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WORKING DOCUMENT

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

Committee on Legal Affairs

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Introduction: the concept of AI and delimitation of the topic

The concept of AI originated in 1956 and is now formally defined in France as the ‘theoretical and practical interdisciplinary field whose purpose is to understand the processes of cognition and reflection, and to imitate them using hardware and software, with the aim of assisting or substituting for human activities’ (2019 report of the Ministry of Armed Forces, ‘L’IA au service de la Défense’ (The use of IA for defence purposes), p. 3). This idea of ‘simulating human cognitive functions’ also appears in the Russian definition (cf. Article 5 of the Presidential Decree of 10 October 2019). The definition proposed by the EU High-Level Expert Group on AI, on the other hand, is more abstract and more complex (cf. ‘Ethics Guidelines for Trustworthy AI’, 8 April 2019, Section 143), probably because, unlike the first two, it does not confine itself to trying to identify the military aspects of AI.

This difference of approach gives us a valuable pointer: it suggests that the issues surrounding the use of AI should be regarded as fundamentally different depending on whether it is used for military purposes or in other fields. This working document will therefore only deal with military aspects of AI, even though the official title of the report to be drafted by the Committee on Legal Affairs (‘IA: 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’) may subsequently make it possible to expand the field of study.

I. Technological context: diversity of the use of AI for military purposes

As noted by the French report of March 2018 by Cédric Villani, entitled ‘Giving meaning to AI: towards a national and European strategy’, a range of uses for AI are developing in the field of defence. Two main types of use can be distinguished.

First, the use of AI to process information (images or recordings), for example to perform reconnaissance and 3D mapping of buildings in enemy territory. The storage of this kind of sensitive data raises, in particular, the problem of cybersecurity, which is a general problem, not specific to the military domain but particularly important to it.

The other main use to which AI is put is to enhance the operational effectiveness of armies engaged in combat operations. It can take various forms, the two best known of which are ‘collaborative combat’ and LAWS (lethal autonomous weapons systems). Collaborative combat is a complex system of interconnection between fighting units that provides AI support in real time for decision-making by human combatants, for example fighter aircraft pilots or tank drivers. It may in particular operate by means of an instantaneous dialogue through which AI advises the human combatant to pursue a given course of action, while still leaving the final decision to the human being. LAWS are killer robots, i.e. AI systems which themselves decide to strike an enemy, and even kill him, guided by their algorithms. They raise the most sensitive ethical and legal questions.

II. The geopolitical context: the military AI arms race between the great powers

Due to the formidable innovations taking place in the development of arms because of AI, the great powers are fighting tooth and nail to win the race. Vladimir Putin echoed the general sentiment when he stated in his speech of 1 September 2017 that ‘AI is the future (...). Whoever becomes the leader in this sphere will become the ruler of the world.’

The United States wants to remain the leader in this field, as President Trump announced in February 2019 when unveiling his ‘American AI initiative’. In 2017, General Allen developed the theoretical concept of ‘hyperwar’, that is to say a war of the future in which human decision-making will be ‘entirely absent’. Concrete projects are already being implemented, such as the Marven project, which aims to establish a mass military surveillance system using a fleet of autonomous drones. This project was based on collaboration between the Pentagon and Google, but the company withdrew from it in March 2019 following protests from members of its workforce. It is also worth mentioning the Joint Enterprise Defense Infrastructure (JEDI) project, which aims to modernise the Pentagon’s cloud computing infrastructure. Recently, in October 2019, Microsoft won the contract, narrowly beating Amazon. Finally, it is important to point out that the International Traffic in Arms Regulations (ITAR) give the USA a competitive advantage. This is a set of extraterritorial regulations adopted by the USA, by means of which the country assumes the right to prohibit the sale for export of any weapons system that contains at least one American component. France, for example, has already fallen victim to it.

China is openly seeking to supplant the United States. Its ‘Made in China 2025’ project, unveiled in 2015, which aims to develop the civil and military potential of AI, has caused Donald Trump sufficient concern for him to make it one of the main targets of his trade war with China. The Pentagon does indeed consider that China has an advantage as a result of the extremely close relationship between the State and BATX (Baidu, Alibaba, Tencent, Xiaomi), while, by comparison, GAFAs are more independent of the Pentagon, as illustrated by Google’s withdrawal from Marven in 2019.

