



THE CATHOLIC CHURCH  
IN THE EUROPEAN UNION

## TECHNOLOGY AT THE SERVICE OF PEACE

How can the EU and its Member States address the (mis-)use of force through uncrewed armed systems?

### A. Introduction

The discussion around the development, proliferation and use of **increasingly sophisticated armed technologies** has intensified at the European level in recent years. Following on-going calls from civil society<sup>1</sup>, the European Parliament has repeatedly urged for the adoption of an *EU Common Position on the use of armed drones*<sup>2</sup> addressing concerns of **transparency, accountability and final responsibility** of its Member States' actions in military battlefields as well as outside<sup>3</sup>. More recently, the European Parliament has summoned the EU and its Member States to adopt a common position on "*lethal autonomous weapons that ensures meaningful human control over critical functions*"<sup>4</sup>.

These appeals are gaining considerable relevance today with an **increased attention of the EU on its Common Security and Defence Policy**. In order to address **European citizens' legitimate security concerns**, fuelled by violent attacks endured on European soil, geopolitical instabilities affecting neighbouring regions, and amplified through eroding trust in international legal frameworks and multilateral practices, the EU has recently launched a number of initiatives to strengthen the **operational and industrial cooperation between Member States** on security and defence.

In order to foster Europe's "**strategic autonomy**", the EU has not only put in place a permanent framework for a structured security and defence cooperation (*PESCO*), but also, for the **first time in its history**, set up a *European Defence Fund* dedicating significant financial resources to support collaborative projects in defence research and technology development<sup>5</sup>.

<sup>1</sup> Cf. e.g. European Forum on Armed Drones' Call to Action, <https://bit.ly/2YORg2J>.

<sup>2</sup> Cf. European Parliament Resolution of 27 February 2014 on the use of armed drones, <https://bit.ly/2wgDwBy> or European Parliament Resolution of 13 September 2017 on Arms export, <https://bit.ly/2HRx4Gv>.

<sup>3</sup> An increasing number of Member States is deploying armed drones in counter-terrorist operations.

<sup>4</sup> Cf. European Parliament Resolution of 12 September 2018 on Autonomous weapon systems, <https://bit.ly/2VMjZ61>.

<sup>5</sup> Following the Preparatory Action on Defence Research (PADR) and the European Industrial Development Programme (EDIDP), the EU has proposed to establish within the next Multiannual Financial Framework (2021-2027) the European Defence Fund with an earmarked budget of €13bn.

These initial steps have indicated<sup>6</sup> that the support for the development and deployment of “**disruptive technologies**”, involving drone technology and artificial intelligence, is amongst the priorities of these frameworks. By definition, a “disruptive technology depends on **time and context**”<sup>7</sup>, as well as on the **lack of visibility of control over widespread digital technologies**. In an increasingly automatised environment, underlining the need for a deeper reflection on the **implications of technologies on all spheres of human life**, including in the security and defence domain<sup>8</sup>, becomes vital.

It is a positive step that “**lethal autonomous weapons**” and **weapons systems banned by international law** have been **explicitly excluded** from the scope of the future European Defence Fund<sup>9</sup>. Questions, however, remain whether the existing international legal framework might **sufficiently cover all the possible types of technologies and scenarios** of the use of force. In order to effectively address these concerns, a duly conducted **ethical assessment**<sup>10</sup> on the basis of a **clearly defined anthropological and ethical reference framework** will be of crucial importance.

Moreover, in order to maintain and strengthen its credibility as conveyer of a **project of peace in Europe and globally**, the EU should not allow commercial interests<sup>11</sup> shape its strategic goals in security and defence. The development of defence technologies as well as their tactical deployment need to be embedded within a broader reflection process within a **shared European strategic culture** and be **fully consistent with its long-term objectives**.

From a Church perspective<sup>12</sup>, these strategic goals should be oriented towards **lasting human security and sustainable peace**. Technology can be used for peace or for war. In order to support peace-building, technologies should not be used to increase the coercion of people but be **at the service of security of persons, families and communities**. Consequently, the priorities of the EU’s security and defence initiatives, including its financial support for the development of innovative military technologies, should be guided and assessed by these **people-centred benchmarks**.

