



The weapon criterion and the development of autonomous weapons

Background

The basis for the Council's work is the GPF's ethical guidelines. There are two main types of criteria in the guidelines; *product-based criteria* and *conduct-based criteria*. The product-based criteria authorise the exclusion of companies based on their manufacture of some types of products, including specific types of weapons. The conduct-based criteria authorise the exclusion of companies based on their acts or omissions, irrespective of what they manufacture.

The weapon types that have formed the basis for exclusion according to the ethical guidelines have been unchanged since 2004. This article discusses whether the prevailing guidelines are adapted to the technological developments that have taken place over the past 10 years, with a particular focus on the development of autonomous weapons systems.

What are autonomous weapons?

In general, the topic of autonomous weapons concerns the increasing automation of weapons systems and the problems this can raise. The growing level of automation reduces human involvement in the decision to use force. In autonomous systems, the system itself will – without human intervention – be able to choose when, against whom and how it will use force. One of the characteristics of autonomous weapons is exactly that this decision is not subject to direct human control. *Autonomy is thus a characteristic of a weapons system, not a weapons system in itself.*

There is a gliding scale, from a low to a high level of automation and over to autonomy. When a certain automation limit is exceeded, the system is auto-

nous. However, there is no agreed definition of what comprises an autonomous weapons system and there will be difficult limitation questions linked to such a definition.

Existing, known weapons systems can probably not be categorised as autonomous weapons, but there are weapons systems with a high level of automation that can probably be said to be almost autonomous. Weapon technology developments are in a number of areas heading in the direction of increased automation and, in some areas, towards autonomy.

Autonomous weapons must not be confused with so-called drones. Drones are remote-controlled aircraft, i.e. they are controlled by a pilot who is not sitting in the aircraft. However, a development towards autonomy can be envisaged for such aircraft too.

Humanitarian-law frameworks

For the Council, the issues relating to autonomous weapons are relevant since the GPF's ethical guidelines (section 2 a) state that the fund shall not be invested *in companies which produce weapons that violate fundamental humanitarian principles through their normal use.*¹

These fundamental principles to which the guidelines refer form the basis for the humanitarian-law warfare regulations that are incorporated, for example, in the Geneva Conventions. The principles mean, among other things, that during conflicts only lawful, military targets are to be attacked (the distinction principle), that the combatants are to balance foreseeable civilian losses against the expected military gain (the

proportionality principle) and that combatants must take the necessary precautions to comply with these principles, for example by not mixing their own military targets with civilians (requirement of precautions). Weapons whose properties mean they cannot be used in accordance with these rules will be prohibited. In addition, special prohibitions have been introduced against specific types of weapons.

These fundamental humanitarian principles are applicable both to traditional warfare and if the nature of the warfare changes, for example to a cyber war.² It is also not just the use of weapons that is regulated by international law; also when developing new weapon types, countries are obliged to assess whether their use may be illegal.³

Current guidelines for the exclusion of weapons manufacturers from the GPFG

The weapons criteria in the ethical guidelines have been unchanged since 2004. Although the guidelines are not in themselves specific about the types of weapons that are to form the basis for exclusion, the guidelines' preparatory works (the Graver Report, Government White Paper, NOU 2003:22)⁴ and subsequent reports to the Norwegian parliament have provided a list of the types of weapons that are covered. These are all weapon types that are generally prohibited or which Norway is (now) prohibited from possessing according to conventions it has ratified – see the table below.

The concept of «normal use» in the guidelines is essential. This refers to the weapons type's intended use; any weapon can in principle be used contrary to

fundamental humanitarian principles, but it is only for some types of weapons that one can say that more or less any use will be unacceptable.

Since 2004, weapons manufacturers have only been excluded on the basis of their production of nuclear weapons and cluster munitions. GPFG companies have not been found to manufacture other weapon types that form a basis for exclusion.

