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Drones: military weapons, surveillance or mapping tools for environmental monitoring? The need for legal framework is required

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Abstract

Over the past few years the application of drones has shifted from traditional to more modern. Drones can now be used in the public and private sectors, in the fields of commerce, agriculture, environment, energy and surveillance. Inevitably, such a wide spread use of drones can bring alarming concerns, such as privacy protection, security, safety, insurance liability and accountability where drones are misused. The growing industry of drones is not balanced by an exhaustive regulation. The main purpose of this paper is to highlight any legal (positive and negative) implications and consequences for an ever-expanding application and misuse of drones.

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Keywords: Drones; Legislation; Riga Declaration; EASA; FAA; Privacy; Safety; Security; Insurance; Energy; Public Administration.

1. Introduction: from military to civilian uses

Over the past few years, the application of drones (common name for UASs: Unmanned Aircraft Systems, UAVs: Unmanned Aerial Vehicles or RPASs: Remotely Piloted Aircraft Systems), has shifted from traditional to more modern. Drones were originally developed for military purposes and are deployed in high-risk military areas; technology is improving and becoming more affordable[2]. A growing demand for the use of drones in the military sector has, recently, spread into civilian contexts.

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[2] House of Commons Library Standard Note Unmanned Aerial Vehicles (drones): an introduction. SN06493 2013; http://researchbriefings.parliament.uk/ResearchBriefing/Summary/POST-PN-479

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Indeed drones can now be possessed by private parties. They come in a variety of shapes and sizes and serve different purposes. New commercial and environmental uses of drones are increasingly common; as well as use for recreation and sport purposes: small size drones are increasingly cheaper and more popular. The Convention on International Civil Aviation (the Chicago Convention) of 1944 established safety rules for all aircraft included unmanned aircraft. Article 3 of the Convention provides that the Convention applies only to civil aircraft and not to state aircraft. State aircraft are defined as being aircraft used in military, customs and police services. No state aircraft may fly over the territory of another state without authorization. Contracting states undertake when issuing regulations for their state aircraft that they will have due regard for the safety of navigation of civil aircraft. Article 8 of the Chicago Convention[3] prohibits all unmanned aircraft from flying over another state's territory without its permission and also requires that each contracting state undertake to ensure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft. Annexes 2, 7 and 13 of the Chicago Convention were amended to accommodate drones intended to be used by international civil aviation[4]. Warfare, in recent years, has been conducted very often by drones, which are becoming indispensable; they are armed with weapons to drop missiles on military targets. The advantage is clear: there is no pilot on board to be captured[5], these operations cost less than the traditional ones and drones can fly to risky areas where a normal plane might not be able to go. Drone strikes raise an international and human rights debate which involves important issues such as international peace and security and the territorial integrity and sovereignty of states. These drones operations disregard transparency and accountability[6] and involve serious problems of protection of human rights and fundamental freedoms since suspect terrorists are killed without a trial, these executions being extrajudicial, summary or arbitrary[7].The protection of civilians is a thorny issue[8]. A recent analysis by human-rights group Reprieve revealed that US drone strikes intending to target 41 men had killed 1,147 people[9]. Drones are of paramount importance in this war of terror and international law lacks instruments to deal with this kind of operations. Other than the traditional military uses, recently, many versatile uses of drones (since they can now be possessed by private parties and used in the fields of commerce, agriculture, scientific research, environment) are growing within different emerging sectors: surveillance, photography, videography, emergency services, critical infrastructure inspection, coastal security, search and rescue, filmmaking, transmission of meteorological data, delivery[10], aerial photography, monitoring mechanism for disaster events[11] or illegal resource extraction. Indeed drones can be used to drop medicines in remote villages[12], to survey farm crops, to detect and count protected wildlife, to monitor and protect natural resources, to collect data in inaccessible regions, and to study wildlife and polar ice melting. A new emerging sector where drones can be very useful and lucrative is the energy industry. Sensor-equipped drones fitted out with a high-resolution camera, can in an easy and low cost way, monitor power lines, roads, storage tanks, buildings and bridges, inspect cooling towers and oil and gas pipelines, check wind turbines and solar panels, respond to oil spills, and fly over nuclear power plants. All these important services are offered without having to send a team of workers which involve high costs; the service offered by drones is quicker and cheaper. Using a drone instead than a helicopter reduces not only costs but also fuel use and emissions with benefits for the environment and also reduces noise[13]. In the US, the Federal Aviation Administration (FAA), the regulatory agency governing US airspace, allows the use of drones in the energy sector since this sector involves

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[3] Article 8 Chicago Convention: "Pilotless aircraft. No aircraft capable of being flown without a pilot aircraft shall be flown without a pilot over the territory of a contracting State without special authorization by that State and in accordance with the terms of such authorization. Each contracting State undertakes to insure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft"; see http://www.icao.int/publications/Documents/7300_orig.pdf

[4] See Bernauw, K., 2016. Drones the emerging era of unmanned civil aviation, *Zhornik PFZ*, 66 (2-3) 236.

[5] A Jordanian pilot was captured in 2015 by Islamic State and burned alive.

[6] http://www.reprieve.org.uk/case-study/drone-strikes/

[7] The CIA and U.S. Special Operations forces launched, at the end of 2015, a secret drone campaign targeted to kill Islamic State terrorism suspects in Syria; https://www.washingtonpost.com/world/national-security/us-launches-secret-drone-campaign-to-hunt-islamic-state-leaders-in-syria/2015/09/01/723b3e04-5033-11e5-933e-7d06c647a395_story.html

[8] http://www.theguardian.com/world/2015/apr/23/us-drone-strike-killed-american-italian-al-qaida

[9] http://www.theguardian.com/world/2015/apr/23/us-drone-strike-killed-american-italian-al-qaida

[10] Amazon plans to deliver packages through drones.

[11] http://www.huffingtonpost.com/2015/05/07/nepal-earthquake-drones_n_7232764.html; Drones are a crucial tool for humanitarian response; they were first used after Haiti's 2010 earthquake and the 2013 typhoon in the Philippines. During the earthquake in Nepal of 25th of April 2015 drones were sent to remote areas to map and assess destruction in order to speed up search-and-rescue operations.

[12] http://www.huffingtonpost.com/2015/05/07/nepal-earthquake-drones_n_7232764.html; drones were used in test runs to deliver saliva samples for tuberculosis testing in Papua New Guinea and to send antibiotics to remote villages in Bhutan.

[13] http://ec.europa.eu/clima/policies/package/index_en.htm