



the AVIATION lawyers

World Drone Regulations





Publisher:
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Internet:
www.L2bAviation.com

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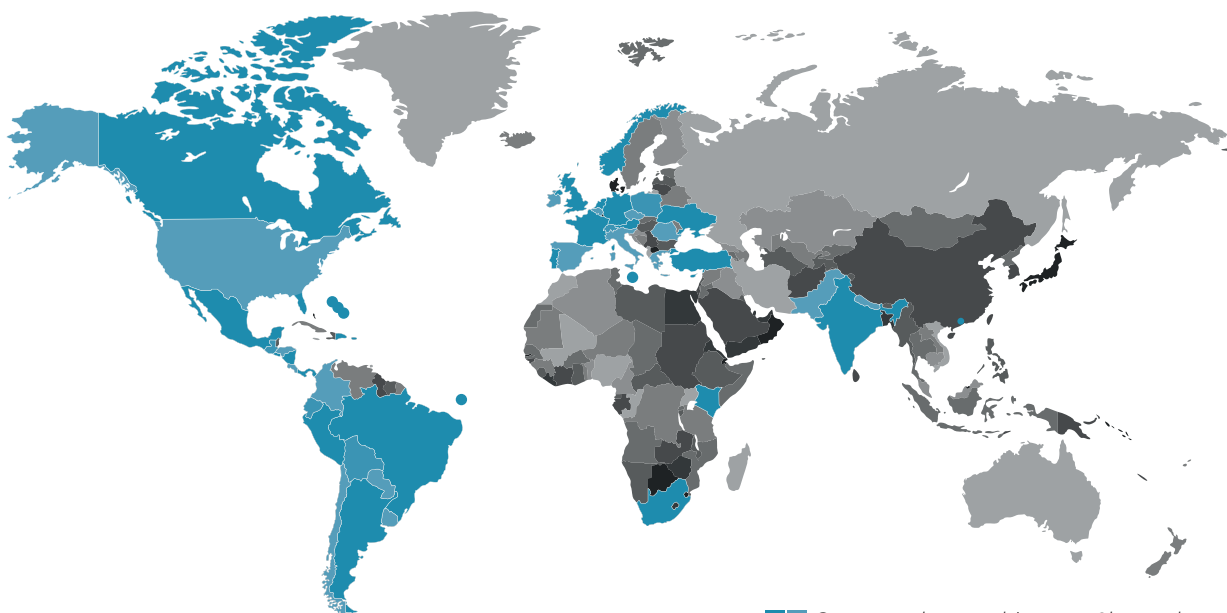
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Introduction

There seems to exist a consensus that the drone industry will be one of the fastest growing over the next few decades. Devices that were initially designed mainly for military purposes have quickly evolved into a new area with a plethora of commercial applications. Generating climate data, controlling borders, fire prevention, inspection of pipelines, electrical wires or contaminated environments, monitoring crops, delivery of all kinds of products, aerial photography, 3D mapping... are but a few of the potential uses of these devices.

Drone commercial start-ups are flourishing throughout the world, partly due to the vast number of potential commercial applications, partly due to the limited capital investment required when compared to other ventures, and partly due to the technological developments in telecommunications and robotics. Of course, the fact that business analysts such as Goldman Sachs predict that there will be a 100 USD billion market opportunity for drones by 2020 ("Drones - Reporting for Work" under <http://www.goldmansachs.com/ourthinking/technology-driving-innovation/drones/>) also helps in attracting investors and developers.

As with other industries that appeared over the last 150 years, initially legislators were overrun by the legal implications and requirements of drones. Most countries are undergoing efforts to address this new phenomenon but are taking a cautious approach: being seen as "aircraft", traditional concerns such as safety are predominant when issuing regulations for the certification and operation of drones. Just as an example: although the technology for remotely piloting an aircraft is certainly available, as the news about military operations with drones in remote areas shows most regulators still struggle with allowing commercial drone operations beyond the pilot's line of sight. This impacts most commercial applications, which need more relaxed flight regulations to really take off.

However, recent events, such as the sighting of unidentified drones in, or close to, take-off and landing zones at Gatwick airport which caused severe disruption of airport operations during two days in December 2018, underpin the tension between safety and flexibility in this area. According to the BBC, armed police were ready to attempt to shoot the drones down in Gatwick, and the government of the United Kingdom is considering implementing military-grade antidrone equipment at all major UK airports and other critical infrastructure such as power stations and prisons (<https://www.bbc.com/news/business-46829615>). Of course, the efforts of one single country cannot produce meaningful results to address this new kind of risk, and coordination at a transnational level seems to be the better approach.

The European Union is working on a regulation for drone operations that will harmonize the currently fragmented regulatory framework. It was expected that the new regulation would be adopted by the end of 2018, but the process is proving more complex than initially anticipated. The approach of the European Commission is to have an operation-centric, proportionate, risk and performance-based regulatory framework for all types of unmanned aircraft, as explained on EASA's dedicated website (<https://www.easa.europa.eu/easa-and-you/civil-drones/rpas/drones-regulatory-framework-background>).

In the USA, the FAA has acknowledged that safety requirements nowadays oblige to make use of “accommodation practices”, but it envisions a future in which drones can operate side-by-side with manned aircraft, occupying the same airspace and using the same air traffic management systems and procedure (<https://www.faa.gov/uas/>). Other countries are also analysing the issues posed by drone operations to help the industry reach its full potential and thereby produce new jobs and economic growth.

This report wishes to summarise the basic legislation applicable to drone operations in almost thirty countries. Leading practitioners in the jurisdictions featured have answered a number of key questions that attempt to provide a general overview. The report shows the situation as of 30 June 2018. Given the very dynamic environment of this industry, it is to be expected that new legislation will be passed in the short term so as to ease the present restrictions. For this reason, the authors intend to periodically update its contents, although no guarantee can be given in this respect. Specific legal advice should always be sought from experienced local advisers.

On a technical note, for the purposes of this report, and in view of the large number of names given to unmanned aircraft across the world (multicopter, UAS, RPAS, UAV, drones, MAV...), we will refer to any aircraft or air vehicle without a human pilot on board, which flight is controlled either autonomously or under the remote control of a pilot on the ground or in another vehicle, as “UAS”. To the extent that domestic legislation in the countries included in this report make a distinction in respect of the different types of Unmanned Aircraft System (“UAS”) it has been so indicated.

This publication should not be construed as legal advice on any specific facts or circumstances. The contents are intended for general information purposes only.

Sergi Giménez
Augusta Abogados
L2b Aviation



The Bahamas



The Bahamas

Contributed by: Michael Allen

General

1. Are UAS considered as "aircraft" in your country?

A UAS is considered as an aircraft in The Bahamas. An aircraft is defined under the Civil Aviation Act, 2016 as a machine that can derive support in the atmosphere from the reactions of the air, other than the reactions of the air against the earth's surface. The Bahamas has a regulatory framework which gives guidance on unmanned and remotely piloted aircraft.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The Bahamas Civil Aviation Authority ("the Authority") regulates the operations of remotely piloted and unmanned aircraft operations in The Bahamas under the Bahamas Civil Aviation Act, 2016 and the Civil Aviation (General) Regulations, 2017 ("the Regulations").

3. Is there a distinction between "State UAS" and "Private UAS"?

Under Bahamian law there is no distinction between "State UAS" and "Private UAS".

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

The Bahamas recognizes a distinction between a UAS used for recreational and hobby use and a UAS used for remuneration, compensation or aerial work. Schedule 27 as published by the Authority provides parameters for the use of a UAS for recreational and hobby use. Schedule 11 as published by the Authority stipulates requirements for use of a UAS for remuneration, compensation or aerial works.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

The Bahamas recognizes a remotely piloted aircraft ("RPA") as an unmanned aircraft that is piloted from a remote station and:

- (i) includes a radio-controlled model aircraft; but
- (ii) does not include a control line model aircraft or a free flight model aircraft.

An "Unmanned Aircraft" is separately defined and broadly refers to an aircraft designed to operate with no pilot on board. The definition also includes remotely piloted aircraft but additionally embraces free flight model aircraft. There are no separate regulations for completely autonomous UAS and remotely-piloted UAS.

Regulation of Unmanned Aircraft Systems ("UAS") Operations - Safety

6. How are UAS operations regulated in terms of safety?

The safety of UAS operations are regulated under the Regulations and in particular Schedule 27 thereunder. Included in Schedule 27 are provisions for securing prior consent to overfly and for regulating proximity to persons, proximity to aerodromes and the dropping of articles.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

The Regulations do not give express consideration to the rule 1 UAS = 1.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

No person may operate an unmanned and/or remotely piloted aircraft unless, prior to flight in The Bahamas, the ownership of the UAS has been registered with the Authority.

An unregistered UAS brought into The Bahamas will be retained by the Bahamas Customs Department until registration is obtained.

The following steps must be taken in order for a Bahamian person to obtain the right to operate a UAS:

1. Application for a certificate of registration is made online.
2. The online generated certificate is signed by the applicant and is taken to the Bahamas Customs Department.
3. The Bahamas Customs Department will release the UAS once customs duties and other import related fees are paid.

The following steps must be taken in order for a Non-Bahamian person to obtain the right to operate a UAS:

1. Where the intended use of the UAS is for leisure, the applicant must fill out the prescribed application form and submit the completed form with supporting documentation to Safety Oversight ("Safety Oversight") within the Authority. Safety Oversight will process the application and grant authorization.
2. Where the intended use of the UAS is for commercial use the applicant must fill out the prescribed application form and submit the completed form with supporting documentation to Air Transport Licensing. Air Transport

The Bahamas Continued...

Licensing will coordinate all relevant matters with Safety Oversight and will on satisfaction of all requirements provide a letter of authorization. It is anticipated that the letter of authorization will as a matter to procedure be replaced with a certificate of license.

9. Are there any kind of taxes or fees regarding the licensing procedure?

At the date of this publication the only fees payable are in connection with the commercial use of a UAS. Fees are fixed at \$80.00 per UAS and \$80 per location of use for each UAS.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

Under the Regulations a person may not operate an unmanned and/or remotely piloted aircraft unless, prior to flight in The Bahamas

- (1) it has been issued an airworthiness certification by an authorized person or organization; or
- (2) it has been issued a Certificate of Airworthiness by the Authority.

Notwithstanding the above, at the date of publication, as a matter of practice, a Certificate of Airworthiness is not a requirement where a certificate of registration has been granted.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

The Regulations provide at Schedule 11, Subpart L for specific requirements for authorization for the use of a UAS for remuneration, compensation or in aerial work. Services may be conducted once authorizations have been provided.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There are no nationality or ownership restrictions regarding control of a UAS. No person may however operate or pilot a UAS unless the operator and/or pilot has – (1) current third-party liability insurance of claim levels acceptable to Air Transport Licensing for the level of risk; and (2) has evidence of that insurance in his personal possession at the time of flight. This however does not apply to an unmanned and/or remotely piloted aircraft weighing less than 15 kg unless the operator or pilot has an incident involving failure to maintain compliance with the Regulations.

13. Is drone transport permitted / regulated in your country?

Drone transport for commercial use will be included in the definition for “commercial air transport” which means the carriage of passengers or cargo for hire or reward or other valuable consideration. Drone transport is not expressly prohibited in The Bahamas, but all requirements for registration and safe operations of a UAS will have to be observed.

Regulation of Unmanned Aircraft Systems (“UAS”) operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There are no specific Data & Privacy Protection regulations applicable to UAS operations.

15. Is there a specific control-link interference regulation applicable to UAS operations?

There are no specific control-link interference regulations applicable to UAS operations. We note however, that Section 56 of the Civil Aviation Act, 2016 provides that the Authority shall have the power to prescribe and revise, as the Authority may deem necessary, minimum safety standards for the operation of air navigation facilities and services for preventing interference with the use or effectiveness of apparatus used in connection with air navigation, and securing the safety, efficiency and regularity of air navigation, the safety of an aircraft, and for preventing an aircraft from endangering other persons and property.

16. Do specific rules regulate UAS manufacturers?

There are no specific rules regulating UAS manufacturers in The Bahamas.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

The following steps must be taken in order for a Non-Bahamian person to obtain the right to operate a UAS:

1. Where the intended use of the UAS is for leisure the applicant must fill out the prescribed application form and submit the completed form with supporting documentation to Safety Oversight within the Authority. Safety Oversight will process the application and grant authorization.
2. Where the intended use of the UAS is for commercial use the applicant must fill out the prescribed application form and submit the completed form with supporting documentation to Air Transport Licensing. Air Transport Licensing will coordinate all relevant matters with Safety Oversight. On a successful application Safety Oversight will provide an Aerial Works Certificate and Air Transport Licensing will issue a letter of authorization or a certificate of license.

