

# Reduce costs and provide information

Business



Gunners in the Royal Navy practiced shooting them down at first sight. During the 1960s, drones took on a new role as stealth surveillance during the Vietnam War. Engineers would reduce the radar signature by fitting a specially designed screen over the engine's air intake, putting a radar-absorbing blanket on the fuselage sides, and covering the aircraft with a newly developed anti-radar paint. They would then control the aircraft to fly over the area and later redirect the drone to a safe recovery area. From then to today, dozens of new drones were pioneered, versions of which were integrated into the drone fleets of many countries. The Firefly 2001 can deliver real-time, highly accurate information on a wildfire's speed, size, perimeter, and movement using different technologies, including GPS.

Pathfinder, a solar-powered ultra-lightweight research aircraft was tested for environmental research by collecting wind and weather data. The success of drones has brought them to a permanent and critical position in high-tech military arsenals today, from the U. S. to Europe to Asia and the Middle East [1] Although used for many different purposes, drones today are best known for military and intelligence applications like aerial surveillance and strikes.

Because they do not need a pilot, drones can be considered an efficient, effective way to gather intelligence and target suspected terrorists. They can be sent into hostile territory with no risk to the lives of pilots, loiter for hours without constraints of shift schedules or human endurance, and target and strike with precision. In this way, drones save a lot of time, reduce costs, and provide accurate information. Despite these benefits, there have been rising questions with the use of drones.

Is the manner in which drones are used securing American interests? Are drones part of a broader counterterrorism strategy, or has it just become the strategy entirely? Do the security effects of drone programs justify the political and social consequences [2]. As this robotics technology advances, these ethical, legal and security issues have created a major divide on the topic of drone technology. II.

Ethical Issues As robotics and technology get more and more advanced, ethical concerns about these technologies become more and more pressing. With the increased usage of drones, by both the United States government and private reparations, a growing number of critics have been arguing on whether the usage of these drones are ethical or not. Drones have been used by the United States government for a variety of military purposes. The majority of the time they are used for surveillance but there have been many instance when they have been used for attack. Drones have been equipped with missiles and cameras used to target, attack, and kill alleged terrorists.

Although combat military drones have the goal of attacking terrorists, it was found by a report by the New America Foundation that in Pakistan between , 953 and 3, 279 people have been killed by drones since 2004 - and that between 18% and 23% of them were not militants. Only about 2% of those killed have been high-level targets. In the chart below we see that children and civilians make up a rather significant portion of total killed In drone attacks.

Although these numbers aren't large, the fact that they do take up space in this chart is a huge statement in itself. Is the usage of drones justified when

so many children and civilians are at expense? It is not just foreign terrorists who are targeted by drones, but sometimes American citizens overseas as well. The current protocol for targeting overseas American citizens is being called out to undergo reform, as it is deemed unconstitutional and laid too much power in the hands of the president. The president gets the power to ultimately decide the fate of an American citizen. The Fifth Amendment says that no person shall be denied life, liberty, or pursuit of happiness. These may be Americans that have committed treason by signing up with another country or another group against us, but it just makes me uncomfortable that the president, whoever it is, is the prosecutor, the judge, the jury, and the executioner, all rolled into one.

Angus King, senator Maine) [4] The usage of drones gives the government an ultimate power over its citizens. This power in all ways violates the rights of the American citizen. Rather than questioning the suspect, under current legislation they are essentially sent straight to slaughter, without any way of defending or speaking for themselves.

They have no chance to stand on trial once they are targeted [5]. Current legislation allows for drone attacks on United States citizens when: They are believed to be “ senior operational leaders” of AY Qaeda or “ an associated force” Even when there is no clear evidence that the American targeted is engaged in an active plot to attack the Many argue that this isn’t enough to justify an attack on an American citizen, who should still have all of his or her rights under the constitution no matter the situation. Currently, the united States government is revising these guidelines in order to create a more ethical guideline in the selection and attack of drones and their intended <https://assignbuster.com/reduce-costs-and-provide-information/>

targets. It is hoped that the government takes a more humanitarian approach when dealing with this situation, no matter what outcome may occur at the expense of innocent, or even not-so innocent American lives but nonetheless should still be protected by the Constitution. Drones are not just used by the government for security purposes, but are also being used by private corporations, and even individuals for a number of trivial tasks. They use drones to gather data on anything and everything by flying over private property, homes, and another issue many are concerned with is privacy. Today drones are used both by law enforcement, private corporations, and even individuals. The issue about whether drones should be allowed to fly over private property, without the owner's consent is being heavily debated.

