



# Drones in Chile: An analysis of discourses, industry and human rights.

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## OUR WORK

This report was written by the Protected Data Foundation, supported by Privacy International. Sebastian Becker coordinated this research, with the support of Francisco Arellano and Rafael Luna. Edition and final revision by Romina Garrido. For requesting interviews or any other document please contact [hola@datosprotegidos.org](mailto:hola@datosprotegidos.org)

## LICENCE:

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## ABOUT US:

We are a non-profit organization and our mission is the promotion, defense and strengthening of the rights of privacy and data protection. Our NGO promotes discussions around the dignity, equality and freedom of people in regard with their privacy.

Within our organization there are several lines of action among which are:

- Pro bono strategic litigation
- Influence in international processes
- Advocacy in Public Policies
- Public and Opinion Campaigns
- Advising and Training

The Protected Data Foundation is managed by a four-member board that does not receive remuneration for its functions and is appointed by its Founders. Along with this, we have a network of collaborators and volunteers who are committed to the work of the organization from technical, professional or economic perspectives.

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# Drones in Chile: A human rights, discourses and industry analysis.

## I. Introduction:

In the last decade, Latin America has experienced one of the most important economic moments in its history, which brought with it the introduction of new technologies and the development of multiple industries. Thus, our region has been particularly open to technology, participating in productive processes and the development of services. Drones are a good example of this, a cutting-edge technology that came to the region to innovate in various industries, including the public safety industry.

The Latin American countries have developed different tactics to promote citizen security through surveillance, with a visible rising trend in this industry, due to the levels of insecurity that exist in the region; Governments and corporations have made heavy investments to deal with insecurity, bringing with it political dividends and satisfactory returns for private enterprise. In this way, drones seem to be a phenomenon, although incipient, with a great upward projection: as new forms of video surveillance develop, political discourses that justify them, cheap softwares compatible with drones and capital injections to the industry. Slowly, privacy and others rights will erode to the benefit of citizen security discourses.

Is it possible a world where there are thousands and thousands of drones with cameras doing not only surveillance but also a myriad of activities related to the most diverse interests? How would you present a world where the expectations of privacy in public (and private) spheres were almost completely eliminated from social life by the amount of cameras swarming the skies? What would it be like to have surveillance by drones with biometric identification systems that work permanently in "dangerous" places in pursuit of public safety? These questions do not seem very distant to a nearby reality, for example, according to *The Economist*, China's private companies have access to the biometric government database of 700 million Chinese, half of its population<sup>1</sup>. What would be its impact with hundreds of drones in the skies?

The present report seeks to take charge of the legal and sociological issues behind the surveillance, through the realization of an inquiry about the phenomenon of drones from an economic, sociological and legal perspective. That is, have material available to help us understand how the drone industry works and what its projections are in the near future. In addition to the above, the report seeks to understand the logic behind the purchase of drones for video surveillance in the region; finally, understand the consequences that the massive, indiscriminate and constant video vigilance that they carry out, and could make, the drones in the

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<sup>1</sup> The Economist, "Facial recognition technology will change the way we live", 2017. Available at: [https://www.youtube.com/watch?v=nT\\_PXjLol\\_8](https://www.youtube.com/watch?v=nT_PXjLol_8)

region to our systems of rights and democracies of the region. The above in order to generate narratives that allow counterweights to political discourses that tend to increase security without assuming the costs on human rights that this kind of measures mean.

As a result of the above, this report is divided as follows: a small introduction to drones, showing their uses and main characteristics; the projections of the drone industry and business models through video monitoring; analysis of political discourses behind the purchase of surveillance devices in the region; and finally, a legal analysis on the implications for human rights and the existing regulations in the region.

## **II. Methodology:**

The countries analyzed in depth are Argentina, Chile and Brazil. The report is made with inputs that range from interviews with experts, gathering public access information, gathering journalistic articles and specialized bibliographic review.

The methodology then comprises:

- Documentary analysis (Laws, technical regulations and related bibliography).
- Press summary.
- Analysis of public documents obtained by access to information.
- Interviews with stakeholders.

The way that the report is written avoids that the quotations and interviews are understood as outside of the work, in order to give an easier experience to the reader at the moment of studying the report. For this purpose, the information is referenced when it corresponds.

## **III. Report:**

### **1. Definitions and characteristics of drones: what are we talking about?**

The International Civil Aviation Organization (ICAO) points out that a drone is "a set of configurable elements consisting of a remotely piloted aerial device, which is associated with a pilot station, which requires command and control links, and any other system that is required during flight operations"<sup>2</sup>. That is, the drones are not only the aircraft itself but also the technical components of its operation system, which includes the function of autopilot, its controller, tools and links necessities for flight control. For purposes of this report, we will focus on civilian drones and their industry, however, military drones are also used against crime and urban violence. Moreover, the categorization of civilian and military drones is blurred by the use that governments give them, so a strict categorization would have no meaning and correlation with reality; that is why, although this work will focus on the use of civilian drones, there will be some considerations regarding the use of militarized drones by Latin American governments.

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<sup>2</sup> ICAO, Unmanned Aircraft Systems (UAS), Order Number: CIR328, 2011, Glossary. In: DGAC (Directorate General of Civil Aviation) DAN 151: "Operations piloted aircraft at distances (RPAS) in matters of public interest, made over populated areas".

Civil drones are versatile devices that can go beyond the taking of images and recording, including:

- Video surveillance: equipped with video surveillance systems capable of storing and transmitting images live and/or achieving facial recognition, allowing the identification of specific people, objects or situations, identifying behavior patterns, reading and identifying vehicles and patents, 360° vision, infrared systems capable of recording in conditions of low visibility and even at night (*night vision*).
- Detection systems: identify vehicles and objects in their positions, even through walls or other objects with infrared or other systems.
- Radio-frequency equipment: can be used as antenna to capture Wi-Fi positions and control cellular signals and wireless connections<sup>3</sup>.

For the drone industry, this multiplicity of uses is crucial to its success. Drones are not only being used for video surveillance or recreational issues, their massiveness and success are due to the fact that there are multiple uses that other industries have been able to take advantage of; from mining to agriculture, drones have been used for tasks such as inspections, fumigation or others. Even Amazon, UPS and Google are working for a delivery system using drones, which could transform forever the industry of office and mail<sup>4</sup>.

Precisely the ability to collect data, as its versatility makes drones much more powerful and efficient than closed circuit television (CCTV). The ability of drones to record in a 360° panorama and, at the same time, according to the discretion of the operator, to carry out personalized follow-ups - without alerting the person or vehicle being monitored - makes them especially powerful for the industry of security. Drones are able to identify and track people, situations or objects, as well as identify patterns of behavior or issues linked to the maximum intimacy of people, so they have a special impact on personal data, like no other system before.

Due to that versatility and ability to perform a personalized surveillance is that the drones become such an exceptional and powerful device. Drones alone can "erode our individual and collective privacy"<sup>5</sup>. Moreover, the European Union has pointed out that drones, as image processors (which include images of people, houses, license plates, etc.) and for their ability to reveal data about an identified or identifiable person, "have an impact in privacy and data protection and therefore activates the application of personal data protection legislation"<sup>6</sup>.

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3 Europe Union, "Opinion 01/2015 on Privacy and Data Protection Issues Relating to the utilization of drones", 16 of June 2015. Available at: [http://ec.europa.eu/justice/data-protection/index\\_en.html](http://ec.europa.eu/justice/data-protection/index_en.html) . pp. 6-7

4 The Economist, "Welcome to the Drone Age. Miniature, pilotless aircraft are on the verge of becoming common place ", Sep. 26 th , 2015. Available at: <https://www.economist.com/news/science-and-technology/21666118-miniature-pilotless-aircraft-Verge-are-becoming-commonplace-welcome> .

5 Ryan Calo, M. "The Drone as catalyst privacy" 64 Stanford Law Review, Online 29, December 12, 2011. p. 29.

6 European Union, Ob. Cit. p. 7

The above is relevant: the countries and their authorities in Latin America have not realized the importance and implications of the use of drones in the rights of people and the way in which they can collect information. Despite the increased use of drones in the region, there is a regulatory legal vacuum (which will be addressed below) that gives free passage to industries and authorities to use drones for surveillance purposes without adequate framework of action, or limits on the data of people.

The following sections will review how the drone industries operate and the projections it has worldwide. With this we can know the magnitude of the challenge of addressing drones with regard to the rights of people and find ways to avoid (or inhibit) collateral damage through proper regulation<sup>7</sup>.

## 2. Drones industry, where is it going?

The expansive use of drones seems inevitable. Drones have multiple applications and that makes them not only a tool that in some cases is useful, which without proper regulation can be dangerous, but also in a very good business. Drones as a business have gone beyond the military sphere and are becoming the next mobile revolution. For the Director of Privacy and Robotics at Stanford University, the massive nature of the drone business could make us rethink - finally! - how we are understanding privacy and its nature<sup>8</sup>.

In order to understand the presence of drones in the business world and its encouraging future, we have Goldman Sachs' research which establishes that by 2020 the industry will move around \$US 100 billion, including military and civil technology. It is divided into 70% for the former and 30% for the latter. Within this, \$US 17 Billion represent recreational drones and \$US 13 Billion for different civil and commercial industries, the most prominent being construction (\$US 11.2bn), agriculture (\$US 5.9bn), infrastructure inspection (\$US 1.1bn), among others. For police uses, protection and border surveillance, the amounts to be invested for the year 2020 are \$US 885 million in police and \$US 380 million for border control only in the United States, revealing the enormous niche that is observed in this industry in the near future<sup>9</sup>.

Another *forecast* - from BI Intelligence - points to a much smaller prediction in the area of civil and commercial drones, with only \$US 2 billion for 2020 and \$US 10 billion in the military industry. The report indicates that the military industry will continue to lead the market, however, the

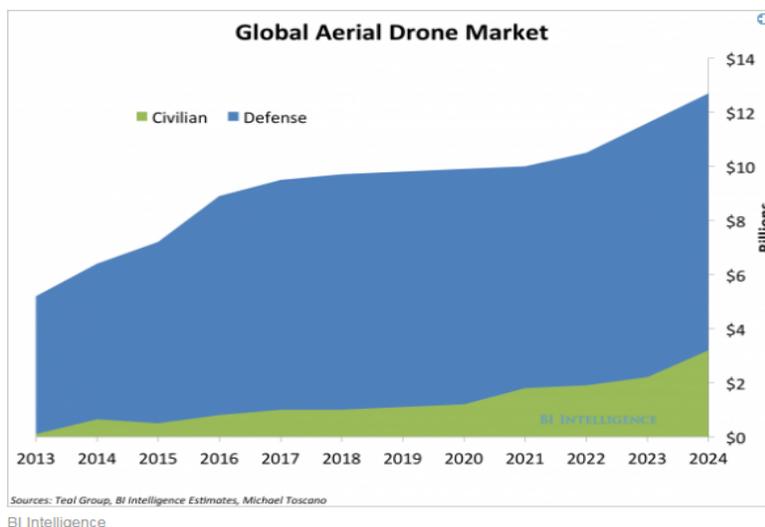
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7 Office of the Privacy Courtage of Canada, "Privacy Implications of the Spread of Unmanned Aerial Vehicles (UAVs) in Canada", April 30, 2014. p. 5 [Available at: [http://www.sscqueens.org/sites/default/files/Surveillance\\_Drones\\_Report.pdf](http://www.sscqueens.org/sites/default/files/Surveillance_Drones_Report.pdf)].

