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TO: EP Committee on Internal Market and Consumer Protection
        EP Committee on Civil Liberties, Justice and Home Affairs
        Members of the European Parliament
        Greek Prime Minister's Office – A.I. Advisory Committee
        Greek Ministry of Digital Governance
        Members of the Greek Parliament

Subject: Hellenic Informatics Union (HIU) reaffirms its theses on Artificial Intelligence Ethics and Lethal Autonomous Weapons Systems (LAWS).

Athens, February 12, 2024.

Dear MEPs,

The applications and use of technology is always a big challenge for the societies, as it often needs to balance its gains and benefits with the possible exploitations and attacks in personal rights. Artificial Intelligence (AI) is one of the most difficult such challenges and less regulated endeavor of modern technologies, requiring immediate attention and legislative work.

After long discussions and amendments, on December 8, 2023, EU Parliament and Council negotiators reached a provisional agreement on the Artificial Intelligence Act[1]. According to the statement:

> "This regulation aims to ensure that fundamental rights, democracy, the rule of law and environmental sustainability are protected from high risk AI, while boosting innovation and making Europe a leader in the field. The rules establish obligations for AI based on its potential risks and level of impact."

The Artificial Intelligence Act, subject to gratification by the European Parliament and Council in order to become EU Law, proposes specific restrictions on the use of AI. Specifically, the AI Act is to **prohibit**:

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1   https://www.europarl.europa.eu/news/en/press-room/20231206IPR15699/artificial-intelligence-act-deal-on-comprehensive-rules-for-trustworthy-ai

- ➢ biometric categorisation systems that use sensitive characteristics (e.g. political, religious, philosophical beliefs, sexual orientation, race);

- ➢ untargeted scraping of facial images from the internet or CCTV footage to create facial recognition databases;

- ➢ emotion recognition in the workplace and educational institutions;

- ➢ social scoring based on social behaviour or personal characteristics;

- ➢ AI systems that manipulate human behaviour to circumvent their free will;

- ➢ AI used to exploit the vulnerabilities of people (due to their age, disability, social or economic situation).

Although these provisions seem to be steps towards the correct direction, they are extremely limited and lack specificity in terms of applications and tools. For example, they do not mention at all the use of AI in autonomous weapons systems and the introduction of AI in the decision process of using these. Moreover, it highlights the legal implications (moral hazard) of such systems in relation to "universal" pillars that establish international legal standards, like the UN Geneva Convention[2] and the Universal Declaration of Human Rights[3].

The Hellenic Informatics Union (HIU) is the scientific and professional Union representing the core Informatics experts in Greece. It was the organization to introduce the first Code of Ethics for Information Technology[4] in Greece (2016). Based on this experience and addressing the international concern of academic, research, social, political and governmental bodies around the world regarding the subject, in 2018 presented the first resolution[5], voted unanimously by its General Assembly, regarding the necessary core rules for the proper development and use of Artificial Intelligence, in particular related to the use on AI in weapons and the Lethal Autonomous Weapons Systems (LAWS).

In summary, **HIU's theses on AI Ethics and the prohibition of LAWS** consists of the following (details at the end of the resolution included below):

1. Purpose: Serve the common good and protect life.

2. Transparency: In ethical, humanitarian, social, legal and economic dimensions.

3. Access: Equal for all, as a human right to knowledge and human goods.

4. Results: Equally relevant to society and respectful of individual freedoms.

5. Compliance: Protection of life, liability, risk minimization.

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2   See: Common Article 2 and 3 for Armed Conflict – https://en.wikipedia.org/wiki/Geneva_Conventions

3   https://www.un.org/en/about-us/universal-declaration-of-human-rights

4   https://www.epe.org.gr/ola-ta-arthra/deltio-typoy-o-protos-kodikas-deontologias-gia-tin-pliroforiki-apo-tin-enosi-pliroforikon-elladas

5   https://www.epe.org.gr/ola-ta-arthra/psifisma-genikis-syneleysis-parembasi-tis-epe-gia-tin-techniti-noimosyni-kai-tin-apagoreysi-aytonomon-oplikon-systimaton

6. Control: Always be maintained by or be assigned by priority to humans.

7. Understanding: Ensure auditing of the decision-making processes.

8. Implementation: Respect and ensure personal choice whether or not to use it.

9. Integration: Peaceful purposes of applications is an obligation for all.

10. Self-improvement and Self-protection: Always be subject to human assessment.

HIU reiterates and reafforms its 2018 resolution, noting that the main challenges and risks still remain urgent and unanswered. We welcome the upcoming ratification of the EU AI Act and urge all the legislative bodies to move towards for decisive regulatory actions, in order to protect personal rights as well as societies prosperity.

