Ignorantia Juris Non Excusat: Remotely Piloted Aircraft - Safety Concerns, Violations, and the Need for Awareness

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"IGNORANTIA JURIS NON EXCUSAT";
REMTELY PILOTED AIRCRAFT—SAFETY CONCERNS,
VIOLATIONS, AND THE NEED FOR AWARENESS

DR. SOFIA MICHAELIDES-MATEOU*

ABSTRACT

A new era in aviation has unfolded with the rapid development of remotely piloted aircraft (RPA) technology, which has essentially become the new paradigm in the aerospace domain and the aviation industry. This evolution is now allowing for the integration of unmanned aircraft in the airspace to become a reality. Some countries have already begun authorizing RPA operations in non-segregated airspace, largely in response to increasing demand by operators and manufacturers. It is imperative that a legal framework be put in place in order to permit civil RPA use while ensuring high levels of "safety[,] security, and privacy." At present, it is up to the national regulatory authority of each member state to draft policies and procedures for flying RPA recreationally and to grant permission for using RPA commercially. In Europe, the European Aviation Safety Agency (EASA) has the authority to regulate unmanned aircraft with a maximum take-off weight "of no more than 150 kg." Manufacturers and operators are thus required to obtain individual authorization from each member state, as there is no common regulatory framework governing RPAs at the moment.

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2 See id.
3 Id.
4 Id. at 4.
5 See id. at 4–5.
6 Council Regulation 216/2008, Annex II, 2008 O.J. 1.79/1, 1.79/32–1.79/33 (EC). EASA has the competence only for unmanned aircraft above 150 kg. See id.
7 See Commission Communication, supra note 1, at 4.
Current rules and procedures vary from country to country and may differ depending on such factors as whether the device is used recreationally or commercially and whether the device is classified as light or heavy.\(^8\) Because many RPA users may be unaware of the applicable laws, these users may inadvertently endanger other persons or property and thus may be prosecuted for flying their “toy” drone. In such cases, a plea of “ignorance of the law” will fail.\(^9\) As the Latin term *ignorantia juris non excusat* so aptly states, ignorance of the law is not an excuse.\(^10\)

This article outlines the rapid increase in civilian use of RPAs as well as some of the recent innovative uses of such devices before discussing some of the dangers of flying RPAs in an uncontrolled environment. A number of cases where operators of RPAs have been held accountable for violations are discussed in order to highlight the lack of awareness regarding the laws, policies, or regulations that govern the flying of RPAs by the general public. Tourists are particularly affected.\(^11\) Needless to say, this state of affairs brings to the fore the ever-increasing need for concise and understandable laws and policies that are both available and accessible to all RPA stakeholders so that they may safely and legally operate these revolutionary devices.\(^12\)

**I. INTRODUCTION**

In July 2014, a German national on vacation in the United States visited Yellowstone National Park intending to record a video for a non-profit organization with an RPA on which he affixed a GoPro camera.\(^13\) Shortly after takeoff, the remote pilot apparently lost control of the device, which then fell into a lake.\(^14\) The RPA, camera, and SD card were recovered ten days later by a diver.\(^15\) The National Park Service had banned the launching, operating, or landing of any RPAs in national parks...

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\(^8\) See id. at 5–6, 8.


\(^10\) See id.

\(^11\) See infra text accompanying notes 13–21.

\(^12\) See Commission Communication, supra note 1, at 4.


\(^14\) Id.

\(^15\) Id.
or waters a month before the incident after receiving complaints that RPAs had disrupted visitors and posed a risk to the surroundings. The tourist was formally charged. He pleaded guilty to three federal charges: (1) violating the park's drone ban; (2) filming without a permit; and (3) leaving property unattended. An additional charge of giving a false report to a government employee was dropped. The tourist was fined $1,600, was banned from the park for one year, and received one year of unsupervised probation to be served in Germany. It is important to note that this RPA user claimed that he was in compliance with filming regulations in the park.

II. RPA SYSTEMS

RPA systems, or unmanned aircraft systems (UAS), are commonly referred to as RPAs, unmanned aerial vehicles (UAVs), or drones. RPAs are flown either under the control of a pilot who is on the ground or autonomously by following a pre-programmed path.

The exponential growth in use of this revolutionary and profitable technology for civilian and recreational purposes raises several complex legal issues and highlights safety, social, and ethical concerns. The use of RPAs undoubtedly adds a new layer of complexity to many thorny issues such as those of safety, surveillance, and privacy abuse. One example of these problems

[16] Id.
[17] Id.
[18] Id.
[19] Id.
[20] Id.
[22] Int'l Civil Aviation Org. [ICAO], Unmanned Aircraft Systems (UAS), at vii, x, ICAO Cir 328-AN/190 (RPA system is "[a] set of configurable elements consisting of a remotely-piloted aircraft, its associated remote pilot station(s), the required command and control links and any other system elements as may be required, at any point during flight operation.").
[23] Id. (RPA is "[a]n aircraft where the flying pilot is not on board the aircraft.").
[24] Id. (UAV is "[a]n aircraft which is intended to operate with no pilot on board.").
[25] Id. at 3.
is illustrated by the case where an RPA user attempted to photograph Nelson Mandela while Mandela was hospitalized in Pretoria, South Africa.\textsuperscript{27} The remote pilot who had been operating the device was arrested then interrogated for four hours.\textsuperscript{28} Police confiscated the RPA.\textsuperscript{29}