8 Ryan Calo, M. Ob. cit. p. 30

9 Goldman Sachs, "Drones: Reporting for work", 2017. Available at: <http://www.goldmansachs.com/our-thinking/technology-driving-innovation/drones/>

entrepreneurship sectors could increase their market share if the countries establish greater regulation and develop new ways to use drones in different areas<sup>10</sup>.



A third approach to the drone industry is that proposed by the Gartner company, published by *The Economist*. Their prediction for the year 2017 is that the industry of the drones for commercial purposes will move between \$US 3.6 billion and \$US 2.3 billion, increasing its popularity over the coming years<sup>11</sup>. The figures are justified due to the low prices of the devices and the new business forms.

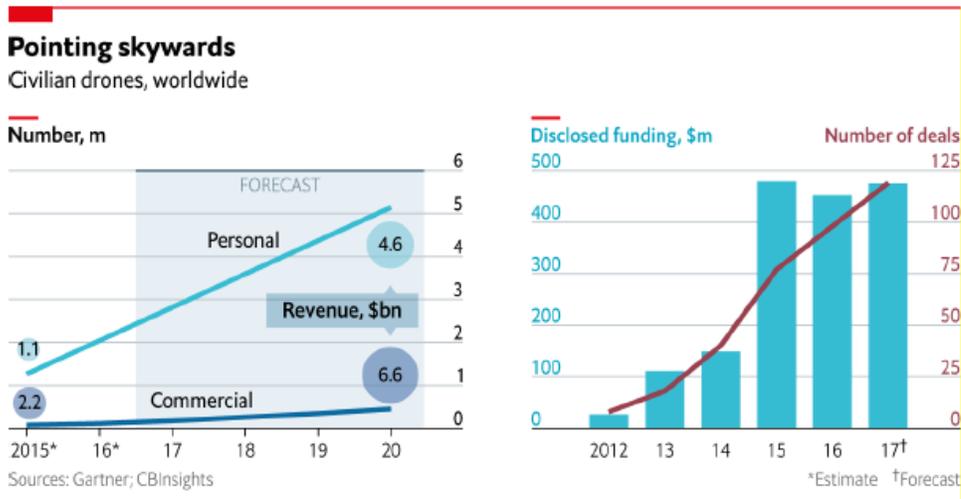
<b>Table nº1: Forecast of income of personal and commercial drones, 2016-17 (in thousands of US dollars)</b>		
	2016	2017
Personal	1,705,845	2,362,228
Commercial	2,799,272	3,687,128
<b>Total Revenue</b>	<b>4,505,117</b>	<b>6,049,356</b>
Total Revenue Growth	35.5%	34.3%

Source: Gartner (February 2017)<sup>12</sup>

10 BI Intelligence, "The Drones REPORT: Market Forecasts, regulatory barriers, top vendors, and leading commercial applications". Available at: <http://www.businessinsider.com/uav-or-commercial-drone-market-forecast-2015-2>

11 Garner (February 2017). Available at: <http://www.gartner.com/newsroom/id/3602317>

12 Garner (Febrero 2017). Available in : <http://www.gartner.com/newsroom/id/3602317>



Despite the fact that certain specialists, such as Miriam McNabb<sup>13</sup> point out to us that the numbers of market studies "depend on what they measure; some measure the number of drones sold, others all the money that moves around the industry, there is an overlap between commercial and civil uses so the market studies or *forecasts* are not very reliable"<sup>14</sup>; nonetheless, it can be noted that the trend of the drone industry is upward.

For *The Economist*, the increase in commercial drones (for use in industries and hobbies) is due to "strong competition in the market that has made the machines much cheaper, more reliable and more capable than the same ones a few years ago. [...] the rapid innovation took the market of consumers being adopted by the companies"<sup>15</sup>. A second reason has to do with the lack of regulation that exists in the different technical departments<sup>16</sup>; and third, "the industry experienced a jolt as push -up start-ups that came to be dominated by DJI"<sup>17</sup>.

The case of Dajiang Innovation Technology Co (DJI) is very illuminating to understand how the drone industry is expanding. The company was founded in 2006 by the Chinese entrepreneur Frank Wang, and is undisputedly the leading company in the market. DJI owns 70% of the market of drones for consumers and according to Forbes, its flagship product (Phantom) sold \$US 1 billion dollars in 2015<sup>18</sup>. DJI combined, like no other company in the world, low prices with accessibility, making drones a global hobby. For example, its sales are divided by 30% for Asia and 30% for the United States; 30% for Europe and 10% for Latin America and Africa<sup>19</sup>.

13 Drones marketing specialist and CEO of jobfordrones.com page.

14 Personal interview on July 18, 2017 .

15 The Economist, "Technology Quarterly Taking Flight", June 8, 2017. Available at: <http://www.economist.com/technology-quarterly/2017-06-08/civilian-drones>

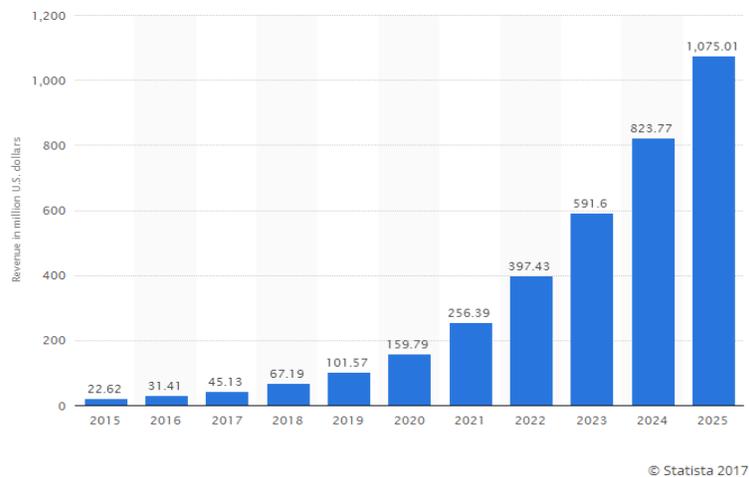
16 Ibid.

17 Ibid.

18 Forbes, "The (multibillion - dollar) war drones". Available at: <https://www.forbes.com.mx/la-multimillonaria-guerra-de-los-drones/>

19 Ibid.

Despite the low percentage of sales compared to other regions, DJI executives are optimistic with Latin America. The geography of the region and the importance in agriculture and mining in countries like Brazil, Peru or Chile make the region attractive for companies to continue selling and expanding: "there is an important space to grow in the region," says McNabb<sup>20</sup>. For example, for Statista, in Latin America, revenue projections for 2020 are of \$US 159.79 million and by 2025 it would reach a trillion dollars. The graph of Statista points it out like this:



For the regional director of DJI in Latin America, Manuel Martínez, "in Latin America, drones are a corporate issue. The only markets that one sees for recreational drones are Chile and Mexico, because Chile has free trade agreements and Mexico is on the border with the United States. The rest of the Latin American countries the drones are for business, inspections, agriculture and recordings"<sup>21</sup>.

Specifically, Mexico accounts for 5% of DJI's global market, according to Price Waterhouse Coopers (PWC). This makes Mexico one of the most important countries for Latin America along with Chile and Uruguay. For Martínez, the region presents four main industries for the use of drones:

- Farming
- Surveillance and security
- Industrial inspections
- Filming<sup>22</sup>

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20 Personal interview on July 18, 2017 .

21 China Daily, "Chinese drone DJI-maker looks to expand in Latam" April 15, 2017. Available at: [http://www.chinadaily.com.cn/business/tech/2017-04/15/content\\_28942207.htm](http://www.chinadaily.com.cn/business/tech/2017-04/15/content_28942207.htm)

22 Forbes, "Mexico, the best market for DJI drones in Latin America", June 2, 2017. Available at: <https://www.forbes.com.mx/mexico-mejor-mercado-los-drones-dji- Latin America/>

In addition to the drone hobby market, the use of drones in other industries such as inspection of pipes, rescues, movies, TV, among others, is growing in Mexico. In Uruguay, agriculture and livestock are the preferred industries for the acquisition of drones. Chile has explored the use of drones in construction, agriculture and mining.

In this way, the drone industry is moving to larger numbers and inserting itself in various sectors of the economy. Latin America is not the exception and although the numbers are not comparable with Europeans or Asians markets, there is a growing industry that is favored by the specific business ecosystems that the region handles. Drones are being used for both agricultural affairs and video surveillance, so it is necessary to delve into drone business models of surveillance and their possible repercussions.

### **3. Video surveillance as a business model.**

As highlighted in the preceding paragraphs, video surveillance is shown as one of the most promising industries for drones in Latin America. Therefore, it is not surprising that countries such as Chile, Argentina or Brazil are implementing drone technology to fight crime. Low prices, lack of regulation in terms of information processing, and social inequalities typical of the region allow for the expansion of drones as surveillance elements.

On July 4, 2017, in Buenos Aires, the Mayor of the city, Horacio Rodríguez, with the Security Minister, Patricia Bullrich, presented the surveillance aerostatic system that would allow control of the highway between La Plata - Buenos Aires and General Paz<sup>23</sup>. This program will include four drones (three would be added later) to monitor General Paz and La Noria Bridge<sup>24</sup>.

The drones are not new to the Argentine police. In 2015 the metropolitan police put together their own, this was the first time the drones were used to prevent crime and monitor the population as a preventive monitoring mechanism. In 2015, the police said: "The idea is that they can enter places where a human being cannot be or is dangerous"<sup>25</sup>.

