



# TERRUM

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**"DILIGITE JUSTITIAM QUI JUDICATIS TERRAM." "Ye who judge the earth, give diligent love to justice"**

# Limitless possibilities for UAV.

*Challenges, Myths and Reality*

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*by Carlos Sierra and Miguel Ruelas*

It is not very often when a pioneering and avant garde technology surfaces with limitless possibilities for mankind -whether dangerously or not- challenging the current normative production and development. The evolution of current activities and technologies elapses at a much rapid pace than the current standing of norms and the general standard criterion, provoking both the law and practitioners; surfacing uncomfortable questions for that that is factually known but legally uncertain. Unmanned Aerial Vehicles (UAV) bring us forth the opportunity to question the limitless advantages and disadvantages of their use and their proper regulation.

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Unmanned Aerial Vehicles (UAV), ordinarily referred to as drones are aircraft controlled, either by pilots from ground or by electronic pre-programed automated systems. Under this blunt definition, there are dozens of types of UAV, nonetheless it is possible to subdivide them into two general categories: i) those used for surveillance and miscellaneous purposes and ii) those used for military and armed purposes. The first category includes a broad number of drones used for different purposes including those used for surveillance by the border patrol of a state and those used by courier service companies to deliver packages. The second category includes specifically any kind of UAV with weaponry, missiles or any war object.

## Historic Background

Often categorized as ultramodern high-tech devices, drones are often misconceived as a weaponry and commercial device from the XXI century. As it is true that their usage and commercial incursion is a novelty product of this century, their antiquity may take anyone by surprise. The first registered use of drones dates to 1849, when the Austrians used a type of UAV for the invasion of Venice and farther in the Vietnam and Balkan Wars. However, their use has exponentially escalated in the last five years.

## Myths and realities

As their use has become so frequent and diverse, the truth about drones is often blurred by predictions, a young and limited regulation, and above all regular uncertainty. However, the reality, advantages and spectrum of possibilities that UAV advocate overshadows the myths. Concerning military drones two strong myths arise: i) their cheapness and ii) the easiness of slaughter. Concerning commercial and civil use, two principal concerns are brought to light: i) espionage and ii) a violation of human rights.

The first myth concerning military drones, relevant to lower prices is product of confusing commercial and civil use drones with military ones. The discussion surrounding drones is not to be centered on this myth, as drones

\* IN COLABORATION WITH MIGUEL RUELAS

as any other war artifact has a wide range of prices and sophistication. In fact, the United Kingdom spent £860m pounds on 54 drones alone. The second myth, concerning their potential foment on slaughter, as being easier to be effected is not entirely true. It is in fact characteristic of military drones their ability to avoid collateral damages and effectively engage in “targeted killing”.<sup>1</sup> Targeted killings, limit the conflict areas reducing casualties both to the aggressor as it is unmanned and for the civilians that are not target of the attacks.

Regarding the concerns raised by civil and commercial drones on a violation to human rights and espionage it is important to distinguish between the legally protected right, whether tort or criminal and the means by which such violation occurs. Stating that drones strictly represent a threat to human rights is appalling; for many goods, including manned aircrafts with all the potential benefits that they promise have been used for unlawful purposes. It is precisely here where the laws and regulations ante up.

## Challenges and Regulations

As before mentioned the evolution that drones have had in the last decade, has been so exponential that the regulation has exhaustively tried to follow in the running. It is, at least at this time, impossible to talk about an international framework that elaborates and regulates the use of civil and commercial drones.<sup>2</sup> The recent regulation is so novel that the European Agency of Aviation Safety just issued on March 12, 2015 a regulatory mark up for UAV, while the Federal Aviation Agency issued it no less than 6 months ago. Mexico, issued a *circular obligatoria*<sup>3</sup> revised on 2013 relevant to UAV regulation, operation and authorization.<sup>4</sup> The International regulation, along with the Mexican regulation have approached UAV norms on five punctual matters; i) the certification of the ground pilot; ii) the need for an Airworthiness certificate; iii) the corresponding registry; iv) the program of operations, and v) the restrictions of UAV usage in certain areas. Thus, assuring the responsibility in tort or criminal law for their misuse.

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Specifically in Mexico, the *circular obligatoria* divides drones by their heaviness. Those weighing over 20 kg., considered heavy UAV and those under the 20kg, considered light. Light aircraft only require Authorization for Operation by the Mexican Aviation Authority and those considered heavy, require apart from the Authorization for Operation: an Airworthiness certificate, registration mark and proper registry. Nonetheless, both require strict control with direct eyesight for operation.