Light commercial RPAs can be used by many civilian industries in a number of positive ways.\textsuperscript{30} RPA use in wildlife observation, agriculture, energy, real estate, disaster relief, and border control, for example, enhances a country's economy and security.\textsuperscript{31} However, because RPAs are remotely operated and readily available, they could also prove to be a good weapon for terrorist groups, who could load RPAs with explosives or expose people gathered in public places to chemical or biological attacks.\textsuperscript{32} In addition, as evidenced by the fact that from October 5 to November 1, 2014, there were fifteen occasions where RPAs flew near no-fly zones over French atomic plants, RPA users can commit severe security breaches.\textsuperscript{33} On one such occasion, three people who were near a nuclear plant and in possession of an RPA were arrested.\textsuperscript{34}

It is important to stress that, although RPAs have commercial and recreational applications, RPAs may also be used for illegal purposes.\textsuperscript{35} As demonstrated by the following cases, misused RPAs pose serious security threats.

III. ILLEGAL USE OF RPAS

CCTV cameras of the Elmley Prison in Sheerness, Kent, picked up a remotely controlled helicopter flying over the walls of the prison on December 23, 2009, in what was believed to be


\textsuperscript{28} Id.

\textsuperscript{29} Id.

\textsuperscript{30} See Commission Communication, supra note 1, at 2–3.

\textsuperscript{31} See id.


\textsuperscript{34} See id.

\textsuperscript{35} See Commission Communication, supra note 1, at 7.
an attempt to smuggle drugs into the prison.\textsuperscript{36} The wardens, however, were unable to locate the device or any packages during their search of the prison or accommodation block.\textsuperscript{37} In February 2011, in Tula, Russia (south of Moscow) a radio-controlled helicopter was used in an attempt to smuggle 700 grams of heroin to a prisoner awaiting trial.\textsuperscript{38} In November 2013, a small drone was spotted allegedly dropping off drugs to inmates in the Hull Prison, Ottawa, Canada.\textsuperscript{39} Prison wardens saw the device flying over the prison but were unable to locate it.\textsuperscript{40} In another incident, a quadcopter equipped with a video camera and loaded with drugs was remotely flown into the yard of Wheatfield Prison in Ireland in June 2014.\textsuperscript{41} Inmates waiting for the RPA grabbed the drugs and ran.\textsuperscript{42} Wardens saw the device and tried to catch it before it crashed into an overhead wire.\textsuperscript{43} The U.S. Drug Enforcement Agency has reported that drug trafficking organizations have been using RPAs—aptly termed “drug mules”—as an expedient, less risky method of effectively transporting drugs into the United States since 2011.\textsuperscript{44} In Australia, a 28-year-old man was charged with illegal possession of drugs and with attempt to commit an indictable offense when he allegedly used a quadcopter to try to smuggle drugs and a telephone into a Melbourne prison in March 2014.\textsuperscript{45} In that

\begin{footnotes}
\item[37] Id.
\item[38] Heroin by Helicopter, VOICE OF RUSSIA (Feb. 1, 2011), available at http://sputniknews.com/voiceofrussia/2011/02/01/42369291/.
\item[40] Id.
\item[42] Id.
\item[43] Id.
\end{footnotes}
case, it was unclear whether the Civil Aviation Safety Authority regulations were contravened.\textsuperscript{46} On the other hand, such devices may be used to assist in the oversight and supervision of prisons.\textsuperscript{47} In October 2014, the Ohio Department of Rehabilitation and Corrections began a pilot program using two camera-equipped drones to monitor inmates and the prison exterior.\textsuperscript{48}

IV. RECREATIONAL USE OF RPAS

Flying RPAs for recreation or sport has increased dramatically over recent years because RPAs are fairly cheap and can remain in flight for many hours.\textsuperscript{49} In addition, as RPAs are flown remotely, they do not have a flight crew on board and also have low operational costs.\textsuperscript{50}

More recently, RPAs have found use in journalism, news media, and online retailing.\textsuperscript{51} Using RPAs for journalism has the advantage of providing viewers full coverage of events and scenes such as fires and other natural disasters from a perspective not otherwise available.\textsuperscript{52} In the United States, the film industry began using drones commercially when the Federal Aviation Administration (FAA) granted permission to six of the seven applicant filmmaking companies to use camera-equipped RPAs on certain movie and television sets.\textsuperscript{53} The approval, which was granted despite concerns over safety issues (related to flying over populated areas) and privacy issues, extends the very limited permitted use of RPAs in the Alaskan wilds to legally using RPAs to fly over people.\textsuperscript{54} To receive approval, users must have

\begin{itemize}
\item[46]Id.
\item[48]Id.
\item[49]See Record Breaking Zephyr Offers 24/7 Cost Effective Military Surveillance and Communications, QINETIQ (Dec. 23, 2010), http://www.qinetiq.com/media/news/releases/Pages/world-record-UAV.aspx. The British drone Zephyr broke the world record by flying for over 82 hours nonstop. Id.
\item[50]See Michaelides-Mateou & Erotokritou, Flying Into the Future With UA Vs, supra note 26, at 114, 129.
\item[52]Id.
\item[54]Id.
\end{itemize}
their equipment inspected before each flight and must notify the FAA of filming. Moreover, users cannot fly at night or above 400 feet; only a technician with a pilot’s license may operate the device. The use of RPAs is considered safer than the use of helicopters in the film and commercial industry, particularly after an incident in which a helicopter crashed while filming a Discovery Channel show, killing three people.