In the same way, Brazil began with the use of drones for video surveillance. Following the events of the World Cup (2014) and the Olympics (2016), the Brazilian Air Force (FAB) acquired several RPAS Hermes 450 that can fly autonomously for 36 hours. These RPAS were equipped with a Sky

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23 The Nation, "launched a new security system for the city with cameras mounted on balloons", 4th July 2017. Available at: <http://www.lanacion.com.ar/2039647-presentaron-un-nuevo-sistema-de-safety-for-city-with-camera-mounted-on-balloons-Hot-air>

24 The Nation, "Balloons and drones How Buenos Aires police monitor the city from the air", 10th July 2017. Available at: [http://www.lanacion.com.ar/2040679-globos-y-drones-como-la-Police-portena-elses-the-city-from-the-air?utm\\_content=&utm\\_medium=social\\_buffer348d4&utm\\_source=twitter.com&utm\\_campaign=buffer](http://www.lanacion.com.ar/2040679-globos-y-drones-como-la-Police-portena-elses-the-city-from-the-air?utm_content=&utm_medium=social_buffer348d4&utm_source=twitter.com&utm_campaign=buffer)

25 Ramallo, Felix. InforTechnology, "the metrocoptero, the drone of the Metropolitan Police and flies in the city", 17th March 2015. Available at: <http://www.infotechnology.com/culturageek/El-Metrocoptero-el-drone-de-la-Policia-Metropolitana-ya-fly-in-the-City-20150317-0002.html>

Eye sensor with the ability to monitor an area of 100 square kilometers<sup>26</sup>. This acquisition is complemented by the 14 Heron drones that were purchased from Israel's Aerospace Industry capable of recording at 30,000 feet, and the amounts invested by the Brazilian defense are around \$US 350 million, according to Infodefensa<sup>27</sup>. According to The Guardian, the purchase of drones specifically by Brazil bordered on \$US 12 million<sup>28</sup>. As a result of these acquisitions, in 2013 the director of the Inter-American Commission on Human Rights (IACHR), Santiago Cantón, stated in the context of a hearing before the IACHR that Brazil was the Latin American country with the largest acquisition of drones in the region<sup>29</sup>.

The purchase of drones by the Brazilian State responds to the special context of insecurity that was experienced as a result of possible terrorist attacks that could have occurred during the Olympics and the World Cup. On the other hand, it could respond to the political instability that Brazil is experiencing in recent times. For the LAVITS network researcher Fernanda Bruno, "the contract that Brazil signed as the host country is that it should submit to international standards in terms of security against terrorism. But the funny thing is that Brazil and its authorities took advantage of that moment to approve an anti-terrorist law being that historically there has not been a constant situation of terrorism in Brazil that justifies implementing such a law, but the truth is that this law sought to criminalize and punish more intensely the crimes that are related to urban violence and social security, crime that should not be within that matrix of terrorism"<sup>30</sup>.

In Mexico, unmanned aircraft technology has also been used to monitor borders. The Ministry of National Defense (SEDENA) uses its "drone squadron" for intelligence work against organized crime, but also to patrol border regions, support disaster work and monitor strategic installations, such as those of Petróleos Mexicanos (PEMEX) and the Federal Electricity Commission (CFE). The above is corroborated by Carlos Morales, a *Forbes* journalist, when he said in an interview that "in Mexico there have been multiple cases of authorities using drones taking advantage of the legal vacuum that exists to monitor public buildings and agglomerations"<sup>31</sup>.

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26 Varon, Joana & Felizi, Natasha. "I went out hunting surveillance teams at the Olympics", Chupadatos, Coding Rights. Available at: <https://chupadatos.codingrights.org/es/sai-para-cacar-equipamentos-de-vigilancia-no-rio-olimpico/>

27 Infodefensa, "Brazil buys 14 UAVs of Israeli IAI for 350 million dollars." Available at: <http://www.infodefensa.com/latam/2009/11/12/noticia-brasil-compra-14-sistemas-uav-de-la-israeli-iai-por-350-millones-de-dolares.html>. ACCORDING With Cattan, Nacha & Barnes, Taylor was the amount by \$ 395 million, available at: <https://www.csmonitor.com/World/Americas/2011/0420/Spread-of-drone-programs-in-Latin-America-sparks-calls-for-code-of-conduct>

28 Marina Hyde, "World Cup 2014: Brazil at the finals to google-eyed man will be king", The Guardian, 28 th May, 2014. Available at: <https://www.theguardian.com/football/blog/2014/Jun/28/world-cup-2014-brazil-security-measures>

29 Cupolo, Diego. "Drones use soars in Latin America, Widely Remain unregulated", December 19th, 2013. Available at: <http://upsidedownworld.org/archives/international/drone-use-soars-in-latin-america-remains-widely-unregulated/>

30 Personal interview, August 31, 2017.

31 Interview with Carlos Morales issued: 08/08/2017.

SEDENA has also publicly acknowledged that it has used its drones to monitor the freight train traveling north, known as "The Beast," which daily transports hundreds of migrants to the United States<sup>32</sup>. Although for Morales, "it's the police authorities, not military men, who use drones."

It is clear that not only in Brazil but also in Argentina, Mexico and Chile (as we will see in the next section) there is a militarization of urban spaces and experiences, using devices such as drones that are originated (in case of Brazil) for the war but end up filling the city, overflowing and permeating the surroundings of it, blurring the boundaries between civil and military, and between public and private<sup>33</sup>.

#### 4. The Chilean case's drones

On April 21, 2017, the municipality of Las Condes through its Mayor Joaquín Lavín, implemented a surveillance system through two RPAS in the poorest sectors of the district. The reason why they were acquired was: "citizen security and for the provision of assistance in emergency situations or catastrophe"<sup>34</sup>. The drones are from the DJI brand, model Matrice 600 Pro, with a Z30 DJI camera with a 30x optical zoom and 6x digital zoom<sup>35</sup>. This zoom is powerful enough to recognize small objects (such as a red pencil) 150 meters away<sup>36</sup>.

Chile is also witnessing the trend of a growing drone surveillance industry. In fact, Petric company billed \$US 11 million in the last 10 years, providing surveillance cameras and CCTV, only considering public contracts<sup>37</sup>. This company, in addition to selling drones, sells biometric identification system, surveillance balloons and other devices of the same nature.

The security companies in Chile have grown by 46% between 2010 and 2015, and the richest communes in Santiago (Las Condes, Vitacura, Lo Barnechea, Providencia and Santiago) have spent, in 2015, \$US 30 million in public security, according to local media<sup>38</sup>.

Particularly, on the drone industry in Chile, the company Dronestore (provider of these devices in the commune of Las Condes) billed \$US 63,000 in the last 5 years only in public contracts. According to its CEO, Jorge Zalaquett, in one year (2014 to 2015) they increased their sales by

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32 The "drones" of Mexico: who uses them and why , " Political Animal. [Online] Available at: < <http://www.animalpolitico.com/2015/07/los-drones-de-mexico-quien-los-utiliza-y-por-que/> >

33 Tironi, Martin and Valderrama Matthias. "Urban militarized and cosmopolitics situation: The case of the Surveillance Blimps in Santiago de Chile", Revista Latinoamericana Polis, Vol 15, No. 44, 2016. p. 137

34 I.Municipalidad of Las Condes. Report to the Court of Appeals of Santiago, p. 9. Available at: <http://corte.poderjudicial.cl/SITCORTEPORWEB/> number case: 34360-2017.

35 For further technical details see in: <http://www.dji.com/zenmuse-z30/info#specs>

36 For a demonstration, see: <https://www.youtube.com/watch?v=roxgQh73ye8>

37 Pino, Patricio. "Entrepreneurs after the business of electronic surveillance of municipalities", La Segunda, May 12th, 2017. Available at: <http://impresa.lasegunda.com/2017/05/12/A/fullpage#slider-23>

38 Orellana, Antonia. "Drones and Globes: How to monitor business expands in Santiago from the upper quarter" Bewilderment, 24th February, 2017. Available at: <http://www.eldesconcierto.cl/2017/02/24/drones-globos-He-expands-from-neighborhood-high-business-monitor-santiago-from-heaven/>

300% and during the 2015-2016 period their sales increased by 75%. This company was the first to sell DJI drones in Chile and, at present, there are six other companies that are the official distributors in Chile of this brand<sup>39</sup>.

For purposes of this work, all public contracts were analyzed from 2016 to date, and according to information published by the State, Chile has spent on drones \$US 350,292<sup>40</sup>. Specifically for surveillance, the amount is \$US 124,118. Due to the implementation of drones - and as will be seen below - a lawsuit was filed against the Municipality of Las Condes, which could determine the legality of massive video surveillance systems using drones.

## **5. Surveillance speeches in Latin America**

With the irruption of the business model of drones as video surveillance mechanisms in the region, it is now necessary to analyze what discourses support this business model. Added to this, the effects of surveillance on the general population must be explained: What kind of society are we building with highly invasive security systems? What are the consequences of putting - literally- drones on the heads of people to monitor and record them? So this section aims to reveal the discourses behind the acquisition of drones for surveillance and how they relate with the drone industry.

Therefore, the present section will be divided into four parts: in (5.1) the panoptic and post-panoptic models will be explained, to show that drones are in the middle of these two models of society and their corresponding discourses; in second place (5.2) we will review how the discourses on video surveillance and drones intersect with the drone industry in the Latin American region; in (5.3) the post-privacy discourses that feed the speeches already mentioned and the drone industry will be reviewed, in particular the Chilean case. Finally, in (5.4) the effects on societies of a discourse unleashed in favor of video surveillance and drones will be explained, and how these can affect specific groups of society.

### **5.1. Drones and the panopticon model.**

In the digital age, as never before in the history of humanity, governments have more devices, tools and technology to monitor and watch the population, being the drones a clear example of this: the versatility of drones to obtain images from the sky and make personalized follow-ups is a unique tool and never before seen, that is the reason of its power. These technologies used on

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39 Despite the efforts of the NGO Protected Data, could not get an answer or Rodrigo Salcedo, CEO of DJI in Chile, and Jorge Zalaquett CEO of Dronestore.

40 The table with this information is in reference section of this work.

the population to monitor them build models of control and discipline that respond to a panoptic model<sup>41</sup>.

As drones are handled by a few people for surveillance, we are facing a panoptic manifestation ("to be visible but unverifiable"), that is, to the extent that the authority uses the devices of the drones to control the discipline ("not offend") of the citizens, we are facing a panoptic speech. The behaviors under surveillance will be guided under the authority, according to its rules and parameters of a "normal citizen".

Foucault explains that "the panopticon is a wonderful machine that, from the wishes of the most different, produces homogeneous power effects"<sup>42</sup>, which implies a control (power) on the population, but not only that: "it can be used as a machine to make experiments, *to modify behavior*, encourage or reeducate the practices of individuals"<sup>43</sup>. The panopticon is a machine of power that through the observation of circumstances active and increases this power, disciplining to "not offend", "not to drug-deal", "not to act as a stranger", etc.<sup>44</sup>.

