

Citizens' initiative project for the
regulation of drones at the
European level

EURODRONE

The Great Transition



Group 11

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- Group 11 -

Jérôme CATHERINE

Sébastien CHAPOTARD

Victoire CHARLET

Florence COURRECH

Alexandra ENACHE

Mordjen FEGHOULI

Philippe GAUDIN

Omar HARTI

Esther JUNG

Xiuling WANG

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Introduction

Drone is a fascinating, but new and complex inventions. Uses of these aircrafts are discovered every day, whether it is for delivery, transportation, military actions, surveillance, etc.. In the first place, we are aware of all the opportunities that drone can offer us. The Telegraph has stated this year that Drones have the potential to transform the world for the better. In the UK, the emergency services have started to use them to help people in danger, while the defense industry is exploring how drones can improve security. But, in October 2017, the Sun published an article entitled *More UK drones are flying dangerously close to aeroplanes than ever – with a fifth of the 81 incidents this year risking serious collision*¹. In the same month, the New-York Times reported an accident in an article entitled *After Drone Hits Plane in Canada, New Fears About Air Safety*². November, the NZ Herald reported another accident in *Drone interferes with landing of incoming plane at Auckland Airport*³. Basically, accidents of drone are reported all over the planet while innovation around it has been continuing. Last September, the first flying drone taxi was tested in Dubai and the test was successful. We can soon imagine it put in use as an app service, like an “Uber-drone” service. But what about the regulation of such businesses? Are we facing a lack of regulation for the use of drones? What will be the future of such disrupting services?

What we strive for?

To prevent the danger resulted from the use of drones, we decided to create **EURODRONE**. Our goal is to appoint a commission that would investigate the issues related to drone regulation, such as tensions and concerns about privacy, security, safety, and the potential economic benefit of drones for business growth. While there are already advisory bodies at the EU level investigating the issue, we believe efforts should be focused more closely on bringing together the digital, societal and security dimensions. Our aim is thus to complement EU’s efforts in creating a regulatory framework for drones and involve citizens in its implementation. This proposal is to be submitted to the European Parliament, the ultimate goal of our project consisting of a treaty to be voted by all EU countries then incorporated in their own legal systems.

What already exists in EU?

The process of the regulation of drone started in France in 2012. The French Transport Code defines drones as "any aircraft capable of rising or circulating in the air" (Article L. 6100-1). It was not until 2016 that the Article L. 6214-2 of Transportation Code started to oblige the user of civilian drone to receive a special training to manage their drones. Finally, since January 2017, drone users in France will be liable if they use drones in case of “wrongfully flying over restricted areas”.

Italy followed France in 2013, the Italian Body for Civil Aviation established a distinction between aircrafts on the basis of the activities they carried out. (i) Aircraft systems with remote

¹ The Sun, More UK drones are flying dangerously close to aeroplanes than ever – with a fifth of the 81 incidents this year risking serious collision, 23.10.2017

² The New York Times, After Drone Hits Plane in Canada, New Fears About Air Safety, 17.10.2017

³ NZ Herald, Drone interferes with landing of incoming plane at Auckland Airport, 5.12.2017

pilotage that are used for specialized operations or in scientific activities, experimentation, and research and (ii) air models used only in activities for leisure or competition purposes.

Germany also started the regulation of drones early this year. In addition to general aviation rules, pilots must respect no-fly zones that include sensitive areas ranging from airports via military and industrial facilities, to federal highways.

In United Kingdom, the government launched a public consultation in December 2016, for the safe use of drone in the country. They finally issued their response in July 2017. The current law referred The Civil Aviation Authority ("CAA") is responsible for supervising compliance with the Air Navigation Order 2016 ("ANO"), which is the principal legislation governing the use of drones. The ANO regulates the use of drones by reference to their use, their weight, and whether or not they have surveillance capability.

Why at the European level?

The European aviation safety agency (EASA) proposed a prototype regulation in October 2016. It was written on its website that the proposal provides a framework to safely operate drones while allowing this industry to remain agile, to innovate and continue to grow. The risk posed to people on the ground and to other aircraft as well as privacy, security and data protection issues created by such drones are also taken into account. From its expression, we find that its main focus is on the development of the drone industry. Accidents of drones being reported continuously, we wonder what has really been done by the European parliament? How comes it possible that we still have the same issues one year after another? Are we waiting for more and more accident to occur? Therefore, we come out with a charter mainly focusing on the safe use of drones to make up the missing part of regulations in this field in Europe.

Besides, we want to foster an international cooperation for an efficient and safe use of this technology. As intergovernmental interests are difficult to balance, we decide to target the European level. In this way, we can have a stronger voice on this issue because the EU is already a governmental organization, and once the charter is ratified by the European parliament, all its member states may apply it into their legal system.

How to make our voice be heard?

We are also conscious of how ideas can be spread out broadly: nowadays, all ideas have to be marketed in order to get propagated. We chose to take advantage of this law and favor a nice format to make our project easily reach more people and try to get a chance to "get viral".

We will make full use of the digital to help us. First of all, we have created a website where we put articles and a video to illustrate our project. Then we have also created social networks pages for EURODRONE where our project can get much more attention by recommendations, especially from the young generation. By circulation in the social network, we want to raise awareness of European citizens on the safe use of drones and gain support for our charter to be ratified by the European parliament.



The European citizens' initiative

What is a citizen initiative? ⁴

A European citizens' initiative is an invitation to the European Commission to propose legislation on matters where the EU has competence to legislate. A citizens' initiative has to be backed by at least one million EU citizens, coming from at least 7 out of the 28 member states. A minimum number of signatories is required in each of those 7 member states. The rules and procedures governing the citizens' initiative are set out in an EU Regulation adopted by the European Parliament and the Council of the European Union in February 2011.

A citizens' initiative is possible in any field where the Commission has the power to propose legislation, for example environment, agriculture, transport or public health.