We note also that no person may operate a remotely piloted aircraft system engaged in domestic or international air navigation in The Bahamas airspace without appropriate authorization from the State from which the take-off of the RPA is made. Further, no person may operate an RPA across the territory of The Bahamas without special authorization issued by The Bahamas. This authorization may be in the form of agreements between the States involved.

18. Are fares or pricing of UAS operations regulated and, if so, how?

Fares and or pricing of UAS operations are not regulated in The Bahamas.



The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

A UAS must be registered with the Authority. There is, however, no particular register provided for in the Regulations referable to a UAS.

20. Who is entitled to be mentioned in the UAS register?

The Regulations do not provide for a particular register for a UAS. We note however that the name of the owner appears on the certificate of registration of a UAS.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

The Regulations do not provide for a particular register for a UAS. We note however that in order to secure the registration of ownership of a UAS the UAS must not be registered under the laws of a foreign country and legal evidence of ownership must be provided.

22. Do specific rules regulate the maintenance of UAS?

There are no rules which specifically regulate the maintenance of a UAS.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

The operations involving aerial work are regulated by Schedule 11 Subpart L to the Regulations. The Regulations provide for an Aerial Work Certificate (AWC) with an authorization for Unmanned Aircraft Operations. Conditions for operations will be provided under the terms of the AWC. In such circumstances, operational and distance limitations will be provided under the terms of the authorization based on the nature of the application.

24. Are UAS obliged to take off from and / or land in specific facilities?

A UAS is not obliged to take-off from or land in specific facilities unless conditions for operation of the UAS are imposed by the authorization received from Air Transport Licensing.

25. Which kind of airspaces are UAS permitted to operate with?

A UAS may operate in airspace which is not restricted by relevant regulations

26. Which airspaces are restricted for UAS?

The operator or pilot of an aircraft must ensure that the UAS stays clear of airspace above persons who have not given consent to the flight being conducted over them. They should avoid operating above property without prior consent from (1) any persons occupying that property; or (2) the property owner.

The operator or pilot of a UAS shall not operate over a crowd or congested area of persons even when consent has been obtained from the property owner. The operator or pilot must

maintain a distance between the UAS and a person of at least 50 feet laterally and 100 feet vertically; which will not however apply to persons assisting in the launch or recovery of the UAS.

The operator or pilot of a UAS shall not operate that aircraft when the visibility is less than 1 statute mile and the base of the lowest clouds is less than 500 feet from the surface.

The operator or pilot of the UAS shall not operate the UAS higher than 400 feet from the surface.

The operator or pilot of the UAS shall not operate the UAS at night unless it is operated indoors or in a continuous shielded operation.

The operator or pilot of a UAS shall not operate the aircraft within 8 km of an aerodrome.

We note that permission may be given by Air Transport Licensing or air traffic control in special circumstances to operate the UAS outside the established parameters.

27. Which zones are UAS operations banned?

The operator or pilot of a UAS shall not operate the UAS into the following airspace:

- (1) controlled airspace (Classes A, B, C, D, E, and F);
- (2) danger areas (except for an area specifically designated for unmanned aircraft usage);
- (3) prohibited areas;
- (4) restricted areas; and
- (5) wildlife protection areas.

28. Who provides air traffic control services for UAS in your country?

Air traffic control services are provided by The Bahamas Air Navigation Services Division, headed by a Director of Air Navigation Services.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

There are no special rules which apply to a UAS in respect of loss or damage to cargo. We note however that the Regulations require that no person may operate or pilot a UAS unless the operator or pilot has a current third-party liability insurance of claim levels acceptable to the Authority for the level of risk; and has evidence of that insurance in his personal possession at the time of flight. This however will not apply to an unmanned and/ or remotely piloted aircraft weighing less than 15 kg unless the operator or pilot has an incident involving failure to maintain compliance with certain regulations.

The Bahamas

Continued...



30. Are there any special rules about the liability of UAS operators for surface damage?

There are no rules which apply specially to a UAS in respect of liability for surface damage. We note however that the Regulations require that no person may operate or pilot a UAS unless the operator or pilot has a current third-party liability insurance of claim levels acceptable to the Authority for the level of risk; and has evidence of that insurance in his personal possession at the time of flight. This however will not apply to an unmanned and/or remotely piloted aircraft weighing less than 15 kg unless the operator or pilot has an incident involving failure to maintain compliance with certain regulations. Further we note that generally, liability for damage caused by aircraft is provided for under Part IX of the Civil Aviation Act, 2016.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

There is no mandatory accident and incident reporting system referable specifically to the operations of a UAS. We note however that the Civil Aviation (Investigations of Air Accidents and Incidents) Regulations 2017 outlines the requirements to be observed following civil aviation accidents and incidents.

32. What system and procedures are in place for the investigation of UAS accidents?

There are currently no special systems or procedures in place for the investigation of UAS accidents in The Bahamas. We note however that the Civil Aviation (Investigations of Air Accidents and Incidents) Regulations 2017 outlines the requirements to be observed following civil aviation accidents and incidents.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

A person must not operate or pilot an unmanned and/or remotely piloted aircraft unless the operator and/or the pilot has current third-party liability insurance of claim levels acceptable to the Authority for the level of risk and has evidence of that insurance in his personal possession at the time of flight. No further specific details are provided for in the relevant regulations.

34. What is insured? The operator, the business or the aircraft?

Schedule 27 to the Regulations requires that the operator and/or the pilot have insurance against third-party liability.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There are no sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector. Further there are no applicable general state aid rules.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

There are no applicable general state aid rules.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

There are no applicable general state aid rules.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

There are no applicable general state aid rules.

Bolivia

Bolivia

Contributed by: Sergio Salazar



General

1. Are UAS considered as "aircraft" in your country?

Yes.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

Currently the Plurinational State of Bolivia is preparing regulation in relation to Remotely Piloted Aircrafts ("RPAs") based on the LARs.

3. Is there a distinction between "State UAS" and "Private UAS"?

The regulation project does not refer to this distinction.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

The regulation project refers to recreational operation for RPAs with an MTOW of 25kg or less and aerial work, same MTOW limitation; however, aerial work must obtain an authorization from the ACC for each flight or series of flights.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Yes, there is such distinction.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The regulation project refers to recreational operation for RPAs with an MTOW of 25kg or less and aerial work, same MTOW limitation; however, aerial work must obtain an authorization from the ACC for each flight or series of flights.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

The regulation project considers this.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

This is not yet detailed in the regulation project.

9. Are there any kind of taxes or fees regarding the licensing procedure?

This is not yet detailed in the regulation project.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

This is not yet detailed in the regulation project.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

This is not yet detailed in the regulation project.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

This is not yet detailed in the regulation project.

13. Is drone transport permitted / regulated in your country?

The regulation project prohibits the launch, spray or mist from an RPA unless authorized by the CAA. Also, no dangerous goods will be transported or laser lights will be used on an RPA.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

This is not yet detailed in the regulation project.

15. Is there a specific control-link interference regulation applicable to UAS operations?

The regulation project established that in case of loss of link with the RPA the operator must follow the manufactures procedures.

16. Do specific rules regulate UAS manufacturers?

This is not yet detailed in the regulation project.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

This is not yet detailed in the regulation project.

18. Are fares or pricing of UAS operations regulated and, if so, how?

This is not yet detailed in the regulation project.



Bolivia

Continued...

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

The regulation project refers only to aerial work.

20. Who is entitled to be mentioned in the UAS register?

The regulation project refers only to aerial work.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

This is not yet detailed in the regulation project.

22. Do specific rules regulate the maintenance of UAS?

This is not yet detailed in the regulation project.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

Maximum of 122 meters AGL and at a distance of 9 kilometers of any airport or military base. It will be the CAA who will determine the no-fly zones and the RPAs cannot be operated in areas that are densely populated and at 150 meters of an edification, person, vehicle or embarkation, unless they are directly related to the operation.

24. Are UAS obliged to take-off from and/or land in specific facilities?

This is not yet detailed in the regulation project.

25. Which kind of airspaces are UAS permitted to operate with?

Please refer to our response on item 23.

26. Which airspaces are restricted for UAS?

Please refer to our response on item 23.

27. Which zones are UAS operations banned?

Please refer to our response on item 23.

28. Who provides air traffic control services for UAS in your country?

This is not yet detailed in the regulation project.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

This is not yet detailed in the regulation project.

30. Are there any special rules about the liability of UAS operators for surface damage?

This is not yet detailed in the regulation project.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

This is not yet detailed in the regulation project.

32. What system and procedures are in place for the investigation of UAS accidents?

This is not yet detailed in the regulation project.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

This is not yet detailed in the regulation project.

34. What is insured? The operator, the business or the aircraft?

This is not yet detailed in the regulation project.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

This is not yet detailed in the regulation project.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

This is not yet detailed in the regulation project.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

This is not yet detailed in the regulation project.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

This is not yet detailed in the regulation project.

Brazil

Brazil

Contributed by: Ken Basch and Nicole René Gomes e Cunha

General

1. Are UAS considered as "aircraft" in your country?

Yes. However, Brazil does not authorize the use of autonomous UAS but only remote UAS. Brazil also ratified the Chicago Convention, which in its article 8 prohibits self-operated aircraft or autonomous UAS; consequently, they are not authorized by ANAC.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The Brazilian National Civil Aviation Agency (ANAC) is the authorized federal aviation body which rules the registration and operation of any type of aircraft in Brazil including regulations related to unmanned aircraft and remote pilots. Complementary legislation issued by ANATEL ('Brazilian National Telecommunications Agency'), DECEA ('Air Space Control Department'), the Ministry of Defense and other criminal, civil and administrative general legislation in Brazil principally regulating personal inviolability, private life, dignity and personal image should also be observed for the use of unmanned aerial vehicles.

Until the date of this questionnaire rules issued by DECEA for the use of drones are regulated by local law ICA 100-40.

3. Is there a distinction between "State UAS" and "Private UAS"?

There is a distinction for remote piloted aircraft for State use (considered for military use) and private use. The specific legislation in Brazil issued by ANAC (RBAC-E n. 94) does not apply to military unmanned aerial vehicles (VANTs) but only to private VANTs. The rules for the use of VANTs for military purpose are not controlled by ANAC but by DECEA who is the military body liable for private and military use of VANTs. In case of a conversion of an unmanned aerial vehicle originally authorized for military use to civil use then specific ANAC legislation (RBAC-E n. 21) would apply.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Leisure and commercial use of UAS are considered "civil use". UAS for military use are considered for public. The ANAC legislation RBAC-E 94 applies for civil UAS's only. DECEA is a military body in charge of the control of the Brazilian airspace and its regulation for the use of the airspace is applicable for any type of UAS.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Brazil ratified the Chicago Convention, which in its article 8 prohibits self-operated aircraft or autonomous UAS; consequently, they are not authorized in Brazil by ANAC or

DECEA.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

Remote Pilot Aircraft and Remote Pilot Aircraft System (RPA and RPAS) were divided in three categories in accordance with its 'maximum take-off weight' (MPD):

- Class 1: RPA with PMD higher than 150kg;
- Class 2: RPA with PMD higher than 25kg and equal or less than 150kg;
- Class 3: RPA with more than 150kg.

No matter which class an RPA must have a third-party insurance policy. Flights in urban areas are prohibited unless a flight plan is previously approved by ANAC. The remote pilot should send a flight plan to ANAC for previous approval. Civil defense and military aircraft do not require previous approval from ANAC, although DECEA, who is the body in charge of authorizing flights in Brazilian airspace, should be involved in areas where there are flights with commercial or private aircraft. ANAC has not established a limit for insurance liability and the market has been defining its own rules for such insurance market.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

A VANT should have a registered remote pilot who is directly liable for its operation. All pilots must be more than 18 years old. Pilots from Classes 1 or 2 must have a valid aeronautical medical certificate (CMA) of 5th class. All remote pilots operating over 400 feet above ground level (AGL) or who operate RPAS in classes 1 or 2 should have license issued by ANAC. ANAC will establish the appropriate license for each type of operation. There is no specific pilot requirement for UAS operating below 400 feet.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

For RPA's of class 3 operating until 400 feet AGL, ANAC established a simpler form of certification where the owner of an RPA will himself provide the necessary information in relation to its RPA through the ANAC's website. There is no need for a specific pilot certification. It differs from a formal registration procedure and it has a more constitutive nature as the owner himself will provide the necessary information of the RPA instead of ANAC's specific issuance of a certificate of registration. For classes 1, 2 and 3 (the latter only if above 400 feet) in addition to pilot registration as described in section 7 herein all remote pilot aircraft (RPA) should be registered with the Brazilian

Brazil

Continued...

