

Highlights from 'Don't be evil?'

1. General:

- With the emergence of the digital era, military production is increasingly involving the tech sector.
- Tech companies have a social responsibility to ensure that rapid developments in AI are used for the benefit of mankind. It is also in their own interest to do so, as this could lead to severe reputational damage.
- Tech companies need to be aware that unless they take measures, their technology could contribute to the development of lethal autonomous weapons. Setting up clear, publicly-available policies is an essential strategy to prevent this from happening.
- PAX has ranked 50 tech companies based on three criteria: Is the company developing technology that could be relevant in the context of lethal autonomous weapons? Do they work on relevant military projects? Has the company committed to not contribute to the development of lethal autonomous weapons?
- Of the 50 companies surveyed for this report, 7 were classified as 'best practice', 22 as companies of 'medium concern', and 21 as 'high concern'.
- To be classified as best practice, the company must have clearly committed (through a policy or contracts etc.) to ensuring that their technology will not be used to develop or produce lethal autonomous weapon systems.

2. Debate in the tech sector

- The tech sector has spoken about before against the development of lethal autonomous weapons systems. A 2015 **open letter** calling on the UN to take action, has been signed by over 4'500 AI and robotics experts. Another letter from 2017 was signed by 116 tech sector CEOs. In 2018 over 240 tech companies and over 3000 individuals pledged to never develop, produce or use lethal autonomous weapon systems.
- Canadian company **Clearpath Robotics** became the first company in 2014 committing to not contribute to the development of LAWS.
- There have also been discussions and protests led by tech workers themselves. The most famous example was the Project Maven controversy at **Google**, where in 2018 thousands of staff signed an open letter calling on Google to cease its work on the Pentagon project. Following this, Google decided to not renew its contract and has published ethical AI principles.
- There was also tech workers opposition surrounding **Microsoft's** HoloLens contract with the Pentagon that aims at "increasing lethality" on the battlefield. This Augmented Reality headset was designed to be used for gamers, technicians and doctors. Employees wrote a letter to Microsoft's CEO and President sharing their concerns that the "application of HoloLens within the IVAS system is designed to help people kill".

3. Most concerning companies/technologies:

- Both **Amazon** and **Microsoft** are currently bidding for JEDI, a USD 10 billion contract that will serve as the cloud infrastructure spanning the Pentagon to soldiers on the ground. Chief Management Officer of the project has explained: “This program is truly about increasing the lethality of our department”. Both CEOs have defended working with the military. Bezos, Amazon’s chief, has criticised tech companies turning their backs on US defence. Nadella, Microsoft’s CEO, has also strongly defended their policy on military contracts. It is unclear where both companies draw the line in the military application of new technologies.
- **Palantir**, an AI company, has its roots in the CIA backed In-Q-Tel venture capital organisation. It was awarded a USD 800 million contract with the US army to build and deploy an AI system “that can help soldiers analyse a combat zone in real time”, beating arms producer Raytheon. Palantir did not answer the PAX survey.
- Canadian company **AerialX** produces the ‘DroneBullet’, a kamikaze drone whose key feature is its machine vision target system, an AI-led capability that allows the system to autonomously, identify, track and engage an approved target set. Currently, AerialX is working to modify the weapon for a warhead equipped loitering munition solution. The concern is how this technology could easily be adapted to attack other types of targets. AerialX did not respond to the PAX survey.
- **SparkCognition**, another AI company, works across national security space. Its staff have been vocal into opposing a ban on LAWS. Anderson, responsible for Defense and National Security at SparkCognition, has argued that any ban or tight restrictions would put the US at a competitive disadvantage behind other countries who would pursue the technology. SparkCognition did not answer the PAX survey.
- **Anduril Industries** advocates for closer ties between defence and tech, and works on Project Maven. Their key concept, Lattice, is designed to provide a view of the front lines to soldiers, “including the ability to identify potential targets and direct unmanned military vehicles into combat”. Anduril is deployed at several military bases. A media company responded for Anduril stating that as autonomous weapons are not the company’s focus, they cannot help with the survey.

4. Best practice:

- In 2018 **Google** published its AI Principles, which states it will not design or deploy AI for use in “weapons or other technologies whose principal purpose or implementation is to cause or directly facilitate injury to people”. In response to our survey Google added that “since announcing our AI principles, we’ve established a formal review structure to assess new projects, products and deals. We’ve conducted more than 100 reviews so far, assessing the scale, severity, and likelihood of best- and worst-case scenarios for each product and deal”.
- **VisionLabs**, a Russian company working on pattern recognition, clearly explained in response to the PAX survey that they explicitly prohibit the use of their technology for military applications. This is not only a part of their contracts, but they also follow up by monitoring the results or final solution developed by their partners.
- **Animal Dynamics**, a UK company manufacturing drones, stressed that under their company charter and relationship with Oxford University, they will not weaponize or provide ‘kinetic’ functionality to the products they make. Furthermore, CEO Alex Caccia believes that governments should make legislation to prevent harmful uses of autonomy (an “urgent and necessary matter for government”).
- **Softbank**, a Japanese telecom conglomerate best known for its humanoid Pepper robot, said in response to our survey that they will not develop lethal autonomous weapons. “Our philosophy at SoftBank Corp. is to use the Information Revolution to contribute to the well-being of people and society.” The company add that they “do not have a weapons business and have no intention to develop technologies that could be used for military purposes.”