The following reflections aims to highlight some **potential security, legal and ethical risks** arising from an uncontrolled proliferation and use of certain modern technologies. It also **offers orientations, references and recommendations** for effectively addressing these risks in a rapidly changing world scenario.

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<sup>6</sup> Cf. The official communication of the European Commission on the priority areas relating to the European Defence Fund, <https://bit.ly/2WWV8OA>.

<sup>7</sup> Cf. R.Csernatonni and B.O. Martins, *The European Defence Fund : Key Issues and Controversies*, <https://bit.ly/2VZdVMu>.

<sup>8</sup> Cf. COMECE, *Contribution on future EU funding in the area of security and defence* (2018), <https://bit.ly/2pWA5Ni>.

<sup>9</sup> Cf. European Parliament legislative resolution of 18 April 2019 on the proposal for a regulation of the European Parliament and of the Council establishing the European Defence Fund, <https://bit.ly/2EqBove>

<sup>10</sup> Cf. Art 7 of the European Parliament legislative resolution of 18 April 2019 on the proposal for a regulation of the European Parliament and of the Council establishing the European Defence Fund.

<sup>11</sup> The funding for research and development of defence technologies is currently administered by the European Commission’s Directorate General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW); moreover, the establishment of the European Defence Fund has been strongly underpinned by economic considerations , cf. <https://bit.ly/2YPhMch>.

<sup>12</sup> Cf. COMECE, *Whose Security? Whose Defence?* (2017), <https://bit.ly/2rYgPCg>.

## B. Definitions

Before entering into a **security, legal and ethical assessment** of uncrewed armed systems, it might be useful to make an overview **of different types** of weapons systems falling under this category. A clear distinction should be made between remote control weapons systems, automated and autonomous weapons systems<sup>13</sup>.

**B.1. Remote control machines** remain under the supervision of a human operator in crucial functions such as identifying, selecting and attacking military targets; even when the piloting of the drone may be automatised (for take-off and landing for example or when flying towards a battlefield).

**B.2. An automated weapons system** can work without any human control. It is exclusively performing programmed tasks in a rigorously determined area delimited by a human authority. “Sense and React to Military Objects Systems” (SARMOs) are clear examples of these systems<sup>14</sup> as they are able to destroy incoming missiles or shells that endanger combatants and non-combatants. The behaviours of these machines, i.e. the possible scope of actions that the machine could perform, are predictable. Some known inputs (incoming missile) produce automatically known outputs (destruction of the missile).

**B.3. An autonomous weapons system** is a device that, once activated in its specific mode, it can identify, select, track and attack a target. Contrary to automated systems, the programme of the machine endows it with a greater degree of freedom in the selection, “the choice”, of targets. Given a type of situation the user is not able to predict the machine’s reaction. One would imagine that such a system operates under a programme controlled by a human person fixing general goals and defining its operating zone with precision. However, by exploiting the opportunities brought forward by Artificial Intelligence <sup>15</sup> one can also conceive systems able to reprogram themselves or to perform self-learning. In this case, these systems could autonomously select new targets and new aims, thus transgressing their prescribed scope of operating zone and creating situations that would not be planned, authorized or conceived by a responsible commander.

For the purposes of this reflection, we will mainly **refer to them as “uncrewed armed systems”**. The most important point with respect to the definition of uncrewed armed systems is **not to focus on levels of autonomy** of the machine, **but on levels of human**

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<sup>13</sup> We refer here to *The Humanization of Robots and the Robotization of the Human Person. Ethical Perspectives on Lethal Autonomous Weapons Systems and Augmented Soldiers* (with a selection of texts from the Church’s engagement on Lethal Autonomous Weapon Systems), Geneva, *The Caritas in Veritate Foundation Working Papers*, 2017.

<sup>14</sup> D. Amoroso, F. Sauer, N. Sharkey, L. Suchman, G. Tamburini, *Autonomy in Weapon Systems. The Military Application of Artificial Intelligence as a Litmus Test for Germany’s New Foreign and Security Policy*, Heinrich Böll Stiftung, Publication Series on Democracy, Vol. 49 (available the Web).