Aeronautical Registry. Each RPA will have an experimental registration certificate or a certificate of registration, as applicable.

9. Are there any kind of taxes or fees regarding the licensing procedure?

Local nominal fees are due for the issuance of the certificates required to license RPAS (UAS) and remote pilots certification.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

Yes. A certificate of airworthiness is required for UAS from Classes 1 and 2 and for Class 3 if flying above 400 feet.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Market for sale of drones is not regulated in Brazil. There are, otherwise, specific technical requirements for operation of UAS in Brazil.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There is no specific requirement related to nationality ownership. The owner of a UAS must follow registration requirements established in RBAC-E 94, ANATEL and DECEA (ICA 100-4).

13. Is drone transport permitted/regulated in your country?

Yes. Please refer to question 3 herein.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

Data & Privacy Protection of UAS follows general rules for data and privacy protection in Brazil applicable to all types of data and privacy information. ANAC has not issued any specific rule. It will be from manufacturer's own criteria to protect such information.

15. Is there a specific control-link interference regulation applicable to UAS operations?

No.

16. Do specific rules regulate UAS manufacturers?

Yes. Subpart E of the Brazilian regulation RBAC-E 94 lists all necessary regulations manufacturers should follow to obtain ANAC's approval. ANATEL is in charge of radiofrequency regulations in Brazil and also rules the specific characteristics which manufacturer should follow for UAS operation in Brazil.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

A foreign UAS should follow the same procedures of a local UAS and have the UAS registered with ANAC, ANATEL and DECEA. It is not possible to operate a UAS in Brazil which is only registered in a foreign country. ANAC has not authorized international flights with UAS which are prohibited. A UAS to operate in Brazil

should obtain certificates of registration and airworthiness issued by ANAC.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

Yes, with ANAC, ANATEL and DECEA.

20. Who is entitled to be mentioned in the UAS register?

The owner.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

If owner is an individual it should register the UAS in its name and send necessary identities required by ANAC for registration. If owner is a company it should send its corporate documents to ANAC.

22. Do specific rules regulate the maintenance of UAS?

Yes. The same Brazilian regulation RBAC-E 94 establishes all requirements for maintenance registration of a UAS.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

There are three classes of UAS as follow:

- (1) Class 1: RPA with PMD higher than 150 kg;
- (2) Class 2: RPA with PMD higher than 25 kg and less or equal to 150 kg; and
- (3) Class 3: RPA with PMD less or equal to 25 kg.

PMD = Maximum takeoff weight RPAS = Remotely-Piloted Aircraft System

RPS = Remote Pilot Station BVLOS = Beyond Visual Line of Sight

* VLOS = Visual Line of Sight

* EVLOS = Extended Visual Line of Sight

* AGL = Above Ground Level

An RPAS can only be operated if during all its operation period the following documents be available with the RPS:

- (a) Register Certificate, Certificate of Registration or Experimental Flight, as applicable;
- (b) Special Certificate of Airworthiness valid or an Authorization Certificate for Experimental Flight (CAVE) valid, if applicable;
- (c) flight plan;
- (d) insurance policy or insurance certificate including proof of payment, valid, if applicable;

- (e) document including risk analysis more specifically described in the E94 regulation.

RPA from Class 3 specifically, which operates in VLOS until 400 feet, can be registered by its owners in ANAC website in substitution of formal certificates described above and do not require CAVE.

- (1) In case of RPA with weight less than 25 kg PMD, VLOS or EVLOS until 400 feet AGL:
 - (i) proof of registration with ANAC;
 - (ii) third-party insurance policy certificate, except public security and/or civil defense departments;
 - (iii) document including risk analysis referred in paragraphs E94.103(f)(2) and E94.103(g)(2); and
 - (iv) flight manual.
- (2) In case of RPA with weight less than 25kg PMD, in BVLOS until 400 feet AGL:
 - (i) third-party insurance policy certificate, except public security and/or civil defense departments;
 - (ii) experimental registration certificate or certificate of registration;
 - (iii) authorization certificate for experimental flights or special airworthiness certificate;
 - (iv) document including risk analysis referred in paragraphs E94.103(f)(2) and E94.103(g)(2); and
 - (v) flight manual.
- (3) In case of other types of RPA with weight less than 25kg PMD:
 - (i) third-party insurance policy certificate, except public security and/or civil defense departments;
 - (ii) license and registration issued by ANAC;
 - (iii) experimental registration certificate or certificate of registration;
 - (iv) authorization certificate for experimental flights or special airworthiness certificate;
 - (v) document including risk analysis referred in paragraphs E94.103(f)(2) and E94.103(g)(2); and (vi) flight manual.
- (4) In case of RPA with weight between 25kg and 150kg PMD:
 - (i) third-party insurance policy certificate, except public security and/or civil defense departments;
 - (ii) license and registration issued by ANAC;
 - (iii) CMA of 5ª Class issued in accordance with RBAC 67;

- (iv) experimental registration certificate or certificate of registration;
 - (v) authorization certificate for experimental flights or special airworthiness certificate;
 - (vi) document including risk analysis referred in paragraphs E94.103(f)(2) and E94.103(g)(2); and (vii) flight manual.
- (5) In case of RPA with weight higher than 150kg PMD:
 - (i) third-party insurance policy certificate, except public security and/or civil defense departments;
 - (ii) license and registration issued by ANAC;
 - (iii) CMA of 5ª Class issued in accordance with RBAC 67;
 - (iv) experimental registration certificate or certificate of registration;
 - (v) authorization certificate for experimental flights or special airworthiness certificate;
 - (vi) document including risk analysis referred in paragraphs E94.103(f)(2) and E94.103(g)(2); and (vii) flight manual.

24. Are UAS obliged to take-off from and / or land in specific facilities?

Please refer to section 23.

25. Which kind of airspaces are UAS permitted to operate with?

UAS are prohibited in urban areas unless previously authorized by local aviation authority.

26. Which airspaces are restricted for UAS?

Please refer to question 25.

27. Which zones are UAS operations banned?

Please refer to question 25.

28. Who provides air traffic control services for UAS in your country?

DECEA ('Air Space Control Department')

Brazil *Continued...*

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

Please refer to section 23 relating to specific insurance requirements.

30. Are there any special rules about the liability of UAS operators for surface damage?

Please refer to section 23 relating to specific insurance requirements.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

It is still difficult to monitor UAS flights principally outside urban areas.

32. What system and procedures are in place for the investigation of UAS accidents?

We do not have this information. DECEA uses its operational system to control air space.

33. Are UAS operators obliged to have an insurance for their operations? If so, which are their main features?

Please refer to section 23

34. What is insured? The operator, the business or the aircraft?

It is mandatory to insure third-party liability insurance certificates. All other insurances are optional.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

Not yet although local army forces and military police have been using it for police control over the Brazilian international border and to control illegal exploration of Amazon Forest.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

Not applicable.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

As described in section 23 if RPAS are being operated for public security or civil defense insurance certificates are optional and they do not require authorization from ANAC.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

We do not have knowledge if this is applicable.

Canada

Canada

Contributed by: Miriam Kavanagh

General

1. Are UAS considered as "aircraft" in your country?

Yes.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

Transport Canada under the Aeronautics Act and the Canadian Aviation Regulations.

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

There are three regulatory regimes in place for UAS:

- Non-recreational users (e.g. commercial users) are required to obtain a Special Flight Operations Certificate (SFOC);
- Recreational users (i.e. modelers) are required to operate according to the terms of Interim Order No. 8 Respecting the Use of Model Aircraft (the "Interim Order");
- Recreational users who are members of the Model Aeronautics Association of Canada (MAAC) are exempted from the conditions of the Interim Order as long as they comply with MAAC operating rules and fly at MAAC sanctioned sites/events.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Yes, the Canadian regulations apply only to non-autonomous UAS.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The regulations vary according to use (recreational vs commercial) and weight.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

Yes.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

The operation of model aircraft that are used for recreational purposes with total weight not exceeding 35 kg (77.2 pounds) do not have to obtain an SFO, but do have a list of operating and flight provisions. A model aircraft cannot be operated at an altitude greater than 300 feet AGL, within controlled airspace, within restricted airspace, over or within the security perimeter to a police or first responder emergency operation site, over or within an open-air assembly of persons, at night or in cloud. In addition, no person shall operate more than one model aircraft at a time; a model aircraft cannot be operated within specified distances of vehicles, vessels, the public, aerodromes, natural hazards or disasters; it must be operated within visual line of sight at all times; and it cannot be operated at a lateral distance of more than 1640 feet (500 m) from the operator's location.

For UAS used for non-recreational purposes, whether a Special Flight Operations Certificate is needed is conditional on the weight of the UAS:

- If the UAS weighs more than 35 kg, an SFOC is required.
- If the UAS weighs less than 1 kg, there is an exemption from the requirement to obtain an SFOC as long as a number of conditions are met, including, without limitation, safe operation, minimum age requirement, liability insurance, no alcohol within 8 hours of operation, operation within continuous unaided visual line of sight contact, pilot training, etc. This exemption is valid until December 31, 2019.
- If the UAS weighs more than 1 kg but less than 25 kg, there is an exemption from the requirement to obtain an SFOC as long as a number of conditions are met, including, without limitation, safe operation, minimum age requirement, liability insurance, no alcohol within 8 hours of operation, operation within continuous unaided visual line of sight contact, pilot training, etc. The conditions for this weight category are more extensive than when the UAS weighs less than 1 kg. This exemption is valid until December 31, 2019.

9. Are there any kind of taxes or fees regarding the licensing procedure?

There is currently no fee for an SFOC.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

No.

Canada

Continued...

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Only through the requirement to hold an SFOC.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

The requirement to hold an SFOC.

13. Is drone transport permitted / regulated in your country?

N/A.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There is no privacy regulation specific to UAS operation; their use is subject to existing federal, provincial, and municipal privacy laws.

15. Is there a specific control-link interference regulation applicable to UAS operations?

N/A.

16. Do specific rules regulate UAS manufacturers?

No. Transport Canada does maintain a list of compliant UAS that meet a small UAV design standard. Use of these compliant UAS can result in an expedited application process for SFOC's.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

A foreign UAS operator must obtain an SFOC regardless of the use or weight of the UAS.

18. Are fares or pricing of UAS operations regulated and, if so, how?

They are not regulated.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

Not currently, but that issue is currently under review.

20. Who is entitled to be mentioned in the UAS register?

N/A.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

N/A.

22. Do specific rules regulate the maintenance of UAS?

The operator must ensure the safe operation of the UAS and that the airworthiness requirements of the manufacturer have been complied with.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

For model aircraft:

No person shall operate a model aircraft at an altitude greater than 300 feet AGL and a lateral distance of more than 1640 feet (500 m) and always within visual line of sight.

For UAS of less than 1kg:

- No person shall operate a UAS under this exemption at an altitude greater than 300 feet AGL or further than ¼ nautical mile from the pilot's location and always within visual contact sufficient to maintain operational control of the UAS, know its location, and be able to scan the airspace in which it is operating to decisively see and avoid other air traffic or objects.

For UAS between 1 kg and 25 kg:

- No person shall operate a UAS under this exemption at an altitude greater than 300 feet AGL or further than ½ nautical mile from the pilot's location and always within visual contact sufficient to maintain operational control of the UAS, know its location, and be able to scan the airspace in which it is operating to decisively see and avoid other air traffic or objects.

For UAS of more than 25 kg:

- As set out in the SFOC.

24. Are UAS obliged to take-off from and / or land in specific facilities?

No.

25. Which kind of airspaces are UAS permitted to operate with?

Class G airspace.

26. Which airspaces are restricted for UAS?

Class A and Class B are prohibited. Operations in Class F restricted airspace are prohibited unless authorized by the SFOC.

27. Which zones are UAS operations banned?

See question 26.

28. Who provides air traffic control services for UAS in your country?

NAV Canada.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

No.

30. Are there any special rules about the liability of UAS operators for surface damage?

No.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

UAS operators are required to report to Transport Canada details of injuries to any person requiring medical attention, unintended contact between the UAS and persons, livestock, vehicles, vessels or other structures, unanticipated damage to the airframe, control station, payload or command and control links that adversely affects the performance or flight characteristics of the UAS, anytime the UAS is not kept within the geographic boundaries set out in the SFOC, any collision with another aircraft, anytime the UAS becomes uncontrollable, experiences a fly-away or is missing, and any other incident that results in a Canadian Aviation Daily Occurrence Report.

