

The European Defence Fund: autonomous weapons and the EU budget

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DISCUSSION PAPER

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Key messages

- x Regulation (EU) 2021/697 establishing the European Defence Fund (the EDF Regulation) is the first legally binding act endorsed at the international (EU) level that explicitly tackles the issue of autonomy in weapons systems. It excludes from EDF funding work to develop “lethal autonomous weapons without the possibility for meaningful human control over selection and engagement decisions when carrying out strikes against humans (...).”
- x The EU legislator recognised the need to specifically address the issue of “lethal autonomous weapons” - even though the EDF Regulation also adopts a general exclusion from funding the development of defence products and technologies that are prohibited by international law. This suggests that, in the view of EU lawmakers, existing international law does not provide sufficient guidance on this matter.
- x The EU legislator adopted the term “meaningful human control” as a legally significant test for evaluating the acceptability of weapons systems.
- x The EDF Regulation adopts a “two-tier” approach by: (i) defining categories of research and development actions that are excluded from funding (notably the development of certain systems “carrying out strikes against humans”) and (ii) imposing requirements of compliance with relevant laws and ethical principles for non-prohibited actions (positive obligations).

Introduction

Recent developments in the EU in the area of defence and disruptive technologies are relevant to the international debate on autonomy in weapons systems and the future development of a legally binding instrument. Regulation (EU) 2021/697 establishing the European Defence Fund (the EDF Regulation)¹, and the rules for ethical screening of the proposals for funding from the EDF, contain elements that bear directly upon this issue.

The EDF was established in 2021 to support collaborative research and development actions in the EU that aim to introduce new defence products and technologies, including disruptive technologies for defence.² ‘Disruptive technology for defence’ within the meaning of the EDF Regulation is understood as:

“an enhanced or completely new technology that brings about a radical change, including a paradigm shift in the concept and conduct of defence affairs such as by replacing existing defence technologies or rendering them obsolete.”³

It is worth taking a closer look at this new development in the context of the debate on autonomous weapons for two reasons:

- x Firstly, the EDF Regulation constitutes the first legally binding act endorsed at the international (EU) level that explicitly tackles one of the issues around autonomy in weapons systems by excluding from EDF funding “actions for the development of lethal autonomous weapons without the possibility for meaningful human control over selection and engagement decisions when carrying out strikes against humans (...)”
- x Secondly, the process for its adoption illustrates that some agreement has been reached by a significant number of states on the subject matter. The EDF Regulation was adopted in April 2021 in the EU ordinary legislative procedure, meaning the two EU co-legislators i.e. the European Parliament (composed of Members elected directly by voters in all Member States) and the Council (representing twenty-seven Member States’ governments) agreed on this legal act. Importantly, all twenty-seven EU Member States voted in favour of the adoption of the EDF Regulation.⁴ This should not be disregarded: the enshrining in law of meaningful human control, and concerns around targeting people, should be acknowledged and built upon by these states and others in international discussions. Furthermore, the ethical screening of the research and development projects that will be funded by the EDF, and the criteria (ethical principles) used in that process, could serve as a point of reference when discussing the material scope and formulation of a future legally binding instrument.

This short paper outlines how the EU’s approach as reflected in the EDF Regulation might be taken into consideration and used constructively in the debate on autonomy in weapons.

1 Regulation (EU) 2021/697 of the European Parliament and of the Council of 29 April 2021 establishing the European Defence Fund and repealing Regulation (EU) 2018/1092

2 Article 3 par. 2 of the EDF Regulation.

3 Article 2 point (13) of the EDF Regulation

4 All 27 Member States in the Council of the EU voted in favour of adopting the EDF Regulation; voting results available at: <https://data.consilium.europa.eu/doc/document/ST-7108-2021-INIT/en/pdf>.

Certain ‘Lethal Autonomous Weapons’ carrying out strikes against humans are excluded from funding by the EDF

In analysing the position of the EU towards autonomous weapons, the voice of the European Parliament (EP) seems to have been the most explicit. Notably, in a 2018 resolution the EP stated that it “has repeatedly called for the urgent development and adoption of a common position on lethal autonomous weapon systems, for an international ban on the development, production and use of lethal autonomous weapon systems enabling strikes to be carried out without meaningful human control, and for a start to effective negotiations for their prohibition.”⁵ Subsequently, in a resolution in 2022, the EP insisted “on the need to start international negotiations on a legally binding instrument that would prohibit fully autonomous weapons.”⁶ Even though not legally binding, the resolutions of the EP on the subject matter constitute an important contribution to the international debate.

However, the adoption of the EDF Regulation is a step further, given that it constitutes not a political declaration but an element of binding law that explicitly refers to “lethal autonomous weapons”. Under Article 10 par. 6 of the EDF Regulation:

“Actions for the development of products and technologies the use, development or production of which is prohibited by applicable international law shall not be eligible for support from the Fund.

Moreover, actions for the development of lethal autonomous weapons without the possibility for meaningful human control over selection and engagement decisions when carrying out strikes against humans shall not be eligible for support from the Fund, without prejudice to the possibility of providing funding for actions for the development of early warning systems and countermeasures for defensive purposes.”