In order to launch a citizens' initiative, citizens must form a "citizens' committee" composed of at least 7 EU citizens being resident in at least 7 different member states. The members of the citizens' committee must be EU citizens old enough to vote in the European Parliament elections (18 except in Austria, where the voting age is 16). Citizens' initiatives cannot be run by organizations. However, organizations can promote or support initiatives provided that they do so with full transparency. The citizens' committee must register its initiative on this website before starting to collect statements of support from citizens. Once the registration is confirmed, organizers have one year to collect signatures.

All EU citizens (nationals of a member state) old enough to vote* in the European Parliament elections (18 except in Austria, where the voting age is 16) can sign a citizens' initiative. To give their support to an initiative, citizens have to fill in a specific statement of support form provided by the organizers, on paper or online.

The Commission will carefully examine the initiative. Within 3 months after receiving the initiative:

- Commission representatives will meet the organizers so they can explain in detail the issues raised in their initiative;
- the organizers will have the opportunity to present their initiative at a public hearing in the European Parliament;
- the Commission will adopt a formal response spelling out what action it will propose in response to the citizens' initiative, if any, and the reasons for doing or not doing so.

The response, which will take the form of a communication, will be formally adopted by the College of Commissioners and published in all official EU languages.

The Commission is not obliged to propose legislation as a result of an initiative. If the Commission decides to put forward a legislative proposal, the normal legislative procedure kicks off: the Commission proposal is submitted to the legislator (generally the European Parliament and the Council or in some cases only the Council) and, if adopted, it becomes law.

What is the process?

1. Preparation and setting up of the citizens' committee
2. Registration of the proposed initiative (max. 2 months)
3. Certification of your online collection system (max. 1 month)

⁴ Source: European Commission - Guide to the European citizens' initiative (third edition)

4. Collection of statements of support on paper and / or online (max. 12 months)
5. Verification of statements of support (max. 3 months)
6. Submission of the initiative to the Commission
7. Examination, public hearing in the European Parliament and answer by the Commission (max. 3 months)
8. If the Commission decides to follow the initiative, the legislative procedure starts

Can our idea be a citizens' initiative?

Our project concerned the Transport policy areas, which is one of the topic under the competences of the European Commission. According to the Article 91-1 of the Treaty on EU, the Commission has the power to submit a proposal for a legal act in that policy area:

“Article 91 (ex Article 71 TEC)

1. For the purpose of implementing Article 90, and taking into account the distinctive features of transport, the European Parliament and the Council shall, acting in accordance with the ordinary legislative procedure and after consulting the Economic and Social Committee and the Committee of the Regions, lay down:

- (a) common rules applicable to international transport to or from the territory of a Member State or passing across the territory of one or more Member States;*
- (b) the conditions under which non-resident carriers may operate transport services within a Member State;*
- (c) measures to improve transport safety;*
- (d) any other appropriate provisions.”*

Moreover, for the moment, the EU does not provide common clear rules to regulate drones circulation even if the subject is discussed⁵ and there is no other citizen’s initiative registered on this issue.

Why this way?

Our drive goes beyond the implementation of a regulative charter on the use of drones: our project should be democratic and involve citizens. We believe that we are in a transitional phase, where we should leave behind old standards since we are facing a great transition where the digital and technological revolutions move faster than regulatory body and play against it whereas they could work together.

The construction of new way of design laws to adapt our society to this transition is what we strive for in doing this project. New challenges (disturbance brought by the digitalization and other forms of technological innovation) are known by the public and people start to realize that we cannot continue outrageously without harming our peers and ourselves. We still need to find ways to link more efficiently our regulatory model to the settlement of these problems. This explains the very nature of our project: we wanted a democratic (citizen’s initiative) way with legal basis (regulative charter).

As European citizens, we believe in the construction of a unity of states and we truly hope that our project can boost the construction of an ideal European community that has been falling apart in recent times and thus is more valuable today. Moreover, we are confident in the ability

⁵ Sécurité aérienne: les députés de la commission des transports soutiennent un projet de règles européennes sur les drones et les risques émergents, Communiqué de presse TRAN, 10.11.2016

of our project to be spread through the different European country and to raise commitment from citizens since we have already easily found five of our friends leaving all over the Europe to join our citizens' committee and thus be able to submit our application.

Application file

To start the process of our initiative, we have to register it on the Commission's citizens' initiative website: <http://ec.europa.eu/citizens-initiative/public/registration>. A model of registration form is presented in annex 1.

The information regarding our project are the following:

Title of the proposed citizens' initiative (maximum 100 characters)

EURODRONE, for a safe use of drones in the European Union

Subject-matter (maximum 200 characters)

Individual and professional uses of drones are more and more common in the EU. However we are currently facing a lack of regulation for these new usages which might threatening citizens' security.

Objectives of the proposed citizens' initiative on which the Commission is invited to act (maximum 500 characters)

We want to appoint a commission that would investigate problematics related to drone regulation, such as tensions and concerns related to privacy, safety, security and the potential of drones for business growth. We believe efforts should focus more closely on bringing together the digital, business and security dimension. Thus we attempt to set up a regulatory framework for drones and prepare its implementation.

Provisions of the Treaties considered relevant by the organisers for the proposed action

Article 91-1 of the Treaty on EU, regarding Transport policies area

Personal details of the 7 required committee members (full names, postal addresses, nationalities and dates of birth), indicating specifically the representative and his/her substitute as well as their e-mail addresses and telephone numbers

All the data are not disclosed here because of privacy reasons.

Florence Courrech, French (representative)

Sébastien Chapotard, French (substitute)

Alexandra Enache, Romanian

Alvaro Bernal, Spanish

Luca Talenti, Italian

Julia Ganzert, German

Ricardo Amaro, Portuguese

Igor Wisniewski, Polish

Documents that prove the full names, postal addresses, nationalities and dates of birth of each of the 7 members of the citizens' committee

Data are not disclosed here because of privacy reasons.

