

# Hasta la vista humanity: Are we developing killer robots?

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## Digital dehumanisation and more

Once a thing from science fiction, autonomy in weapons systems is now a real world problem. Lethal Autonomous Weapons (LAWs) also known as “killer robots” represent a turning point in relation to the relationship between technology and life. As these solutions hand over life and death decision-making to machines, ethical, legal and moral challenges are created.

As the technology turns humans into data targets, their designers - and all of those involved in the chain to some extent - have the responsibility to establish boundaries between what is acceptable and what is not. In order to protect our humanity, it is essential that we choose to take a stand now and ensure that the society we live in is one in which human life is valued – not quantified.

<https://www.youtube.com/watch?v=-PVmPbFJm9E>

Digital dehumanisation, loss of meaningful human control, algorithmic biases, lack of human judgment and understanding, lack of accountability, inability of explaining the reasoning behind an automated decision, lowering the threshold to war, and the destabilisation of the arms race are [some of the major concerns](#) of the Campaign to Stop Killer Robots. Therefore, its main goal is encouraging conversations that call for new international laws related to the subject. By creating laws that ban and regulate certain kinds of weapons, it is possible to create boundaries for governments and companies between what's acceptable and what is not in this field.

As the campaign intends to bring awareness to different stakeholders, one of its main aims is engaging with Higher Education Institutions in the UK in order to build an understanding of the relationship between university research and killer robots. The campaign believes that by using our collective voice, we are able to publicly demand change.

## Where does Imperial College London stand?

Considered a world-class research university, Imperial College London has as one of its main missions to **benefit society** through excellence in science, engineering, medicine and business. In its 2020-2025 Strategy, Imperial states that they “will strengthen the support available to our College community to find **appropriate partners** and establish valuable and impactful collaborations, and **underpin this through our ethical principles of engagement.**” and that they “will seek closer and deeper relationships with our innovation partners, finding new ways to collaborate and to drive **positive real-world outcomes.**”. Last but not least, the institution affirms that they will “create platforms for research, capacity-building and knowledge exchange to achieve social and economic goals, including **tackling the UN Sustainable Development Goals**”. It is important to emphasise that one of the 17 UN SDGs is the promotion of “peaceful and inclusive societies for sustainable development”.

The university is considered a reference in automated systems research. However, many of the research projects developed by the institution can be considered worrisome due to the possible connection to the development of lethal autonomous weapons (LAWs). Moreover, Centres for Doctoral Training - that are being sponsored by the main LAWs producers such as **BAE Systems, Defence Science & Tech Lab DSTL, Schlumberger, and Rolls-Royce** - are a considerable concern due to the lack of transparency and public information. Grants details at The Engineering and Physical Sciences Research Council's website lack further information on research projects developed by Imperial that involve Unmanned Aerial Vehicles (UAVs), autonomous navigation methods and remote sensing image (RSI) segmentation, and Deep Neural Networks (DNNs). Other concerning research programs that might be linked to LAWs and are being developed in the department of Aeronautics at Imperial College are being undertaken in collaboration

with various industrial partners including **MTU Aeroengines, MBDA, Arup, BAE Systems Submarines, MAI, NASA Glenn, Nasa Langley, NVIDIA, Pointwise, Kitware, Zenotech, and Oak Ridge National Lab**, and with various academic partners **including Stanford University, and the Massachusetts Institute of Technology**.

In order to attempt to gather further information with regards to current and recently completed research projects at Imperial, a Freedom of Information Request was submitted. The request sought to collect information on projects that would involve “technologies associated with the use and development of military autonomous technologies (e.g. automated weapons) and dual-use (peaceful and military aims) technologies (e.g. drones)”. In relation to those projects, information such as name of the project, school and/or department, main academics involved, institution or organisation funding the project and amount, and duration of the project were requested.

The Imperial College London FOI Team, however, affirmed that they were unable to respond to the request **“in its present form as it would not be possible”** for them to **“identify which research projects would fall within the scope of “associated with” the use and development of military autonomous technologies or dual-use technologies”**.” Moreover, they also affirmed that **“many technologies could be regarded as “associated with” the use and development of military technologies as those will inevitably utilise other technologies”**.

This might represent a considerable concerning aspect as it demonstrates a lack of clarity in information regarding the purpose and uses derived from technologies involved in projects developed by Imperial and financed by these companies. A purpose that may even be unknown by the project members themselves. The apparent lack of ethical evaluations, impact assessment and transparency with regards to the scope delimitation in relation to research carried out in this field at Imperial can be a serious issue.

Moreover, it seems that in order to have information about projects involving dual-use technology, a previous knowledge of specific projects would be necessary as the FOI Team also advised to **“submit a revised request that is more specific about the research projects that you would like to receive information about”**. Furthermore, they also conditioned the provision of information or “further advice” to more details on the background or context of the request. It is important to remember that by the Freedom of Information Act 2000 authorities are required to disclose information through a FOI request, therefore it's not necessary for the petitioner to justify their request. Moreover, the Act also establishes that if the release of any of this information is prohibited on the grounds of breach of confidence, copies of the confidentiality agreement must be presented.

Finally, information on Imperial’s website regarding the Intelligent Digital Systems Lab (iDSL) and its projects is scarce. This is verified as information regarding funders, duration of projects cannot be found. Moreover, despite members being active on Twitter, the website seems to be out of date with regards to many projects and partnerships. Another concerning aspect is related to ethical discussion inside the academic environment. At the Faculty of Engineering, Department of Computing, it seems that not many courses are offered with regards to legal and ethical challenges and implications of automated systems, for example.

### **Seeking a #TeamHuman solution**

**The decision to take a human life should never be delegated to a machine.** As stated in the [Future of Life Institute’s Lethal Autonomous Weapons Pledge](#) - and agreed by undersigneds such as Elon Musk, Jaan Tallinn, Google DeepMind, and scholars at Imperial - “there is a moral component to this position, that we should not allow machines to make life-taking decisions for which others – or nobody – will be culpable”. It is of utmost importance that we understand that the risks of having a lethal autonomous weapon selecting and engaging targets without any kind of human intervention or even supervision are awfully high.

Thousands of AI researchers around the world worry that these solutions can turn into powerful weapons and contribute to the increase of violence, oppression and surveillance if they continue to be developed in this unregulated and unsupervised manner. Therefore, it is essential that scholars at the Imperial College London start to question how their work and institution can anticipate and fight possible risks and abuses posed by this kind of technology.

Don't forget to sign the [Autonomous Weapons: Pledge - Future of Life Institute](#) if you believe in a future with strong international norms, regulations and laws against lethal autonomous weapons.