32. What system and procedures are in place for the investigation of UAS accidents?

The Transportation Safety Board investigates aircraft and UAS accidents.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

Liability insurance of at least CDN\$100,000 is required if the UAS weighs more than 1 kg. Complex operations will require more than CDN\$100,000 and the amount will be set out in the SFOC.

34. What is insured? The operator, the business or the aircraft?

The Operator.

Financial support and state aid**35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?**

No.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

N/A.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

N/A.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

N/A.

Miscellaneous**39. New regulation proposed**

New regulations are proposed for UAS that weigh between 250g and 25kg that are operated within visual line of sight and are used for any purpose (fun, work or research). There is currently a public consultation process under way.

Costa Rica

Costa Rica

Contributed by: *Alina Nassar*

General

1. Are UAS considered as "aircraft" in your country?

According to the Operational Directive N° DO-001-OPS-RPAS, enforceable as of August 13th, 2017, UAS are considered unmanned aircraft piloted from a remote pilotage station. They are classified according to weight: micro (UAS under 100 grams), small (UAS under 2 kg), light (UAS under 25 kg), and big (UAS under 150 kg).

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

According to the Civil Aviation Act N° 5150 (in force since May 14th, 1973), the Civil Aviation Authority (DGAC by its acronym in Spanish) and the Civil Aviation Technical Council (CETAC) are in charge of setting the operational rules regarding the aviation activities.

DGAC issued the Operational Directive N° DO-001-OPS-RPAS, which establishes the guidelines to operate UAS in Costa Rica. It is applicable to operations with civil UAS that weigh less than 150 kg; UAS with upper weight intended for firefighting, search and rescue activities; and UAS model aircraft.

3. Is there a distinction between "State UAS" and "Private UAS"?

The Operational Directive does not distinguish between private and state UAS but establishes that it does not apply to State-owned UAS for safety operations. However, public institutions that operate UAS must obtain an operational certificate issued by DGAC.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

According to the Operational Directive there is a distinction between commercial, not commercial and leisure activities.

UAS utilized in commercial activities are those that include topographical mapping, security, study of fauna and fumigation and are different from commercial air transport. To be operated they must have a Certificate of Exploitation (CE).

UAS used in scientific, investigation, search and rescue activities are considered noncommercial and they can be operated by entities or individuals. They must file a request to obtain authorization from DGAC.

Public or State UAS are not mentioned in the Directive but according to DGAC, it is required to have an operational certificate issued by this entity.

As for leisure UAS, they do not require an authorization from DGAC but they have the obligation to respect the limitations set by the Directive, such as not to operate in areas outside buildings, towns, meetings of people outdoors; operate in uncontrolled airspace; only during daylight and clear meteorological conditions; at a minimum distance of 8 kilometers from any airport; and at a maximum height of 120 meters.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

There is not express regulation on this matter.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

DGAC is the authority in charge of taking the security measures needed to ensure the correct operation of air traffic. Article 12 of the Operational Directive establishes that in case of illicit interference to a UAS, the operator must notify the Traffic Air Services of the situation to decrease the traffic conflicts with other aircraft.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

According to the requirements to operate UAS and in order to obtain the CE, the application must include personal information of the owner and every pilot who will operate the UAS. Pilots must prove theoretical and practical courses, and obtain a license issued by DGAC. They can also validate the licenses issued abroad.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

To operate commercial UAS, it is mandatory to obtain an Operational Certificate (CO) and a Certificate of Exploitation (CE), according to the Civil Aviation Act. The application must include, among other requirements, the following: personal information of the owner and the pilots; type of drone and its technical characteristics; description of activities that will be performed; financial statements; security risk analysis; Operations Manual; Maintenance Program; and civil liability insurance policy.

To operate noncommercial UAS, the applicant does not need to go through the certification process, but they need to file the same information mentioned in the above paragraph, except the Operations Manual and the Maintenance Program.



9. Are there any kind of taxes or fees regarding the licensing procedure?

The fees that have to be paid are the following:

Description	Amount
UAS' Certification for commercial operations	US\$1.874,02
Pilot's License	US\$94,00

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

Only big UAS or those over 25 kg must have a Certificate of Airworthiness. They must also be registered in the National Registry.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Access to the market is not regulated.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

To obtain the CE the applicant must file its financial statements and demonstrate the company is in good standing. There are not restrictions regarding nationality of ownership of UAS.

13. Is drone transport permitted / regulated in your country?

There is not an express regulation on this matter.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

According to Article 11 of the Operational Directive, the owners and operators must comply with data protection and privacy laws in force in Costa Rica. If a complaint for the capture and diffusion of images without consent is filed, DGAC must initiate an investigation and the CE can be revoked.

15. Is there a specific control-link interference regulation applicable to UAS operations?

There is not express regulation on this matter.

16. Do specific rules regulate UAS manufacturers?

There are not specific rules for manufacturers.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

Foreign UAS operators must obtain a CE and a CO, DGAC will also request a copy of the authorization from its country of origin to operate UAS.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No. They are not regulated.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

Yes, there is a digital UAS registry of DGAC, where all UAS must be registered. As it was mentioned before. UAS heavier than 25 kg must also be registered in the National Registry.

20. Who is entitled to be mentioned in the UAS register?

In the digital UAS registry of DGAC, the holder of the permits is included in the data base. In the National Registry, the owner's information is considered public.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No.

22. Do specific rules regulate the maintenance of UAS?

According to article 7 of the Operational Directive, the owner or operator must establish in the Operational Manual the procedures for UAS maintenance. UAS cannot be operated if they are not inspected or maintained according to the Manual, which requires DGAC approval. Also, the owner or operator must have a record of the maintenances with details of the parts that are changed and the software updates.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

In a restricted area defined by DGAC in the Aeronautical Information Publication (AIP), there shall be no UAS operating. In controlled airspace, the limit for operating is 400 feet above ground level, except in those areas permitted for operations and according to authorizations from Air Traffic Control. The operations near the aerodromes should not be over 400 feet above ground level and near a radius of 8 Km, with the following exceptions: if the operation is supported by an Operational Certificate and if there is a special permit granted by DGAC.

Costa Rica

Continued...

24. Are UAS obliged to take-off from and/or land in specific facilities?

No. The Operational Directive establishes that UAS are piloted from a remote pilotage station but do not limit the operations to specific facilities.

25. Which kind of airspaces are UAS permitted to operate with?

They are allowed to operate in spaces under 400 feet above ground level and in uncontrolled airspace.

26. Which airspaces are restricted for UAS?

The areas near aerodromes are restricted, in a radius of 8 Km and an altitude of 400 meters above ground feet.

27. Which zones are UAS operations banned?

The restricted areas are those contained in AIP, issued by DGAC.

28. Who provides air traffic control services for UAS in your country?

DGAC via the Air Traffic Control.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

UAS registered before DGAC must have an insurance policy for civil liability that covers damages to third parties.

30. Are there any special rules about the liability of UAS operators for surface damage?

There are not specific rules and the Directive does not establish a minimum amount that is required for the civil liability insurance.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

All accidents and incidents must be reported to DGAC within 72 hours of the occurrence.

32. What system and procedures are in place for the investigation of UAS accidents?

All UAS operators must establish a system to report incidents or accidents to DGAC, which is the entity in charge of conducting investigations where UAS are involved.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

According to Article 6 of the Operational Directive, operators must have a civil liability insurance policy that covers civil liability for damages to third parties that are caused during or due to the flight performance. The insurance policies must be issued by insurance companies authorized to operate in Costa Rica. As it was mentioned before, there is not a minimum amount required by DGAC for this type of insurance.

34. What is insured? The operator, the business or the aircraft?

The Directive does not specify, but the insurance covers the civil liability to third parties caused as consequence of the flight.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

The small and medium-sized companies (Known as PYMES) that are registered before the Ministry of Economy and Industry are able to obtain the CE for the first time without paying the fee for the certification process.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

The government authorized the exception in the payment of the certification fees to PYMES that operate with drones, with the intention to support their commercial activity.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

The benefit mentioned in the above answers applies only to PYMES.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

No.

El Salvador



NASSAR ABOGADOS
CENTROAMÉRICA

El Salvador

Contributed by: Alina Nassar

General

1. Are UAS considered as "aircraft" in your country?

According to the Regulation of Unmanned Aerial Vehicles (RAC-VANT), issued on April 27th 2017, UAS are aircraft, including those with fixed wings and rotary wings and unmanned blimps, to be used in aerial work, experimental and recreational flights different from aircraft modeling.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The Civil Aviation Act N° 582 (October 19th 2001) and the Technical Regulation N° 04 (January 11th 2008) are the laws that regulate aviation activities. The Civil Aviation Authority (AAC by its acronym in Spanish) is the entity that controls UAS through the Regulation of Unmanned Aerial Vehicles, which is applicable to UAS operated remotely or autonomously. It excludes from its application all UAS heavier than 25 Kg, UAS operating in closed spaces, grounded balloons, fireworks, kites and State-owned Aircraft.

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes. The RAC-VANT is not applicable to State-owned UAS such as those used for activities and operations from the Armed Forces, National Police, and International Airports.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

State-owned UAS are excluded from the application of the RAC-VANT. There is not distinction between leisure and commercial UAS.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

No. According to the RAC-VANT, UAS are all unmanned vehicles remotely piloted or autonomous.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

UAS operators are responsible for inspecting the aircraft before each flight, to ensure it is functioning and safe.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

The RAC-VANT only makes a reference to "one pilot", however AAC may issue a permit under certain conditions.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

To obtain an authorization to operate UAS, the aircraft and the operator must be registered before AAC.

The application to register the UAS must contain the following information: owner's name and ID number, contact information (telephone number and email address), UAS' manufacturer, model and serial number, Remote Pilot Station or remote-control device serial numbers, radio frequency control, and any other information requested by AAC. Each UAS will have a unique ID number to identify them.

UAS operators must file a form with the following information: name and ID number, contact information such as mail address, telephone number and email, the aeronautic licenses and any other information AAC may request.

9. Are there any kind of taxes or fees regarding the licensing procedure?

According to AAC the following are the current fees:

Description	Amount
Registration of UAS	\$20,00
Registration of UAS operators	\$20,00

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

No.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Access to the market is not regulated.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There is not an express regulation on this matter.

13. Is drone transport permitted / regulated in your country?

Yes, but the RAC-VANT forbids the transport or storage of dangerous substances.

El Salvador Continued...

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There is not an express regulation regarding data protection in RAC-VANT. However, there are laws regarding privacy protection, so in order to operate above private property, the operator must have a written authorization from the owner. UAS cannot be operated in a radius of 2 km from authorized private runways.

15. Is there a specific control-link interference regulation applicable to UAS operations?

If UAS are operated at less than 400 feet, UAS operator must inform the operator of manned aircraft in order to avoid collisions or interferences. In addition, UAS operator must verify that other radio frequencies and transmissions do not interfere with the control of the aircraft.

16. Do specific rules regulate UAS manufacturers?

There are not specific rules for manufacturers.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

All UAS' operators and aircraft must be registered before AAC. Foreign operators must file a copy of the passport to obtain the license and the registration authorization.

18. Are fares or pricing of UAS operations regulated and, if so, how?

Fares and pricing are not regulated.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

As it was mentioned before, UAS must be registered before AAC and have an identification number that will be assigned by the authority. This number must be placed in the UAS.

20. Who is entitled to be mentioned in the UAS register?

The owner's information is mentioned in the UAS registry.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No.

22. Do specific rules regulate the maintenance of UAS?

Yes, according to Article 3.025 of the RAC-VANT there must be a preventive and corrective maintenance, to assure the UAS' airworthiness and to prevent accidents. The maintenance must follow the manufacturer's dispositions in the way and frequency established.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

The UAS' limitations are established in the Article 3.005 of the RAC-VANT. UAS operations are not allowed when: its maximum take-off weight is higher than 25 Kg; if UAS are over the pilot's visual range; 400 feet above ground level, when the speed of 70 km per hour is exceeded; if there are not minimum visual conditions or it is nighttime; the distance from international airports is less than 6 kilometers; the distance from private runways is less than 2 kilometers; the distance from heliports are less than 250 meters; UAS constitutes an obstacle for another aircraft; over military facilities, voting centers, prisons, judicial courts, electric stations, hydroelectric and geothermal plants, maritime ports, hospitals, embassies, frontier zones and other restricted areas published in the Aeronautical Information Publication (AIP); over private property and meetings of people; when two or more UAS are operated at the same time; from a moving platform; when the operator transfers the command of the UAS during the flight stage; there is not an appropriate and safe landing and takeoff zone; UAS transport dangerous goods or are going to drop any type of object or substance. All these actions are prohibited according to RAC VANT.