This letter comes in view of the recent UN procedures regarding LAWS[6,7] (October 12, 2023):

> First Committee Approves New Resolution on Lethal Autonomous Weapons, as Speaker Warns "An Algorithm Must Not Be in Full Control of Decisions Involving Killing" – Eight Resolutions on Conventional Weapons, Requiring 21 Separate Votes, Forwarded to General Assembly.

Below there is a translated copy of the HIU resolution of 2018 for your reference. We remain at your disposal for any further clarifications and discussions.

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6   https://press.un.org/en/2023/gadis3731.doc.htm
7   https://documents-dds-ny.un.org/doc/UNDOC/LTD/N23/302/66/PDF/N2330266.pdf?OpenElement

General Assembly Resolution:

HIU on Artificial Intelligence and the Prohibition of Autonomous Weapons Systems

Athens, 18/12/2018

On December 15 2018, the General Assembly of the Hellenic Informatics Union (HIU)unanimously voted in favor of the following resolution-proposal regarding the basic principles of Artificial Intelligence (AI), its implementation framework and the international ban on autonomous weapons systems.

Basic definitions and implementation framework

- Artificial Intelligence (AI)[8,9]:

  As a concept, it refers to the general ability of an algorithm to produce results that simulate the accuracy, reliability and cognitive value ("understanding") of solving a specialized or generic problem, which usually cannot be solved by simple mathematical or analytical methods and requires the assistance of a domain expert. To this end, such an algorithm is often required to be capable of exemplifying, discovering and linking general concepts (abstraction), coding knowledge and drawing conclusions based on it, exploiting past "experience" (adapting to errors), etc. On a practical level, such algorithms make it possible to optimally solve "closed" cognitive problems, such as games like chess, but also much more complex real-world problems such as voice recognition, human language understanding, face recognition, handwriting recognition, analysis and automatic diagnosis in medical images, etc.

- Autonomous Weapons Systems (AWS)[10]:

  This category includes weapons systems that incorporate to a greater or lesser extent the ability of correcting or fully autonomously guidance for optimal targeting and target destruction. This capability encompasses a wide range of more or less "intelligent" functions, from the altitude detonator (anti-aircraft missiles of WWII) or depth change detonator (anti-submarine bombs of WWII) to the fully autonomous cruise missiles with satellite / inertial / ground guidance and detonators with perforation measurement (at a specific point inside buildings).

In view of the above, it is clear that Artificial Intelligence and AWS or "lethal" AWS (LAWS) are increasingly involved. Over the last three decades, digital technology and the continuously increasing computing resources available on ultra-small-scale circuits have allowed the implementation of increasingly complex, more demanding and more "intelligent" algorithms in modern weapons systems. At the same time, the complexity and speed of processing required make human intervention not only less necessary but often a "bottleneck" in decision-making processes, e.g. in the guidance system of a rocket traveling at 3-5 times the speed of sound towards the target. As a result, in recent years modern weapon systems have become

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8   https://www.britannica.com/technology/artificial-intelligence
9   https://en.wikipedia.org/wiki/Artificial_intelligence
10 https://en.wikipedia.org/wiki/Lethal_autonomous_weapon

increasingly autonomous[11,12], not only after the decision to use them has been initiated by a human operator, but often before that.

Unfortunately, indications are that the investment in the development of increasingly "smart" autonomous weapons systems will continue to increase in the coming years. Just last September, US DARPA announced[13] the launch of a new $2 billion AI systems research and development program for better human-machine collaboration[14,15]. A similar $2.1 billion program has already been announced[16] by China in January (2018), while last year the government has launched a three-year plan[17,18] to upgrade the country to a world leader in AI. It is worth noting that in its long-term plan[19] named "A.I. Next", DARPA points out[20] the upgrade of AI from a passive decision support tool to a real human "partner" as a key objective – which in the case of weapons systems development (DARPA's main investment area over time), means a significant upgrade of the autonomy of these systems to a level of decision-making without intervention or direct human control.