<sup>15</sup> It is to be noted that some refer to the term « *machine learning* » instead of « *AI* » in order to highlight the specific anthropological qualities of human intelligence and responsibility. Cf. Final Statement of the Conference “Robotics, AI, and Humanity” organised by the Pontifical Academy of Sciences (16-17 May 2019), <https://bit.ly/2XoDkz3>.

“**supervisory control**”<sup>16</sup> of the machine. The essential feature being to ensure a **sufficient, efficient and meaningful human control on all crucial functions of the system** (search, identification, selection, tracking and firing). Should any decision or action power be delegated to a machine, this authority sharing should remain in line with the command aims as well as the legal and ethical requirements.

However, a fundamental question arises: how to ensure a **legitimate and sufficient human supervisory level**? The precise level of human “supervisory control” has to be fixed taking into account, (1) the **requirements of transparency of the command chain** and of the **attribution of responsibility** (accountability and responsibility) have to be clear at every moment of the use of the system, (2) compliance with the **mission objectives**<sup>17</sup> and (3) comply with **the requirements of the principle of the Rule of Law as well as of International Humanitarian Law**<sup>18</sup> (in particular with the principles of: distinction, proportionality and precaution).

In conclusion, the assessment of **whether uncrewed armed systems are acceptable** or not from an ethical perspective has to be based on a **precise knowledge of their ability to be humanly supervised**. It is worth noting that such supervision could go from a direct and permanent human remote control to an indirect supervision through a specific programme that not only delimits their precise geographical operating zone, but also constraints possible autonomous behaviours, etc.<sup>19</sup>

### C. Geopolitical and military considerations

The drive to **resort to uncrewed armed systems** can be explained by several characteristics of our modern societies. This includes the fact that the **life of soldiers would not be put at risk**, with the human and political impact it implies. Moreover, we might also refer to the need for **efficient and broad surveillance in the context of the war against terrorism**. Up to now armed robots remain under human supervision. The will to control undersea zones or to face new threats (namely high intensity attacks by swarms of drones impossible to counteract without remote controlled robots) have initiated research projects directed towards the construction of autonomous armed machines. It is also important to address the following question: **is the resort to autonomous drones, and unsupervised armed machines a real military necessity or not?** It is not at all obvious that **autonomous machines could be interesting for combats in complex battlefields**, as for example urban environments filled with ruins and various obstacles. It is **not at all obvious that autonomous machines based on artificial intelligence software could replace officers for their tasks to understand the mission aims**, to extract meanings out of a fuzzy context and to detect friendly or hostile intentions. The race to develop new military

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<sup>16</sup> N. Sharkey, “Staying in the loop: human supervisory control of weapons” in N. Bhuta, S. Beck, R. Geiss, C. Kress and Hin Yan Liu, *Autonomous Weapons Systems. Law, Ethics, Policy*, Cambridge University Press, 2016, pp. 23-38.

<sup>17</sup> Military tactical objectives should be in line with the strategy goals. In our understanding the latter should be oriented towards lasting human security and sustainable peace.

<sup>18</sup> Use of clear sufficient responsibility in the domestic sphere including full respect for adequate respect of power.

<sup>19</sup> Effective remote control implies the possibility to disconnect at every moment.

applications should “*not become an excuse for short-circuiting safety research, testing, and adequate training*”<sup>20</sup>. Before elaborating further on legal and ethical considerations, it is important to **analyse the military relevance of such technologies**.

## D. Challenges of uncrewed armed technology<sup>21</sup>

### D.1. Remote control weapons systems

#### D.1.1. Risks in the *ad bellum* situations

Uncrewed armed systems can lower the threshold to wage a war. If you can use cheap and stealth weapons, without losing soldiers, it could be tempting to wage conflict more easily. It could also tempt some governments to perform some illegal operations (drone strikes on the territory of States that are not officially in a declared state of conflict, etc.) and extrajudicial executions.

Frequent intrusions in the territory or territorial waters of other States could be interpreted as hostile attitude and could provoke diplomatic tensions and escalate to conflicts.