The only exception mentioned in RAC VANT applies to flights over private property, which can be performed if UAS operator has a prior written authorization from the owner. There is also the possibility of obtaining a special permit from ACC in order to operate beyond those limitations

24. Are UAS obliged to take-off from and / or land in specific facilities?

Yes, UAS are not allowed to operate if there is not a safe and appropriate landing and take-off zone. In addition, it is mandatory for the operator to follow the UAS' Manufacture Manual to operate.

25. Which kind of airspaces are UAS permitted to operate with?

UAS can operate in airspaces not considered restricted areas and according to the limitations mentioned in answer to question No. 23.

26. Which airspaces are restricted for UAS?

The airspaces mentioned in answer to question No. 23.

27. Which zones are UAS operations banned?

Ídem.

28. Who provides air traffic control services for UAS in your country?

Air Traffic Control services are provided by AAC.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

No, according to RAC-VANT there is not an express regulation on this matter.

30. Are there any special rules about the liability of UAS operators for surface damage?

The RAC-VANT establishes that UAS' registered owner will assume civil or criminal liability for damage caused to properties or persons in the surface or during the flight.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

Yes, according to Article 4.010 of the RAC-VANT, the owner, the operator, or any witness must inform the AAC about any accident or incident within 72 hours of the occurrence. AAC will be in charge of the investigation.

32. What system and procedures are in place for the investigation of UAS accidents?

According to the Aeronautical Regulation No. 13 (August 10th 2015) the notification will be sent to the AAC with the following information: aircraft information; owner and operator's name and license, date and time of the event, last takeoff point and scheduled landing of the UAS, UAS' geographic position, information about the event, physical characteristics of the place of the accident, and owner or operator's contact information.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

No, the new UAS regulation eliminated this requirement.

34. What is insured? The operator, the business or the aircraft?

It is not mandatory to have an insurance policy.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There is not an express regulation on this matter.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

There is not an express regulation on this matter.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

There is not an express regulation on this matter.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

There is not an express regulation on this matter.

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France

Contributed by: Deborah Barbizet

General

1. Are UAS considered as "aircraft" in your country?

General

Yes, UAS are considered as aircraft in France.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

General

Basic Laws

In addition to the Transport and the Civil Aviation Codes, two principal legal texts specifically regulate UAS under the French law (Regulations):

- « Arrêté du 17 décembre 2015 relatif à l'utilisation de l'espace aérien par les aéronefs qui circulent sans personne à bord » (Use of Airspace Regulation) (as amended)
- « Arrêté du 17 décembre 2015 relatif à la conception des aéronefs civils qui circulent sans personne à bord, aux conditions de leur emploi et aux capacités requises des personnes qui les utilisent » (Aircraft and User Regulation) (as amended)

The Regulations regulate all unmanned or remotely piloted aircraft used on French territory, with the exception, notably, of aircraft weighing more than 150 kg and certain aircraft used for state purposes (i.e. military aircraft and state UAS carrying out public service missions (such as customs, police, rescue services)).

A further law, No 2016-1428 of 24th October 2016 (relative to the reinforcement of safety in the use of Drones) has provided a further legislative context to the use of UAS and amended the Transport Code, the Consumer Code and the Telecommunications Code UAS use and activity in a closed and covered area is (subject to certain exceptions) not concerned by the Legal Texts.

The European Regulation No 923/2012

Regulatory Body:

Direction de l'Aviation Civile (DGAC)

Direction de la Sécurité de l'Aviation Civile (DSAC)

The Regulations entitle the authorities to carry out verifications and supervision necessary to ensure that UAS and operators comply with the Regulations.

During any use of a UAS, a copy of all authorizations and any other documents are provided without delay upon request of the authorities.

The authorities can prohibit or limit the use of a UAS, a type of UAS, or the activity of an operator in case of security concerns or non-compliance with the Regulations.

This is carried out through operational, airworthiness recommendations/orders, suspension or withdrawal of authorizations, certificates and receipts. Operations can only recommence if corrective measures ensuring the safety of persons are applied upon the conditions imposed.

3. Is there a distinction between "State UAS" and "Private UAS"?

General

Yes. The Regulations do not apply to UAS deployed for certain public services (for example military UAS).

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

General

Yes. The Regulations make the distinction between (i) UAS used for professional purposes (whether commercial or not), and (ii) UAS used for leisure, and (iii) UAS for experimental purposes.

The rules which apply will depend on use and not the UAS model.

Definitions used:

- "Pilot" is the person controlling the flight of the UAS, manually (commanded live at all times by the pilot) or automatically (under supervision and capable of intervention at times for security purposes). Autonomous flights are automatic flights without pilot intervention on trajectory.

Article L6214 of the Transport Code provides that the pilot is the person who manually controls the evolutions of the UAS or in the case of an automatic flight, the person who is in a position to intervene at any moment on its trajectory, or in the case of an autonomous flight, the person who determines directly the trajectory or the points of passage of the aircraft.

- "Inhabited zone" A UAS flies in an inhabited zone when it is at a horizontal distance less than 50 metres from an agglomeration (identified as such on aeronautical maps) or at a horizontal distance less than 150 metres from a group of persons - several tens of persons (or 50 metres for Use 4 flights) (concerts, sporting events, beaches, touristic sites, etc.).
- "Captive" = an aircraft linked by any physical means:
 - to the ground or a fixed structure;
 - to a mobile or operator, provided the mobile or operator may not be raised or dragged by the traction of the aircraft.

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- "Weight" = total weight in flight, with batteries and equipment (but excluding the link in case of captive UAS).
- "With sight-without sight" A with sight flight - evolutions of flight are at a distance from the pilot such that he retains a direct view of the UAS (without assistance - e.g. binoculars) and with a clear view on the aerial environment enabling the detection of approaching aircraft and the avoidance of collisions.

Any use falling outside the categories or not fulfilling the criteria set forth in the Aircraft and User Regulation will require special individual authorisation on a case by case basis. Any such authorisation will only be granted to the extent the security of persons (ground and in other aircraft) can be ensured and in compliance with any additional technical requirements imposed by the authorisation.

Leisure and Experimental

UAS used for leisure, competition purposes are referred to as an "aéromodèle" - model aircraft.

Competitions are considered as recreational use. Certain training or commercial demonstrations may qualify as a leisure use.

Image taking will be considered as recreational provided there is no financial profit or professional use of the images.

There are two categories of model aircraft for the purpose of the Regulations:

- **Category A**
 - UAS \leq 25kg, non-motorized or with one type of propulsion and subject to total power limitations;
 - Captive UAS \leq 150kg.
- **Category B** - all other UAS not falling within Category A.

Model aircraft are required, in both categories, to be remotely piloted or captive. Flights on automatic preregistered plans are authorised provided they are carried out under the surveillance of the pilot who has the means to take manual control at all times (static flight, landing) and such control is sufficient to ensure safety, urgently.

Leisure uses of model aircraft are limited to:

- Flights with sight by a pilot; or
- Flights without sight by pilot, provided a second person has his own command or can access the command to ensure security. For UAS weighing 2 kg or less, which flies at a maximum horizontal distance of 200 metres from pilot at a maximum height of 50 metres, there must be a second person present with sight, responsible for flight safety by informing the pilot of potential dangers (but is not required to have access to commands), or
- Flights of less than 8 minutes without pilot of aircraft weighing less than 1kg, which once launched, flies autonomously following atmospheric movements.

The consultation by the pilot of a video return on screen is not an FPV situation provided the pilot maintains sufficient view of the UAS and its environment.

When the model aircraft flight is on automatic, the pilot must be in a position at all times to take manual control. For models equal to or less than 2kg at a maximum horizontal distance of 200m from the pilot at a maximum height of 50m, the pilot's control can be limited to urgent commands.

Models must not be used when there is a risk for persons or objects on the ground and should minimize risk by maintaining a minimum-security distance therefrom.

The pilot may not operate from a moving vehicle.

Category A models are dispensed with airworthiness documents and authorized to fly without flight aptitude and conditions as to pilot and operator other than those stated above (subject however to the new rules which will apply - see Response 8).

Category B models must hold a flight authorization certifying airworthiness and the capacities of the operator/pilot.

Professional

The operations in French airspace envisaged by the Regulations other than leisure, competition use, are divided in 4 Use categories. This is regardless of their commercial nature but in principle applies to professional use of a UAS and experimentations.

UAS can only be used as set forth below:

1. Use outside inhabited zone, no flight over third parties, with sight at a maximum horizontal distance of 200 metres from the pilot. No specific weight maximum.
2. Use outside inhabited zone, no third parties on ground throughout evolution zone, not fulfilling Use 1 criteria, at a maximum horizontal distance of 1 kilometre from the pilot. (Maximum weight for non-captive UAS: \leq 2kg for flights above 50m).
3. Use in an inhabited zone, no flight over third parties, with sight at a maximum horizontal distance of 100 metres from the pilot. Captive UAS and non-captive UAS with maximum weight: \leq 8kg.
4. Use outside inhabited zone and not fulfilling Use 1 or Use 2 criteria. Maximum weight: \leq 2kg and activity: mapping, photographs, observations or aerial surveillance. Outside inhabited zone means for Use 4, at a horizontal distance of least 50m from any crowd of persons.

With respect to Uses 1 and 3:

- no flight over third parties at less than a minimum distance set by the regulations.
- in cases of without sight flights, the total evolution zone of the UAS must be free of third parties throughout the flight.
- flights may be made with First Person Vision - i.e. the pilot may not have a direct view on the UAS provided another

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person has the UAS in direct sight at all times. Such other person is considered as the pilot for purposes of the regulations and has responsibility for flight safety. He must have his own command system or be in a position to access the command system to maintain flight safely.

The consultation by the pilot of a video return on screen is not an FPV situation provided the pilot maintains sufficient view of the UAS and its environment.

For UAS greater than 150kg the conditions which apply to the conception of the UAS, their conditions of use, and the aptitude of operators and pilots are fixed on a case by case basis, when such conditions are not regulated by the European Regulation.

Authorizations are delivered for the specific use in question.

Flights which do not fall within one of the four Uses must be specially authorised on a case by case basis.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

General

Yes.

Leisure and Experimental

Prohibited.

Professional

Only captive UAS are authorized on an autonomous basis. Autonomous UAS for professional activity is prohibited.

Autonomous Captive UAS must comply with criteria in Use 1 or 3 (save as regards the pilot). The captive UAS must not constitute an obstacle.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

General

The DGAC may prohibit or restrict the use of a UAS if it has knowledge of a safety problem or in the case of noncompliance with the regulatory requirements by the operator or pilot.

There are basic legal obligations in the Use of Airspace Regulation:

- Operate the UAS in such a manner as to avoid risk of damage to other aircraft;
- UAS to be piloted and flown in accordance with the Aircraft and User Regulation;
- No night flights unless segregation of UAS activity from other airspace users or unless authorised localisations;
- No use of UAS without sight in cloud unless segregation of UAS activity from other airspace users or unless in authorised localisations.

It is the responsibility of the pilot to take visual and audio

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measures to detect other aircraft. He must give way to any manned aircraft. He must apply the safety priority rules set forth in the Standardised European Rules of the Air (SERA) vis à vis other UAS.

Safety is implemented by regulating (i) the UAS and (ii) their conditions of use. Safety issues deal principally with protecting third parties on the ground and other users of airspace.

Airspace

UAS are not authorised to fly above 150 metres.

For without sight operations, flight above 50 metres is prohibited (unless the UAS weighs 2 kg or less).

All without sight operations near airfields, in controlled airspace areas or regulated access airspace must be previously notified and/or authorised.

Third Parties

Flight over certain sensitive sites is prohibited or subject to authorisation.

Security areas must be established to prevent access of unauthorised third parties.

Flight over persons is only permitted outside built up areas and at a distance from gatherings or crowds, provided the UAS weighs less than 2 kg.

In built up areas and gatherings and crowds, remotely piloted UAS must adhere to conditions of mass, and UAS in excess of 2kg must be captive or equipped with an impact energy reduction device on crash.

Flights in built up areas must be notified prior thereto to the local Prefect.

Remote controlled UAS must hold a conception certificate issued by the DGAC.

UAS in excess of 25 kg must satisfy specific technical conditions on a case by case basis.

