

## Explanatory note on potential misuse of research

The aim of this note is to help applicants, evaluators and EC staff members to identify and address potential misuse of research. Although the risk of potential misuse can never be eliminated completely, it can be substantially minimised by recognising risks in good time and taking adequate measures. The subsequent sections clarify what is meant with "potential misuse of research", explain how it can be identified, and describe what should be done if a project proposal raises concerns.

Please note that this note does not cover research *misconduct* (e.g. falsification of research results, fabrication of scientific evidence and plagiarism), it only addresses (potential) *misuse* of the results of research.

### Concept

The term "potential misuse of research" refers to research involving or generating materials, methods, technologies or knowledge that could be misused for unethical purposes. Notwithstanding the fact that such research is usually carried out with benign intentions, it has the potential to harm humans, animals or the environment.

#### *Example 1: Research on Biological Agents*

*During a series of experiments involving viruses a research lab successfully reconstitutes an extinct biological agent. Whereas this constitutes an important scientific breakthrough, the (deliberate) release of the reconstituted virus would pose a severe threat to public health and safety, and could potentially kill millions of people.*

#### *Example 2: Vulnerability Studies in the Area of Airport Security*

*With the aim of improving airport security in Europe a team of researchers carries out a series of vulnerability assessments in order to identify gaps and weaknesses in the security systems of certain European airports. Their findings can help to improve existing security systems, making airports safer and less vulnerable to threats. However, if the outcomes of the research end up in the hands of individuals with malicious intentions, the information could be used to plan an attack on the airports concerned.*

The main areas of concern regarding potential misuse<sup>1</sup> are:

- research providing knowledge, materials and technologies that could be adapted for criminal/terrorist activities;
- research that could result in the development of chemical, biological, radiological or nuclear (CBRN) weapons and the means for their delivery;

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<sup>1</sup> In case the research concerns dual-use items, applicants are advised to verify compliance with Regulation 428/2009. See also the explanatory note on the control of "export" for "dual-use items", including technology transfers, under Council Regulation (EC) No 428/2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

- research involving the development of surveillance technologies that could result in negative impacts on human rights and civil liberties;
- research on minority or vulnerable groups and research involving the development of social, behavioural or genetic profiling technologies that could be misapplied for stigmatisation, discrimination, harassment or intimidation.

### **How to identify potential misuse?**

In order to identify potential misuse it is important to start thinking about the risks of the planned research and possible unethical use of the materials, methods, technologies and knowledge involved or generated, from the very beginning. When designing a proposal, applicants should not only pay attention to the direct objectives and intended applications of the planned activities; they should also assess if their research could be used to serve unethical purposes, and examine if there are potential risks beyond the lifetime of the project.

Questions that could be used to identify potential misuse are:

- could the materials/methods/technologies and knowledge involved or generated harm humans, animals or the environment if they are modified or enhanced?
- what would happen in the materials/methods/technologies and knowledge involved or generated would end up in the hands of malevolent individuals?
- could the materials/methods/technologies and knowledge involved or generated serve other purposes than the intended application(s)? If yes, would this use be unethical?

Project proposers are advised to actively seek advice from experts in the area of (research) ethics. A good way to avoid, recognise and address potential misuse and other ethics concerns throughout the project is to appoint an independent ethics advisor or an ethics board, consisting of several experts with varied expertise who are not involved in the management of the project's research activities.

### **How to address potential misuse?**

The fact that there is a risk of potential misuse does not necessarily mean that a particular research activity cannot be carried out. If concerns about abuse are properly addressed and adequate measures are taken to minimise the risk of misuse, the proposed activity can be conducted.

There are various ways to mitigate risk, depending on the planned activity and the potential misuse applicants may choose to:

- take additional security measures, e.g. physical security measures, classification of certain deliverables, compulsory security clearance for those involved in project, etc.
- take additional safety measures, e.g. compulsory safety training for personnel, etc.
- adapt the research design: e.g. use dummy data, etc.

- limit dissemination: e.g. partial publication of the research results, regulating export, etc.

Applicants planning research that may give rise to concerns about potential misuse should tick the relevant box in the ethics table in part A. Subsequently they should provide a risk-assessment and details on the measures they intend to take to prevent abuse in part B of their proposal. If required, copies of authorisations, security clearances and ethics approvals, should be attached. Applicants also need to describe in the risk table under the management section of their proposal potential mitigation measures in case an authorisation is not granted by the responsible national authority. Evaluators will assess this section based on the “management” criteria mentioned in the proposals’ evaluation procedure and may downgrade the mark if these issues are not properly dealt with.

### **EU Ethics Appraisal and potential misuse**

Potential misuse of research is addressed at all levels of EU Ethics Appraisal. The aim of the Ethics Appraisal is to ensure that proposals having misuse capabilities develop adequate safeguards. In addition, ethics checks and audits verify if the ethics requirements are implemented fully during the life of the project and if any risks that would/could arise during the course of the project are addressed. All research and innovation activities carried out under H2020 have to comply with ethical principles and relevant national, Union and international legislation, if beneficiaries breach any of their obligations under the Grant Agreement, the grant may be reduced or terminated.

### **More information**

[http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/ethics/h2020\\_hi\\_ethics-self-assess\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/ethics/h2020_hi_ethics-self-assess_en.pdf)

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