Drones are surveillance devices because in them "we find the intention of regulate, systematic and focused attention on personal data, taking into account control, law, administration, influence or protection, we are observing surveillance"<sup>45</sup>.

In light of the panoptic effects, it is that the surveillance of drones in Latin America is shaping up. The objective of the authority is to control and monitor the population so that it does not commit crimes or undesired acts, transforming the drones not only into surveillance mechanisms but also as political machines with the purpose of applying discipline to the population.

The development of technologies is creating a new concept of panoptic where "the forms of surveillance have been liquidated and invigorated, flooding all the spaces of the city becoming increasingly ubiquitous and invisible"<sup>46</sup>. Technologies have turned surveillance into liquid that flows from the authorities to ordinary people being surveillance system, cell phones, video cameras, Internet, social networks and, of course, drones. Fernanda Bruno calls this phenomenon "distributed surveillance" because it is a process that goes beyond an individual concept, distributing itself among multiple agents, human and non-human<sup>47</sup>.

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41 Foucault, Michel. "Vigilar y Castigar. Nacimiento de la Prision", Siglo XXI Editores, 2nd edition, Buenos Aires, 2008. pp. 227-261.

42 Foucault, Michel. Ob. Cit. p. 2. 3. 4

43 Ibid. p. 236. Highlighting its own.

44 Ibid. p. 237

45 Bruno, Fernanda. "M'quinas de ver, modos de ser" Editora Sulina, Porto Alegre, 2013. p. 85

46 Tironi & Valderrama. Ob. Cit. p. 134

47 Bruno, Fernanda. Ob. Cit. p. 26

Drones are situated in a particular context where anyone and anything can be a surveillance device, settling in our technologized societies a "democratization of surveillance"<sup>48</sup>. Thus, the drones are just a one control and monitoring technology falling between two spheres and levels of society: one in which the authorities intend to discipline and control the population and the other one in which society moves towards a transparent society involving a total surveillance, a true "inhuman society of control"<sup>49</sup>.

## 5.2. Reflections on surveillance speeches in Latin America.

As we saw in the previous section speeches surveillance in Latin America are very important for the authorities, so they invest significant amounts of money to achieve *citizen security*. Latin American countries are innovating in how to monitor, with the drones as ideal response to this regional need: the authorities can see anyone from a panoramic perspective while performing custom tracking without raising any kind of suspicion; Drones are cheap and accessible, obtaining images like no other video monitoring device. The issue is obvious: Why is it so important video surveillance for authorities and governments? Why are authorities willing to spend large sums of money on technology to monitor the population? Why this urge to spend on the latest devices on the market to monitor the population rather than invest money in more productive issues for society as education, culture and sports issues?

For a first approach to this answer, we can quote the analysis of Bruno: "the sense of video surveillance was to protect the people who inhabited these privileged spaces [...] surveillance cameras were installed to reproduce a rhetoric and security sense for the population inhabiting these spaces to feel protected from another population it sees as threatening, dangerous and violent"<sup>50</sup>.

Bruno analysis can be divide it into two ideas: first, the demand on public safety; and secondly that the *threat is not us but them*.

The need for public safety is a phenomenon that crosses all of Latin America and is one of the most important concerns for the people of the region<sup>51</sup>. This implies that, as Paul Carvacho<sup>52</sup> says: "The politician in his speech offers hope that certain social problems can be solved using the criminal justice system [...] what is being done is to provide an easy, simple and concrete solution, which is the secret of penal populism. Therefore, public safety will always be used as a spearhead,

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48 Chul-Han, Byung. "Sociedad de la transparencia", Barcelona, Herder, 2013. p. 90

49 Ibid.

50 Personal interview with Fernanda Bruno, on July 18, 2017.

51 According to the "National Study of Public Opinion" in Chile it is the most important with 55% of the considerations according to study problem. Available in: [https://www.cepchile.cl/cep/site/artic/20170831/asocfile/20170831165004/encuestacep\\_jul\\_ago2017.pdf](https://www.cepchile.cl/cep/site/artic/20170831/asocfile/20170831165004/encuestacep_jul_ago2017.pdf). Argentina and Latin America in 2014 was presented as the most important issue for citizens violence and crime. Available at: <http://diaadia.viapais.com.ar/argentina/encuesta-la-inseguridad-y-la-economia-los-temas-que-mas-preocupan-los-argentinos>

52 Pablo Carvacho Traverso is an professor at the Academic Institute of Sociology at the Pontificia Universidad Catolica de Chile.

because it is a seemingly efficient and quick way to solve complicated problems, and that is a false solution"<sup>53</sup>.

To Bruno is not the danger itself which encourages surveillance but the *risk*<sup>54</sup>. The notion of risk is motivating the implementation of these technologies: if people feel the risk to be assaulted there is a need to control that feeling of insecurity. This notion of risk also explains that, for example, in Chile, in the last six years the crime rate has remained stable (35% in 2010 and 39.7% in 2016) but the fear of being a victim of crime it has risen from 60% in 2010 to 85% in 2016<sup>55</sup>. As long as there are predictive and preventive mechanisms to provide security (defined as a decrease risk) technological devices to control public safety will be legitimized<sup>56</sup>.

Not only the public speeches of public security are driving the increase to video monitoring. Politicians have the need to show themselves as *efficient*. When public policies focus on presenting themselves as *smarts* or *technological*, we are admitting more technologies in our cities. For Bruno, "surveillance as a way for the government of addressing the issues of the population, gives the impression of being efficient and caring for its citizens with high technology"<sup>57</sup>, making speeches where management not only solves security (or making you believe you are safe), but also to show itself as an efficient, modern and technological.

We can now make a connection between political speeches and industry. As noted, there is a promising industry of surveillance by drones in Latin America that already have governments of countries like Brazil, Argentina and Chile acquiring them to monitor their population. This has allowed politicians to show an efficient and innovative facade for fighting crime. To Byung-Chul Han, a transparency – and control - oriented society produces that "politicians are not measured by their actions, and this engenders in them a need for dramatization [...] the public sphere becomes an exhibition"<sup>58</sup>. Thus, "rulers are eager to give easy solutions for the problem of insecurity, and that is something that puts them well in the hand of companies that want to sell, so if you have politicians who go making easy promises, companies are ready to sell", says Javier Pallero<sup>59</sup>.

So we have politicians who campaign promises to solve the crime quickly through technology, where companies are happy to deliver the latest innovations to public bodies and create this scene of a *crack down on crime*. As public bodies are good payers, companies are willing to show this *efficient and modern face against crime* with the best possible technology, including drones.

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53 Personal interview, August 16, 2017.

54 Bruno, Fernanda. Ob. Cit. p. 37

55 CEAD, "Result ENUSC 2016 and 2010-2016 compared series." Available in: [http://www.seguridadpublica.gov.cl/media/2017/04/00\\_Total-Pa%C3%ADs\\_ENUSC-2016.pdf](http://www.seguridadpublica.gov.cl/media/2017/04/00_Total-Pa%C3%ADs_ENUSC-2016.pdf).

56 Bruno, Fernanda. Ob. Cit. p. 39

57 Personal interview with Fernanda Bruno, on July 18, 2017.

58 Chul-Han, Byung. Op.cit. p. 69

59 Personal interview, Javier Pallero, Access Now's Policy Analyst for Latin America. September 14, 2017.

Studies on safety and perceptions of insecurity in Latin America, allow to emphasize that surveillance is geared not so much to violations of the law, but to the opportunities in which such violations occur, therefore the objectives of surveillance are not only potentially troublesome individuals, but all those who may have the opportunity to be problematic for them, so the population being monitored is much higher<sup>60</sup>.

Security and stories linked to it are multidimensional themes based on discursive constructions, which postulating and offer several readings based on the natural concern of human beings to live in safe spaces. For most people, worries about their daily security generate more insecurity and fear than the fear of a global cataclysm<sup>61</sup>.

The first of these readings to identify is the political discourse based on a speech of extreme and virulent character, linking insecurity to lack of authoritarianism, the need for heavy-handed, and even dictatorships. For this security discourse the demand for safety does not bring reflection, and focuses on a political discourse. Committing crimes is amalgamated to the discourse of human rights, to the political left and everything that for a certain mindset belongs to the "pole of evil", disorder and subversion, where the only solution is the destruction of everything considered part of that "enemy". As part of this discourse, the world is a place full of dangers, where everything that is not the most intimate circle of people is a source of insecurity. From this point of view insecurity increases the potential attackers, and decreases the closer relations, by a moral crisis, or the arrival other values than those of the "victim society". Looking a bit in this speech, we find that is openly xenophobic. Strangers, or those who can be seen as different, can be immigrants, the poor, or guilty of negative social events, as crimes or occupation of certain jobs.

In a second reading, there is an intermediate speech, in which a concern about insecurity is manifested, but not the center of daily concern of people. It is a moral discourse that distinguishes between the *honest poor* and the *criminal poor*; therefore the social difference generates no mitigation. There is a consensus in this discourse of the need for education as a manner of discipline and that not all that belongs to "the unknown" is by itself a threat beforehand, because it requires a personal evaluation. This discourse is characterized by criticism of human rights associated with tolerance of crime, and although the state is not seen as the cause of insecurity, it is responsible for it. Social crisis, inequality and increased poverty, is the most common background, everything finally is presented as related to economic development and access to jobs<sup>62</sup>.

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60 Shearing, C., Wood.J. "Think Safety". Gedisa publishers, 2011. p.39

61 Kessler , Gabriel . He feeling of insecurity : sociology of fear of crime. Buenos Aires: Siglo XXI Editores; 2009. p. 105

62 Kessler , Gabriel . Ob. cit. p. 117

In a third reading, the discourse of stigmatization, which is related to people most vulnerable popular sectors as potential victimizers appears. Above them falls harassment, suspicion, persecution because of the way they dress or engage in public space. In this speech the only insecurity that is perceived is that of the wealthy neighborhoods.

In a fourth reading, there is talk of legal uncertainty, which revolves around the restoration of the place of the law, and accounts for an alleged breach by the State of the application of the rules against crime.