UAS used other than within the rules in Response 4 above must satisfy specific technical conditions on a case by case basis.

Technical requirements are equally imposed for safety reasons:

As of 1st July 2018 aircraft exceeding 800 grams must be equipped with a luminous and an electronic or digital signal device (unless operated in specific authorized zones).

As of 1st July 2018 aircraft exceeding 800 grams must be equipped with a capacity limitation device and a sound signal triggered in case of loss of control or evolution of the UAS or loss of command of the UAS trajectory by the pilot (unless operated in specific authorized zones).

For recorded aircraft before 1st July 2018, these requirements enter into force on 1st January 2019. The sound signal requirement does not apply to UAS recorded before 1st July 2018.

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Leisure and Experimental

UAS flights must be postponed or interrupted in case of proximity of a manned aircraft.

UAS flights must not overfly persons and vehicles and must maintain a minimum-security distance.

Crowds must be avoided.

Professional

The User and Aircraft Regulation stipulates that the use of UAS over French territory for professional use assumes that the aircraft and associated systems necessary for its operation and the persons implementing the same, comply with the conditions of the User and Aircraft Regulation.

- User Documentation

A user documentation is required for all UAS other than captive UAS comprising:

- User manual (security verifications before flight, weight limitations, weather limitations, security devices, and programming and urgency procedures); and
- Maintenance manual

- Technical Requirements

Captive UAS must satisfy criteria relating to security of holding device, resistance of structure of UAS.

UAS third-party protection process (limitation of energy of impact from maximum height, triggered by pilot command even in case of failure of autonomous directional device, deployment of parachute).

Non-captive UAS are subject to the following requirements:

- The pilot must have altitude readings;
- UAS must have automatic maximum height programming;
- The pilot must be able to force emergency landing, and this must be capable of verification by pilot before flight;
- Loss of contact automatically triggers specific landing process.

UAS greater than 25kg must satisfy additional technical criteria to reinforce safety.

Additional safety measures apply to Uses 2 and 4.

Additional technical conditions or use limitations may be imposed if the UAS has unusual conception or use characteristics.

The UAS must be maintained in accordance with its maintenance manual. The Operator must declare UAS exceeding 25kg apt for flight in its annual report.

In the case of modification or repair, the Operator must ensure that the UAS remains conform to the applicable technical conditions.

Any modification or repair of a UAS which has a conception certificate, which renders the UAS non-conform to one of the elements in the technical file filed to obtain the certificate must

be submitted to the DSAC for approval and revision of the certificate.

- Obligations of Use

Flight preparation:

- Flight information - use of flight information maps, knowledge of airspace regulations, verification of permanent or temporary restrictions or any other security related information, weather.
- Maximum height: the Operator sets a maximum height for each flight compatible with the applicable regulations and the limits of use of the aircraft.
- The Operator puts in place third-party ground security measures.
- The Operator designates the pilot and if other persons are required for security purposes defines each role.

Before flight:

- The Pilot verifies that sufficient energy reserves necessary for the flight with a margin of security.
- The Pilot carries out the security checks and:
 - Ensures that the maximum height and distances are programmed;
 - Ensures that the emergency landing procedure has been programmed; and
 - Does not carry out the flight in case of detected anomaly.

Protection of third parties on the ground:

- Clearance of zone and prevention of access.
- Restriction of access - pilots, protected areas.
- For uses 1, 3, and 4 signed certificates by person present confirming the understanding of safety rules.
- Specific minimum exclusion zones are established depending on the Use and captive or non-captive UAS.
- Minimum horizontal distance from a motorway or highway (except if neutralized) - 30m (non-applicable to Use 4).
- Minimum horizontal distance from a railway track (except if specific agreement) - 30m (non-applicable to Use 4).
- Use limitations.

Radio frequencies used for the command and control of the UAS and emitting conditions must be in compliance with the regulations.

The Operator shall apply the safety measures published by the DSAC and the manufacturer (UAS and command system).

- No use by a pilot on board a moving vehicle (other than a ship).
- Use restricted to the limits of airworthiness, manufacturer's requirements, the user scenario and applicable regulations.
- The pilot ensures that the UAS remains within its maximum flight limits - automatic devices preventing overrun or alarm signal, specific flight interruption functions and flight recorders.
- For Use No 4 flights, the pilot has real time visuals.
- Conception certificates and user manuals set forth the safety practices and functionalities and flight tests establish conformity of security devices and urgency landing perimeters.
- In Use No 1, if the pilot temporarily loses vision due to

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obstacles, pilot must have analyzed the site before flight to verify the absence of danger, has full vision of the environment surrounding the obstacles and is able to anticipate the point at which vision is renewed.

- The transportation of dangerous substances with a UAS is prohibited.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

General

Yes.

In addition, the Aircraft and User Regulation provides that in the case where several persons are capable of operating the UAS command system, one of such persons has the role of pilot and is in charge of flight safety.

The respect of with sight conditions is assessed with respect to such pilot, this pilot has his own command system or failing which, is in a position at all times to access the command system in order to maintain flight safety. The other persons may then not be considered as pilot.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

General

The right to operate a UAS and the formalities to be completed will depend upon (i) the UAS category and (ii) the Use Article L6214-2 of the Transport Code provides that UAS pilots must have followed training in relation to the control of the evolution of UAS in safety and in accordance with the aviation rules. This does not apply to leisure uses of small light weight UAS (below 800 grams).

The specifics in this regard are awaited from the legislator.

Certain without sight professional operations will require special pilot qualifications.

Leisure and Experimental

The use of a category A UAS does not require authorisation and is operated under the responsibility of the pilot.

The use of a category B UAS requires prior approval from the DGAC:

- Request for authorisation is made together with filing of technical file in the format provided on line.
- Temporary authorisation is granted for 6 months to enable the finalization of the UAS technical compliance tests and pilot training (theory and practical) and aptitude demonstrations.
- Thereafter the DGAC issues a flight authorisation stating:
 - the operator;
 - UAS model;

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- operational specifics;
- technical file reference;
- list of authorised pilots;
- any specific limitations.

For UAS holding a valid airworthiness document issued in accordance with European regulations, flight authorisations are issued once the pilots who use the UAS have proven their aptitude during aptitude flight demonstrations.

Flight authorisations are granted for an indefinite period, provided the operator files an annual certificate certifying that the UAS is conform to the technical file or to the European regulation airworthiness documents and no anomalies have occurred affecting flight safety. The certificate form is available on line.

Changes in the UAS technical file, special use of the UAS or pilot will require new demonstrations and authorisations.

In the case of sale of the UAS, which results in the change of beneficiary of the authorisation, in order to transfer liability for compliance to the new operator, a notification must be filed with the DSAC/NO/NAV. Forms are available online.

Professional

The controls operate at two levels: the person responsible for the UAS professional/commercial activity (the "Operator") and the pilot (the "Pilot").

The Operator

- The Operator must register and declare its activity with the DGAC.
- This can be carried out online by registering on the special dedicated portal "MON ESPACE DRONE".
- The declaration must be renewed every 24 months and all modifications to information previously provided must be declared. The renewal period of 24 months runs from the date of receipt of the modified declaration.

The Operator must:

- identify the Uses he intends to operate (the Manual of Special Activities must cover the Use and the UAS must fulfil the criteria for the Use);
- identify his UAS (owned or leased) stating maximum weight and authorised Uses (with appropriate homologation information);
- provide the reference number and version of special activities manual (MAP) in force on the declaration date;
- satisfy the regulatory requirements.

An operator number will be allocated to the Operator. A declaration receipt will be issued immediately. The Operator must prepare a Manual of Special Activities (MAP).

Comprising organisation of Operator, description of special activities, UAS to be used, level of aptitude of pilots, description of reporting, analysis and monitoring processes, general

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flight procedures, and identification of characteristics of and procedures for each UAS.

MAP's must be up to date at all times. They are not needed if the Operator uses only captive UAS.

Operator's personnel must be made aware of obligation of compliance with the MAP.

For Use 4, the Operator (and its client) must analyse the ability of the UAS to fulfil the mission envisaged and analyse the risks to third parties (ground and in flight). Experimental flights are carried out to ensure compatibility. Safety measures are drawn up (notably interruption procedures). Liabilities (operator/client) and surveillance methods are set.

This analysis is signed by the Operator and the client and lodged with the civil aviation ministry for approval. Approval can be sought for several flights on identical conditions.

This additional agreement takes precedence over the special activities manual.

The Operator must possess the following documents and make these available on site in the case of control:

- Receipt of declaration of activity;
- Certificate of conception of the UAS;
- Up-to-date Manual of Special Activities ("MAP");
- Certificate of competence of the pilot delivered by the DGAC for UAS \geq 25 kg (unless captive);
- Safety file approved by the DSAC (Use 4);
- Special zone approval and copies of agreements with departments/bodies in question; and
- Any other authorisations delivered by the DGAC for the mission.

Each Operator is required to file with the DSAC an annual report indicating the number of flight hours per domain of activity and per Use. The report must contain a summary of problems encountered with regard to safety issues and identify measures taken to remedy the same. It shall declare UAS in excess of 25kg apt for flight.

The report can be filed online in the "MON ESPACE DRONE" portal or addressed to the local DSAC/IR by using the standard form (Form Cerfa 15474) available online.

Failure to file an annual report may give rise to an operating prohibition.

If an Operator carries out recurrent activity at a same site, he is required to obtain the prior agreement of the regional airspace management committee (Form Cerfa 15478) available online.

French regulations will evolve in this connection in the near future (2018).

The Pilot

- The Pilot must hold a certificate of aptitude (theory - certain existing certificates are recognised such as ULM pilot), and the Operator must ensure that the Pilot has sufficient knowledge of the regulations relating to UAS, the MAP, and the technical and functional principles of piloting the Operator's UAS. Exclusions available for Captive UAS pilots.
- The Operator determines the practical training for the Pilot, organises training and demonstration flights, and issues a Declaration of Competence Level ("DNC").
- Pilots operating UAS for Use 4, must hold an aircraft, helicopter or glider licence (and/or certain military licences), and have more than 100 flight hours as pilot in command.
- Licences delivered by the French DGAC and any licence delivered by another UE State under the EASA Regulation is acceptable subject to certain exceptions. Military qualifications may be acceptable.
- For Use 4 operations the Pilot must have proof of 20 hours practical experience with the UAS model in question during the preceding 6 months.
- For UAS in excess of 25kg, a pilot certificate must be requested from and issued by the DSAC after a demonstration flight which corresponds to the same UAS type and activity envisaged.

The Operator indicates in its MAP the list of authorised Pilots (and keeps available records of all documents and certificates concerning each pilot) and any restrictions concerning their certification. The MAP must describe pilot authorisation procedures and ongoing training procedures.

Any activity requiring the need to exceed the maximum flight distances must be authorised.

9. Are there any kind of taxes or fees regarding the licensing procedure?

General

No.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

General

Certificate of conception and an obligation to implement published safety measures.

Professional

UAS which:

- weigh in excess of 25kg, or
- are used in Use 2, or
- weigh in excess of 2 kg (other than captive UAS) and are used in Use 3, or
- are used in Use 4

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Continued...

must hold a Conception Certificate issued by the DGAC. Certificates can be requested on a case by case basis.

Those UAS which do not require a conception certificate may only be used if the operator ensures that the UAS is conform to safety conditions and that in respect of non-captive UAS that they are equipped with certain technical characteristics (altitude reading, maximum height programming, engine cut out in flight, fail safe function in case of loss of control) and a user and maintenance manual are drafted.

A UAS is considered apt for flight:

- If it meets the safety rules (see 6 above);
- If it is modified or repaired in accordance with Regulation;
- It has been maintained in accordance with the manufacturer's recommendations or maintenance manual; and
- Conception certificate directives and limitations have been respected.

No known functional problems of any function required by the Regulation or which may call into question its aptitude to satisfy the security objectives of the Regulation.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

General

No.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

General

None (see response 17).

13. Is drone transport permitted / regulated in your country?

General

Not specifically. This is a new area and will necessarily result in new regulatory measures.

Special authorization is therefore required.

Certain test projects exist - such as the French Postal service who has been testing parcel delivery.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

The general principles under French law will apply.

Generally French law imposes the respect of the private life and individuals. When filmed, individuals must be informed beforehand and any use of film footage in which individuals or their belongings can be recognised must be authorised by the persons in question.

The collection of personal data is also regulated and subject

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to notification and declaration requirements to the CNIL (Commission Nationale de l'Informatique et des Libertés).