#### D.1.2. Risks in the *in bello* situations

These are risks of violating some principles of *International Humanitarian Law*. A problem could arise with regard to the **compliance with the discrimination principle**. The “fog of war” could give rise to difficult situations where the distinction between non-combatants and combatants, as well as between civilian objects and military objectives could be difficult or impossible. The most important problem could be elsewhere. According to the **principle of precaution** “*in the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects*”<sup>22</sup>. In this regard, all feasible precautions must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects.<sup>23</sup> The use of uncrewed armed systems, piloted from far away of the battlefield, with its inherent asymmetric situation could provoke **reactions of revenge**, giving rise to terrorism in countries using drones, with the consequence of increasing the number of civilian victims. We also know that today, the use of drones induces some **dangerous situations for civilians**: namely by placing headquarters or arsenal below schools or hospitals. Even if the drone strike is precise (“surgical”), it can produce many victims amongst civilians<sup>24</sup>.

The **psychological impact on the civilian population** also has to be considered. The fear to become collateral damage or direct victims of strikes through uncrewed armed systems is a cause of permanent threat and stress over the presence of such systems in the airspace.

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<sup>20</sup> Cf. Final Statement of the Conference “Robotics, AI, and Humanity” organised by the Pontifical Academy of Sciences (16-17 May 2019), <https://bit.ly/2XoDkz3>.

<sup>21</sup> *Robots on the Battlefield. Contemporary Issues and Implications for the Future* (R. Doaré, D. Danet, J.-P. Hanon, G. de Boisboissel, General Editors), Fort Leavenworth Kansas, Combat Studies Arms Center/Ecoles de Saint-Cyr Coëtquidan, 2014).

<sup>22</sup> Cf. Art. 57 Additional Protocol I to the 1949 Geneva Conventions.

<sup>23</sup> Cf. Rule 15 of Customary International Humanitarian Law,

<sup>24</sup> Cf. J. Gallot, *Military Robots. Mapping the Moral Landscape*, London/New York, Routledge, 2015.

### D.1.3. Risks in the post bellum situation

The end of hostilities does not coincide with the return to peace. The latter means to **establish trust and stable political and diplomatic relations**, which would be hindered by the use of permanent surveillance technology and robots that could at any moment intrude.

## D.2. Automated weapons systems

Automated SARMO systems, used to defend military bases, industrial facilities and civilians by neutralising incoming projectiles may be **legally and ethically acceptable**. However, it should be regarded that this type of counterattack is compliant **within the scope of conditions ordained by International Humanitarian Law**.

A SARMO system could be coupled to a device able to detect the place from where a missile is launched, based on a precise computation of its trajectory. Yet, if **automatic**, such **strike could be indiscriminate and unproportional in complete contradiction with International Humanitarian Law**. The use of **automated sentry systems**<sup>25</sup> should also **comply with the full principle of the Rule of Law and of International Humanitarian Law**. Yet this might not always be obvious. Some **non-hostile agents could accidentally trespass** the zone where the sentry operates. Furthermore, it could be extremely complex to programme what a proportional response would be.

**The main risks** of automated weapons systems derive from **the lack of supervision**. This supervision could be performed by an on-guard operator (with the capacity to halt action) or by “wiring” the programme to automatically deactivate the systems (when civilians are entering the operating zone by accident, for example).

## D.3. (Totally) Autonomous systems

Such machines endowed with **self-programming and self-learning abilities** could **redefine their missions** to unwanted goals, and hence **transgress the borders of their operating zone**. In fact, no reasonable authority should accept to delegate crucial functions of choosing and attacking a target to totally unsupervised autonomous machines. The risks of backfiring are of course too high. If a **robot is using Artificial Intelligence self-learning abilities**, it could train itself, without any supervision, in highly degraded environments leading to inadequate or inadmissible behaviors. Today, learning abilities are possible through artificial neural networks. But the latter are **black-boxes** and very often the results they produce are very **difficult or impossible to explain in detail**. This **opacity** is very problematic as it could produce collateral damages. It is also obvious that *totally* autonomous systems **could not respect proportionality or precaution principles while maintaining their efficiency**. The application of these key principles of International Humanitarian Law require prudential judgment for which the human person is irreplaceable. The respect and application of these principles require the timely interpretation and understanding of particular contexts and situations that are not