RPAs have even been utilized by delivery companies. In Syktyvkar, Komi, Russia (620 miles north east of Moscow), a pizza company used a drone delivery company to deliver pizza to its customers. The helicopter drone had a built-in GPS and video cameras, which the restaurant’s manager monitored. Customers were called by phone at the time of delivery and when the customer would come outside to accept delivery, the pizza was lowered using a cable. This delivery method has become popular since it is cost-effective, saves on expenses for gas and delivery cars, and also provides a memorable marketing tool. The founder of the company argued that a quadcopter is only, technically, an RPA, and that (because of its weight, size, and radio frequency) it does not fall under the Air Transport Code; therefore, he claimed, he needed no permission to fly it. The director of the company, who was fined 50,000 roubles ($1,200) for the unlicensed transportation of pizza by air, has indicated that he will appeal the decision, arguing that his drone does not fall under any of the categories of certified aerial vehicles and that, as such, it would be impossible to obtain a license under these circumstances.

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55 Id.
56 Id.
59 Id.
60 Id.
61 Id.
62 Id.
64 Id.
V. RISKS OF FLYING RPAS IN UNCONTROLLED ENVIRONMENTS

There have been many recent incidents of recreational RPA flying dangerously close to commercial passenger jets. This accentuates many of the risks and potentially catastrophic consequences emanating from recreational operators who fly RPAs in uncontrolled environments without having obtained prior permission to do so.

On March 4, 2013, Alitalia Boeing 77-200 Flight AZ608, flying from Rome to New York, on final approach to the JFK Airport (about 3nm from runway 31R) reported to air traffic control that a small, unmanned aircraft (described as a four-propeller, black-colored aircraft about three feet in diameter) came within 200 feet of the commercial aircraft. Air traffic control then warned other aircraft approaching the airport. The FBI agents who investigated the incident attempted to identify and locate the RPA and its operator. In July 2013, an aircraft overflew a small, black RPA on approach to the LaGuardia Airport in New York. The aircraft’s collision warning system (TCAS) did not alert the pilots of the RPA’s proximity.

The Australian Transport Safety Bureau received its first report of an incident involving an unmanned aircraft in October 2012, when operators lost control of an airship around Victoria’s Moorabbin Airport. Recent incidents include a report that on March 19, 2014, a Dash-8 chartered aircraft was approximately 23km northeast of Perth at an altitude of about 3,800 feet when the crew spotted a bright strobe light in the path of the aircraft. The crew considered it to be an RPA. The pilot reported that he turned the aircraft and missed the object,
which passed about 20m horizontally and 100 feet (30m) vertically from the aircraft.\(^{73}\) Even though the RPA was in controlled airspace, no TCAS warning sounded.\(^{74}\) Three days later, a rescue helicopter which took off from Newcastle’s John Hunter Hospital reportedly saw a white light from an RPA hovering 1,000 feet above a soccer stadium at the time a soccer match was under way.\(^{75}\) The pilot took evasive action and avoided a possible collision.\(^{76}\)

On March 22, 2014, an American Airlines pilot reported to officials that the US Airways CRJ200 aircraft he was flying came dangerously close to what appeared to be a small, camouflaged RPA.\(^{77}\) The aircraft was approximately five miles northeast of the Tallahassee Regional Airport and at an altitude of 2,300 feet when it passed in such close proximity to the RPA; the pilot reportedly believed that the two aircraft had collided.\(^{78}\)

In May 2014, the co-pilot of an AT72 believed that he had seen a quadcopter close to his right wing-tip when he was about to land the aircraft at Southend Airport, about 25 miles (15km) east of London.\(^{79}\) The co-pilot was under the impression that the quadcopter was flown deliberately close to the AT72 because he had seen it around 100m from the aircraft approaching from the right-hand side.\(^{80}\) It then made a turn and flew in the opposite direction of the aircraft, around 25m away and at the same level.\(^{81}\) The remotely controlled quadcopter flew close enough to the ATR72 to cause concern—the co-pilot assessed the risk of collision as being high.\(^{82}\) The sighting was reported to Southend ATC, who then notified the police.\(^{83}\) Two model flying clubs operating in the vicinity were contacted in an attempt to locate the RPA’s pilot, but to no avail.\(^{84}\)