All sources of funding and support for the proposed citizens' initiative (known at the time of registration) worth more than €500 per year and per sponsor

N.A.

Website for the proposed initiative (optional)

<https://EURODRONE.wixsite.com/monsite>

Annex (maximum 5 MB) with more detailed information on the subject, objectives and background to the proposed citizens' initiative (optional)

N.A. Our video is too heavy and will be added on the website.

A draft legal act (maximum 5 MB)

Our Treaty Guidelines (cf. Annex 2)

Raising support

Certification of our online collection system

In an eco-friendly and digital mind, we have decided to collect our support online. Thus, we have to build an online collection system, accessible through our website, that responds to the broad security and technical requirements set out in Article 6(4) of the Regulation on the citizens' initiative and to the detailed technical specifications set out in a specific regulation (Commission Implementing Regulation (EU) No 1179/2011). These requirements seek to ensure in particular that the data will be securely collected and stored in the system.

Once the online collection system is set up and fully complies with the requirements mentioned above, we should request the French competent national authority to certify our system. Then, this authority has one month to verify whether the technical specifications referred to above are satisfied. Once the system has been certified compliant by the national authority, we can start the support collect.

For this step, we have chosen to use the open source software supplied by the Commission. Thus, the certification of our system by the competent national authorities should be straightforward, provided that they have applied the technical specifications to other features of the system not covered by the software.

Collection of statements of support online

Delay: 12 months

Minimum number of signatories required per member state

Our communication strategy will rely on the following plan to collect the signatories.

Purpose: To raise awareness on the regulation of drones, to acquire signatories to the charter from European citizens and to raise support for the development of the Eurodrone Project.

Targeted audience: All European citizens, especially target the young people.

Message: The need of a regulatory charter for the use of drones at EU level.

How will we distribute the message?

First, we will translate the project into the main different EU languages: French, Spanish, German, Portuguese, Italian, Romanian, Swedish, Flemish and of course English. This would permit us to collect signatories from the people that speaks one of those language but not English. We wish that everyone could participate to the project and we make efforts to make it as accessible as possible.

Then we will use different communication channel to distribute it.

1. NGO partnership

To collect the signatories, we will be helped by different NGOs from all the European Union who are already working on relative issues. For example, we would like to on the first step make a partnership with the Civil Society Europe. It is an international non-profit association. They are active in "the promotion of civil, political, economic, cultural, social and environmental rights, in order to strengthen exchanges among associations and visibility of organised civil society at European level", which correspond to the goal of ours. By cooperating with this association who has an important network in this area, we will then be able to create partnership throughout

Europe with other NGOs. With the help of NGO, our message will be more convincing and we will be able to get signatories directly from their supporters.

2. Communication Campaign on the internet

We will also launch an important communication campaign on the internet, especially on the social media because it is where we find the biggest traffic. We have created our Facebook page where we regularly put our lien to our website and of course the lien for signatories. We will find a group of volunteers in Sciences Po to “like” our page and then share the lien to their networks with the hope that their networks will also share it with their friends. We have also come up with a video to explain our project. Before the publication of this video on the social media, we can use a counting down of days to draw more attention. For example, we can use some surprising titles like “three days to count to get to know what Sciences Po students think about flying secretly within the EU”. We will also raise money with crowdfunding and sponsored some of our Facebook publications to have more signatories.

3. Public Relations

We will also have media relation. We will try to have an AFP report and articles in the main media. This media coverage will make our initiative known. Unfortunately, drone accidents often happened in Europe. We will use the media coverage from these accidents to promote our initiative for a drone regulation. The purpose would be that each time a media talk about anything about drone, a small paragraph would talk about the initiative made by European citizen to regulate the drones. Apart from traditional media, we will also collaborate with independent media like the Mediapart who published all its articles on the internet and is thought to be more objective in reporting. In their articles, we want the presence of our site or our project and in exchange, we will let it appear on the website of our project as a partnership.

In any step of our action plan, we will evaluate our communication efforts, and adjust our plan accordingly.

Annexes

Annex 1: Registration form

The screenshot shows the 'Registration form' page for the '1. Members of the citizens' committee' step. The page is titled 'THE EUROPEAN CITIZENS' INITIATIVE Official register'. The navigation bar includes 'European Commission' and 'European Citizens' Initiative'. The left sidebar contains various links such as 'About the citizens' initiative', 'Basic facts', 'The procedure step by step', 'How to sign up to an initiative?', 'FAQ', 'Point of contact', 'Find an initiative', 'Open initiatives', 'Closed initiatives', 'Obsolete initiatives', 'Search', 'Refused requests for registration', 'Launch an initiative', 'Can your idea be a citizens' initiative?', 'Prepare your online collection system', 'Register your initiative', and 'Manage your initiative'. The main content area is titled 'Registration form' and shows a progress bar with four steps: 1. Members of citizens' committee (active), 2. Proposed citizens' initiative, 3. Acceptance of policy and privacy statement, and 4. Preview & Confirm. Below the progress bar, there is a section for '1. Members of the citizens' committee' with a sub-header 'Please enter data for the required 7 members.' and a note 'Please consult the [privacy statement](#) for information on how your personal data will be used'. A 'This form expires in 30 hours: 04/10/2013 08:54:30 MEST.' warning is present. The form fields include: 'Choose member type' (dropdown), 'First name(s) *', 'Family name(s) *', 'Address *', 'City *', 'Postal Code *', 'Residence country *' (dropdown), 'E-mail address *' (with a note 'required only for the representative and substitute (example: john.doe@mail.abcd)'), 'Telephone number including country code *', 'Nationality *' (dropdown), 'Date of birth *' (with a note '(format: dd/mm/yyyy)'), and 'Member document *' (with 'Browse...' and 'Upload member document' buttons). An 'Add member' button is at the bottom. A table titled 'List of citizens' committee members already added' is partially visible at the bottom.