The preparatory works took into account that new weapon types could be added to the list: «It is not unthinkable that new weapons or ammunition types may prove to conflict with the humanitarian-law principles. [...] The committee further recommends that the possibility to add new weapons or ammunition types to such an exclusion list is held open.»¹¹

Issues relating to the development and use of autonomous weapons

The development and use of autonomous weapons raises several issues. It is true that several of these are not unique to autonomous weapons, but autonomous weapons may make them relevant in new ways.¹²

One of the starting points for the assessment may be that the actual concept of autonomous weapons – that decisions of life and death are left up to machines – is in principle and intrinsically a problem. A more limited assessment is whether it is possible to envisage a use of autonomous weapons that does not contravene the abovementioned humanitarian principles for warfare. Relevant questions in this regard may, for example, be:

Weapon type	Convention	No. of companies currently excluded	No. of companies excluded in the past
Chemical weapons	Chemical Weapons Convention ⁵	0	0
Biological weapons	Biological Weapons Convention ⁶	0	0
Anti-personnel mines	Landmine Convention ⁷	1	1
Non-detectable fragments Incendiary weapons, blinding laser weapons	CCW, protocols 1, 3 and 4 respectively ⁸	0	0
Nuclear weapons	Non-Proliferation Treaty ⁹	12	15
Cluster munitions	Convention on Cluster Munitions ¹⁰	5	9

- Will the system be able to differentiate between combatants and civilians?
- Will the system be able to detect that combatants are injured or have capitulated?
- Can the system weigh the interests of protecting civilians against military necessity?
- Who can be made responsible for any infringement of the law when using autonomous weapons?

It may obviously be difficult to leave assessments of the first three items up to machines, especially if autonomous weapons are used in areas where there are also civilians. However, it is possible to imagine areas of use for autonomous weapons where there are few or no civilians and such issues are less relevant, for example in aerial combat or naval surface and submarine combat, or weapons systems that do not attack humans, for example «missile shields». It is thus not given that any use of autonomous weapons in itself and in any circumstances will contravene fundamental humanitarian principles for warfare.

The last point – the issue of responsibility – raises several important questions. Can the development of autonomous weapons lead to persons to a lesser extent being held responsible for unlawful acts? One of the concerns about autonomy is that fundamental humanitarian principles will in practice be set aside due to the disintegration of the responsibilities presumed by the humanitarian-law regulations.

The work on prohibiting autonomous weapons

Questions linked to autonomous weapons have attracted greater attention in recent times. In 2014 and 2015, informal meetings of experts to discuss autonomous weapons were held under the CCW.¹³

There is little likelihood of an agreement under the CCW that prohibits autonomous weapons being negotiated in the foreseeable future. So far, no expert group has been appointed, this would be the first formal step in such a process. A new, informal meeting of experts under the CCW is to be held in April 2016.

An alternative process may be for an agreement to be reached outside the CCW framework, in the same way as the conventions on landmines and cluster

munitions came about, or alternatively that there will be a process leading to less binding *guiding principles*, which may over time gain the status of common law. However, whether or not the conditions for any of this are present in relation to autonomous weapons is uncertain and in any case it is difficult to envisage any rapid outcome.

Limitation questions

Complicated limitation questions will arise for both any convention on autonomous weapons and any autonomous weapons criterion for the exclusion of companies from the GPFG.

There are issues on several levels here:

In the first place, any convention (or *guiding principles*) must define what it is that is prohibited. Since autonomous weapons are not one weapon type but a function that can be linked to different types of weapons, the limitation must probably be on the *function*. This means a line must be drawn between acceptable automation and unacceptable autonomy for weapons systems. In addition, the question of *responsibilities* can be envisaged to be key.

Subsequently – if a criterion linked to autonomous weapons is to be introduced as a basis for exclusion from the GPFG and thus operationalised by the Council - it must be deduced from this what kind of *corporate activity* may form a basis for exclusion.

For the Council, there may also be complicated questions regarding how to assess «*dual use*», i.e. products with several purposes. The *dual use* issue may be complicated, among other things because much of the autonomous weapons' functionality will necessarily be in underlying systems (for example, target identification) and not in the sharp end of the weapon.