In addition to the key issues related to the ethical, social and legal dimensions of any weapon system use (e.g. weapons of mass destruction), today technology allows for almost 100% transfer of responsibility for the decision of deployment or not towards the "machine". Modern Unmanned Combat Aerial Vehicles (UCAVs)[21,22] have the ability to analyze the battlefield, identify targets, guide or launch their own missiles and destroy them, without the intervention of the human factor at any stage. The ethical and legal liability problems that arise in other non-combat areas in cases of malfunction, such as fully autonomous car driving systems or even standard braking or airbag control systems, in weapon systems these factors become of immense importance as they relate to the decision of using or not a "by default" lethal device. Removing the human factor from the control loop creates the potential for multiple and generally fatal consequences that are extremely difficult to predict. Even very simple "passive"

11 "CODE Demonstrates Autonomy and Collaboration with Minimal Human Commands" (DARPA, 19/11/2018) – https://is.gd/owBO5B
12 https://www.defenseone.com/technology/2018/11/us-militarys-drone-swarm-strategy-just-passed-key-test/153007/
13 https://www.technologyreview.com/the-download/612007/the-pentagon-is-putting-billions-towards-military-ai-research/
14 https://www.darpa.mil/news-events/2018-09-07
15 "...contextual reasoning in AI systems to create more trusting, collaborative partnerships between humans and machines..."
16 https://www.technologyreview.com/the-download/609892/beijing-is-getting-a-21-billion-ai-district/
17 https://www.technologyreview.com/s/609038/chinas-ai-awakening/
18 http://www.miit.gov.cn/n1146295/n1652858/n1652930/n3757016/c5960820/content.html
19 https://www.darpa.mil/work-with-us/ai-next-campaign
20 "...DARPA envisions a future in which machines are more than just tools that execute human-programmed rules or generalize from human-curated data sets. Rather, the machines DARPA envisions will function more as colleagues than as tools..."
21 https://en.wikipedia.org/wiki/Unmanned_combat_aerial_vehicle
22 Typically, Unmanned Combat Aerial Vehicles (UCAV) include both Remote Piloted Aircraft Systems (RPAS) and fully autonomous flying vehicles capable of locating, recognizing and attacking targets of their choice, without the human-pilot intervention from a distance. The second category of UCAV is mainly based on advanced AI systems and is one of the AWS / LAWS systems discussed here. The term "drone" is often identified with the term UCAV, but in civilian applications drones are usually RPAS (not fully autonomous).

robotic systems, such as in the cases of Uber[23,24] and Amazon[25], have demonstrated the seriousness of the problem, both at the technical / design level, but mainly at the legal / moral level, concerning responsibility attribution (legal liability / moral hazard).

In 2018 there were, among other things, two public calls for an international ban on AWS / LAWS: The first in the form of an open letter[26,27] signed by some of the largest companies and private organizations (e.g. Google's DeepMind), as well as a number of academic and research institutions from around the world; the second in the form of a formal statement / resolution[28] to the UN (August 2018) by the nearly 4,000 scientists who co-sign the aforementioned open letter. Unfortunately, Greece has not voted in favor of the corresponding resolution, which was put before the European Parliament, and is one of the countries[29] that currently have no formal policy on AI and AWS.

As a scientific and professional Union, our core positions and Principles are defined by the Code of Ethics for Information Technology[30], the first to be introduced for this field in Greece. Following the international concern of academic, research, social, political and governmental bodies around the world and in view of the mobilization that takes place on this subject, HIU proposes the following positions as core rules for the proper development and use of Artificial Intelligence, in particular related to AWS.