The screenshot shows the 'Registration form' page for the '2. Proposed citizens' initiative' step. The page is titled 'THE EUROPEAN CITIZENS' INITIATIVE Official register'. The navigation bar includes 'European Commission' and 'European Citizens' Initiative'. The left sidebar is identical to the previous screenshot. The main content area is titled 'Registration form' and shows a progress bar with four steps: 1. Members of citizens' committee, 2. Proposed citizens' initiative (active), 3. Acceptance of policy and privacy statement, and 4. Preview & Confirm. Below the progress bar, there is a section for '2. Proposed citizens' initiative' with a sub-header 'Required fields are marked with an asterisk (*)'. A 'Choose language: *' dropdown is present. A 'This form expires in 30 hours: 04/10/2013 08:58:31 MEST.' warning is present. The form fields include: 'Title of the proposed citizens' initiative (no more than 100 characters): *', 'Subject-matter (no more than 200 characters): *', 'Description of the objectives of the proposed citizens' initiative on which the Commission is invited to act (no more than 500 characters): *', 'Provisions of the Treaties you consider relevant for the proposed action: *', 'Your website for the proposed citizens' initiative:', and 'Annex (no more than 5 MB):' (with a 'Browse...' button). A note 'Accepted file formats: DOC, PDF, PPT, RTF, TXT, XLS' is at the bottom.

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Manage your initiative

More information

- [Guide to the European Citizens' Initiative](#)
- [Legislative framework](#)
- [Implementation at national level](#)
- [Other ways of having your say](#)
- [Useful links](#)

Your website for the proposed citizens' initiative:

Annex (no more than 5 MB):

Accepted file formats: DOC, PDF, PPT, RTF, TXT, XLS

Draft legal act (no more than 5 MB):

Accepted file formats: DOC, PDF, PPT, RTF, TXT, XLS

Sources of support and funding for the proposed citizens' initiative at the time of registration: * State all sources worth more than €500 per year and per sponsor. For support or contributions in kind, provide the estimated value of this support in euro. The amount must be rounded to the nearest euro.

No sources of support and funding

Name of sponsor Date (dd/mm/yyyy) ^[1] Amount in EUR ^[2] (example: 1234)

[1] Date when the contribution was received. In case of in kind contributions, please indicate the date when the in kind contribution started.
[2] Actual amount of funding provided or estimated value of in kind contribution.

Add a document with further information on sources of support and funding (no more than 5 MB):

Accepted file formats: DOC, PDF, PPT, RTF, TXT, XLS

Registration form

1. Members of citizens' committee 2. Proposed citizens' initiative 3. Acceptance of policy and privacy statement 4. Preview & Confirm

3. Acceptance of policy and privacy statement

Required fields are marked with an asterisk (*)

Representative (full name):
Substitute (full name):

I hereby declare that I have been designated by the members of the citizens' committee to be their representative or their representative's substitute, and that the information I have provided on the members of the citizens' committee is correct. *

My function: representative substitute

I have read the [procedures and conditions](#) and I am aware that as an organiser of a citizens' initiative, I can be held liable and be subject to penalties in the event of infringement of the [Regulation on the citizens' initiative](#). *

I have read the [Privacy Statement](#). *

Should your request for registration be refused, please tick the box below if the representative authorises the disclosure of his/her first name(s) and family name(s) in the refusal letter that would be published [here](#).

Should your request for registration be refused, please tick the box below if the representative authorises the disclosure of his/her address in the refusal letter that would be published [here](#).

Should your request for registration be refused, please tick the box below if the substitute authorises the disclosure of his/her first name(s) and family name(s) in the refusal letter that would be published [here](#).

Should your request for registration be refused, please tick the box below if the substitute authorises the disclosure of his/her address in the refusal letter that would be published [here](#).

Should your request for registration be refused, please tick the box below if the representative authorises the disclosure of his/her first name(s) and family name(s) in the refusal letter that would be published [here](#).

Should your request for registration be refused, please tick the box below if the substitute authorises the disclosure of his/her address in the refusal letter that would be published [here](#).

I would like to receive notifications from the Commission in the following language:

Choose language: *

NB: You will be able to change the language at any time during the procedure via your organiser account once your proposed initiative has been registered.

This form expires in 30 hours:
04/10/2013 08:58:31 WEST.
[Registration form help](#)

About the citizens' initiative

- Basic facts
- The procedure step by step
- How to sign up to an initiative?
- FAQ
- Point of contact
- Find an initiative
- Open initiatives
- Closed initiatives
- Obsolete initiatives
- Search
- Refused requests for registration
- Launch an initiative
- Can your idea be a citizens' initiative?
- Prepare your online collection system
- Register your initiative
- Manage your initiative

More information

- [Guide to the European Citizens' Initiative](#)
- [Legislative framework](#)
- Implementation at national level
- Other ways of having your say
- Useful links

Prepare your online collection system

Register your initiative

Manage your initiative

Registration form

1. Members of citizens' committee | 2. Proposed citizens' initiative | 3. Acceptance of policy and privacy statement | 4. Preview & confirm

4. Preview and confirm

Data you have entered

This form expires in 28 hours: 04/10/2013 08:58:31 MESE.

1. Members of citizens' committee

Family name (s)	First name (s)	Member type	E-mail address	Postal address	Telephone number including country code

2. Proposed citizens' initiative

Title of the proposed citizens' initiative

Subject-matter

Description of the objectives of the proposed citizens' initiative on which the Commission is invited to act

Provisions of the Treaties you consider relevant for the proposed action

Your website for the proposed citizens' initiative

Draft legal act

Sources of funding and support
No sources of support and funding.