Is airspace fair game? Are individuals allowed to utilize airspace to spy from above, since they are not technically on the property? In 1946, the United States Supreme Court ruled that " the air above the minimum safe altitude of flight... S a public highway and part Of the public domain. " However, this was a time before the advanced technologies of drones which have the capabilities to spy on individual people. So does this ruling still stand These are the questions that need to be answered and made clear soon, as drone technology is advancing and gaining a larger and larger following at a rapid pace.

The laws surrounding these usages, over, are weak and have no real backing. As of May 2013, forty-two states have proposed legislation to regulate drones, driven by fears about losses of privacy for the average American. Today drones are regulated by the Federal Aviation Administration, which prohibits people from using them in any commercial

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endeavor and requires public institutions to apply for authorization to use them. (Hobbyists can fly small drones as long as they're within Sight at all times and stay under 400 feet.

) However, little is being done to enforce these rules, and the term "commercial endeavor" is too vague, paving a lot of room for interpretation [8]. III. Legal Issues The simple definition of a drone is an aircraft without a human pilot, in other words, a robotic aircraft. With this simple definition, there is no indication that a drone can be dangerous; therefore, considered a part of civil aviation. However, with recent debate over drones being used for military purposes, it is clear that drones are not a part of civil aviation, making it unsuitable to be governed by the Federal Aviation Administration (FAA), which only oversees civil aviation.

Because drones can be used for many purposes, its definition, although true, does not entirely characterize nor anticipate its uses. This creates great confusion over which administration should govern drones and its' acceptable uses. As of 2004, following the terrorist attack of 9/11, the United States government implemented its first drone program. Over the years drones have become a significant weapon used by the United States military for various reasons. Throughout the changing roles of drones in the military, it is still being governed by the FAA. Current drone regulations today only permit government agencies, some public universities, and a few private companies the uses of drones.

In the next few years to come, the FAA plans to increase its number of permit holders to private companies [10]. Among the regulations for drones,

the general regulations are that, flight is only permitted below 400 Ft. , daytime operation must be in Visual Flight Rules (VFR), range is limited to Visual Line of Sight (VLOS), and flight must be greater than 5 miles from an airport. Throughout these regulations, there is no restriction on the use of drones [11]. Due to unclear regulations, drones are being used for various functions, anything ranging from military intelligence to emergency response and infrastructure. Recently in the news, the military use of drones has drawn up much controversy. Drones have become a key player in the military war on terrorism.

Drones are used to surveillance and eliminate terrorists in Northwest Pakistan. According to the White House spokesman Jay Carney, the United States is officially at war with Al Qaeda and the Taliban, therefore making the attacks legal. However, as discussed in an article released by the Carnegie Council, legal justification of drone use is uncertain because it clashes between opposing frameworks: the Law of Armed Conflict (LOAC) and the Criminal Justice system [12].

Under the LOAC, combat forces can only participate in acts necessary to accomplish military objectives, which in this case the objective is to fight terrorism [13]. On the contrary, under the Criminal Justice system, drone attacks bypass due process. Due process entitles Americans and inspections alike the right to not be denied "liberty" without due process, nor be denied "life" without due process. By proper definition, drone attacks are administering execution, which is illegal because it violates the rights of the accused to a fair trial.

Furthermore, drone attacks jeopardize the separation of powers among the branches, specifically the judicial review of the executive branch [14].

**Security Issues** Security issues have played a major part in the debate with drones. Although drones are based on high technological components, there is still a possibility that drones could suffer cyber-attacks exactly as any other application. In fact, there had been cases of drones' hijackings, which have started to raise concerns about the vulnerability of their security. In June 2011, a college professor, Todd Humphreys, and his team at the University Of Texas at Austin was able to hijack a civilian drone aircraft, bringing it under full control of the students and professor. He and his team had "spoofed" the drone's GPS signal and took control of the craft.

