sought. Similarly, a 'No' response to every topic does not mean that an export licence will definitely not be required. If you are working in a new area for Informatics, it is possible this area has not been considered during compilation of the checklist. Either way, each researcher should ideally know the export control classification(s) – or the closest classification(s) which apply to their area of research. A link to the current Export Control List is provided below the checklist.

Does the material you wish to export relate to any of the categories below, or have the potential to be used in development of any of the items listed below? (Please check all applicable items.)

1. weapons, weapon systems or related components/software/technology?

This category includes:

- targeting or guidance systems
 - payload delivery
- No Yes

2. aircraft, UAVs, space launch vehicles or related components/software/technology?

This category includes:

- air traffic control systems
 - flight control systems
- No Yes

3. boats, submarines, UUVs, other marine vessels, or related components/software/technology?

This category includes:

- control systems for boats/UUVs/other marine vessels
 - sonar, hydrophones, marine acoustic systems
 - marine acoustic data processing
- No Yes

4. equipment/systems for measurement or testing? No Yes

5. robots, robotic systems or related components/software/technology? No Yes

6. signal processing, or related components/software/technology: No Yes

7. computer systems or related hardware/components as follows: No Yes

8. telecommunication or IP networks or related software/technology? No Yes

9. systems for the control or delivery of “intrusion software”? No Yes

10. information security systems of any type?

This category includes:

- systems to measure/evaluate information security
- systems to defeat information security No Yes

11. cryptography and related areas?

This category includes:

- quantum cryptography, QKD etc.
- cryptanalytics No Yes

12. navigation, direction finding and tracking systems?

This category includes:

- radar systems
- satellite navigation systems and related data No Yes

13. sensors, sensor data, inc. related data processing? No Yes

If the things you wish to export are not covered in the topical checklist, but you suspect they do comprise or relate to controlled technologies, please (optionally) consult the full lists and (required) discuss the matter with the School’s Export Control Champion. The current full Export Control List (December 2020) may be found here:

<https://www.gov.uk/government/publications/uk-strategic-export-control-lists-the-consolidated-list-of-strategic-military-and-dual-use-items-that-require-export-authorisation>

check if applicable

The material I wish to export may relate to a controlled category, but is not covered in the topical checklist

Please summarise the material you wish to export in the box below:

Click here to enter text.

<‘Next’ button>

<if check-box checked and text entered, save, notify Export Control champion, and exit>

<if statement 5 has a ‘yes’ response, goto section 5(a)>

<if statement 6 has a ‘yes’ response, goto section 6(a)>

<if statement 7 has a ‘yes’ response, goto section 7(a)>

<if statement 8 has a ‘yes’ response, goto section 8(a)>

<if statement 13 has a 'yes' response, goto section 13(a)>

<if any statement has a 'yes' response, save, notify Export Control champion, and exit>

Section 5(a)-----

Does the material you wish to export relate to: "Robots", "robot" controllers/control systems and "robot" "end-effectors" which:

- are specially designed for military use; No Yes
- incorporate means of protecting hydraulic lines against externally induced punctures and designed to use hydraulic fluids with flash points higher than 839 K (566°C) No Yes
- are specially designed or rated for operating in an electro-magnetic pulse (EMP) environment; No Yes
- are specially designed to comply with national safety standards applicable to potentially explosive munitions environments; No Yes
- are specially designed or rated as radiation-hardened to withstand a total radiation dose greater than 5×10^3 Gy (silicon) without operational degradation No Yes
- are specially designed to operate at altitudes exceeding 30 000 m. No Yes
- are specially designed to comply with national safety standards applicable to handling high explosives (for example, meeting electrical code ratings for high explosives); No Yes

Does the material you wish to export relate to "Robots" specially designed for underwater use, controlled by using a dedicated computer and having any of the following?:

- control systems using sensor information on force or torque applied to an external object, distance to an external object, or tactile sense between the "robot" and an external object; No Yes
- the ability to exert a force of 250 N or more or a torque of 250 Nm or more and using titanium based alloys or "composite" "fibrous or filamentary materials" in their structural members; No Yes

<'Next' button>

<if all 'no' responses, reset previous 'yes'>

<return>

Section 6(a)-----

Does the hardware, software, data or technology you wish to export relate to:

- optical integrated circuits? No Yes
- marine acoustic devices/applications/data processing? No Yes
- radio frequency signal data? No Yes
- DAC or ADC? No Yes
- voice/speech data coding? No Yes
- focal plane arrays/related data? No Yes
- radar systems/related data? No Yes

<'Next' button>

<if all 'no' responses, reset previous 'yes'>

<return>

Section 7(a)-----

Does the hardware, software, data or technology you wish to export relate to:

- microprocessors? No Yes
- programmable logic devices, FPGA's etc.? No Yes
- neural network integrated circuits? i.e. silicon implementations of neural networks? No Yes
- high performance systems (> 15 TFLOPS)? No Yes
- systolic array computers/related components? No Yes
- neural computers/related components? No Yes
- optical computers/related components? No Yes

<'Next' button>

<if all 'no' responses, reset previous 'yes'>

<return>

Section 8(a)-----

Does the hardware, software, data or technology you wish to export relate to:

- fixed telecommunications No Yes
- mobile telecommunications No Yes
- underwater telecommunications No Yes
- IP network communications surveillance systems or related equipment/components No Yes