Autonomous weapons and the GPFG's ethical guidelines

Autonomous weapons are not covered by the existing weapons criteria in the GPFG's ethical guidelines for product-based exclusion.

If the initiative under the CCW does lead to a convention, it will be natural for autonomous weapons to be

added to the list of weapon types that provide grounds for the exclusion of companies under the Fund's ethical guidelines, in the same way as the other weapon types in the CCW protocols. If there should come about an agreement outside the CCW framework or some form of *guiding principles* that form a normative basis, autonomous weapons should be included on this list.

However, it is most likely that this will not come about in the foreseeable future. It can be asked whether autonomous weapons should nonetheless be on the list of weapons that provide a basis for excluding companies, even if this list is currently linked to conventions that Norway has ratified. This would lead to such a criterion raising definition and limitation questions that will be difficult for the Council to decide on without any basis in a convention or at least some agreed principles.

An alternative to considering autonomous weapons under the product-based exclusion criteria of the guidelines could be to consider them under the criteria for conduct-based exclusions.¹⁴ If autonomous weapons used against humans entail an infringement of individuals' rights in war and conflict situations, it

can be considered whether the production of autonomous weapons may be covered by section 3b of the guidelines, or alternatively section 3f, i.e. the guidelines' criteria for conduct-based exclusion. This is not completely without precedent, cf the Elbit case in 2009, where it was recommended to exclude a company under a conduct-based criterion in section 3f of the guidelines on the basis of *what* the company produced. The many questions about definitions and limits raised by autonomous weapons may, however, make such an approach quite complicated, but it is difficult to decide any further on this without basing the decision on circumstances linked to a specific company.

In going forward, the Council's most important measure regarding autonomous weapons will be to monitor the developments relating to the CCW or alternative processes outside the CCW framework. The Council will also keep abreast with technological developments in the area through our contacts with various interested parties. If GPFG companies develop autonomous weapons, the Council may consider dealing with individual cases under the conduct-based criteria, but no decision on this can be made until such a situation arises.

Notes

1. Guidelines for observation and exclusion from the Government Pension Fund Global: <https://lovdata.no/dokument/INS/for-skrift/2014-12-18-1793?q=retningslinjer+++pensjonsfond+++utland>.
2. The Tallinn Manual on the International Law Applicable to Cyber Warfare (2013), <http://www.peacepalacelibrary.nl/ebooks/files/356296245.pdf>.
3. «In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.», Geneva Convention (1949), Additional Protocol I, Article 36.
4. Forvaltning for Fremtiden (Management for the Future), Government White Paper (NOU) 2003:22, <https://www.regjeringen.no/no/dokumenter/nou-2003-22/id118914/>.
5. The Chemical Weapons Convention, <http://www.opcw.org/chemical-weapons-convention/>
6. The Biological Weapons Convention, <http://www.un.org/disarmament/WMD/Bio/>.
7. The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction., <http://www.icbl.org/en-gb/home.aspx>.
8. The Convention on Certain Conventional Weapons (CCW), [http://www.unog.ch/80256EE600585943/\(httpPages\)/4F0DEF093B4860B-4C1257180004B1B30?OpenDocument](http://www.unog.ch/80256EE600585943/(httpPages)/4F0DEF093B4860B-4C1257180004B1B30?OpenDocument).
9. The Treaty on the Non-Proliferation of Nuclear Weapons (NPT), <http://www.un.org/disarmament/WMD/Nuclear/NPT.shtml>.
10. The Convention on Cluster Munitions (CCM), <http://www.clusterconvention.org/>.
11. Government White Paper (NOU) 2003:22, annex 9, item 4.4 (page 146).
12. For example, the discussion on humanitarian law versus law enforcement when combating terrorism.
13. See footnote 8.
14. *Companies may be put under observation or be excluded if there is an unacceptable risk that the company contributes to or is responsible for: [...] b) serious violations of the rights of individuals in situations of war or conflict [...] f) other particularly serious violations of fundamental ethical norms*, <http://etikkradet.no/en/guidelines/>.