The regulation will evolve, as the use and commercialization of UAV becomes more common and practical. There is a long road ahead to be tamed, explored and regulated, but the future may not be withheld by the fear of UAV. Imagine the distribution of goods, pharmaceutical products to those margined regions or those of impossible access. It is imperative to understand the benefits of drone use, especially in countries like Mexico. Drones can save lives, access remote areas and promote economic growth by both their production and use. Regulations evolve with knowledge and quotidian use thus, the proper use of drones represents indeed limitless possibilities.

1.- It is imperative to notice, that these are characteristics and factual realities of drones and at no point do the authors of this publication foment, respect or justify such actions.

2.- Excluding military UAV as they, like most military weaponry usage would hardly be matter of a treaty.

3.- Administrative mandatory bylaw instrument issued by the Centralized Public Administration of Mexico.

4.- Circular obligatoria known as CO AV-23/10 R1.

## **Britain and Mexico strengthen relation.**

The Dual Year between the United Kingdom and Mexico represents limitless possibilities of economic, education and cultural expansion for the two countries, stated Enrique Peña Nieto and the Prince of Wales. The Mexican president visited, as part of the celebrations for this dual year, London and in a series of events and meetings. The auspices that a commercial and economic alliance between the countries is well, beyond compare. Mexico is the 6th strongest commercial partner with the UK, and with this bilateral cultural and economic year round summit, it hopes to become even stronger, translating into massive economical benefits and opportunities for the Mexican Economy. *telegraph.co.uk 02/03/2015.*

## **Spending cuts for the Federal government.**

The surprising lowering prices of oil and the substantive appraisal of the American coin have resulted in struggles for the current spending program of the Mexican government. The truth and alarming fact is that more than 889 government programs are being revised and the budget cuts are massive as the preliminary budget for the Federal government has drastically been reduced, despite the fiscal reforms implemented last year by the government. Austerity measures are a must for the government spending, in order to surpass an alarming situation. *eleconomista.com.mx 02/03/2015.*

## **In Mexico Oil Market, Mood Moves From Excited to Anxious.**

Mexico kicked off the opening of its oil industry to great fanfare. At a packed event at the Technology Museum seven months ago, maps flashed on a giant screen showing dozens of oil fields that would be put up for bid to private companies for the first time in more than 75 years. With oil fetching around \$100 a barrel at the time, the projections were ambitious. Over the next four years, Mexico would attract more than \$12 billion in investment a year. By 2018, private companies would be pumping half a million new barrels of oil a day. Now, oil prices have sunk to almost half that level, and the atmosphere has turned anxious. *NY TIMES 13/03/2015.*

## **New Reforms to be approved against Forced Disappearance.**

The chamber of deputies in Mexico is set to approve a new law to legislate forced disappearances. These laws come 6 months after the disappearance of 43 students in Iguala, Guerrero, the biggest Forced Disappearance crime in the recent years. There is hope for this law to be able to finally correctly legislate whoever commits this crime and to be able to stop crimes like this to happen. This law will be accompanied with a severe punishment to whoever commits the crime as well as incorporating specialized agents to prevent Forced Disappearances and to help find whoever suffers this crime. *animalpolitico.com. 16/03/2015.*

## **Mexican Marine Implements X-ray Vehicles.**

The United States government made delivery of three Z Backscatter van vehicles to the Mexican Marines, each of them with short-range x-ray capabilities. These vehicles are able to "look" inside of a vehicle to detect if it is carrying any illegal objects. Despite only having a short range for looking inside vehicles, it can also detect materials with low-density atomic number making it extremely useful to detect any bombs or materials used to make them. It is expected for the vehicles to help decrease the number of illegal objects being smuggled inside the country or anywhere else. *redpolitica.mx 26/03/2015.*

## **Mexico's economic growth is disappointing: Krugman.**

The Nobel laureate stated that no one knows when will the 'Mexican miracle' happen. Mexico's economic growth is disappointing and no one knows when will the "miracle" happen, said Nobel laureate Paul Krugman. "Performance has not been terrible, but not as expected, so I would hesitate to predict when will this miracle happen," Krugman said during his keynote address at the 2015 National Convention of Industrialists organized by the National Chamber of the Transformation Industry (Canacintra). He added that "Mexico is much less vulnerable to oil prices compared to the past" because it now has a more diversified export industry oriented to manufacturing more than oil and that Mexico should invest more and better in basic education. *El Universal 29/03/2015.*

*In this month extract was prepared by Vera García, Pablo Domette, Miguel Ruelas, Lorena Gay and Harumi Wakida.*

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