Data and Privacy Protection is regulated in various different manners in France. The type of regulation will depend on whether photographs or film are taken by the UAS. Specifically:

- **Flight over private property:**

Article L 6211-3 of the French Transport Code provides that aircraft are authorised to fly over private property, but such right must be exercised so as not to affect the owner's property rights.

- **Image taking:**

Article D 133-10 of the Civil Aviation Code (implemented by the Arrêté of 27th July 2005) provides for 3 situations: where the taking of images is restricted, prohibited or subject to prior declaration or authorisation. This article sets forth the use that may be made of images taken.

An Arrêté of 27th October 2017 identifies the zones over which the taking of aerial views is prohibited and this applies to UAS.

The Operator and the Pilot are responsible for verifying whether the taking of images is permitted.

Aerial view **Visible spectre** requires a declaration 15 days prior to the operation with the local civil aviation authority.

image taking (other than occasional image taking) Foreign operators must declare to the Paris offices of the civil aviation authority.

For remotely piloted UAS operators, an annual declaration made at least 15 days prior to the first aerial view taking flight is sufficient.

Invisible spectre (radar, heat, etc....) requires a prior authorisation which is granted for a maximum period of 3 years by the State, together with the approval of local military and border control police.

Authorisations can be suspended and/or withdrawn.

Foreign operators obtain such authorisation from the Paris Prefect after approval from the Ministry of Foreign Affairs and the representative of the military police in Paris.

The declaration and authorisation request forms are available online.

Prohibited sites: Certain sites are prohibited for the purpose of aerial image taking.

The lists are updated and the current list is set forth in the Arrêté dated 27th October 2017.

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Derogations may be granted on a case by case basis by the appropriate body in charge of the site in question and the appropriate State department.

Compliance with D 133-10 may be controlled by the State police.

Failure to respect the provisions of the Article D 113-10 may result in the definitive confiscation of images taken and the supports used for the reproduction thereof. Other penal sanctions may be imposed.

15 Is there a specific control-link interference regulation applicable to UAS operations?

General

Radio frequencies used for the command and control of the UAS and emitting conditions must be in compliance with the regulations.

16. Do specific rules regulate UAS manufacturers?

General

Indirectly with respect to the requirement to obtain conception certificates for certain UAS models.

The French Consumer code now provides in its Article L425-1 that manufacturers or importers of UAS must include in the packaging of their products and spare parts, an information notice relating to the use of UAS. The notice must set forth the principles and rules to be respected for the use of UAS in compliance with applicable legislation and regulations.

This rule applies to sellers of second hand UAS.

New implementing draft legislation is pending in this respect.

Furthermore UAS are to comply with the functionality requirements, notably for safety (see Response 6).

Professional

UAS which:

- have weight in excess of 25kg,
- are used in Use 2,
- have weight in excess of 2 kg (other than captive UAS) and are used in Use 3, or
- are used in Use 4,

must hold a Conception Certificate issued by the DGAC. Certificates can be requested on a case by case basis.

The conception certificate will set out the operations authorised and any use limitations.

Standard UAS manufacturers may issue a manufacturer 'type' Conception Certificate for the model in question. In such case, the manufacturer provides a copy of the conception certificate with a serial number, a certificate of conformity of the UAS and delivers the user maintenance manuals.

Manufacturers have an obligation to monitor UAS incidents and propose corrections of problems impacting security. They are required to make documentary evidence relating to the conception certificate available to the civil aviation authorities.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

General

A foreign Operator of a remotely piloted UAS which has obtained an authorisation delivered by a foreign authority may use such authorisation as the basis for special authorisation from the French DGAC to operate the UAS on French territory.

Such overseas authorisation may relieve it of certain or all (notably in the UE) the requirements set forth in the French regulations, provided however that the overseas authorisation guarantees the same level of security.

The operation of UAS on French territory is governed by and subject to the French regulations.

18. Are fares or pricing of UAS operations regulated and, if so, how?

General

No.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

General

The Transport Code provides in Article L6111-I that UAS operated by a pilot within the meaning of L 6214-1, whose mass exceeds 800g are required to be recorded.

UAS which exceed 25kg are required to be registered.

Captive UAS do not need to be registered.

Professional

Specific rules apply to the compulsory markings on the UAS which identify the Operator of the UAS.

UAS in excess of 25 kg must be attributed identification marks which must be marked on the UAS. The request made by the Operator to the DGAC is accompanied by the conception certificate

20. Who is entitled to be mentioned in the UAS register?

General

Owner, operator and mortgagor.

France

Continued...

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

N/A

General

22. An aircraft can only be registered in France if it fulfils one of the following conditions :

1° it belongs to a French or UE or EEE citizen, or

2° it belongs to a company incorporated in accordance with UE or EEE legislations with its principal place of business/registered office in France or an EU or EEE State;

3° it is operated by a carrier whose operating license has been delivered by the French administration.

Leave to register aircraft which do not fulfil such criteria but are operated in France or are pending certification may be requested on a case by case basis.

23. Do specific rules regulate the maintenance of UAS?

General

See responses 6 and 10.

Operation Zones

24. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

General

The Regulations set forth different restrictions on the use of UAS which vary depending on the (i) model of the UAV and (ii) the type of Use.

Leisure and Experimental

Operational Limitations

There are no specific conditions on use for operators of UAS Category A models.

The use of a UAS Category B model must correspond to the use indicated in the operator's authorisation.

The pilot is responsible for assessing his aptitude to carry out the flights of the UAS used.

UAS are only authorised to carry out:

- With Sight flights (which include Immersion Flights - First Person Vision flights), and
- During the day (unless special authorisation for night flight has been obtained or in segregated area).

The carrying and dropping of objects from the UAS, weighing less than 500g is authorised, in authorised specific UAS locations.

The pilot may not operate from a moving vehicle.

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Photo and image taking by a UAV is authorised for non-commercial/professional purposes (subject to the privacy restrictions - see Response 14).

Distance Limitation

Maximum height: **150 metres maximum** above ground or water.

(Authorised to fly over artificial obstacles exceeding 100 m up to a maximum height of 50m above the said obstacle).

This height allowance is reduced to 50 m above military training areas (during certain days and hours).

Authorization is required from air traffic control for certain airfield airspace and for flights above 50m in other controlled airspace. In certain circumstances the signature of a written protocol will be required with the appropriate authority before authorization is granted.

The above restrictions do not apply to those activities which have an authorised localization area.

Professional

Operational Limitations

UAS must be operated in compliance with the authorisation obtained.

UAS are prohibited from transporting dangerous goods as defined in the OACJ instructions.

The use of UAS for the aerial spraying with phyto-pharmaceutical products is only authorised in cases of extreme health risk urgencies and in any event must be specifically authorised.

Night flights must be authorized unless carried out in regulatory segregated airspace. Request for derogation is to be made to the local prefect, the DSAC and the local defence department 30 days before operations.

Without sight flights must be notified prior thereto to the Defence Ministry via the Mon Espace Drone portal.

Distance Limitations

The Regulations limit the height at which UAS can operate as follows:

UAS type and use	Height above ground and water
UAS on sight (Use 1 and 3)	150 m
UAS ≤ 2 kg OFF SIGHT (Use 2 and 4)	150 m
UAS ≥ 2 kg OFF SIGHT	50 m

(Right to go above 150 m to go over an artificial obstacle of more than 100 m provided no higher than 50 m above obstacle).

One can request authorisation to exceed the above heights for ON SIGHT Flights (application to the airspace regional management committee).

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One can request authorisation to exceed the above heights for OFF SIGHT Flights by way of derogation sought by application to the local prefect and approval of DSAC et Defence department concerned. airspace regional management committee). Authorization is not necessary in the case of flight in a zone benefitting from segregation of airspace between UAS and other airspace users.

The horizontal distances are set in the Use scenario definition (see Response 4).

25. Are UAS obliged to take-off from and/or land in specific facilities?

Leisure and Experimental

No, however with the exception of the specific zone required for clubs and associations.

26. Which kind of airspaces are UAS permitted to operate with?

General

Airspace other than restricted airspace.

27. Which airspaces are restricted for UAS?

General

Generally:

- UAS are not flown in prohibited zones (as defined in UE Regulation No923/2012) except if they comply with the published penetration conditions.
- UAS are not flown in regulated or dangerous zones except on basis of specific published authorizations or with zone controller authorization.
- Minimum overhead distances don't apply to UAS, but UAS must conform to published overflight prohibitions or restrictions (notably in respect of establishments bearing low overhead flight prohibition marks), except if specifically authorized by the establishment).
- UAS are not to be flown near takeoff and landing infrastructure or within aerodrome/airfields, unless specifically authorized.

For without sight flights, the authorizations above mentioned must take the form of a written protocol.

More specifically:

Restrictions/Prohibitions

Prior agreement is required for these zone

- Regulated or dangerous zones:
 - Permanent zones: prohibited, published by AIP ENR 5.1.
 - Temporary zones: published by SUP AIP or by NOTAM.

UAS are prohibited within permanent and temporary prohibited zones (AIP ENR 5.1).

- Military manoeuvres and training areas:

(the sites are published on the DIRCAM website (<http://www.dircam.air.defense.gouv.fr>))

Authorizations are required during periods open for use.

Certain national parks and nature reserves listed in AIP ENR 5.6 are prohibited except as permitted therein or in accordance with specific park regulations.

- Establishments (marked with low flying prohibition or sensitive or protected - Authorization required):

E.g.

- Hospitals
- Prisons
- Nuclear Power Plants
- Historical Monuments

- In proximity to airfields:

The rules will depend on the airfield and whether or not the airfield is in a controlled zone. Specific distances and heights apply to airfields proximity.

Regulated zones are listed in the aeronautical information published by SIA (Service de l'Information Aéronautique).

- On sites of accident and fire:

It should be noted that no special derogation authorisations are granted with regard to the rules for the insertion of UAS into airspace other than those specifically set forth in the Regulations.

The criminal liability of pilots has been considerably reinforced by the law of 24th October 2016. Articles L.6232-12 and L.6232-13 of the Transport Code provide that pilots who breach the prohibition to fly over prohibited areas (notably military or public security prohibitions) risk 6 months imprisonment and a 15 000€ fine, even if such over flight is through negligence or mistake. (If the breach is intentional, one year imprisonment and 45 000€ fine). The UAS in question may also be confiscated, which impacts the owner and potentially its relationship with the client in professional use cases. This provision is in addition to the sharing of liability by those responsible for the safety of the UAS operations.

Leisure and experimental

Public space:

Model Aircraft UAS are prohibited from flying over:

- public spaces (public roads and areas-parks, beaches) and areas open to the public, and

(Certain public areas may specifically authorise use of model aircraft UAS).

- in agglomerations as defined by the French highway Code (R 110-2).

France

Continued...

Private Space

Use in private areas is subject to owner consent and must be adapted (height and speed) to the environment.

Regulated Zones

Regulated zones listed in the aeronautical information published by SIA (Service de l'Information Aéronautique). The information is permanent (AIP) or temporary and/or urgent (NOTAM/SUP)

(<http://www.sia-aviation-civile.gouv.fr>)

Certain regulated zones may restrict access to certain hours of the day.

These zones include military manoeuvres and training areas:

The sites are published on the DIRCAM website (<http://www.dircam.air.defense.gouv.fr>) and airfields (the rules will depend on the airfield and whether or not the airfield is in a controlled zone. Specific distances and heights apply to airfields proximity).

Map information is available to Operators on recreational UAS restrictions and prohibitions on a special dedicated website.

(<http://geoportail.gouv.fr/donnees/restrictions-pour-drones-de-loisir>)

Associations and Clubs

UAS associations and clubs may only operate on authorised sites which have been prior approved by the DGAC. The authorisation will be published and indicate the site, type of activity, maximum height, hours, etc.

Professional

Areas requiring prior declaration

- Flights in inhabited areas:

(Form. Cerfa n°15476 DGAC)

5 working days before the operation and within one month of the notification.

A combination of flights over a series of days (max 7) can be declared.

Flight authorised in absence of response from local Prefect. The Prefect can elect to prohibit the flight or impose restrictions.

Areas requiring prior notification

- Without sight flights
- With sight flights equal to or exceeding 50m over military manoeuvres and training areas on published user hours:

the sites are published on the DIRCAM website (<http://www.dircam.air.defense.gouv.fr>)

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Areas requiring prior authorization

In addition to the general rules:

Authorization is required from air traffic control for certain airfield airspace and for flights above 50m in other controlled airspace. In certain circumstances the signature of a written protocol will be required with the appropriate authority before authorization is granted.