The above shows that the twenty-seven EU Member States have collectively agreed that the development of certain “lethal autonomous weapons” used to carry out strikes against humans should not be funded by the EU.

Whilst recognising that the EDF Regulation is only applicable to the geographical space of the EU, and that it only refers to the prohibition of funding certain “lethal autonomous weapons” from the EU budget, and not their development by Member States, it is worth noting this development in the context of international discussions. Certain EU Member States have argued that specific rules regarding autonomous

5 European Parliament resolution of 12 September 2018 on autonomous weapon systems (2018/2752(RSP)). See also European Parliament resolution of 20 January 2021 on artificial intelligence: questions of interpretation and application of international law in so far as the EU is affected in the areas of civil and military uses and of state authority outside the scope of criminal justice (2020/2013(INI)) (2021/C 456/04), in which the Parliament recalled its position of 2018 and also addressed the question of the use of AI in military domain.

6 European Parliament resolution of 17 February 2022 on the implementation of the Common Security and Defence Policy – annual report 2021 (2021/2183(INI))

weapons that would target humans are unnecessary or unworkable. Yet, through the EDF regulation, they have already enshrined an elevated concern regarding autonomous weapons that target people into law.

The moral and legal concerns around targeting humans through the use of sensor-based weapons systems (systems that would use target profiles representing people) is a significant problem area in discussions on autonomous weapons. Such weapons present concerns regarding the undermining of human dignity as well as several arguably unacceptable risks for the rights and freedoms of individuals. As a result, the International Committee of the Red Cross (ICRC), civil society including Stop Killer Robots, and several states, have called for 'anti-personnel' autonomous weapons to be prohibited.

When looking at the above-cited EDF Regulation rule in this context, it should be first noticed that Article 10 par. 6 of the EDF Regulation contains two elements:

- x The first component excludes from EDF funding the development of products and technologies the use, development or production of which is prohibited by applicable international law.
- x The second component explicitly refers to the prohibition on funding the development of "lethal autonomous weapons" without the possibility for meaningful human control over selection and engagement decisions when carrying out strikes against humans (with two derogations as regards the development of: (i) early warning systems and (ii) countermeasures for defensive purposes).

This construction highlights that the EU legislator recognised the need to specifically address the issue of "lethal autonomous weapons," despite the fact that the first rule already excludes from funding actions to develop products and technologies that are prohibited by international law. This suggests that in the view of the EU lawmakers, existing international law is not sufficient in this regard: they deemed it necessary to introduce a separate legally binding rule explicitly referring to "lethal autonomous weapons".

The second aspect that could be worth reflecting upon is the wording used by the EDF Regulation. The initial proposal for the EDF Regulation prepared by the European Commission mentioned the question of autonomy in weapons in one of its recitals that states: "the eligibility of actions related to new defence products or technologies, such as those that are specifically designed to carry out lethal strikes without any human control over the engagement decisions, should also be subject to developments in international law." However, the initial proposal did not include any further reference to autonomous weapons in its normative part.

The relevant provision of Article 10 par. 6 of the EDF Regulation (cited earlier) was added during the legislative works by the EP. The first version of the Parliament's amendment referred to: "lethal autonomous weapons without meaningful human control over the critical functions of selecting and attacking individual targets" and in the final text adopted in the EDF Regulation the wording was changed to:

"lethal autonomous weapons without the possibility for meaningful human control over selection and engagement decisions when carrying out strikes against humans (..) without prejudice to (...) early warning systems and counter-

measures for defensive purposes”.⁷

We can see that the content of the EDF Regulation changed and that the final text prevents funding for systems carrying out strikes against humans where those systems are also operating without meaningful human control over selection and engagement decisions. This prohibition, in turn, is not absolute as there are derogations provided for two categories of systems i.e. early warning systems and counter-measures for defensive purposes (such systems can receive funding from the EDF. This should be subject to a separate analysis, going beyond the scope of this paper).

It is also notable that the formulation finalised by EU legislators adopted meaningful human control as a legally significant test of the acceptability of certain systems. Though some EU Member States have opposed this formulation in the international debate, those same states have adopted it as legally workable in discussions on the same subject matter in other forums. The formulations used across the EDF legislative process and its outcome (with the resulting consequences that should be analysed and assessed) could constitute reference materials during work on a legally binding international instrument.

Ethics review process under the EDF regulation

Research and development actions that shall receive funding from the EDF need to comply with relevant Union, national and international law, including the Charter of Fundamental Rights of the European Union. Moreover, those actions shall comply with ethical principles also reflected in relevant Union, national and international law (Article 7 par. 1 of EDF Regulation). The ethics review process under the EDF Regulation comprises a few stages:

- x As a first step, consortia applying for funding from the EDF carry out an ethics self-assessment.
- x The proposals are then screened to identify those actions that raise serious ethical issues.
- x Proposals that raise serious ethical issues are subject to a more in-depth analysis called an ethics assessment.

Ethics screening and ethics assessments are carried out by the European Commission (with the support of independent experts).