HIU proposals on Artificial Intelligence and AWS

In view of:

- The European Parliament resolution[31] of the 16/2/2017 on "Civil Law Rules on Robotics";

- The European Parliament resolution[32,33,34] of the 12/9/2018 on the international ban on autonomous weapons systems or "autonomous weapons ban";

- Actions in progress by UN[35,36] towards this direction;

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23 https://www.economist.com/the-economist-explains/2018/05/29/why-ubers-self-driving-car-killed-a-pedestrian
24 https://www.nytimes.com/interactive/2018/03/20/us/self-driving-uber-pedestrian-killed.html
25 https://www.theguardian.com/technology/2018/dec/06/24-us-amazon-workers-hospitalised-after-robot-sets-off-bear-repellent
26 https://futureoflife.org/lethal-autonomous-weapons-pledge/
27 https://futureoflife.org/laws-pledge/
28 https://futureoflife.org/statement-to-united-nations-on-behalf-of-laws-open-letter-signatories/
29 https://futureoflife.org/ai-policy/
30 Code of Conduct for Information Technology (HIU), Jul.2016 (Greek) – https://is.gd/Zc16ri
31 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2017-0051+0+DOC+XML+V0//EN
32 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2018-0341+0+DOC+XML+V0//EN
33 http://www.europarl.europa.eu/news/en/press-room/20180906IPR12123/european-parliament-speaks-out-against-killer-robots
34 https://eeas.europa.eu/topics/economic-relations-connectivity-innovation/50465/autonomous-weapons-must-remain-under-human-control-mogherini-says-european-parliament_en
35 https://www.theguardian.com/commentisfree/2018/apr/11/killer-robot-weapons-autonomous-ai-warfare-un
36 https://en.wikipedia.org/wiki/Artificial_intelligence_arms_race

- The open letter[37] of scientists and academics from around the world through the Future of Life Institute (FLI), which focuses on the problem of the "robotic weapons arms race"[38] in general;

- Collective actions of bodies and organizations for the proper use of Artificial Intelligence[39] and Robotics, such as "Campaign to Stop Killer Robots"[40,41];

- Generally accepted positions / conditions for the safe development of the relevant technology, such as I. Asimov's "Three Laws of Robotics"[42,43];

We recommend the following:

Basic Principles of Artificial Intelligence & Robotics

1. The <u>purpose</u> of developing and implementing Artificial Intelligence & Robotics (AI&R) is not without a goal. It must serve the common good and protect life.

2. The <u>investment</u> in the development and implementation of AI&R must always be accompanied by transparency reinsurance and proper direction in matters of ethical, humanitarian, social, legal and economic dimensions.

3. The <u>access</u> to the scientific, technological and productive dimension of AI&R must be equal for all, over time, as a human right to knowledge and human goods.

4. The <u>results</u> of the development and implementation of AI&R should be equally relevant to society as a whole, with particular attention to issues of security, protection of personal data and respect for individual freedoms.

5. The <u>compliance</u> with the Law, especially the protection of life, the liability, the risk minimization and the damage control in case of malfunction (fail-safe) are top priority.

6. The <u>control</u> of AI&R systems must always be maintained by or to be assigned by priority to humans in order to accomplish human-defined objectives.

7. The human <u>understanding</u> of the internal operations and the ability of auditing the decision-making processes in an AI&R system should be ensured to the maximum possible extent.

8. The <u>implementation</u> of AI&R systems in large-scale daily life should respect and ensure to the maximum possible extent the individual's personal choice as to whether or not to use it or being exposed to it use.

9. The <u>integration</u> of AI&R scientific and technological achievements into practical applications and their use for peaceful purposes is an obligation for all.

10. The <u>self-improvement</u> and <u>self-protection</u> of AI&R systems, as a key aspect of their design, should always be subject to human assessment and ensure that they are carried

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37 https://futureoflife.org/open-letter-autonomous-weapons/
38 https://en.wikipedia.org/wiki/Artificial_intelligence_arms_race
39 https://futureoflife.org/ai-principles/
40 https://www.stopkillerrobots.org/
41 https://en.wikipedia.org/wiki/Campaign_to_Stop_Killer_Robots
42 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2017-0051+0+DOC+XML+V0//EN#def_1_3
43 https://en.wikipedia.org/wiki/Three_Laws_of_Robotics

out in a beneficial way.

As a scientific and professional Informatics Union, but also as ordinary citizens, we are at the disposal of the State, the Hellenic Parliament and the members of the European Parliament for further contribution to this extremely critical issue for the future generations.

On behalf of the A.C. board:

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