Russia also has every intention of trying to join in this competition to establish military supremacy in the field of AI. In 2018, the Russian Chief of Staff reported that Russia was committed to the robotisation of 33% of its equipment and weapons systems. The Presidential Decree of 10 October 2019 set 2030 as the deadline for this AI development target. Concrete results have already been achieved. Trials with the first Russian unmanned ground vehicles (UGVs) began in 2009. Other projects have already been launched, such as the development of the unmanned T14 Armata main battle tank.

Lastly, France is endeavouring to stay in the race, as evidenced by the voluminous 52-page report entitled ‘The use of IA for defence purposes’, published by the Ministry of Armed Forces in September 2019, or the speech that President Macron gave on 7 February 2020 at the War College in which he stated that ‘AI (...) is one of the priorities of the new Defence Innovation Agency’.

III. The legal background: attempts to regulate the use of arms that use AI

The UN, the EU and many States and NGOs have realised that the development of weapons exploiting AI is a landmark in human history. Fear is particularly felt regarding LAWS, which the European Parliament believes could ‘fundamentally change warfare by prompting an unprecedented and uncontrolled arms race’ (recital E of its resolution of 12 September 2018).

Since October 2012, 86 NGOs operating in 32 countries have been running the Stop Killer Robots campaign, which is calling for a treaty banning LAWS mainly for ethical reasons. The European Parliament is taking a similar line. In its resolution of 12 September 2018, it called on the EU ‘to work towards the start of international negotiations on a legally binding instrument prohibiting lethal autonomous weapon systems’ (paragraph 3).

The UN is more cautious. In 2016, it set up a Group of Governmental Experts (GGE) on LAWS, which since 2017 has been meeting each year in Geneva, in the framework of the Convention on Certain Conventional Weapons (CCW). However, the GGE, reflecting the positions of the great military powers, does not want a ban on LAWS. Its ambitions are limited to trying to regulate their use. But even on this point, negotiations have stalled because the participants do not want the regulation to be too restrictive. That is true of France, for example, which explained at the meeting in August 2019 that it was opposed to excessively restrictive regulation, because it wished to preserve its freedom to use ‘hard kill’ systems for instantaneous protection (with a reaction time of the order of a micro-second) of armoured vehicles against missiles, rockets and shells.

IV. Areas requiring work

Banning LAWS is an attractive proposition from the ethical point of view. However, it is completely out of step with the ambitions of the great military powers. If the European Parliament wishes to influence the discussions in the GGE, it is therefore preferable for it to present constructive proposals to control the use of LAWS (and other weapons systems making use of AI), while incorporating respect for the founding values of Europe. This approach is, moreover, in line with the philosophy of the European Commission’s White Paper on AI of 19 February 2020, which calls for the development of AI to be made conditional on respect for European values, even though it states at the outset that it ‘does not address the development and use of AI for military purposes’ (page 1 of the White Paper).

A first task will be to propose a definition of LAWS, which is something on which the GGE cannot currently reach agreement. According to France’s Permanent Mission to the Conference on Disarmament, LAWS ‘are weapons potentially capable of identifying, engaging and neutralising a target without human intervention’. The purpose of this restrictive approach is to include in the category of LAWS two of the three categories of killer robots that are distinguished: ‘human off the loop’ (completely autonomous robots), and ‘human on the loop’ (robots which act alone but over which human control can be re-established at any time). On the other hand, it excludes the third category: ‘human in the loop’ (robots permanently under human control).

On the other hand, and above all, it will be necessary to propose rules to regulate the use of LAWS (and other weapons systems using AI). This is a requirement for any democratic country, and thinking about what these rules might be is already well under way. For example, on 24 February 2020, the Pentagon published a list of five ethical principles to guide the use of AI technologies by the US armed forces: responsibility of decision-makers, traceability of the decision-making process, definition of cases in which AI may be used, security tests, possibility of deactivation in the event of ‘unintended behaviour’.

For its part, in 2018 the GGE proposed 11 guidelines on LAWS, guidelines to which almost 100 countries have consented (including the United States, China and Russia). The most important guideline is that human control of LAWS should be technically and legally guaranteed, which seems to prohibit the use of killer robots of the first category (human off the loop). Other principles require the full application of international humanitarian law and the Geneva Conventions of 1949, compliance with the Convention on Certain Conventional Weapons of 10 October 1980 (which seeks to prohibit or restrict the use of weapons deemed ‘excessively injurious’) and avoidance of the anthropomorphisation of LAWS.

The role of the European Parliament will be to contribute to the debate on the basis of this work and also by considering other issues, such as the application of the Arms Trade Treaty of 2 April 2013 to LAWS. In the process, of course, national sovereignties must be strictly respected, as required by the official title of the report as cited in the introduction to this working document.