Document with further information on sources of support and funding:

3. Acceptance of policy and privacy statement

I hereby declare that I have been designated by the members of the citizens' committee to be their representative or their representative's substitute, and that the information I have provided on the members of the citizens' committee is correct.

My function: representative substitute

I have read the [procedures and conditions](#) and I am aware that as an organiser of a citizens' initiative, I can be held liable and be subject to penalties in the event of infringement of the [Regulation on the citizens' initiative](#).

I have read the [Privacy Statement](#).

Should your request for registration be refused, please tick the box below if the representative authorises the disclosure of his/her first name(s) and family name(s) in the refusal letter that would be published [here](#).

Should your request for registration be refused, please tick the box below if the representative authorises the disclosure of his/her address in the refusal letter that would be published [here](#).

Should your request for registration be refused, please tick the box below if the substitute authorises the disclosure of his/her first name(s) and family name(s) in the refusal letter that would be published [here](#).

Should your request for registration be refused, please tick the box below if the substitute authorises the disclosure of his/her address in the refusal letter that would be published [here](#).

Notification language: Slovenian



Enter the characters you see in the picture *

Annex 2: Treaty Guidelines

I. The market of drones

Before 2016, the only way to operate drones commercially was through exemptions specifically granted to companies, which was rarely sought after, due to it being difficult and expensive to obtain. In 2016, the US's Federal Aviation Administration (FAA) lifted restrictions, by introducing rules to drone use on US soil, known as "part 107".

This allowed for legal commercial use of UASs in the US, under certain conditions, but without the necessity for a special waiver. Ever since these exemptions, UASs have been an exponentially increasing market worldwide, with many sectors and companies finding use for them, and a large market demand for personal use drones. Since early 2016, the number of FAA-registered drone operators in America rose from none to over 750,000.

The vast majority of spending on drones (90%) is for military purposes, however the interest for civilian-use UASs has rapidly increased in the last few years. In this charter, we will be focusing on the market of civilian drones and the ways in which their usage and production are regulated.

The market of commercial drones is mostly composed of many small firms, or start-ups, with a few notable larger private companies beginning to take interest in the sector.

Some of the most important producers of UAS technologies include:

- DJI (Dajiang) Innovations (based in China) – DJI is the current leader in the production of drones for non-military purposes, with a 70% share in the global drone market. Its drones are popular in both commercial and personal use, like, for example, the mass use of DJI's UASs in China's forestry seeding program.
- Zero Zero Robotics (based in China) – Mostly known for its Hover Camera drones. The drone's main purpose is taking selfies, and is exclusively sold by Apple.
- 3D Robotics (based in the USA) – 3D Robotics are known for their smart drones, employing GPS point planning technologies, which allow them to follow users without need for external input.
- Yuneec (based in China) – Known for introducing the first mass produced commercial use drone in 2014, The Typhoon Q500 quadcopter.
- Parrot SA (based in France) – A new entrant to the market, which has grown quickly with the introduction of its AR.Drone, capable of being controlled through a smartphone app.
- Hubsan (based in China) – Known for manufacturing the world's smallest drone, used for both personal and commercial purposes.

Even though the field of consumer drone production is still fairly recent, many start-ups in the market find it difficult to compete with DJI's dominant position, resulting in many downsizings and shutdowns. Large players such as Autel, GoPro, Parrot, Yuneec and 3D Robotics, have either had to resort to lay-offs, or have completely redirected their efforts at producing proprietary hardware into simply reselling other companies' tech.

When qualifying the rise of the consumer drone market, Brendan Schulman, head of policy at DJI, told The Economist, "These are not military products that were downsized—these are consumer technologies that got better." With custom design and specific modifications, drones can be more than a military device or a tech toy. Already proving itself in aiding police work and

emergency services, UASs have also shown themselves as a major tool for commercial use. Ever since their introduction to general markets, drones have been used in a variety of industries, with an ever-growing array of lucrative and effort-saving applications, some of which are yet to be massively applied:

- Agriculture - Drones have found exceptional use in aiding crop monitoring. With special software, they can quickly cover the oft large distance of arable land, and gather data on how the growth of crops is proceeding, and the appropriate time for harvest. UASs are already being employed in the monitoring of sugar cane, cereals, and various fruit cultures. Additionally, they can aid with warding off pests and insect from the crops, as well as be used for spreading seeds, pesticide or water across vast areas.
- Civil Engineering - The main advantage to the use of drones in civil engineering is their ability to conduct in-depth infrastructure inspections, in areas considered dangerous, laborious, or otherwise difficultly accessible by humans, such as buildings, dams, bridges, highways, or canals. This allows for engineers to make efficient real-time evaluations of construction work.
- Transportation of goods - Drones are being considered for use in delivery, of small-sized goods, quickly across an urban environment. Many important companies operating in city-wide delivery networks, such as Amazon, UPS, FedEx, DHL, postal services and even Domino's Pizza have shown great interest into investing in a highly efficient drone delivery service. However, this application of drones is yet to prove its viability, due to the major hurdle of operating drones on a large scale in a densely populated environment. This includes a litany of technical issues, as well as a few legal and ethical questions, which keep this application of UASs from being realized at the present moment.
- Photography and Filming - In the field of aerial photography and filming, drones carry the clear advantage of cost and effort-efficiency to their predecessor technologies, the helicopter and the air balloon. As long as privacy norms are respected, drone use in these fields shows a great deal of promise.
- Leisure - One of the most promoted and immediately apparent uses of drones are, of course, as toys and sports equipment. As with the above cases, private use UASs are still subject to privacy laws and restrictions to flying over densely populated areas or too close to people. Additionally, drones are considered as a form of flying vehicle, requiring their user possess a license specific to their use.

The future of commercial drones looks bright, and their applications are manifold. However, many of these new and exciting uses for drones carry a recurring caveat between them. They seem to currently occupy a state of legal limbo, with regulations still needing to catch up to innovation. The last years, however, have brought with them an increased interest in legislation specific to commercial drones, in the EU, and abroad.