[15]. GPS spoofing is sending the drone control system fake geographic coordinates to deceive the on board system, hijacking the vehicle in a different place for which it is originally commanded. Noel Sharkey, co-founder of the International Committee for Robot Arms Control, claimed that "It's easy to spoof an unencrypted drone. Anybody technically skilled could do this – it would cost them some 700 pounds for the equipment and that's it" [16].

GPS spoofing is the principal threat to GPS receivers, and with the proper equipment and skill level, hackers could possibly gain control of military drones Humphreys admits that his team was able to successfully hijack the drone because it was using a civilian GPS system, which, unlike military versions, is not typically encrypted. Despite that, the rise of mobile devices that use GPS systems may prove to be a major concern going forward with this technology [17]. GPS spoofing is not the only security risk that one may

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encounter with drone technology, the amount of information stored within drones could be damaging in the wrong hands. Drones can carry a huge quantity of information using various sensors, GPS Systems and cameras. With so much information, losing control of the drones to an unknown perpetrator could lead to sensitive information being leaked. On December 17th, 2009, militants in Iraq used \$26 off-the-shelf software to intercept live video feeds from U. S.

Predator drones, potentially providing them with information they need to evade or monitor U. S. Military operations.

Iranian-backed insurgents supposedly intercepted video feeds by taking advantage of an unprotected communications link in some of the remotely flown planes' systems. Although there was no evidence that militants were able to take control of the drones or otherwise interfere with their flight, the intercepts had removed the element of surprise from certain missions and made it easier for insurgents to determine which roads and buildings were under U. S. Surveillance.

The U. S. Heavy reliance on these unmanned drones had created a loophole that their adversaries were able to navigate around [German, Soybean]. On December 4th, 2012, Iranian government captured a drone model Lockheed Martin ARQ-170, which was used for reconnaissance missions by U. S. Forces. What Iranian experts found out from the drone was that it had been sent back to Palmdale from Afghanistan for maintenance.

This type of information provided strategic data of ongoing missions and exact locations [3]. Drone technology, as rapidly as it is developing is  
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proving to have major security issues that may put us all at risk. V.

International Usage and Issues The United States is not the only country that utilizes drones, although it is the country with the most drone stock.

Both Japan and China have been competing in an arms race to assert their claim over some disputed islands in the East China Sea. Both countries have claimed that the drones are being used for surveillance, but outside experts warn that the possibility of future drone related tensions and skirmishes in the airspace between the two countries to be very high. The islands, named Kankakee by Japan and Oddity by China, have been a part of a never ending debate between the two countries, with neither country backing down. After it was discovered that oil reserves might be found under the sea near the islands, Japan's sovereignty over the islands has been challenged by China as well as Taiwan.

Japan has had preparations to purchase advanced drone models from the United States, while China is continuously expanding its drone program. In November of 2012, China unveiled eight new models at an annual air show with the photographs of the drones appearing in state-owned presses.

However, many speculate that these models only show China's ambitions rather than its abilities, as it is not known if these planes can even work since photos were only shown of these models on the ground [18]. On the other hand Japanese news outlets have reported that the defense ministry has hopes to release the Global Hawk, a drone produced by American reparation Northrop Grumman, near the disputed Kankakee islands within the next two years. It should be noted that the US's Global Hawk drone has no attack capability. Japan has made it a priority to improve its surveillance <https://assignbuster.com/reduce-costs-and-provide-information/>

capability after an incident when Japanese radar failed to pick up on a low-flying Chinese aircraft after it flew over the islands. A Japanese defense ministry official was quoted as saying drones would be utilized by the country, "to counter China's growing assertiveness at sea, especially when it comes to the Kankakee islands." China's military is known to be highly secretive, and outside analysts have little information about their drone program.

However, a report done by the Pentagon in 2012 acknowledged that China was currently in development of a new fleet of stealth drones whose capabilities could surpass those of the United States [19]. The United States has, by far, the greatest variety and number of drones in the world. A decade ago the United States had essentially a virtual monopoly on drones. Today, there are over 800 known drones that are in active services, with over seventy countries having some type of drone. However, most of these drones are used for surveillance, and only a handful of these countries actually possess armed drones. The only countries other than the United States that have launched drone strikes against enemies are the United Kingdom, and Israel [20]. Israel utilizes drones over the Gaza strip, as safety precautions and as attack vessels. Israel is the world's largest exporter of drones, surpassing the United States.