\(^{73}\) Id.  
\(^{74}\) Id.  
\(^{75}\) Id.  
\(^{76}\) Id.  
\(^{78}\) Id.  
\(^{80}\) Id.  
\(^{81}\) Id.  
\(^{82}\) Id.  
\(^{83}\) Id.  
\(^{84}\) Id.
It was reported in late 2014 that the U.S. government gets nearly daily reports—sometimes even two or three a day—of RPAs spotted flying close to commercial aircraft, helicopters, and airports. For example, pilots of a commercial jet flying at about 10,000 feet toward the Allegheny County Airport near Pittsburgh reported seeing an RPA that was described as black and grey in color with a thin body approximately five to six feet long. The device was said to have passed less than 500 feet above the aircraft. In Burbank, California, a helicopter pilot reported to air traffic controllers that he had seen a camera-equipped RPA flying near the well-known Hollywood sign. Pilots of an Airbus A319 commercial aircraft notified the air traffic control at Florida’s approach control facility that they had seen an RPA with a red vertical stabilizer and blue body flying below the plane at about 11,000 feet, fifteen miles west of Orlando. In another incident, pilots reported that an RPA flew between 500 to 1,000 feet of the aircraft during their approach to the Greenville-Spartanburg International Airport in South Carolina. In Texas, the wreckage of a five-foot-long RPA equipped with a camera was found near Dallas Love Field Airport. Police tried to locate the operator, who was not in the vicinity.

On November 16, 2014, airline pilots reported that a RPA came within five to ten feet of the left wing of a Delta Air Lines commercial jet as the jet was approaching JFK International Airport. Another incident took place a few days earlier involving two RPAs flying at an altitude of approximately 500 feet near the Ed Koch Queensboro Bridge, four miles west of La Guardia Airport. Both the FBI and the FAA are investigating the reports.
It is evident that a lack of flight records and the ease with which RPAs can be speedily maneuvered make it very difficult to identify the model of an RPA and locate its remote pilot. As a result, many RPAs are being flown by operators who are unaware of the legal requirements and applicable regulations. Many operators do not obtain the mandatory prior approval, creating what pilots and federal officials describe as an "emerging aviation threat from the proliferation of commercially available unmanned aircraft."

Recently, RPAs were flown over two soccer stadiums on two separate occasions. On October 14, 2014, an RPA carrying a politically inflammatory flag was flown over the Partizan Stadium in Belgrade during the European Championship qualifying match between Serbia and Albania. The match was stopped because of fights that broke out between both fans and players. In the second incident, a man was arrested on suspicion of breaching the UK Air Navigation Order. The man flew the device over Etihad Stadium to videotape the match between Manchester City and Tottenham on October 18, 2014. He was then released on bail for eight weeks. The recording of a live match not only infringes upon English Football League rights—the footage taken is often posted on social media sites for free viewing—it is also a clear violation of the rules of the Civil Aviation Authority (CAA). Although the pilot did not obtain the requisite permission, he has submitted that "he did not believe he had broken any rules." The CAA, which has clear guidelines relating to flying RPAs over populated areas, has expressed concern about safety issues resulting from RPAs being flown so close to a packed soccer stadium. Recreational, non-commer-

96 See id.
97 Id.
99 Id.
100 Id.
102 Id.
104 Id.
105 Id.
cial use of RPAs is permitted, as long as users adhere to strict CAA regulations.\textsuperscript{106}

In the United States, the FAA very recently issued a special security Notice to Airmen (NOTAM) regarding sporting events.\textsuperscript{107} NOTAM prohibits all aircraft operation, including parachute-jumping and RPA usage, below 3,000 feet and within three miles of big sporting stadiums with a seating capacity of 30,000 or more and automobile racetracks.\textsuperscript{108} It further provides that any person who knowingly or willfully violates the rules regarding flying within this restricted airspace (which has been designated as national defense airspace) may be subject to criminal punishment.\textsuperscript{109}

In addition to the increasing number of reported cases of near mid-air collisions with commercial aircraft, there are also many cases where recreational RPAs have endangered the environment, property, and lives of other persons on the ground.

In August 2014, a Dutch tourist, who crashed the RPA he was flying in the Yellowstone Grand Prismatic Spring, pleaded guilty to charges that he was illegally operating the device and had to pay more than $3,000 in fines.\textsuperscript{110} The RPA still has not been located,\textsuperscript{111} and it is feared that the device may pose a threat to the unique natural resource.\textsuperscript{112} Also in August, an Oregon man accused of flying a drone over the Yellowstone Midway Geyser Basin in violation of an RPA ban was fined $1,000 and ordered to pay court costs.\textsuperscript{113} The U.S. tourist was fined for violating the ban prohibiting the flying of RPAs in Yellowstone National Park in Wyoming when his RPA allegedly “buzzed bison” and frightened other tourists who were at the popular geyser basin.\textsuperscript{114}

\begin{footnotes}
\begin{itemize}
\item \textsuperscript{106} Id.
\item \textsuperscript{108} Id.
\item \textsuperscript{109} Id.
\item \textsuperscript{111} Id.
\item \textsuperscript{114} Chris Kitching, \textit{Night in Cells and £310 Fine for Paris Tourist Who Buzzed Notre Dame Cathedral With His Drone}, \textit{MailOnline} (Oct. 4, 2014), \textit{available at} http://
\end{itemize}
\end{footnotes}
In Australia, a triathlete participating in the Batavia Endure Triathlon in Geraldton in April 2014 was hit in the head by an RPA just before crossing the finishing line. The triathlete suffered lacerations on her head, and it is reported that the ambulance crew took a piece of the propeller from her head before taking her to a hospital to get stitches. The operator of the RPA, who owns the photography and film company that volunteered to use RPAs to provide live coverage of the event, claimed that the RPA may have been hacked.