II. Assessing the current regulations

1. Regulations and Timeline

European political initiatives concerning drone regulations have accelerated since 2014 as a series of EU member states have started updating their legislation. The drive for the institutionalization of a common EU wide framework has intensified after the EU High Level RPAS Conference, which concluded with the Riga Declaration on Remotely Piloted Aircraft of March 2015 that defines the key principles to which drone regulations should adhere:

- Drones should be treated as a new type of aircraft and the established rules should be proportionate to the level of risk entailed by each operation;
- Safety regulations should be addressed at the EU level by the European Aviation Safety Agency (EASA), based on its collaboration with the EASAs of individual Member States (MSs). The fundamental principles should be harmonized at the international level to the highest degree possible and a closer collaboration between the Joint Authorities for Rulemaking on Unmanned Systems (JARUS), the International Civil Aviation Organization (ICAO) and international industry standard setting bodies should be promoted;
- Adequate investment is needed in order to integrate drones within the aviation system – the SESAR program.
- public acceptance is of the essence – the fundamental rights of citizens, including the right to privacy and data protection must be guaranteed;
- The drone operator must be held responsible for the use of the drone and he/she must be identifiable at all times. Since drone accidents are inevitable, it is the responsibility of Member States to put in place mechanisms that verify drones are ensured and that compensation funds for victims of uninsured drones are established;

The EASA published in 2015 the first regulatory approach to drones under the title “Concept of Operations for Drones: A risk based approach to regulation of unmanned aircraft”, followed by a Technical Opinion and the Prototype Regulation on Unmanned Aircraft Operations in the summer of 2016. The documents establish a risk-proportionate and performance-based framework within which they distinguish three categories of operations:

1. The “Open” (low risk) category: given the risks associated with the operation, no prior authorization is required from an Aviation Authority before the drone is used – the rule applied both to recreational and commercial uses. The UAV must be flown under direct visual line of sight: 500m, at an altitude that doesn’t exceed the 150 m above ground or water and the device should be kept outside stated reserved areas such as airports. However, while flying above crowds is prohibited, “flights above people not related to the operation in cities or populated areas is allowed”.
2. The “Specific” (medium risk) category: the operator is responsible for performing a safety risk assessment based on airworthiness, operating procedures and environment and for identifying mitigation measures in the eventuality of an accident. The assessment will in turn be reviewed by the National Aviation Authority and will materialize in an operation approval. Flying close to crowds can be deemed acceptable if operating procedures are respected and the device has additional functionalities like limiting energy consumption;
3. The “Certified” category: when the risk associated with operating the drone is akin to traditional manned aviation and therefore the competent authorities will be the same. However, more specific certificates will also be required than for traditional aviation. The limit between the specific and certified categories is not specifically defined and can be potentially interpreted based on the complexity of the operation or autonomy level.

In the second half of 2016, the EASA assembled a group of experts to advise it on the publication of a regulatory text - Notice of Proposed Amendments (NPA) 2017-05, that was officially published in May 2017 and submitted for public consultation for a period of 4 months that ended on 15th of September 2017. The NPA is to be submitted to the European Commission by the end of 2017. At the same time, the EASA has been advising the European Commission on revising basic regulations, therein included the 150 kg threshold, below which regulations would fall within the responsibility of individual Member States. The revisions have been

presented to the European Parliament and Council in 2016 and both institutions have since drafted their amendments to the proposal. The legislation has entered the trilogue phase between the Parliament, Council and Commission in the first half of 2016, but the process has proved rather challenging in the course of the current year. Briefly, as of today, the European Union documents that tackle the issue of drones are primarily open provisions, that aim to ground the upcoming legislation in 2018.

2. General legal and ethical issues

Following the review provided in the first part of this section, we would firstly like to highlight that the process of policy negotiation and adoption is very time intensive and lags behind the pace of technological progress and technology adoption. While we acknowledge this is part of the EU's legislative process, we believe this is particularly problematic in the case of drones and will constitute a liability for the EU in the future. For examples, digital giants like Amazon and Google are already testing drone delivery in Europe. Not only do they have the technological capabilities of making drone deliveries a standard practice, but given the fierce competition between them, if one of them succeeds, the other also has a strong incentive to also do so. But if say Amazon would routinely start using drones before adequate legislation is put in place, the data that the drones have registered for example, would be very difficult to be dealt with retroactively. We therefore argue for a more flexible regulatory framework that can allow the European Union to react rapidly.

Furthermore, as a result of the assessment of the existing European regulatory framework and a review of the academic literature investigating the topic of drones, Eurodrone has identified a series of key legal and ethical issues.

a. Legal issues

1. **Liability:** despite the goals formulated at the Riga conference, the regulations in place leave largely unaddressed how liability is to be established in the eventuality of an accident. For example, if a drone is remotely piloted, a potential accident could occur as a result of a piloting error, either of a computer or of a person, or can be caused by a manufacturing error. Should the drone owner, the manufacturer or the person piloting the drone bear responsibility? And most importantly, considering that drones can be piloted by computers, how can the responsible party be identified in each instance and according to which criteria should penalties be put in place?
2. **Drone piloting license:** a number of EU member states, including France require commercial drone users to obtain a license before being given permission to fly. Nonetheless, what remains unclear is whether following an accident the permit can be permanently or temporarily withdrawn, as a risk minimizing measure. Furthermore, the license requirement is not currently harmonized among all member states.
3. **Insurance:** the existing legislation does not make the insurance of drones a mandatory prerequisite. Only drones weighing 20 kilograms are required to be insured. However, the majority of drones operated for commercial or leisure purposes in the EU weigh less than 20 kilograms and can avoid the legal threshold. Nonetheless, they still have the potential to cause major damage, therein included colliding with a passenger airplane.
4. **Private property:** drones flying above an individual's private property leave open the question as to how much airspace can be claimed by the landowner. This also begs the question of whether the drone pilot would require permission from the owner when flying above the property. However, the European law already prohibits it.
5. **Noise:** given the low altitude that low risk drones fly at, regulations should be put in place, in collaboration with manufacturers, as to how much noise drones should be

allowed to make, so as not the inconvenience the citizens above whose property they are flying.