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<sup>25</sup> A sentry system commonly refers to a weapon system that automatically aims and fires at targets detected by sensors.

programmable. Indeed, these tasks cannot be limited to a set of pre-established rules or to the elaboration of algorithms.<sup>26</sup>

Some have considered **the possibility to equip autonomous robots with legal or ethical software** in order to transform them into “moral machines”<sup>27</sup>. However, legal or ethical judgment is **not at all a pure algorithmic and computational operation**. It is also not reducible to a pure automatic application of formal rules. **A machine can never be “moral” or a real agent** subject to its actions. It cannot respond for its actions (it is not accountable) and cannot be punished. **It is never at the origin of its behaviour because it is programmed by a human person**. Conscience and responsibility cannot be attributed to a machine: **“moral machine” is a lure**. The risk here is to abandon the human responsibility acting as if a machine could be responsible and accountable.

Today some countries are justifying research projects concerning **Lethal Autonomous Weapons Systems (LAWS)** invoking **new threats**: for example, the risk of high intensity attacks by swarms of autonomous drones<sup>28</sup>. Such attack would be difficult to counter by human operators who would be overwhelmed and unable to react correctly. This threat cannot justify not complying with the legal obligations of International Humanitarian Law principles. The use of highly *automated* defense systems to which we alluded above may be lawful and ethically legitimate when used in areas where, for example, an absence of non-combatants exists or where the principle of discrimination can be strictly applied. **Totally autonomous systems (LAWS as such) could not be consistent with the requirements of International Humanitarian Law** even under this new threat situation. The risk of developing autonomous robots could also evolve into a new arm race leading to a destabilization of geopolitical equilibria.

#### D.4. Limits of Artificial Intelligence

In the case of autonomous uncrewed armed systems it seems important to focus on **artificial intelligence as an essential component**. We know that algorithms have biases (reflecting some implicit or explicit aims) that could lead to discrimination or to mistakes. Algorithms are never “neutral”. To delegate important decision-making powers to machines governed by algorithms is dangerous.

The **complexity of algorithms** could lead to the impossibility to predict behaviours when **fed by totally new and unexpected data**. This **complexity** and **opacity** could produce unwanted runaway processes. Even when resulting in optimal results, the reconfiguration of the algorithm might not be self explanatory. **Complexity, unpredictability and absence of transparency** are severe concerns addressed by artificial intelligence algorithms. This is

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<sup>26</sup> Cf. Statement by H.E. Archbishop Ivan Jurkovic, Head of the Holy See Delegation to the 2019 Group of Governmental Experts on Lethal Autonomous Weapons Systems within the framework of the Convention on Certain Conventional Weapons, Geneva, 26 March 2019

<sup>27</sup> W. Wallach and C. Allen, *Moral Machines*, Oxford University Press, 2008 ; R. Arkin, *Governing Lethal Behavior in Autonomous Robots*, Boca Raton, CRC Press, 2009.

<sup>28</sup> Swarms of drones are multiple unmanned platforms and/or weapons deployed to accomplish a shared objective, with the platforms and/or weapons autonomously altering their behavior based on communication with one another.

particularly important within the scope of military use as its non-liability cannot be justified from a legal or ethical perspective (in case of collateral damage, etc.)

**Self-learning abilities** also raise some concerns because what is learned and the quality of it depends on the training environment. Autonomous machines cannot make sure that the training environment is not illegal or unethical.

Finally, it is worth noting that artificial intelligence is based on **algorithms and algorithmic thought** has some **intrinsic limits**. Form recognition algorithms for example could be perturbed by stochastic noise (yet undetectable by human eyes) and lead to false and dangerous conclusions. Furthermore, an artificial intelligence algorithm only responds to what its rules are prescribing. Thus it should be regarded that a “*sound and moral judgment*” can effectively be exercised only by a human person<sup>29</sup>. In some complex situations such as those of **dilemmas, contradictory information, fuzzy data**, etc., it is crucial to go beyond the rules given by the algorithm to find an original solution (creativity) or, having understood the meaning of the rules system, to go outside the rules to save the spirit of the rules. A military robot is unlikely to do such semantic and creative tasks. Yet these tasks are essential in the context of real conflicts. Therefore, an increased use of AI technologies must go hand in hand with a **proportionate investment in safety and training**<sup>30</sup>.