The Australian Civil Aviation Safety Authority is also investigating a fire allegedly caused by lithium batteries in the cargo hold of a Fiji Airlines Boeing 737. The fire started before the plane took off from Melbourne in April 2014. It has been alleged that the lithium batteries—used by commercial camera drone operators in Australia and classified as dangerous goods requiring special handling and packaging—were falsely labeled in an attempt to circumvent Australia’s airline security regulations. Even though the RPA operator was not implicated in the false labeling allegations, he may still be prosecuted under the dangerous goods provisions of Australia’s Civil Aviation Act.

In another incident that took place in Sydney in March 2014, an investigation is being carried out into an unreported accident of a camera-equipped RPA weighing approximately 7kg. The RPA, operated by an unlicensed pilot, hit power lines and fell close to several groups of people.

Flying RPAs for recreational use (often extended to commercial use) is an increasingly prevalent phenomenon that is here
to stay. It is very evident, however, that there is a major lacuna present. Users generally are unaware of the applicable laws, policies, or regulations, if any, governing RPA usage. This is further complicated in cases where tourists visit a country and wish to take photos or videos of the attractions that they visit. Many people are, in fact, unaware of the applicable laws and may inadvertently endanger other persons or property; they may even find themselves being prosecuted for violating rules and procedures of which they are oblivious.

VI. CIVIL/CRIMINAL LIABILITY FOR VIOLATIONS

In *Huerta v. Pirker*, the FAA charged the operator of a five pound, radio-controlled model airplane, who had taken photographs on behalf of an advertising agency, with flying “in a careless or reckless manner so as to endanger the life or property of another” and imposed a $10,000 civil penalty. The FAA claimed that “model airplane use is considered to be ‘operation of an unmanned aircraft system’ and is illegal if undertaken for ‘business’ purposes.” However, on March 6, 2014, the Administrative Law Judge (ALJ) held that small, unmanned aircraft are not considered “aircraft” under the relevant regulation. Therefore, the relevant Federal Aviation Regulation prohibiting the operation of an aircraft in a careless or reckless manner so as to endanger the life or property of another did not apply. The ALJ thus invalidated the fine against Pirker, saying that the FAA overreached by applying regulations for aircraft to model aircraft and that no FAA rule prohibited the operator’s radio-controlled flight. The FAA appealed the decision and on November 18, 2014, the National Transportation Safety Board (NTSB) unanimously determined that RPAs are “aircraft” under the relevant regulations and may not be operated in a “careless and reckless manner” as defined by the FAA regulations.

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126 Michaelides-Mateou & Erotokritou, *Investigation & Legal Implications of Recent Near Miss Collisions*, supra note 67, at 3.
128 *Id.* at 8.
129 See *id*.
NTSB did not decide in this case whether the RPA was, in fact, operated in a careless and reckless manner, nor did it answer the various issues raised by amici. The NTSB did, however, reaffirm that the FAA can regulate both manned and unmanned aircraft operations and that it can also seek civil penalties for violations of FAA regulations. The regulations define an “aircraft” as “any contrivance invented, used, or designed to navigate, or fly in, the air” and as “a device that is used or intended to be used for flight in the air”; the NTSB held that this clearly would include model aircraft.

This decision has crucial implications. Model aircraft weighing a few pounds will be deemed “aircraft” and, as such, the FAA can bring enforcement actions against RPA operators even if it has not yet issued regulations that deal with small RPAs. If the case at hand concerns the operation of a small RPA for commercial purposes, Pirker will apply. However, recreational users of RPAs will also be liable if they fly their aircraft in a reckless manner that endangers others. In effect, therefore, operators may be found liable and will face civil penalties for violations even though there are no FAA regulations governing the flying of small RPAs for recreational purposes.

Many states, such as California, New York, and Florida, make it a criminal offense to operate an aircraft in a careless or reckless manner. The legislation also provides for penalties in the event of a violation. In Florida, Statute 860.13(1)(b) provides...
that it is a third degree felony “[t]o operate an aircraft in the air
or on the ground or water in a careless or reckless manner so as
to endanger the life or property of another.”140 When “deter-
mining whether the operation was careless or reckless, [courts]
shall consider the standards for safe operation of aircraft pre-
scribed by federal statutes or regulations governing aeronau-
tics.”141 It is important to note that, in light of Pirker, states
could construe drones as “aircraft” and criminally prosecute
drone operators for flying such devices in a careless or reckless
manner.142
In France, an 18-year-old French teenager shot an aerial video
of the eastern French city of Nancy from the center of town us-
ing a small drone, then posted the short film on social media.143
The video received tens of thousands of views within a few
days.144 The French Civil Aviation Authority also saw the video
and initiated an investigation in response.145 The teenager had
formed his own business, hiring action video cameras and
equipment for drones.146 He was charged with endangering the
lives of others by violating two provisions of the relevant law—
first, that he did not complete the required training course, and
second, that he did not have the specific written approval to fly
an RPA over an urban area.147 The prosecutor said that drones
were like light aircraft and could potentially be dangerous if
they were to fall in a populated area.148 As such, operators of
RPAs were required to have the equivalent of a ULM (Ultra-
léger motorisé-microlight) license.149 The defendant pleaded
guilty to charges of violating regulations and endangering
others’ lives and was fined 400 euros as a result.150