Pollution: drones do not emit polluting gas as they operate on electricity. Nonetheless, the battery or source of electricity could pose problems and regulations should be put in place so that European environmental regulations are not bypassed.

b. Ethical issues

As drones start being used for commercial and recreational purposes, a number of ethical questions must be asked, particularly with regards to privacy. Privacy is defined as a fundamental human right according to the European Convention on Human Rights. Addressing privacy concerns should be a priority for the EU given its liberal democratic foundation and the way it positions itself as a protector and promoter of human rights. The most salient issue arises out of the fact that drones are not permitted to fly above crowds, but the 2015 EASA brochure states that the flight above people not related to the operation is allowed for low risk drones, while devices that fall within the medium risk category can potentially fly above crowds if the drone has additional features like limiting energy consumption. We therefore distinguish between two dimensions of privacy that could be impacted upon: behavioral and data privacy. In analyzing the two dimensions, our observations start from EU's attempt of resolving safety issue by not allowing drones to fly at altitude higher than 150m above ground.

3. Behavioral privacy

The low price of drones and their various applications provide strong incentives for their widespread commercial use. In turn, this can lead to a more extensive and systematic monitoring of individual behaviors, in a wider range of locations. For example, drones can have invaluable potential for broadcasting technologies as they can enable real-time reporting in difficult to access perimeters. However, a number of scholars explain that such continuous and frequent scrutiny is akin to harassment and can have a self-disciplining effect, where individuals police their own behavior as if they were monitored all the time. Furthermore, drones' monitoring abilities can go beyond visual and extend to audio capabilities, meaning that private conversations can also be monitored. Drones thus have the potential of becoming a surveillance technology that can erode the reasonable expectation of privacy in society. In return, some government and corporations invoke the notion of technological determinism - if it is possible to do it, it should be done. Nonetheless, technological capability should not be a criterion in establishing the boundaries of fundamental human needs like privacy. Furthermore, we believe that such a discourse would contradict the foundational values of the European Union that guide its internal and external policies. In addition, the ensuing problem has negative consequences on two levels:

- economies rely on innovative behavior that tends to be inhibited by continuous observation;
- a healthy democracy requires protection of the privacy of personal behavior;

4. Data privacy

At the moment of writing, it is known that the European General Data Protection Regulation (GDPR) will be published in May 2018. Nonetheless, Eurodrone wants to emphasize the particularity of drones in their ability to gather data on citizens and that they should have a special status in the upcoming legislation. Given the low altitude they fly at and the fact that they are extensively used for photography or film-making purposes, they have the potential of recording videos or pictures of identifiable individuals, thus resulting in personal data. The law offers a certain degree of protection against privacy intrusion as in most member states aerial

video shots of people sunbathing on their own property are prohibited. However, problems might still arise. For instance, drones can pose a dangerous threat to privacy by combining the footage recorded with data mining techniques (algorithms used to discover previously undetected connections between the data) or data profiling (combining the data captured concerning a particular individual to establish patterns of behavior). In addition, concerns have been expressed about drones endangering the security of personal communications as their radio signal can monitor Wifi signals.

III. Recommendations

Following the assessment of the current EU drone regulations, we have drafted a series of recommendations. Our conclusions are inspired by existing regulations in France and the United States, as judged by experts as the most progressive in the area. The members of Eurodrone have also reflected on new regulations that seem relevant. This charter is thus based on common sense, existing laws, bylaws and other local ordinances, studies - either conducted by public or private institutions - and all sources - computerized and typewritten - that we were able to consult. Eurodrone is aware that such a regulation could potentially lead to an increase of the production cost and therefore the selling price. Nevertheless, it seems to us that these regulations are in accordance with the potential harm drones can cause. In addition, price increases could mainly affect drones weighing 250 grams and more, while for the rest, the manufacturing price should not be significantly impacted. For practical reasons, when categorizing recommendations, Eurodrone has considered those who will consult the regulations. Therefore, the solutions put forward are divided into 3 categories: general rules that should be consulted by all individuals wishing to work with drones, drone users and drone manufacturers and sellers.

General

1. Drones over 250 grams (* 1) cannot be sold to minors without the presence and agreement of the legal tutor.
 - Sellers of drones over 250 grams must register buyers electronically:
 - Coordinates (address included)
 - Use and place of use;
 - Serial number;
2. Drones weighing one kilogram and more must be equipped with a radar / beacon that can be used to transmit via GSM (Global System for Mobile Communication) or RFID (Radio Frequency Identification) (* 2).
3. Establishment of a computerized database of prohibited overflight zones, thanks to the GSM or RFID transmitters installed on drones or internet signal and the beacons on these sites, the owner will be automatically verbalized and legal proceedings may take place according to the sensitivity of the geographical area.
4. Drones purchased abroad must be declared to customs, otherwise the owners will be prosecuted.
5. Drones weighing more than one kilogram (*3), cannot be sold without the presentation of the Criminal Record « Bulletin 3 », which must be blank and the licence from the prefecture or the municipality.
6. If the owner of a drone intends to use it for commercial purposes, registration at the prefecture or the municipality becomes mandatory.
7. The registration at the prefecture or the municipality allows to obtain a license, provided that all the requirements listed in the "General" section are respected. The

owner must pay a certain fee in order to register the drone. In turn, this sum contributes to the State's expenditure related to the regulation and the drone market.