#### D.5. Further challenges emerging from misuse of uncrewed armed systems

Caution has to be exercised since uncrewed systems can be hacked and thus backfire on the actors that have developed them. They can also be built by criminals or terrorist organisations, using easily accessible information and technology.

The use of **uncrewed armed systems raises some questions concerning responsibility in case of damage**. The authority who has decided to use uncrewed systems is responsible and accountable. But in case of **collateral damage**, it would be easy to veil the responsible persons or avoid taking responsibility, invoking technological malfunction or failure. The responsibility chain has to be identified precisely and in full transparency. The use of uncrewed systems can increase the **level of opacity in military actions**. This is even more the case when the system is only a part of a complex network implicating human persons, satellites, computers using artificial intelligence, etc. In this situation the responsibility could be very difficult to establish, leading to a tendency of using opacity to disguise those in command.

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<sup>29</sup> Cf. Final Statement of the Conference “Robotics, AI, and Humanity” organised by the Pontifical Academy of Sciences (16-17 May 2019), <https://bit.ly/2XoDkz3>.

<sup>30</sup> See FN 20.

## E. Balancing the risks of uncrewed armed systems

E.1. In a context, where an increasing number of EU Member States is already deploying or considering to deploy different kinds of uncrewed armed systems, and where the **European Union is also dedicating substantial financial resources to support the research** on automatised defence technologies, a **common regulatory framework** on the development, proliferation and use of uncrewed armed systems should be considered within the respective competences. In light of the above-outlined potential security, legal and ethical implications, it is of paramount importance that **uncrewed systems remain under the control of State authorities** and are **not delegated to other actors**, such as private contractors.

E.2. In this regard, it is key to distinguish the use of **uncrewed armed systems in the context of military operations** from the **context of law-enforcement operations**. Regulatory frameworks specific to each situation should be carefully examined and enforced.

E.3. It is also important **to control both the EU internal weapons market as well as arms and know-how exports to third countries**, especially regarding uncrewed armed systems and military-oriented artificial intelligence software. This also involves the **regulation and market surveillance of specific components** necessary to potentially build uncrewed armed systems from entering industrial processes. In its **Agenda for Disarmament** (2018), the Secretary General of the United Nations also suggested that increasing transparency and accountability on the use of armed drones “*could increase confidence in adherence to international law, promote common standards to reduce the potential for unlawful acts, protect civilians, promote international peace and security, promote the democratic legitimacy of counter-terrorism operations, assist in the investigation of human rights violations, and facilitate implementation of export controls. Increasing transparency and accountability on holdings and on the transfer of armed drones could facilitate implementation of export controls and other international arrangements, and help combat illicit transfers.*”<sup>31</sup> Robotic and artificial intelligence technologies are dual ones. Adequate programmes should be put in place to avoid the misuse of such technologies.

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<sup>31</sup> Cf. United Nations Secretary General’s Agenda for Disarmament: Securing Our Common Future (2018), pp. 38-40

## F. Recommendations

- I. All **actions related** to the **research, development, proliferation, export and use of uncrewed armed systems** have to **rigorously respect the principles of *International Human Rights and Humanitarian Law* both** at EU level and by its Member States
- II. The legitimacy of developing and using uncrewed armed systems should be primarily assessed upon their contribution to **lasting human security** and **sustainable peace**, while fully respecting the **human dignity** of all persons and considering the **common good**.
- III. The EU and its Member States should work towards a global harmonisation of **legal, security and ethical standards** in the **research, development, proliferation, export and use** of uncrewed armed systems, for **both military as well as law enforcement purposes**. It should effectively address potential risks arising from such technologies, include mechanisms that ensure effective accountability and transparency, and define the circumstances of potentially legitimate use in operations conducted by the EU or its Member States.
- IV. Being an important societal and political choice, the drafting of such frameworks should imply a **cross-sectoral and multi-stakeholder involvement process** with different types of actors<sup>32</sup>.
- V. The ethical and even legal assessment accompanying research and technology development projects to be supported under the future European Defence Fund<sup>33</sup> should be duly conducted by **independent experts with various backgrounds**<sup>34</sup>, fully complying with requirements of **transparency**. In this regard, a clear **anthropological and ethical reference framework** should be elaborated and provide a basis for this assessment, following a broad and inclusive consultation process.