To carry out an ethics self-assessment, applicants first need to answer the high-level questions relating to broadly defined ethics areas specified in the submission form prepared by the European Commission.⁸ These areas include, among others, the question of using human embryonic stem cells, human cells or tissues, activities involving human participants, use of personal data, environment, health and safety,

⁷ Different versions of the text of the EDF Regulation can be accessed via European Parliament Legislative Observatory: [https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2018/0254\(COD\)&l=en](https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2018/0254(COD)&l=en), last access: 15.03.2024.

⁸ EDF applications forms and the Guide for users can be downloaded at: https://defence-industry-space.ec.europa.eu/calls-tenders/european-defence-fund-edf-2021-calls-documentation-submission-forms-and-guidance_en, last access: 15.03.2024.

and artificial intelligence. For actions that fall under any of the specified categories, applicants need to carry out an “ethics self-assessment” in line with the guidelines on “How to complete your ethics self-assessment.”⁹

Those guidelines, in their part on artificial intelligence, identify a number of principles and requirements for the use of AI in military environments that include: (i) human agency and oversight (in order to, inter alia, enable users to make informed decisions regarding the AI system), (ii) privacy and data governance, (iii) transparency (this principle requires that AI systems are explainable and traceable and that their limitations are clearly communicated), (iv) fairness, diversity and non-discrimination, (v) societal and environmental well-being and (vi) accountability (this principle requires that individual responsibility is ensured for the system’s functioning and the resulting consequences).

Applicants also need to answer a number of more detailed questions. Notably they need to indicate which functions of the system will be automated or autonomous in the weapon system and whether the AI-enabled functions could render the weapon system indiscriminate. For AI systems that are designed to influence or support human decision-making processes, the guidelines require the applicants to explain “how humans will maintain meaningful control over the most important aspects of the decision-making process” and “how the presence/role of the AI will be made clear and explicit to the affected individuals.”¹⁰

The guidelines further specify that the ethics risk assessment and risk mitigation measures need to apply throughout the life-cycle of the system, encompassing the development, deployment and post-deployment phases.

Based on the information provided by the applicants, the Commission with the help of ethics experts, identifies the projects that raise serious ethical issues and that will therefore undergo more in-depth ethics assessment. The conditions under which the activities with ethically sensitive issues are to be carried out shall be specified in the funding agreement (Article 7 par. 2 of the EDF Regulation).

Interestingly, the AI-related ethical principles taken into consideration within the ethics review process under the EDF Regulation show convergence with some key elements of the discussion on autonomy in weapons. Notably, they seem to reflect the most fundamental requirements that autonomous weapons systems subject to future positive obligations should meet, such as the requirement for maintaining meaningful human control, and requirements for ensuring explicability, traceability and accountability in the use of the weapon systems. In this context, the ethics review process under the EDF Regulation (and the operational documents used for its

9 EU Grants. How to complete your ethics self-assessment, European Commission, version 2.0. of 13 July 2021, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/how-to-complete-your-ethics-self-assessment_en.pdf, last access: 15.03.2024.

10 EU Grants. How to complete your ethics self-assessment, European Commission, version 2.0. of 13 July 2021, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/how-to-complete-your-ethics-self-assessment_en.pdf, p. 43, last access: 15.03.2024.

implementation) might be useful reference points during the discussion on a future legally binding instrument on autonomous weapons.

Observations and next steps

The approach adopted by EDF Regulation as presented in this paper seems to be very close to a “two-tier” approach for regulating autonomy in weapons. In the EDF Regulation: (i) there are categories of actions excluded from funding by the EDF (notably “the actions for the development of lethal autonomous weapons without the possibility for meaningful human control over selection and engagement decisions when carrying out strikes against humans”), and (ii) actions that shall receive funding from the EDF need to comply with positive obligations (compliance with relevant laws and ethical principles).

This paper has only briefly presented the approach adopted in the EDF Regulation and some questions could be raised for further elaboration. In particular, the formulations used in the EDF Regulation for the systems excluded from funding and the possible derogations from its prohibition with regards to the development of early warning systems and countermeasures for defensive purposes could be subject to a more in-depth analysis, including around how these formulations have been interpreted and implemented. Furthermore, the concerns that must be addressed regarding autonomous weapons systems targeting people go beyond only anti-personnel systems that cannot be used with meaningful human control: the language in the EDF regulation should not be seen as an end point.

Overall, the use of the term meaningful human control as a legally significant test, and the convergence of elements in the EDF Regulation with arguments in the international debate on autonomy in weapons, may provide useful political, legal, and intellectual points of reference in the further development of that international debate.

Recognising the language of ‘meaningful human control’ and accepting this as a valid test in law that can provide an extra level of protection to protect civilians from the development of autonomous weapons is a positive step-forward by the EU. Based on this, our concrete recommendation would be that EDF officials be invited to participate in international discussions to explain how practically they implement the test of ‘meaningful human control’ under this established legislation. Detailed elaboration of how this test is applied in practice would provide an important resource for the ongoing process of international rule-making on this issue.