Elsewhere in the analysis of this issue, surveillance justifies its application and existence based in the danger of some neighborhood sector, establishing labels on a particular place, preventing it is better not to go there, and perpetual moral differentiation between population. Surveillance based on insecurity is the classic opposition between the settlers and newcomers, foreigners and nationals. Local threat is then charted, placed, spaced, and begins to divide spatially, differentiating the danger zones of the safest areas. The community then fragmented in places characterized by morality and insecurity. This divisive speech is characterized by a greater fatalism, and you may hear the phrases *"Today no one is really safe anywhere"*, *"one comes out and does not come out if he returns."* The perception of insecurity presents questions about community ties, and the ensuing debate arises if insecurity causes distrust or mistrust which increases insecurity.

### **5.3. Speeches post-privacy: the case of Chile.**

This chapter looks into speeches flowing around the population which is directly affected by surveillance measures. In light of this, this section is intended to describe such discourses present in both affected individuals, institutions (authorities) and the media. The goal is to leverage the position of observers and participants have from each of their experiences which are the most deeply rooted ideas about monitoring following the implementation of drones in Las Condes.

As noted, politicians seek immediate solutions to complex problems. Therefore, the technology industry offers public bodies, so that they can show themselves as "modern", "efficient" and "innovative". Consequently, this business fits perfectly with the industry drones: they offer technology to show politicians as people who solve problems quickly and technologically.

This formula is observed in the Chilean case without a thorough analysis. The implementation of drones in Las Condes by Mayor Joaquin Lavín received the applause of voters and residents of the municipality. For example, Twitter read comments like *"as a neighbor in Las Condes I spoke properly: who does nothing, fears nothing. Both drones and balloons make us feel safe."* Another neighbor said something similar: *"Congratulations Mayor. Tough on crime"*. Also it stands out as the drones *modernize* the city *"Thanks Mayor, a futuristic city"*. From the Neighborhood, Las

Condesas nº5, a place monitored by drones, they highlighted that *"it is the best that could happen to us as to the strengthening of security"*<sup>63</sup>.

On the other hand, the coverage of the implementation of drones has been since its inception, with an undeniable image of "effective and modern" of the Mayor's work. Several media have covered so far with headlines like: *"Drones allowed drug dealers band stop in Las Condes"*<sup>64</sup> or *"First arrested by drones in Las Condes"*<sup>65</sup>. El Mercurio, the most important newspaper in the country, said *"Images captured by drones in Las Condes, point at drug dealing spot"*<sup>66</sup>. In fact, the Mayor has been posting videos on his Twitter account of the images captured by the drones (another way to show himself as *modern*) supposedly showing the existence of micro - trafficking of drugs in public spaces in the municipality, without the existence of a criminal trial which concluded the liability of the people shown in the videos. The media have covered the episode as *"Joaquin Lavin's drones capture traffickers in parties of Las Condes"*<sup>67</sup>. The aim of Lavin, in his own words broadcasted on Twitter, is *"causing a deterrent effect. Show that among many people, the drone is able to capture when someone passes a rolling paper to another"*<sup>68</sup>.

Mayor's statement is perhaps the clearest demonstration of a panoptic discourse and validation of the post-privacy authorities: it is OK to violate privacy in public spaces. Meanwhile, the residents of Las Condes agree to such violations in the name of public safety. The most common support phrase from the inhabitants of the commune is *"who does nothing, fears nothing"* as a way of foregrounding public safety despite the rights that may be at risk.

For example, we have the account of a resident of Las Condes sector, which states: *"It is true that violates a little privacy in the sense that they can see what I do in my yard, but who nothing does nothing fear [...] anyway, neighbors can see / hear you, so it's never 100% private"*<sup>69</sup>.

Another community leader, said about the possibility that the drones monitor private open spaces: *"As organization, we have no problem putting a drone in public spaces, we thought it is worth trying any deterrent method against crime and selling drugs. We still have no such problems; but we believe that prevention and neighborhood self - protection is the right thing to do. As neighborhood council our priority is the safety of our children and adolescents"*<sup>70</sup>.

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63 Person interview Nov. 11, 2017, Ruth Chavez Dotte, Neighborhood Las Condesas No.5.

64 Available at: <http://www.chvnoticias.cl/policial/drones-permitieron-detener-a-banda-de-microtraficantes-en-las-condes/2017-07-05/144112.html>

65 Available at: <http://www.tvn.cl/programas/muybuenosdias/destacados/ya-hay-detenidos-gracias-a--drones-en-las-condes--2440319>

66 Available at: <http://www.economiaynegocios.cl/noticias/noticias.asp?id=376155>

67 Available at: <http://www.elperiscopio.cl/2017/09/16/jsalazar/video-drones-de-joaquin-lavin-capturan-a-traficantes-en-fondas-de-las-condes/>

68 See tweet: <https://mobile.twitter.com/LavinJoaquin/status/909836221072986113>

69 Personal interview, November 2, 2017.

70 Personal interview Nov. 11, 2017, Ruth Chavez Dotte, Neighborhood Las Condesas No.5.

The president of the neighborhood council Bilbao Duqueco No. 5, states: *"People say 'it gives me security', you are receiving more security, that they could, I don't know, misuse use the word 'my privacy', if I have nothing to fear, I have nothing to hide."*

So, the speeches of post-privacy are not only what we see in ordinary citizens and local authorities, but also in the judicial authorities. The Santiago Court of Appeals and the Supreme Court have ruled in favor of video surveillance. First, it was the Supreme Court in the trial of surveillance balloons that stated:

*"Video surveillance in public space, where you can not claim a greater expectation of privacy intrusion -excepting intrusion acts that may constitute illegal criminal proceedings- finds its legitimacy towards the protection of people and property, and deterring possible activities criminal, which it should happen, image recording will eventually enable the identification of perpetrators, acquiring an evidentiary fitness<sup>71</sup>"*

Likewise, the Santiago Appeals Court ruled that measures surveillance drones in Las Condes are neither illegal nor arbitrary:

*"Shown no involvement either of deprivation, disturbance concrete threat of constitutional guarantees invoked by the appellant, in public spaces that have implemented the use of drones pilot video monitoring plan"<sup>72</sup>.*

Thus it is not surprising that both local authorities and ordinary citizens get carried away by the speeches of post-privacy without deep reflection on what privacy means in modern democracies and how this is the shield for other human rights can be exercised. As noted Chul-Han: *"coercion of transparency evens the man himself until it turns it into a functional element of the system. There is the violence of transparency"<sup>73</sup>.*

Thus, the discourses of post-privacy leave people without a reasonable personal sphere to cope both in ideas, and free spaces. A world without privacy gradually uniform people, eliminates the

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71      Whereas No.8, p. 10 Judgment CS, 35389-2016

72      Whereas No. 22, p. 25. Judgment Santiago CA, 34360-2017

73      Chul-Han, Byung. Ob. Cit. p. 14

*strange and abnormal*, the *others*, on behalf of *us* such as totalitarian states did in the twentieth century. There is a danger of such speeches.

#### **5.4. Some consequences of being under surveillance.**

The implementation of video surveillance by drones involves a number of consequences for the population. Given the above, this section is intended to describe the consequences of video surveillance in sociological terms and how these can affect human rights.

According to our respondents, whether they were for or against surveillance by drones, they agreed that it can criminalize specific groups in society. This is because the effects of the panopticon and monitoring generally determines who is in and who is not, who is accepted and who is rejected, dividing society, "all instances of individual control work in two ways: the binary division and demarcation [...] and the coercive allocation of the differential distribution"<sup>74</sup>. That is, it categorizes the monitored and determines who are *the other group* that match the label of *dangerous, criminals* or who threaten our security, says Fernanda Bruno in an interview.

Similarly, Bauman and Lyon indicate that the safety systems work excluding and marginalizing specific groups of society. To do this, the authors use the concept of "banopticbanoptic"<sup>75</sup> to describe how technologies are being used to create profiles and determine who ought (or not) be subject to a surveillance system, feeding speeches to maintain public safety<sup>76</sup>. Therefore, surveillance systems work to carry out a pattern of behavior on these defensible space and discriminate who are with us and who is not, being the banopticbanoptic a policy of keeping within the fences protected and at the same time, discriminate and exclude those who threaten this protection<sup>77</sup>.

Another author who works this point is Gabriel Kessler. The author identifies the banoptic in the form of political discourse, noting that surveillance is based on an extreme and virulent speech, linking insecurity to lack of authoritarianism, the need for heavy-handed, dictatorships and other purposes, as we have already noted. Demand for this security discourse does not bring reflection and only focuses on the political discourse.

The implementation of a video surveillance system using drones would be to identify the *enemy* and exclude it on behalf of public safety. Thus, it is not a coincidence that drones in Las Condes are installed in the poorest sector of the community, or that in Buenos Aires the points chosen for the implementation of drones are right on the ring allowing entry and exit of the city. "People generally ask for more security at the expense of less freedom, but less freedom for others" says

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74 Foucault, Michel. Ob. Cit. p. 231

75 Ban is to ban English and original concept comes from Didier Bigo

76 Lyon, David & Bauman, Zygmunt. "Monitoring Liquid", Barcelona, Paidós, 2013. p. 70

77 Ibid. p. 71

Lucia Dammert<sup>78</sup>, explaining how the monitoring is used to profile and determine who are dangerous and who should be protected. Monitoring response to insecurity drives dichotomizing terms: enemies / friends; Criminals / working people; Chilean / immigrants; they / we, generating a mapping of the most vulnerable and profiling of *others* in the name of public safety.

Studies indicate for example, that in Central America repressive public security policies are for some politicians the only logical consequence of violence and crime<sup>79</sup>. Security measures currently being implemented in Central America increased distrust between citizens and foster a culture of *denunciation* more than solidarity. Likewise, Kessler notes that "the implications in the daily life of the safety devices (cameras) and the feeling of insecurity erodes the coexistence of society, to presuppose a *society of suspects*, where the devices would be the matrix of a social experience of decreased interpersonal trust by an incessant attempt to detect any sign of threat in everyday life"<sup>80</sup>.

In the same line, Fernanda Bruno points out that video surveillance responds to an *overall status of suspicion* for the entire population being monitored<sup>81</sup>. The emphasis on public safety surveillance drives not only people who break the law but also to those that might have a chance to break the law and be problematic. In light of this, the population monitored is much higher<sup>82</sup>, blurring the principles of the presumption of innocence (we are all suspicious of something) and due process (regarding authorizations for specific monitoring of people, for example). As the decision of who to watch and who not, will be left to the arbitrary human will, the most affected will be vulnerable groups of such policies of monitoring and surveillance, as the study on the patterns of criminal behavior that automated and supposedly objective software, gave as worthy of major police attention the racial minorities<sup>83</sup>.

This general feeling of suspicion generated that "these people alter their behavior because they feel threatened, they feel more vulnerable," says Fernanda Bruno in the interview<sup>84</sup>. Therefore, the European Union has indicated that the implementation of drones "could be an increase in the feeling of being under surveillance and consequently reduce the exercise of legitimate freedoms and rights, known as '*chilling effect*'"<sup>85</sup>.