140 Id. (citing Fla. Stat. § 860.13(1)(b) (2010)).
141 Id.
142 Id.
143 Philip Johnson, Teenager Gets Arrested in France for Flying a Drone UPDATED
“Further Arrest in Paris”, HD WARRIOR (Feb. 17, 2014), http://www.hdwar-
rrior.co.uk/2014/02/17/teenager-gets-arrested-in-france-for-flying-a-drone/.
144 Id.
145 Id.
146 Id.
147 Id.; Il Filmé Nancy Avec un Drone, le Maire Lui Fait une Offre, EUROPE1 (Feb. 19,
2014, 8:09 AM), http://www.europe1.fr/insolite/il-filme-nancy-avec-un-drone-le-
maire-lui-fait-une-offre-1806679.
148 Johnson, supra note 143.
149 See id.
150 Michaelides-Mateou & Erotokritou, Investigation & Legal Implications of Re-
cent Near Miss Collisions, supra note 67, at 3.
the fine accrued for violation of the regulations and the remains-
der was for endangering lives.151

On November 7, 2013, during an exhibition of a quadrotor (50cm in diameter) to potential clients in Pérols, France, the pilot lost control of the RPA, which then headed to the Montpellier Airport and landed on the runway while an aircraft was taxiing.152 The Department of Aerial Transport initiated an investigation into the incident and quickly located the RPA and the remote pilot.153 Charges were filed against the pilot for endangering lives and for lacking the required permission to fly the RPA in a controlled airspace.154 The pilot argued that the drone failed to go back to its base, as it was programmed to do if it lost its signal.155 He pleaded guilty and stated that he knew he was flying in a controlled airspace and that, at the time, he did not have the necessary training to fly the RPA.156 The pilot was sentenced to two months suspended sentence and fined thirty-eight euros.157

In February 2014, a member of the French Foreign Legion was arrested for flying his RPA around the Eiffel Tower while he was on leave.158 Paris prosecution authorities charged the 22-year-old Equadorian for remotely piloting his drone from the first floor of the Eiffel Tower.159 He was detained pending his appearance in court, where he pleaded guilty and was fined 1,000 euros, of which half was paid immediately.160 The drone, which was 50cm long and 50cm wide, was confiscated.161 In another incident, a man was arrested for overflying the Defense (an area of business in Paris) and posting a short video online

151 Id.
153 Id.
154 Id.
155 Id.
156 Id.
157 Id.
159 Id.
160 Id.
161 Id.
entitled, "Defense as Seen From the Sky."\textsuperscript{162} The man admitted as much to the French Gendarmerie and was subsequently charged with violating Article L 6232-4 of the Code of Transport and Article L39-1 of the Code of Posts and Electronic Communications.\textsuperscript{163} The two offenses are punishable either by a maximum one-year imprisonment and fine of 75,000 euros or by a lesser six-month imprisonment and fine of 30,000 euros.\textsuperscript{164} The man was scheduled to appear in court in April 2015, with the public prosecutor who ordered that the drone be confiscated handling the case.\textsuperscript{165}

Also in France, a 24-year-old Israeli man was arrested on October 1, 2014, after flying an RPA (equipped with a professionally mounted camera) over the Notre Dame Cathedral, the historic Hotel-Dieu hospital, and a police station.\textsuperscript{166} He told the officers who arrived at the church square that he was unaware that flying an RPA was illegal in Paris.\textsuperscript{167} The man claimed that he was capturing the scenes for his private use.\textsuperscript{168} Police managed to locate the man after they saw the RPA on a surveillance camera.\textsuperscript{169} He spent the night in prison, was charged with “operating an aircraft non-compliant with safety laws,” and fined $650.\textsuperscript{170}

In the first of such cases in the United Kingdom, the operator of a recreational RPA was convicted by the Furness and District magistrate’s court for dangerous use after he had lost control of his RPA near a nuclear submarine facility.\textsuperscript{171} The pilot was fined £800 and was ordered to pay costs of £3,500 after the UK Civil Aviation Authority prosecuted him.\textsuperscript{172} The pilot pleaded guilty.

\textsuperscript{164} Id.
\textsuperscript{170} Israeli Tourist Jailed, Fined for Flying Drone in Paris, supra note 166.
on August 25, 2013, to charges alleging that he flew a small, unmanned surveillance aircraft within 50m of a structure and over a nuclear installation.\textsuperscript{173} Investigation of the video footage revealed that the RPA flew within the 50m of required separation distance and through restricted airspace around a nuclear submarine facility before it landed in the water.\textsuperscript{174} The pilot admitted to building the device himself and operating it on the day in question but argued that he was unaware that the nuclear installation was a protected no-fly zone.\textsuperscript{175}