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<sup>32</sup> Including state/non-state actors, civil/military actors, economic actors, representatives of civil society, academia, Churches, etc. The worldwide network as well as the academic and practical experience, and the specific grassroots reality of Churches and religious communities could offer relevant inputs in this regard.

<sup>33</sup> Cf. Art 7 of the European Parliament legislative resolution of 18 April 2019 on the proposal for a regulation of the European Parliament and of the Council establishing the European Defence Fund.

<sup>34</sup> Including representatives of civil society, academia and Churches.

- VI. In these frameworks, the EU as well as its Member States should ensure that concerning its critical functions of selecting, tracking and engaging a target, any uncrewed armed system is placed under an **adequate level of human supervisory control and responsibility**. This adequate level means (1) the **requirements of the traceability** of the command chain and **of the responsibilities attributions** (accountability and responsibility have to be clear at every moment of the use of weapons systems), (2) **compliance with the mission objectives** and (3) compliance with the **requirements of the Rule of Law especially of International Humanitarian Law** (in particular the principles of distinction, proportionality and exigence of precautions).
- VII. Regarding **automated armed robots** serving the defence of persons or facilities (for example SARMO systems) this **adequate level of human supervisory control** should include the definition of a precise operating zone and type of target to ensure a **strict compliance with the discrimination principle** and **other principles of International Humanitarian Law**.
- VIII. **Artificial intelligence software** used in armed drones and other uncrewed systems has to be **as transparent** as possible and the consequences it produces have to be **clearly explainable**. A critical analysis of the possible biases (that could lead to segregation and discrimination) is necessary at all stages.
- IX. In the case of research and development of such military devices traceability and responsibility of all programmes must comply with **Article 36 of the First Additional Protocol to the Geneva Convention of 1949**:
- “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.”*
- X. **Completely autonomous armed systems** without human supervision for their *critical functions* have to be **prohibited**. In line with the **European Parliament**<sup>35</sup>, the EU and its Member States should *“work towards the start of international negotiations on a legally binding instrument prohibiting lethal autonomous weapon systems”*.

<sup>35</sup> Cf. European Parliament Resolution of 12 September 2018 on Autonomous weapon systems, <https://bit.ly/2VMjZ61>.

- XI. The research, development, proliferation, export and use of uncrewed armed systems should be coherent and consistent with the strategic goals of the EU's security and defence policy. In this regard, a **strategic reflection process** about the **long-term goals** of the European security and defence policy should be put in place, **harmonising the different threat perceptions** and **strategic cultures** across the Union, and thus specifying the **level of ambition** in the area of security and defence as [defined by the EU Council](#)<sup>36</sup> in 2016.
- XII. In the context of the Rule of Law, **EU law has to be consistent with International Law. In line with the principle** of the hierarchy of norms, we urge respective EU mechanisms to fully apply the letter and spirit of norms developed within **International Humanitarian Law** and **UN disarmament frameworks**, including the Convention on Certain Conventional Weapons (**CCW**), in order to grant the **highest possible level of protection. Cooperation** among these mechanisms should be encouraged **at all levels**.

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<sup>36</sup> In its [conclusions on 14 November 2016](#), the Council defined a threefold level of ambition in the area of security and defence: (1) *responding to external conflicts and crisis*; (2) *building the capacities of partners*; (3) *protecting the Union and its citizens. In doing this, the EU will pursue an integrated approach linking up different EU instruments in a coordinated way, building on the EU's Comprehensive Approach and promoting civil – military cooperation.*