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78 Personal interview, July 20, 2017.

79 Huhn, S., & Peetz, P. "Violence, security and the rule: the discursive foundations of public security policies in Central America." In: Rivero, Fredy (Ed.) "Multidimensional Security in Latin America", FLACSO-Ecuador: Ecuador Ministry of Culture, 2008. pp. 353-357. Available in: <https://pub.uni-bielefeld.de/download/2528659/2528660>.

80 Kessler, Gabriel. Ob. Cit. p. 196. Highlighting its own.

81 Bruno, Fernando. Ob. Cit. p. 93

82 Shearing, C., Wood.J. "Think Safety". Gedisa publishers, 2011. p.39.

83 See Angwin, Julia; Larson, Jeff, Mattu, Surya; Kirchner, Lauren. "Machine bias", ProPublica, 2016. Available at: <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>

84 Personal interview interview Aug. 31, 2017.

85 Europe Union, Ob. Cit. p. 7

This effect would violate a number of guarantees because the feeling of being observed inhibits behaviors concerning freedom of speech, right of assembly, artistic freedom and dissent, in addition to the discriminating effects already mentioned.

Surveillance contributes to the privatization of public space and the weakening of human rights related to privacy. Especially its preventive nature, the need to define groups of offenders that can pursue "before" the crime occurs is created; thus the rule of law is weakened<sup>86</sup>.

On the other hand, and despite the *chilling effects* that could generate the drones in the population, there is no scientific evidence that effectively drones (or video surveillance in general) can reduce crime rates in public spaces<sup>87</sup>. Corroborating this, Fernanda Bruno points out that "there are no links between increased video surveillance and a reduction in crime"<sup>88</sup>, at most there is evidence regarding that crime would shift from the monitored areas<sup>89</sup>, proving empirically that the banoptic works and marginalizes vulnerable groups. For example, in Sao Paulo (Estacao da Luz Nossa Lingua) the use of cameras has been used to *clean* public spaces of drug addicts, prostitutes and vagrants<sup>90</sup>. So we cannot point out that the drones could bring down crime rates, but only to displace most vulnerable people "lowering the presence of uncomfortable people and disciplining those who remain there"<sup>91</sup>.

In addition to the above, "it is proven that video surveillance is limited to promote preventive actions, simply because it is impossible to monitor a huge number of screens efficiently; and when they increase the cameras and screens all that happens is that fewer of them will actually be observed"<sup>92</sup> said Fernanda Bruno. Coding Rights on this point has shown that cities with larger cameras in the world are not the safest cities<sup>93</sup>.

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86 See Bragatti, MC, & De Oliveira Martins, A. (2017). The balance between intelligence, national security, fundamental freedoms and protection of national interests. LEVS Magazine , 19 (19). pp. 58-74. Available at: <http://www2.marilia.unesp.br/revistas/index.php/levs/article/view/7021/4506>

87 Mayer-Schonberger, Viktor. "Delete. The Virtue of Forgetting in the Digital Age ", United Kingdom: Princeton University Press, 2009. p. 64

88 Bruno, Fernanda. Ob. Cit. p. 39

89 See Diez Ripollés, José Luis & Cerezo, Ana Isabel. "Prevention of street delinquency through video cameras . Legal regulation and effectiveness "Criminal Policy. Vol. 4, No. 7 (July 2009) p. 194. [Available in [http://www.politicacriminal.cl/Vol\\_04/n\\_07/Vol4N7A6.pdf](http://www.politicacriminal.cl/Vol_04/n_07/Vol4N7A6.pdf) ]

90 Kanashiro, Marta. "Sorria, você is filmed Sendo: câmeras as of monitoramento for segurança em São Paulo". Dissertação of Mestrando presetada ao Department of Sociology Institute of Fisosfia and do HUMANITIES da Universidade Estadual de Campinas, SOB orientação do Prof. Dr. Laymert dos Santos Garcia. Janeiro, 2006. p. 29.

91 Ibid. p. 30

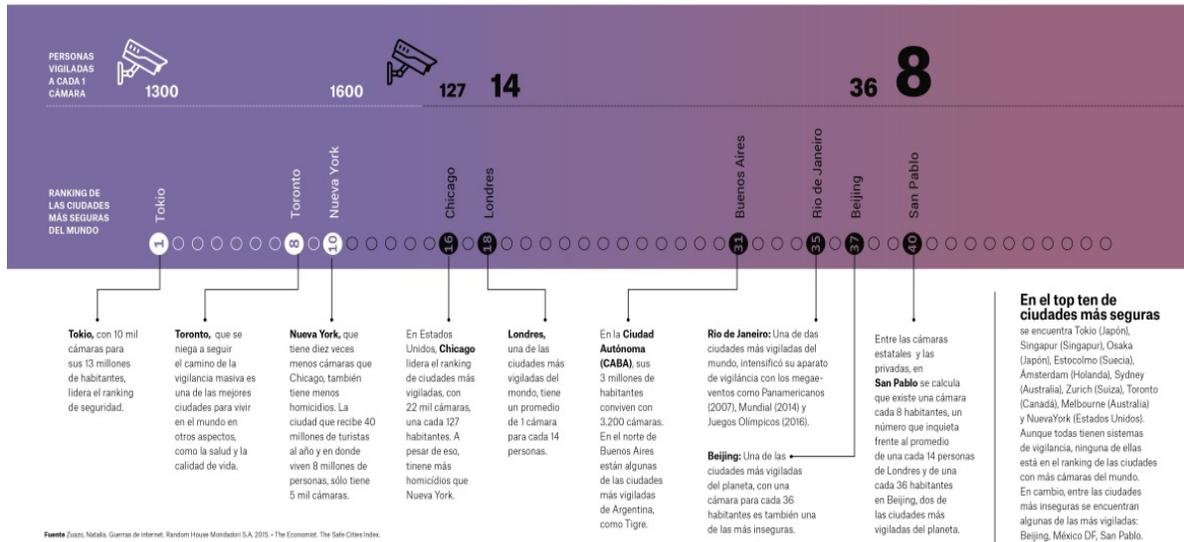
92 Personal interview Aug. 31, 2017.

93 Zuazo, Natalia. "Vigilar and entertain, happy business model." Available at: <https://chupadados.codingrights.org/es/vigiar-e-entretener-um-modelo-de-negocios-feliz/>

# Ciudades con más cámaras no son las más seguras

Ranking muestra que ninguna de las 10 ciudades más seguras del mundo está entre las más vigiladas.

CODING RIGHTS  
WWW.CODINGRIGHTS.ORG



Thus, the drones more than contribute to help reduce crime label, categorize and prohibit certain people to walk in certain places. So after the use of drones there is a discriminatory purpose: clean-up in the name of *public safety*, although it is not shown to effectively reduce crime. It is thus possible to say that insecurity is not defined by the accumulation of risky events but by the transformation of the urban experience, this case being one where people are excluded (usually the most vulnerable) for the safety of others. To purchase and deploy drones as monitoring mechanism will be a new understanding of urban public spaces: one less respectful of human rights of individuals.

The profusion of safety devices, suggest who sees them, that a certain location is a safe place, and these elements are much more present in areas of middle and upper strata, than in popular sectors. This can be seen in Chile.

Safety devices extreme presence, such as drones, can in some cases increase the fear, because they become constant reminders of the presence of hazards. On another level security devices are signs of a certain situation of an urban landscape, for example, for some it can be felt as a source of tranquility, and for others it will wake up feeling of insecure. The devices have been controversial at two points, first, their effectiveness, where there are no reliable assessments of their ability to reduce crime, and second, whether the devices help deepen local conflicts and mutual distrust. In our view defensive strategies can generate a sense of security in some groups, but cause a greater sense of insecurity and harassment in others. Stigma, reputation and extreme surveillance, shape local awareness of insecurity, internalize the stigma of the suspicious, the need to show that they are not guilty, which is what culture presupposes. A monitoring device is

a sign of indelible mark on the sphere of social life, especially among the most disadvantaged groups.

What we observe at a small local level is possible to identify also on the world stage. Indeed, the discourse of security and development are combined into a single discourse, which means there is a causal relationship between social conflict, poverty and security. To explain this better think about the following: areas of underdevelopment and poverty are seen as potential security threats. At a global scale, according to a report prepared by the Development Assistance Committee (DAC) of the OECD 2003, terrorists thrive on feelings of helplessness of marginalized groups, to support their organizations. This has led to the agenda of poverty reduction to align with an anti terrorist agenda, focused on certain populations in strategic locations, which has put at risk the human rights agenda, justifying its failure in response to the threat of terrorism<sup>94</sup>.

Regionally, UNDP studies consider that the main objective of public safety is to eradicate the fear of violent aggression, respect for physical integrity, to enjoy the privacy of the home without fear of being assaulted, and being able to move peacefully through the streets without fear of being robbed or attacked. It does not exist in the literature on citizen security references to traffic accidents, the leading cause of unnatural death in countries like Mexico or Argentina<sup>95</sup>.

## **6. Drones and regulation.**

As outlined in sections from above, video monitoring by drones has harmful effects on human rights, especially on the private lives of people. Thus, briefly, this report will address how the drones can affect the entire system of fundamental rights.

We have noted that systems of drones are an indiscriminate, massive and highly intrusive kind of monitoring because people are exposed to a constant and continuous observation. It is indiscriminate because they are victims-object of video monitoring not only possible suspects of illegal activities, but the entire population living or transiting in monitored areas (*overall status of suspicion*). In addition, the fact that it covers large areas gives this kind of surveillance a massive character and, in the absence of full knowledge of when they operate and when not (because they are invisible to who is being observed), generates the effect of a permanent observation<sup>96</sup>.

This indiscriminate surveillance by drones affects the right of privacy of individuals, which emanates from the dignity of the human being, which is the basis for the free development of personality. Thus, the implementation of surveillance systems could not only affect expectations

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94 Shearing, C., Wood.J. Think safety. Gedisa editors; 2011. p. 113

95 Moriconi Bezerra, Marcelo. (2011). Demystifying violence: criticism of the (technical) discourse on citizen security. Magazine Mexican sociological , 73 (4), 617-643. Retrieved on October 15, 2017, of [http://www.scielo.org.mx/scielo.php?script=sci\\_arttext&pid=S0188-25032011000400003&lng=es&tlng=en](http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0188-25032011000400003&lng=es&tlng=en).