<'Next' button>

<if all 'no' responses, reset previous 'yes'>

<return>

Section 13(a)-----

Does the material/technology you wish to export relate to sensors of the following types or for the following applications, or the processing of relevant sensor data?:

- sensors for robotics applications? No Yes
- sensors for marine acoustic/underwater applications? No Yes
- sensors for navigation, direction finding or tracking? No Yes
- high temperature position sensors? No Yes
- gas monitoring sensors? No Yes
- accelerometers (rotational or linear)? No Yes
- imaging (monospectral and multispectral) sensors? No Yes
- image intensification/amplification/enhancement sensors No Yes
- focal plane arrays? No Yes
- video camera solid state sensors? No Yes
- magnetometers, magnetic gradiometers and related compensation systems? No Yes

- | | | |
|--|--------------------------|---------------------------|
| <input type="radio"/> pressure sensors? | <input type="radio"/> No | <input type="radio"/> Yes |
| <input type="radio"/> gyros or angular rate sensors? | <input type="radio"/> No | <input type="radio"/> Yes |
| <input type="radio"/> sensors for gas turbine engines? | <input type="radio"/> No | <input type="radio"/> Yes |
| <input type="radio"/> sensors for engine control systems (inc. FADEC systems)? | <input type="radio"/> No | <input type="radio"/> Yes |
| <input type="radio"/> sensors for production control systems? | <input type="radio"/> No | <input type="radio"/> Yes |

<'Next' button (return)>

<if all 'no' responses, reset previous 'yes'>

<return>

7. US Extra-Territorial Export Control Regulations

US export control regulations cover a similarly broad range of areas to the UK regulations, but they are applied '*extra-territorially*'.

Export from the UK of US origin military items subject to the International Traffic in Arms Regulations (ITAR) would require a licence from the Directorate of Defense Trade Controls (DDTC) of the US Department of State. Export of UK-made items containing any US origin content subject to ITAR would require such a licence.

Export from the UK of US origin items subject to the Export Administration Regulations (EAR) would require a licence from the Bureau of Industry and Security (BIS) of the US Department of Commerce. Such a licence would also be required to export:

- Non-US-made items containing >25% US origin content subject to EAR to most countries, inc. China;
- Non-US-made items containing >10% US origin content subject to EAR to certain countries, inc. Iran, N. Korea (both countries are currently subject to UK sanctions anyway);
- Non-US-made items containing any US origin content at all, controlled under EAR 500-series control classifications (Telecoms and Information Security items) and 600-series (Sensors and Lasers);
- Non-US-made items which are direct products of US origin content subject to EAR.

US regulations regard revealing controlled technology to a foreign or dual national as the same as exporting that technology to their home country. This has the effect of restricting, in certain circumstances, the ability of researchers in the UK to give nationals or dual nationals of particular countries access to controlled technology – even where that access takes place here in Edinburgh.

The US Dept. of Commerce maintains an Entity List of individuals and organisations, ordered by country. Any goods/technologies subject to EAR require an export licence if being sent to an Entity on this list and, most case, there is a 'Presumption of denial' in respect of a licence being granted. Details of the US Dept. of Commerce Entity List, and a link to the list, are here:

<https://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern/entity-list>

You will see that, at present, a large number of Huawei companies are on the list, along with many organisations in Russia and the Middle East.

US Export Control regulations can apply even in situations where you are working with controlled materials here in the UK, not just to exports per se. If you think the material you wish to export includes any of the following:

- some physical system or device with >25% US origin components;
- technical information, in the form of manuals, product specifications, non-public-domain research papers etc. with > 25% US origin content;
- US origin material related to Telecoms and Information Security items, or Sensors and Lasers
- non-public-domain software which is >25% US origin content;
- the output of using software or hardware of US origin;

or if you think that technology you wish to work with, whether in the UK or elsewhere, may be controlled under US regulations;

or if you wish to export material to an entity on the US Dept. of Commerce Entity List, then please give details below and your Export Control champion will be in touch. Please consider all the material you wish to export, including any US origin software libraries, or data it might contain.

US software which has been open sourced is generally exempt from EAR, but the following categories of software are not exempt:

- US origin open source software which includes encryption functionality;
- US origin open source software which implements neural network driven geospatial analysis training functionality;

check if applicable

The material I wish to export may be subject to US ITAR

The material I wish to export may be subject to US EAR.

The individual or organisation to which I wish to export material is on the US Dept. of Commerce Entity List.

Please summarise the material you wish to export and the relevant circumstances in the box below:

[Click here to enter text.](#)

<'Next' button>

<if either box checked / text entered, save, notify Export Control champion, and exit>

8. Signature

Academic Supervisor/Principal Investigator:

By checking the box below, I confirm that:

- I have read the University's Export Control and Sanctions Policy and Compliance Procedure.
- I understand that I am personally responsible for compliance with export control and sanctions legislation and that non-compliance can result in very significant financial penalties and is a serious criminal offence with custodial sentences of up to 10 years, as well as constituting a disciplinary offence.
- I understand that violations of similar US legislation can also carry severe penalties or result

in serious implications in the UK.

- I understand that I am responsible for ensuring that staff/students working on my project are aware of the University's Export Control and Sanctions Policy and Compliance Procedure and how it may apply to them.

Name

Date

<if name and date entered, save, notify ERO and Export Control Champion,
exit>