Another person in the United Kingdom was fined in May 2014 for endangering the safety of others when he flew his quadcopter over rides at Alton Towers on November 9, 2013.\textsuperscript{176} The operator brought the device within close proximity to people at the theme park and took a video with an onboard camera.\textsuperscript{177} The video subsequently was posted on YouTube and came to the attention of the Civil Aviation Authority, which proceeded to charge the operator with two violations of the Air Navigation Order 2009, namely: “(1) Not maintaining direct, unaided visual contact with a small unmanned aircraft,” and “(2) Flying a small unmanned surveillance aircraft over or within 150 metres of any congested area.”\textsuperscript{178} The operator pleaded guilty to both charges and was fined £150 for each offense.\textsuperscript{179} He also had to pay contribution toward the CAA’s costs of £250.\textsuperscript{180}

In Beijing, three men have been charged with endangering public safety after allegedly flying an RPA to survey and map the city on December 29, 2013.\textsuperscript{181} The RPA, which was approximately 2.6m wide and 2.3m long and flying at a speed of 100 km/hr east of the Beijing Capital International Airport, was spotted by radar and intercepted.\textsuperscript{182} As the flight was not

\textsuperscript{173} Id.
\textsuperscript{174} Id.
\textsuperscript{175} Id.
\textsuperscript{177} Id.
\textsuperscript{178} Id.
\textsuperscript{179} Id.
\textsuperscript{180} Id.
\textsuperscript{182} Id.
cleared, fighter jets and helicopters were dispatched to intercept the vagrant aircraft. Over ten commercial flights were delayed, and two others had to change course in order to avoid a mid-air collision.\textsuperscript{183} It is reported that, as a result, Air China suffered an economic loss of more than RMB 18,000 (approximately 2,374 euros).\textsuperscript{184} In an earlier incident, a tourist was detained who had flown his quadcopter equipped with a GoPro camera to take photos of the Forbidden City in Beijing.\textsuperscript{185} Prosecutors noted that the tourist had not obtained the requisite prior approval from the local civil aviation authorities, air traffic control bureau, or air force.\textsuperscript{186}

There is clearly a lack of consistency in the laws and regulations governing the use of recreational RPAs and an absence of awareness; therefore, it is crucial that the public at large become fully informed of the laws and polices regulating the recreational use of RPAs. As Rachel Robinson, policy officer for Liberty, so aptly stated, “[a]s the use of domestic surveillance drones rapidly expands, public knowledge and understanding of this shadowy industry remains practically non-existent.”\textsuperscript{187}

In the United States, no less than ten states have already enacted formal legislation to address the operation of RPAs.\textsuperscript{188} The Alaskan legislature passed a bill that creates procedures and policies for the use of RPAs by law enforcement.\textsuperscript{189} Regulations there also govern the information collected by drones.\textsuperscript{190} Illinois, Indiana, and Iowa also have legislation regulating law enforcement’s drone usage.\textsuperscript{191} In Louisiana, the law also reaches

\begin{thebibliography}{199}
\bibitem{183} Id. ("A total of 1,226 military staff, 26 radar technicians and 123 military vehicles were deployed in response to the flight.").
\bibitem{184} Id.
\bibitem{185} Id.
\bibitem{186} Id.
\bibitem{187} See id.
\bibitem{190} Id.
\bibitem{191} Id.
\bibitem{192} Id.
\end{thebibliography}
the civil sector and specifically forbids the intentional use of RPAs “to conduct surveillance of a targeted facility without the owner’s prior written consent.” In Oregon, the law permits property owners to sue a drone operator if (1) the device “has flown less than 400 feet above the owner’s property at least once”; (2) the property owner does not consent to the drone flying over the property; (3) the operator has been notified of this; and (4) the “operator then flies the drone less than 400 feet above the property” on another occasion. In Tennessee, the operation of low-flying drones over private property is a criminal offense. Even a Minnesota municipality has passed a resolution banning anyone from operating a drone “within the airspace of a city”; the first offense would be considered a misdemeanor and the second a felony. The city of Northampton, Massachusetts, has passed a resolution which affirms that, within the city limits, “the navigable airspace for drone aircraft shall not be expanded below the long-established airspace for manned aircraft” and “that no drone aircraft shall have ‘the public right of transit’ through th[e] private property” of each landowner.

These issues are not unique to the United States. The first person to appear in court for RPA use in Holland was a Dutch photojournalist who was charged in late 2014 for illegally flying a homemade quadcopter. He flew the device near an apartment building in the city of Vlaardingen, near the approach path of Rotterdam/The Hague Airport without the necessary permit. The district attorney in charge of the case stated that there were fifteen other cases where people had illegally operated drones in air traffic without having previously obtained permission from the proper air traffic control agency. The district attorney said that all of those cases had been settled by

193 Id.
194 Id.
195 Id.
196 Id.
197 Id.
199 Id.
him by means of imposing an unspecified fine on the users.\textsuperscript{201} The journalist stated that it was easy to buy such devices but difficult actually to fly them, and that he was, in fact, unaware that the relevant rules pertaining to operating RPAs had been tightened.\textsuperscript{202} The district attorney raised an extremely important point in suggesting that drones should be sold with a warning that, before flying the device, users should check the regulations in order to see where they are permitted to fly the RPA.\textsuperscript{203} On December 23, 2014, the court ruled that the photojournalist violated the law prohibiting participation in air traffic with a model aircraft or a small RPA of less than 25kg take-off weight for professional/business purposes (as opposed to recreational use, which is permitted subject to certain conditions).\textsuperscript{204} In this case, since the photographer used the quadcopter to obtain close-up photos at the scene of a stabbing incident in an apartment, he was considered to have used the RPA in a professional capacity.\textsuperscript{205} The court imposed a 1,000 euro fine, of which 750 euros were conditional.\textsuperscript{206} The photographer and a journalists’ union have reported that they will appeal the decision.\textsuperscript{207}