96 Goberna, Adela and Callegari, Agustina. "The double - edged drones: regulation and protection of privacy in Argentina", SID 2015, 15th Argentine Symposium on Computing and Law. p. 160.

of privacy in private spaces, due to the ability of drone to rise to the height of terraces to obtain panoramic views, but also the expectations of privacy in public spaces. As stated by the Supreme Court of the United States, privacy "protects people, not places"<sup>97</sup>, which means that even in public and open spaces, there is an expectation of anonymity, i.e. be neither recorded nor monitored, "might come and go without being identified and without their activities being subject to a special or prolonged observation"<sup>98</sup>.

This loss of anonymity is linked to the *chilling effect* and panoptic observation that drones generate. The feeling of the population of being observed can affect their behavior, which is enough to produce a violation of privacy.

The European Court of Human Rights has said about it:

*"Who feels unsure of himself at all times that their divergent behavior is recorded and cataloged, use [...] transmit permanently as a mean of information, will endeavor not to draw attention to that kind of behavior. Who knows in advance that their participation, for example, in a civic event will be recorded by the authorities and that risks may arise for him for this reason, will renounce presumably to what an appropriate exercise of fundamental rights is"<sup>99</sup>.*

Privacy is therefore necessary for the exercise of other human rights, and when it is affected by the installation of surveillance drones, then other human rights are affected as well.

In this same line has pronounced the former Special Rapporteur for Freedom of Expression of the United Nations, Frank La Rue, as he acknowledged that "undue interference in the privacy of individuals can limit, both directly and indirectly, the free exchange and evolution of ideas"<sup>100</sup>. Therefore, implementing drones affects not only privacy but the entire structure of human rights, because of the inhibitory effect of drones, watching public areas, people will desist of behaviors that otherwise had been done, as protest, artistic expression or dissenting form. Surveillance measures affect, among other rights, freedom of expression, circumventing regulatory

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97 CS, Katz v. United States (1967), Para. 351.

98 Cordero, Luis. "Video surveillance and administrative intervention: questions of legitimacy", Journal of Public Law No. 70, 2008. p. 372.

99 ECtHR, Peck United Kingdom, January 28, 2003, para. 57

100 La Rue, Frank. "Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression" United Nations Organization, the Human Rights Council, A / HRC / 23/40 of 17 April 2013, para. 24

requirements, as only a law, according to Article 19 No. 3 of the International Covenant on Civil and Political Rights, could restrict it. Moreover, the measures must pursue a legitimate aim and be necessary, appropriate and proportionate, i.e. the implementation of drones should follow a proportionality test<sup>101</sup>.

In the same way the right of assembly is violated since the watched are also inhibited against the possibility of being recorded and monitored by systems. Following the domino effect, this in turn sets an affectation of other rights, because the restriction of freedom of assembly also affects freedom of conscience, "if we have the freedom to associate with other citizens who think like us, exercise freedom of conscience will be denied us"<sup>102</sup>. Consider, for example, who is monitored in places of worship, trade union headquarters and political headquarters. The erosion of the whole system of rights because of the constant monitoring of drones in public spaces is evident when we understand that basic freedoms are interconnected with each other, these being institutional conditions for the development of democracies.

Flagrant people's rights affected by systems of video surveillance make it necessary to rethink how regulatory systems are being developed for this class of devices in Latin America, and if these regulatory frameworks oversee the promotion and respect of guarantees at stake.

### **6.1. Regulatory systems for drones in Latin America.**

Despite the risks that drones mean for our population, legal regulations haven't accompanied neither its use nor its industrial development, being a tremendously permissive and lax regulation in this regard. Likewise, weak regulatory environments in data protection and privacy in Latin America have allowed, as already noted by The Economist, that there is widespread use of drones. However, some countries in the region have tried to regulate civilian uses of drones with mixed results.

To date, the main control over drones are provided by the various civil aviation departments of the region. Transitory rules have been established for use and operation of the drones because it is expected that by 2018, the International Civil Aviation Organization (ICAO) has available a policy of international operation of the RPAs for consultation of States<sup>103</sup>.

Despite existing regulations regarding drones, this comes to meet technical requirements on the airworthiness of drones, rather than regulating the human rights implications of their operation.

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101 Garcia Ramirez, Sergio and Gonza, Alexandra. "Freedom of expression in the jurisprudence of the Inter-American Court of Human Rights", 1st edition, Inter-American Court of Human Rights, Human Rights Commission of the Federal District, Mexico, 2007. p. 32 Available at: <http://www.corteidh.or.cr/sitios/libros/todos/docs/libertad-expresion.pdf>

102 Rawls, John. "Political Liberalism", Mexico DF, Fondo de Cultura Economica, 2006. p. 290.

103 DGAC, DAN 151, "Piloted Aircraft Operations (RPAS) in matters of public interest, made over populated areas", 2nd edition, 2017. p. 1

This is expected because these government agencies are mainly intended specifically to aviation regulation of its skies. The countries of Peru, Brazil, Uruguay, Argentina, Mexico and Chile have regulated the use of drones for purposes of operating safely and responsibly, but not taking into account a holistic understanding of human rights potentially affected.

While it is true that in some of these policy documents there is a concern about the impact that would have these devices in the privacy of citizens (cases of Argentina and Chile), such regulations would not be in a language of protection of human rights, not understanding the panoptic and post-panoptic logic described in this report. These documents oversee for the achievement of safety aspects of drones, such as drive outside traffic areas, responsibility of operators, to maintain eye contact with the drones, maximum height of movement, banned areas for its operation (airports, heliports, etc.), among others.

However, only Argentina and Chile have had pronouncements from the perspective of privacy and data protection for the use of drones. In Argentina the provision 20/2015 "Legality conditions for the collection of personal data by UAVs or drones" of the National Data Protection Agency (now Access to Public Information Agency), states that drones are "a serious risk to the privacy of third parties<sup>104</sup>" and must not be considered as recreational use if the drones is used to collect data. Likewise, third party consent for imaging (understood as personal information) is required, and the drone must avoid collecting sensitive data revealing racial, ethnic, political origin, among others, avoiding places of worship, demonstrations political or union<sup>105</sup>.

On the other hand, the Council for Transparency (CPLT) in Chile, the body responsible for the access to public information in Chile and to ensure the enforcement of personal data in public agencies, issued a document with recommendations, which has no mandatory nor less punitive character<sup>106</sup>, regarding the imminent installation of drones and other surveillance devices by local authorities. These recommendations considered among its reasons, the judgment of the Supreme Court case against the Surveillance Balloons, noting that an expectation of privacy should not be pursued in public spaces<sup>107</sup>. They noted that images should be captured only in public places or private places open when there is persecution of an act constituting a flagrant offence, the images must be destroyed within 30 days after they were recorded; guaranteed right of access and cancellation of data, among other measures<sup>108</sup>. Likewise, the DGAC of Chile has understood the

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104 National Directorate for Personal Data Protection, Provision 20/2015, "Legality conditions for collecting personal data through UAVs or drones." p. 4 Available in: [http://www.jus.gob.ar/media/2898655/disp\\_2015\\_20.pdf](http://www.jus.gob.ar/media/2898655/disp_2015_20.pdf)

105 Ibid. p. 1-4

106 The law prevents them from having such powers.

107 See above 5.3.

108 CPLT, "makes recommendations regarding the installation of video surveillance devices by the municipalities in accordance with the provisions of Law 19,628 , " Office 2309, March 6, 2017. pp. 02.01 Available at: [http://www.consejotransparencia.cl/consejo/site/artic/20170313/asocfile/20170313115021/n\\_002309\\_seg\\_n\\_distribuci\\_n.pdf](http://www.consejotransparencia.cl/consejo/site/artic/20170313/asocfile/20170313115021/n_002309_seg_n_distribuci_n.pdf)

importance of ensuring privacy<sup>109</sup>, however they have explicitly stated that "considering the massification of such operations is that the General Director of Civil Aviation has asked the Police, by the communication (O) N ° 08/1/2/657/2238 dated April 5, 2017, the support in monitoring operators and the operations they perform when circumstances permit, since the number of inspectors available does not allow an audit to the universe of RPAS"<sup>110</sup>. There is simply no control possible.

Thus, although the drones are an emerging technology in the region, there is no overall understanding of the phenomenon of surveillance. Aeronautical agencies are not expected to provide regulation beyond the technical and other standards. Indeed, it is only the law, enacted through a democratic and deliberative procedure, which is responsible for establishing a comprehensive regulation on the phenomenon behind the implementation of video surveillance in general. While the technical aspects are important, the rules should consider the proportionality of the measures used and adjust to the specific purposes that devices such as surveillance drones are being used.

Then, to specify this regulation it is possible to establish specific regulations for each specific case. This may fall perfectly into technical-legal bodies whose knowledge and skills refer precisely in the way that it is possible to collect and process information from people, stuff of activity drones in a respectful framework of fundamental guarantees. Data protection agencies through its regulatory oversight and sanctioning powers, can understand the consequences of a massive deployment of drones or other video surveillance devices, since an image can be personal data, access and use must then carried out under a specific legal framework. Data authorities, in turn have (or should have) the ability to discern between complex phenomena such as the implementation of drones or other technologies.

Thus, it is necessary to carry out a real understanding of the implications that drones have: the technical, legal, regulatory and finally what does it mean as a society the implementation of video monitoring devices of such magnitude in the region.

In this regard, we believe that regulation of Argentina by its National Data Protection goes in the right direction. Following European standards, government understands the sociological and legal implications behind the implementation of drones, trying to protect privacy in the broadest possible sense without inhibiting the realization of new businesses associated with data collection by drones<sup>111</sup>.

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109 DGAC, DAN 151, about 151,101 letter g) n°4 "a pilot distance during operation of an RPA may not: violate the rights of others in your privacy and your privacy."

110 Request for access to information n°2606 to DGAC Chile, delivered by Damary Verdugo charge of OIRS, Directorate General of Civil Aeronautics. Date 05.08.2017.

111 Available online [[http://www.jus.gob.ar/media/2898655/disp\\_2015\\_20.pdf](http://www.jus.gob.ar/media/2898655/disp_2015_20.pdf)]

## 7. Conclusions

This report shows that the drone industry is on the rise in all regions of the world, including Latin America. Their numbers indicate that in the coming years, there will be an aggressive growth of these devices in the region, led by the hand of industries such as construction, agriculture and video surveillance. Despite the versatility of the industry, video surveillance is one of the most promising areas for Latin America and the first traces are already being observed in countries like Argentina, Brazil, Mexico and Chile. However, the industry has not yet boomed, and video monitoring has wide room for growth and development in the region.