- It seems appropriate to implement a harmonized, EU-wide training program on the safe use of drones and the regulation in force, in exchange for the awarding of the license. This training would be financed by the payment upon the registration.
- 8. Unless authorized, especially for experimental and professional use, drones cannot exceed a maximum height of 150 meters (* 4) from the ground.
- 9. Audio-visual material captured by drones should be justified in relation to the purposes of the operation conducted. Material that concerns individuals unaware they were being recorded or who have not given their permission to be recorded cannot be used in any way by the drone owner (*5). Attempts to publicly use such material or to humiliate or blackmail individuals concerned should be legally penalized. The issue should be dealt with in the Civil Code.

(* 1) This threshold has been established following the evaluation of the drone dropping on a physical person

(* 2) The objective is the remote identification and transmission of certain information such as time of flight

(* 3) It is estimated that from a weight of one kilogram a drone can carry a "small pomegranate"

(* 4) To avoid interferences or accidents with other users of airspace.

(*5) Exceptions should be made for the situation when the material recorded could be used to address public safety issues. However, in order to protect individuals from potential power abuses by the police or government, the justification of the public authorities cannot be preemptive and clear evidence must be presented as to why they should be granted access to the recordings.

Users

1. Every owner and user of a drone is expected to comply with the regulations presented in the General section. If he/she purchases a drone abroad or makes any modifications, he/she must ensure that following the modifications, the drone complies with the prerogatives in force and that he/she has the necessary documents for its use.
2. Drone users must have their tablets, smartphones or computers connected to the Internet during the entire time the drone is being used, in order to allow the real-time monitoring of the activities of the drone. The regulation equally applies to instances when the drone is being piloted by a computer. In the eventuality of an accident, this can allow to trace the causes and the guilty party.
3. A drone user has access the European platform in an unlimited way. This should be done before each use in order to consult the recommendations, the events and the novelties regarding to the market, the regulation and the use of the drones.
4. This platform also allows each user to obtain an approximate geolocation of drones flying over the space where the user is.
5. Owners of drones over one kilogram must register online the geographical area and purpose of the use (from a pre-established list) before each use.
6. Each owner is responsible for the use and damage that can cause his drone. For minors, it is the legal representatives who are responsible. It is accepted that there might be instances when the owner allows someone else to pilot the drone. Nonetheless, the owner has the responsibility to ensure the user is capable to use the drone. In an accident occurs when the drone is piloted by someone else other than the owner, the pilot will be persecuted and potentially the owner as well, depending on the extent to which he could have foreseen the inability of the pilot. In order to keep track of such

events, when the owner should declare on the European platform when the drone is piloted by someone else.

7. Drone users must also comply with the following:
 - Do not use a drone near a stadium or place where sport events are held.
 - Do not use a drone near a fire.
 - Do not use a drone nearby a closed public place.
 - Do not use a drone near other flying elements, especially airports and heliports.
 - Do not use a drone within 3 meters of a person or group of people.
 - Do not use a drone when the weather conditions do not lend to it.
 - Do not use a drone below the maximum flight heights.
 - Do not use a drone in urban area after sunset.
 - Do not use a drone without having a direct view on it.
 - Do not use a drone without first consulting the legal requirements.
 - Do not use a drone near protected and / or sensitive areas.

Manufacturers and Sellers

1. Manufacturers and sellers must provide a user manual, with the charter of use of a drone and the regulations in force.
2. Manufacturers and sellers must comply with the regulations specified in the "General" section.
3. Manufacturers and sellers of drones of more than 250 grams must set up a system allowing the connection wifi, or bluetooth, or any other process allowing the remote exchange of information between a drone and a tablet, a smartphone or a computer. This system must be permanently connected - as soon as a connection is established and therefore a use of drone - to the European platform for regulating the use of drones. This in order to allow a perfect identification and traceability, in order to proceed to the prosecution, the verbalization and, if necessary, sanctions.
 - A function must be installed so that the use of drones over 250 grams would not be possible on the territory of the European Union without an internet connection.
 - In addition to this system, drones weighing one kilogram or more must be equipped with GSM (Global System for Mobile Communication) or RFID (Radio Frequency Identification) chips.
4. Manufacturers and sellers must set up a function allowing to know the flight height of the drone, for all drones capable of flying at an altitude of over 150 meters above the ground.
5. The manufacturers must ensure the battery of the drone conforms to European environmental standards.
6. Starting from a weight of one kilogram, the manufacturers must set up a function limiting the height of flight to 150 meters from the ground
7. In order to comply with all possible regulations, drones of 250 grams or more must have a functionality allowing the operator to easily adjust the height of flight from the ground, starting from at least 20 meters.
8. To minimize the risk of accidents, drones weighing 250 grams and more must have a function to warn the user when another drone is at a distance of less than 150 meters.
9. For drones weighing one kilogram or more, this distance is increased to 500 meters. Manufacturers must install a system of automatically diverting the drone when it is within 150 meters of another drone.
10. Starting from a weight of 250 grams, manufacturers must put in place functions allowing sound and light systems

11. Manufacturers and sellers of drones of more than 250 grams must indicate the link allowing access to the European information platform on the use of drones and different geographical areas prohibited from overflight by drones.
12. For drones of more than one kilogram, manufacturers must set up a function that makes it impossible to cross prohibited areas. It is therefore necessary to register beforehand on the computer system of the drone a connection between the drone and the platform of the European card dedicated to this use. This connection must allow an automatic update to take into account the changes established by the different localities, this has to be done each time an internet connection will be established and therefore each use.
13. Manufacturers and sellers of drones of over 250 grams that are equipped with audio-visual recording functions must register and obtain the necessary licenses and authorizations in each country where they may make a direct sale
14. Manufacturers and sellers of drones over one kilogram must register and obtain the necessary licenses and authorizations in each country where they may make a direct sale
15. Companies wishing to manufacture drones of more than one kilogram must obtain a license directly from the relevant ministry, depending on the country. They must also, just as sellers, register with the European Union.