Evidently, there is a patchwork of state regulations governing the operation of RPAs and this undoubtedly makes it extremely difficult for RPA stakeholders to be mindful of the complex web of rules and regulations within the United States and elsewhere. Needless to say, this situation is exacerbated for recreational RPA, as operators may, firstly, be unable to access existing local and international legislation, if any, and secondly, may not be in any position to fully appreciate the seriousness of any violations.

Informing the public at large is crucial. Gaps are evident and there is an urgent need for a strong legal framework. It is imperative for all RPA stakeholders, manufacturers, operators, and in-

\textsuperscript{201} See id.
\textsuperscript{202} See id.
\textsuperscript{203} See id.
\textsuperscript{205} See Dirks, supra note 200.
\textsuperscript{206} Dutch Reporter Fined _250 for Using Drone, supra note 198.
\textsuperscript{207} See id.
surfers to operate in a clear legal environment that offers predictability, certainty, and uniformity.

VII. NEED FOR AWARENESS

Consumers who purchase recreational RPA systems may find themselves being prosecuted for serious crimes, such as endangering lives, without realizing that they are violating the law. In the United States, flying RPAs in the airspace above a neighbor's house for recreational use is legal. However, flying the same device equipped with a camera to take photographs for commercial use is illegal: the operator potentially will be subjected to criminal prosecution unless the device is a certified aircraft operated by a licensed pilot with the FAA's prior approval. An already complex web of rules and procedures in the tightly regulated aviation environment is struggling to evolve with this industry and to ensure a sufficient safety standard in an already overcrowded, busy, and complex airspace.

As demonstrated, many recreational users of RPAs, particularly tourists, plead "ignorantia juris," or ignorance of the law, and argue that they were unaware of pertinent laws governing the operation of RPAs. Consequently, ignorance of the law may result in operators of unmanned aircraft inadvertently flying their devices in an illegal manner and being exposed to criminal charges.

It is crucial that international, regional, and national regulatory authorities, manufacturers, operators, users, and all RPA stakeholders become well-informed and cognizant of safety issues that arise from the use of RPAs as well as possible legal ramifications. The need for such awareness is amplified in light of the many challenges raised by the impending integration of civilian RPAs into non-segregated airspace.

The few cases discussed highlight distinct lacunae in the regulatory and legislative framework with regards to the operation of this rapidly developing technology that has already had an immense impact on the aviation industry. Evidently, there are inconsistencies in the extent of rules regulating the use of RPAs and, importantly, in the way that offenders are being treated. In

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209 Id.
210 See id.
some countries there have already been a number of prosecutions; still in others there is no framework in place to deal with RPA operators who violate procedures. Even where there are established rules, the cases discussed illustrate that violations are handled in varying degrees of severity, which is reflected in the diverse, inconsistent sanctions imposed that range from fines of varying amounts to possible imprisonment. This non-uniformity in regulating similar behavior is inequitable and creates an unjust legal environment. Such a system clearly contradicts the basic, entrenched principles of any legal system, namely, of fairness, equality, and justice.

Policymakers and drafters of legislative enactments should ensure that the legal framework surrounding the use of RPAs guarantees that safety standards are being maintained and afford an appropriate level of privacy protection while balancing the various stakeholder’s interests. Legislators and regulatory authorities need to ensure the safety of both the general public as well as the operators of RPAs. This is particularly true in light of the projected integration of RPAs into non-segregated airspace (proposed for enactment in September 2015 in the United States and in 2016 in the EU). It is very clear that it is a mammoth task for national regulatory authorities to cope effectively with the rapidly expanding civil, commercial, and recreational use of RPAs, to draft effective regulations, and to monitor the use of RPAs.

In addition, the lack of awareness of pertinent regulations greatly impacts aviation safety, security, and privacy issues. It accentuates the need for a simplified, user-friendly, easily accessible manual or guide for all RPA stakeholders that would provide awareness and knowledge of the applicable rules and regulations. Such guidance would act as a prophylactic measure, minimizing safety risks and limiting inadvertent infringements of relevant rules and procedures.

VIII. CONCLUSION

“Ignorantia juris,” or ignorance of the law, does not excuse. However, the difficulty for RPA users, especially recreational


users, to be fully cognizant of the laws, particularly the laws of countries that tourists visit for a short duration, should be taken into consideration. Laws are often difficult to access and shrouded in technical legal terminology. They also may vary extensively from country to country.

In light of the absence of a comprehensive legal framework outlining the rules, procedures, and policies for using recreational RPAs, there is a pressing need for the speedy development of accessible, concise, and understandable laws and policies that are readily available to all RPA stakeholders and to the public at large. Such would help to ensure the safe and legal operation of RPAs, which are almost universally expected to transform aerospace.