It appears that the drone's industry intersects with the panopticon narrative of politicians throughout the region. To the extent that there are authorities who seek to monitor a lot of people through video cameras installed in drones to curb crime, we have a panoptic logic that develops in the cities. It matters little that research declares that these measures do not affect actual reduction in crime or that the main effect has to do with the movement of people unwanted by the authority of certain public spaces: if there is an appearance that is fighting crime with the highest technology, there will be companies willing to sell at a good price drones for political authorities, following the upward business.

Likewise, the post-privacy speeches increase the numbers of the industry. The Chilean case shows how local authorities, neighbors, media and judicial authorities do not understand the value of privacy in a digital era. The report gave us the opportunity to experience through interviews who transversely our society departs from privacy settings to favor speeches of public safety, despite the detrimental effect to the rights of people, and despite the importance of privacy for democracies; under the slogan "who does nothing, fears nothing", violations of privacy and other human rights in pursuit of public safety are supported.

Thus, political speeches begin to set up the violation of human rights. The constant feeling of being watched by drones involves inhibition of performing certain actions in public spaces as artistic, dissident or political speeches, demonstrating that privacy functions as a shield for the development of other human rights such as freedom of expression or freedom of meeting. This has been confirmed by the European Court of Human Rights, the US Supreme Court and multiple researchers in the academy: privacy is an essential condition for the development of other human rights and their restriction not only affects privacy itself but the entire system of rights.

Despite the above, the main regulations in this regard in the region do not understand the phenomenon of drones from a human rights perspective, but only consider their airworthiness around safe airspace. Only Argentina has a regulation looking forward to protect privacy and personal data due the existence of an agency of protection of personal data, from which emanates a stronger support compared to other regional regulations.

The report reveals the importance of embracing the phenomenon of surveillance drones from a broader and comprehensive perspective, than simply the legal dimension, and that it is necessary to consider various edges, which allow the existence of a robust regulation.

While technology is on the rise, sufficient regulation must address prevention of society instead to move towards a surveillance State, as lowering rates low crime at any cost, slowly eroding the trump cards that modern democracies have gained in recent decades.

Finally, to the extent that there is assurance the rights of individuals, surveillance measures will be proportionate to the ends sought, in accordance with the standards of the rule of law.

Only a strong and robust state that understands the importance of privacy for human rights system and democracies will face the populist speeches of politicians seeking to undermine freedoms in the name of public safety; to the extent that the industry continues to grow and continue to feed through these speeches, there should be greater efforts by activists and bodies to demand that Latin American societies set standards for human rights. This will only be possible if we understand against what phenomena we are in front of, being this work a humble way to contribute.

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- Pablo Carvacho: Profesor Asociado, Instituto de Sociología, Pontificia Universidad Católica de Chile. Abogado y Sociólogo. Magíster en Ciencias del Derecho, Universidad de Standford. Área: Fundamentos sociológicos del delito y la cárcel.

- Miriam McNabb: CEO Job for Drones y editor de DRONELIFE.
- Lucía Dammert: Socióloga. PH.D. Ciencia Política, Universidad de Leiden. Académica de la Licenciatura en Estudios Internacionales de la Facultad de Humanidad de Universidad de Santiago. Áreas: violencia, seguridad y crimen en Latinoamérica.
- Javier Pallero: Policy Analyst para Latinoamérica de Access Now.
- Claudio Kerravcic: Presidente de la junta de vecinos Bilbao Duquenco, sector nº5.
- Ruth Chávez Dotte: Miembro de Junta de vecinos Las Condesas, Nº5.
- Ignacio Crocco: Residente del Sector Las Condes, calle Las Lomas.
- Gabriela Bochar: Presidenta Junta de Vecinos nº7, Plaza del Inca.

### FOIA requests.

Nº2606 a DGAC Chile, Damary Verdugo chief OIRS,  
 Dirección General de Aeronáutica Civil. Fecha  
 08/05/2017..

Use	total dollar amount	Total amount in Chilean pesos	Region of Chile	applicant institution	Application number
For functions of the Ministry of Housing and Urban Development	\$ 3,146	\$ 2,079,620	Metropolitan	Ministry of housing and urbanism	587-47-L116
Details generation coastal basins of the Region of Valparaíso	\$ 2,049	\$ 1,354,217	Valparaíso	University of Playa Ancha	802021-5-L117
Implementation of "Risk Mitigation" program of the Ministry of Interior	\$ 4,537	\$ 2,998,900	Valparaíso	Provincial Government of San Felipe	2221-14-LE17
audiovisual work	\$ 1,413	\$ 934,024	Metropolitan	Ministry of Public Works	979-2-L117
Communication and Hearing	\$ 2,274	\$ 1,503,327	Aysen	Cochrane Township	3797-95-L116
Education	\$ 2,214	\$ 1,463,521	Coquimbo	Municipality of La Higuera	3749-7-L116
Inspection and audit	\$ 4,886	\$ 3,229,663	Metropolitan	Superintendent of Environment	611669-17-LE16
Program incentive program for sustainable recovery of degraded soils	\$ 5,846	\$ 3,864,000	Metropolitan	Agriculture and Livestock Service	612-56-L117
Aquatic monitoring	\$ 3,137	\$ 2,073,269	O'Higgins	Director General of Water	897-6-L116
No information	\$ 5,394	\$ 3,565,211	The rivers	Forestry Institute	1733-24-L116
Soil inspections	\$ 26,697	\$ 17,646,894	Aysen	National Fisheries and Aquaculture Service	701-29-LE16
No information	\$ 66,551	\$ 43,990,040	The rivers	Forestry Institute	1733-25-LE16
Control of regional investment projects and image capture	\$ 1,955	\$ 1,292,101	Araucanía	Regional Government of Araucanía	722-6-L116
Security and vigilance	\$ 7,815	\$ 5,165,556	Metropolitan	Municipality of Las Condes	2345-149-LE17
Education and Research	\$ 4,539	\$ 3,000,000	Coquimbo	University of La Serena	5416-13-L116
No information	\$ 439	\$ 290,000	Metropolitan	Peñaflor Municipality	2731-285-L116
Capturing photos and videos in high resolution, necessary for scientific research	\$ 2,750	\$ 1,817,689	Metropolitan	National Mining and Geology Service	1562-22-L116
Press and Communication	\$ 1,592	\$ 1,052,100	Valparaíso	City of Long Street	4105-10-L116
Mining Inspection Service	\$ 3,078	\$ 2,034,676	Metropolitan	National Mining and Geology Service	1562-100-L116

Press and Communication	\$ 2,516	\$ 1,662,857	Antofagasta	Municipality of Antofagasta	2429-155-R116
Mining Inspection Service	\$ 5,587	\$ 3,693,024	Metropolitan	National Mining and Geology Service	1562-115-L116
Press and Communication	\$ 2,054	\$ 1,357,617	Maule	Municipality of Constitution	2827-71-L117
Education	\$ 7,564	\$ 5,000,000	Antofagasta	University of Antofagasta	4291-104-LE16
audiovisual registration and registration	\$ 1,193	\$ 788,824.00	Araucanía	Municipality of Temuco	1658-885-L116
Monitoring and natural disaster monitoring and behavior analysis	\$ 3,754	\$ 2,481,377	O'Higgins	Cachapoal governorate	1535-8-L116
Crime					
Security and vigilance	\$ 34,036	\$ 22,498,000	Metropolitan	Municipality of Las Condes	2345-64-LE17
Education and Research	\$ 2,520	\$ 1,665,900	Metropolitan	University of Santiago, Chile	564162-9-L116
Monitoring and investigation of drug trafficking	\$ 38,368	\$ 25,361,344	Metropolitan	Investigations Police of Chile	2981-114-LE116
Press and Communication	\$ 2,941	\$ 1,944,000	Valparaiso	Chilean Navy	2945-44-R117
No information	\$ 1,495	\$ 988,235	Araucanía	City of Los Sauces	3705-14-L117
Education and Research	\$ 2,086	\$ 1,379,131	Antofagasta	University of Antofagasta	4291-92-L116
Press and Communication	\$ 2,279	\$ 1,506,679	Metropolitan	Municipality of Las Condes	2345-432-L116
Press and Communication	\$ 1,271	\$ 840,000	Maule	Municipalidad Pelluhue	3231-150-L116
No information	\$ 839	\$ 554,538	Magellan	University of Magallanes	5382-22-L116
safer roads	\$ 1,560	\$ 1,031,092	Metropolitan	University of Maipú	2583-604-L116
Research and imaging	\$ 2,904	\$ 1,919,431	Chilean Antarctic Territory	Chilean Antarctic Institute	697-50-L116
Technical studies to reduce the risk areas on the surface of the mine	\$ 5,553	\$ 3,670,311	Mineros National Territory	Joint Chiefs of Staff (Armed Forces of Chile)	2021-39-L116
Education and Research	\$ 1,309	\$ 865,210	The lakes	University of Los Lagos	2413-78-L117
Civil protection	\$ 5,976	\$ 3,950,000	The lakes	Municipality of Quellón	2927-15-LE17
Support Unit activities					
Agricultural and Forest Protection	\$ 1,677	\$ 1,108,235	Tarapaca	Agriculture and Livestock Service	5690-26-L116
Control of fishing regulations	\$ 26,079	\$ 17,238,000	Valparaiso	National Fisheries and Aquaculture Service	701-13-LE16
Verify and characterize levels of compliance with the ban on the use of wood heaters	\$ 3,921	\$ 2,592,000	Metropolitan	Superintendent of Environment	608897-44-L117
No information	\$ 3,802	\$ 2,512,871	Araucanía	University of La Frontera	5586-679-L116
No information	\$ 1,669	\$ 1,103,025	Araucanía	University of La Frontera	5586-529-L117
No information	\$ 8,234	\$ 5,442,530	Metropolitan	Parque Metropolitano de Santiago	607-237-LE16
No information	\$ 1,965	\$ 1,298,908	Araucanía	University of La Frontera	5586-549-L116
Use for activities of the commune	\$ 2,034	\$ 1,344,286	Metropolitan	Municipality Lampa	3877-37-L117
Press and Communications	\$ 439	\$ 290,000	Atacama	Ministry of Education	949-14-R116
Virtual reality project	\$ 2,732	\$ 1,805,719	Magellan	University of Magallanes	5387-2-L117
Press and Communications	\$ 908	\$ 600,000	The lakes	National Sports Institute	934-45-L116
Capture images and videos (unspecified)	\$ 18,710	\$ 12,367,497	Metropolitan	Ministry of Interior	4388-1-LE16
Press and Communications	\$ 2,008	\$ 1,327,479	Bio-Bio	Municipality of Laja	3734-76-L116



**Datos  
Protegidos**