From 2005 to 2012 the United States made two to three billion dollars on drone sales, whereas Israel made upwards of \$4.5 billion in the same time period [21]. Drones have been essential in the past two wars fought by Israel in the Gaza Strip. Israeli defense officials say that the main use of the drones has been for surveillance while Palestinians claim that they can fire missiles

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and have carried out numerous numbers of airstrip's and civilian attacks. Israel themselves has yet to say anything on whether their drones can have attack capabilities or not.

It is known, however, that exported Israeli drones do not have attack capabilities [22]. As technology gets more and more advanced, drones are becoming simpler, and easier to make. They are becoming less expensive, and a number of countries will have the opportunities and capabilities to build their own drones. Drones have become more accessible, and countries are using them to their advantage in any way they can.

To meet this current rise in drone usage across the world, international legislation needs to be made to ensure the ethicalness and safety of the world. VI. Case Study Since 2004 the United States military has made hundreds of attacks in Pakistan using drones. The military claims that drones are more precise than standard missiles and a lot safer than sending military personnel. Most Of these attacks have occurred in Federally Administered Tribal Areas, located in Northwest Pakistan. The drones patrolling this area are said to be tracking and investigating potential terrorists.

During a 14-month period of attacks, the United State military claimed that only one death, as the result of the drone attacks, was a civilian.

Realistically, there is no real of way of totaling the number of deaths, nor separating civilians from terrorist. Furthermore, the military has no formal guidelines of confirming a terrorist before attacking, the attacks are made on the surveillance interactions between individuals, the environment in which they live, and other behaviors that the litany categories as " Signature

Terrorist Profiles. [9] In President Obama's press conference two weeks ago, he stated that drone attacks were legal and saving American lives by eliminating terrorist. The strikes as President Obama called them were legal under the justification that the United States was officially at war with Al Qaeda and the Taliban [23].

Since the President's press conference, Pakistan has elected a new Prime Minister, Nawaz Sharif, and he has requested that the United States military discontinue the drone attacks. The president has yet to respond to the Prime Minister's request. Whether the attacks were legal, a troubling issue is whether it is ethical. Prior to President Obama's press conference, the United Nations Human Rights Council, with support from countries such as Russia, China and Pakistan had called for a freeze on all drone attacks in order to spare the lives of civilians across many countries. Furthermore, the security, privacy, and overall human rights of the tribes in the drone war areas have completely been violated. One man who lost several loved ones to a drone attack said, ' They are innocent.

This is murder" [24]. VI'. Reflection Some have called drones a disruptive innovation, and for good reasons. The methods in which drones are used are dehumanizing and ethically wrong, especially in warfare. The difference between humans and robots is the precise ability to think and reflect, a trait that makes us human. The military use of drones has brought fear and terrorism upon the tribal people living in the war zones of Pakistan. Drones are causing the very issue that it is trying to fight and should be discontinued.

Although the military claims that these attacks are legal, in reality, drone attacks are executions without due process, which violates human rights under the Criminal Justice system. Warfare would never be conducted from the comfort of a base. More importantly than the legal aspect of drone attacks is the ethical outlook on the situation. Drones operate based off a program and are unable to differentiate unarmed civilians from terrorists. It is reported that drone attacks actually kills more civilians than it does terrorist, yet the military suggests that it is necessary in order to save American lives. A question that We propose is, " Is it necessary to kill civilians in hopes that among those who were killed, one or two'0 individuals happen to be terrorist? ' Our clear opinion is no.

VIII. Conclusion For many, the word " drone" stirs mixed feelings. Drones have come a long way since the 1 sass, and their influence on our everyday lives act as a double edged sword to our society - on one hand, drones have revolutionized agriculture and made warfare strategy more effective; however, on the other hand, the use of drones have begun to play more and more into raising controversy over ethical, legal and security risks. While drones prove to be an effective way to launch attacks, there stands the ethical question of how it plays into human lives. Drones used in warfare are able to easily wipe out husbands of enemies, but the question begs fairness in battle.

Their use of surveillance and recordings also borders the line of privacy concerns to citizens. Not only that, drone technology brings up the problem of legal issues and violation of rights. Unclear regulation of legal action has

made drone execution a thin line. Security of drones also plays a major role in operating drones.