Regulated zones are listed in the aeronautical information published by SIA (Service de l'Information Aéronautique).

Derogations

Subject to the overriding condition that UAS should be flown without risk of damage to other aircraft, the Use of Airspace Regulation provides that the restrictions above do not apply to UAS chartered or leased by the State or the Prefect for safety, recovery, customs, police or civil security missions. If the maximum authorised distances are to be exceeded, special operation measures are implemented to ensure the compatibility with other air traffic. Derogations to night operations and off sight distance rules may be granted provided special operation measures are implemented to ensure the compatibility with other air traffic.

28. Which zones are UAS operations banned?

General

See response 26.

29. Who provides air traffic control services for UAS in your country?

General

Direction des services de la Navigation aérienne (DSNA) is responsible for general air traffic control. Numerous projects are in preparation for private UAS traffic management and control.

Liability and accidents

30. Are there any special rules in respect of loss or damage to cargo?

N/A.

31. Are there any special rules about the liability of UAS operators for surface damage?

General

There are no specific rules for surface damage caused by UAS. The general rules of liability applicable to aircraft under the provisions of the Transport Code will apply.

32. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

General

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To encourage notifications, Article L 6223-2 of the Transport Code provides:

“No administrative, disciplinary or professional sanction may be inflicted on a person who notifies an event upon the conditions set forth in L 6223-1, whether or not that person was implicated or not in the event, except if such person is himself guilty of a deliberate breach or repeated breach of safety rules”.

The purpose is to cross information and experience to improve safety, operating procedures and technical process for manufacturers, and the evolution of UAS legislation.

Professional

Yes.

A notification procedure is in place. Operators, Pilots and manufacturers are required to report operating and conception incidents.

The Regulations set forth the types of safety events that must be notified by Operators of Professional UAS who must report incidents affecting or which could have affected the safety of third parties and in particular relating to:

- breakdown/failure of the functionalities required by the User and Aircraft Regulation (to the DSAC);
- loss of liaison with the command and control of the UAS (to the DSAC); and
- operating malfunctions/problems (to the manufacturer/holder of the conception certificate).

In the case of Professional Use n°2 and Use n°4 and upon request of the DSAC, the Operator transmits recorded flight information and their analysis following an accident or serious incident. Manufacturers may be requested to provide their analysis of functioning incidents. Operators are required to implement an analysis system and follow through with respect to the above incidents.

The process is described in the MAP (see Response 8 above).

A notification form is set out in online. Accidents/serious incidents should be notified promptly and within 6 working days following other types of incident.

In addition to incident related notifications, the Operator's annual report must contain details of safety issues encountered during the year. The sharing of incident experiences is made on an anonymous basis (Operators, model of UAS, sites).

33. What system and procedures are in place for the investigation of UAS accidents?

General

See response 31.

34. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

General

There is no specific regulation regarding insurance for UAS operators.

UAS Operator is liable for surface damage caused to persons and objects under the general provisions of Article L 6131-1 and L 6131-2 of the French transport Code.

An Operator may also engage its liability under general civil law principles for damage caused generally and notably to other aircraft.

35. What is insured? The operator, the business or the aircraft?

General

The Operator will be required to insure its civil liability in relation to the operation of the UAS. Operators should also insure the UAS itself for damage and accident.

Financial support and state aid

36. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

General

No, but there do exist grant and credit systems for the technical and other sectors. Local authorities and state may provide financial support through grants for projects with UAS e.g. topography, urbanism. Innovation grants may also be granted.

The French military police obtained a European grant for UAS.

37. What are the main principles of the stated aid rules applicable to the UAS sector?

General

N/A.

38. Are there exemptions from the state aid rules or situations in which they do not apply?

General

N/A.

39. Must clearance from the competition authorities be obtained before state aid may be granted?

General

N/A.

France

Continued...

Miscellaneous

Mon Espace Drone" is a dedicated portal for professional operators. Operators may manage their personal information, make the declarations of activity, lodge annual reports, make notifications to the ministries of all without sight flights and excessive height derogations over military and manoeuvre zones.

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Germany



Germany

Contributed by: Katja Brecke

General

1. Are UAS considered as "aircraft" in your country?

Yes, UAS are considered aircraft under German law. It is somewhat surprising that "pilotless aircraft" had already been considered aircraft under the Chicago Convention as early as 1944.

Due to the broad range of UAS and their missions, as well as their fast technological progress, regulation in Germany has remained an ongoing legislative challenge. With a first legislative change in 2012, the German Aviation Act (Luftverkehrsgesetz/LuftVG) was amended and the legal definition of aircraft was broadened to explicitly include UAS.

German law differentiates within the definition of 'aircraft', among others, between model aircraft ("Flugmodelle") and UAS ("unbemannte Luftfahrtsysteme"). According to the legal definition, UAS are not operated for the purpose of sports or recreational activity. If the UAS are merely used for hobby or recreational purposes, they qualify as 'model aircraft.' UAS as aircraft are subject to German aviation regulations, particularly the German Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO).

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

According to article 4 of Regulation (EC) No 216/2008 (EASA Basic Regulation), Annex II, lit. (i), the European Union is competent to regulate unmanned aircraft with an operating mass of no more than 150 kg. Hence, aircraft up to 150 kg are being regulated by national laws.

Under article 73 (1) (6) of the German Basic Law (Grundgesetz/ GG), the Federation has exclusive legislative competence in the field of air transport. The concept of air transport is understood comprehensively to include all activities and institutions related to aviation. The German Aviation Act (Luftverkehrsgesetz/LuftVG) is based upon this allocation of competency. The German Aviation Act lays down the legal framework for the use of UAS at national level. It is accompanied by various regulations, in particular the Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO) and the Air Traffic Licensing Regulations (Luftverkehrs-Zulassungs-Ordnung/LuftVZO), which were adopted on the basis of sec 32 German Aviation Act (Luftverkehrsgesetz/ LuftVG).

Air transport administration shall be conducted under federal administration, article 87d (1) sentence 1 German Basic Law (Grundgesetz/ GG). Responsibilities for air transport administration may be delegated to the Federal States ("Länder") acting on federal commission by federal law. The Federation has made use of this option in section 31 (2) German Aviation Act (Luftverkehrsgesetz/LuftVG). The tasks listed there are carried out by the federal states on behalf of the federal government.

With regard to the legal framework, the European Commission

plans to establish generally binding rules on the use of UAS, in particular by extending the Basic Regulation (Regulation (EC) No 216/2008). In this context, the European Aviation Safety Agency (EASA) has developed a regulatory framework. In addition, standards and recommendations related to UAS are being developed internationally by the International Civil Aviation Organization (ICAO).

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes, there is a clear distinction between State UAS and Private UAS with a completely different set of rules. The Chicago Convention already established a clear distinction between "civil" and "state" aircraft, article 3(a).

Similarly, according to article 1(2) Regulation (EC) No 216/2008, the Basic Regulation shall not apply to products, parts, appliances, personnel and organizations referred to in (1) (a) and (b) while carrying out military, customs, police, search and rescue, firefighting, coastguard or similar activities or services. The Member States therefore remain responsible to regulate the afore-mentioned services on a national basis.

German law does not provide separate "military air law" provisions. Section 30 (1) German Aviation Act (Luftverkehrsgesetz/LuftVG) rather allows for military and the police to deviate from the German civil air law regime with some minor exceptions.

Moreover, section 21a (2) German Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO) expressly states for publicly used UAS, i.e. UAS operated by or under the supervision of authorities when performing their duties and organizations executing security tasks in relation to emergencies and disasters, that no permission and no proof is required. Furthermore, the restrictions for the use of UAS under section 21b German Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO) do not apply.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Although German law distinguishes formally between UAS for commercial purposes and model aircraft for leisure purposes, many provisions introduced by the latest legislative amendment of April 17, 2017 apply even-handedly to both categories. Primarily the German law differentiates based upon the weight (please refer to question number 8 for further details):

- for UAS and model aircraft weighing from 0.25 kilograms (kg) up to 2kg, owners must identify their name and address with a permanent and fireproof label indicating the name and address;
- for UAS and model aircraft weighing more than 2kg, owners will need certification to demonstrate that the operator has specialized knowledge of the operation. This may be demonstrated with a pilot's license or a

Germany Continued...

similar certificate from an agency recognized by the Federal Aviation Office; and

- for UAS and model aircraft weighing more than 5kg, a special permit by the competent aviation authority is mandatory in addition to the above-mentioned requirements.

A difference is however made if a flight is operated in higher altitudes. In 100 m and above UAS are only allowed to fly if a special exemption permit has been obtained. For model aircraft, a proof of special knowledge is sufficient.

For model aircraft operated on a model airfield these new rules do not apply with one exception, the identification label must indicate the owner clearly.

As stated under question number 3, UAS operated by or under the supervision of authorities when performing their duties and organizations executing security tasks in relation to emergencies and disasters, that no permission and no proof is required. Furthermore, the restrictions for the use of UAS under section 21b German Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO) do not apply.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

No.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

In addition to the rules listed under question number 4, the general rule applies that UAS and model aircraft must always yield the right of way to manned aircraft. There are furthermore quite a few restrictions and prohibitions to fly in certain sensitive areas (please refer to question number 26) and flights at night need a special permit. Moreover, UAS above 100 m and UAS weighing more than 25 kilograms are generally prohibited. An exceptional authorization can be granted, however; it lies within the authority's discretion and will be granted only after conducting a thorough risk assessment. UAS or model aircraft weighing below 5 kg can generally not be used beyond the pilot's visual line of sight.

With the implementation of these new rules the German legislator tried to establish a more risk-based approach as intended by the proposal published by EASA.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

Generally, the new German provisions imply that one UAS is being flown by one pilot. However, in case of a UAS weighing less than 0.25 kg the pilot may be supported by a second person in order to fulfill the requirements of visual line of sight.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

According to section 19 (3) German Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO) all UAS and model aircraft with a Minimum Take Off Mass (MTOM) of 0.25 kg must be marked with a permanent and fireproof label indicating the name and the address of the owner.

Operators of UAS with an MTOM of 2.0 kg will additionally need to prove particular skills regarding the operation of UAS and the respective legal provisions. The certification can be a pilot license or a certificate from an aviation sports club in case of model aircraft or by taking an examination from an agency recognized by the Federal Aviation Office.

In addition, the competent authority can request further documents, like the landowner's consent for the ascent, in order to issue the certificate.

Such certificates may be issued to persons of a minimum age of 16 years and are valid for five years.

Furthermore, according to section 21a (1) German Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO) certain UAS require an authorization to fly granted by the relevant state authority. The operator can apply for a general authorization which usually is valid for 2 years. Further on an application for a specific case-by-case authorization is possible.

Such authorization is required for the following types of UAS:

- UAS and model aircraft with an MTOM of 5 kg;
- Rocket powered UAS and model aircraft whose propellant mass exceeds 0.2 kg;
- All kinds of UAS and model aircraft that are flown at night;
- All kinds of UAS and model aircraft that are flown within 1.5 km from an airport, and;
- UAS with a combustion engine if they are flown within 1.5 km from a residential area.

According to section 21a (3) German Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO) such authorization will be granted if:

- The intended operation will not have any impact on aviation safety, public safety and order, in particular not violating provisions regarding data and nature protection, and,
- Provide an adequate protection against aircraft noise.

9. Are there any kind of taxes or fees regarding the licensing procedure?

There are several providers who are recognized as an agency by the Federal Aviation Office. Costs for the licensing procedure vary depending on the provider and on the type of course

(online or personal presence). Currently prices are between 200 and 500 Euro.

Authorizations to fly according to section 21a (1) German Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO) are issued by the competent local authority of the respective federal state. Therefore, the fees vary depending on the federal state the owner has his place of residence.

As an example, the following fees would occur in North Rhine-Westphalia:

- General authorization: EUR 300.0
- Recognition: EUR 80.00
- Specific case by case: EUR 100.00 or more

Once an authorization has been issued in one federal state, it can be recognized by the other states so that the owner does not have to apply for it in every single state. However, so far it is not certain how certain federal states will handle authorizations issued by another state.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

No.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

No.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

N/A.

13. Is drone transport permitted / regulated in your country?

In light of the fact that the new German regulation contains a general prohibition of flights beyond the visual line of sight, the provisions providing exceptional authorizations might be helpful for commercial users, for example when it comes to the transport of goods. So far there are no certain conditions mentioned which have to be met in order to receive such exceptional authorization, apart from the conditions set in section 21a (3) German Air Traffic Regulation (Luftverkehrs-Ordnung/LuftVO)

Due to the restrictions mentioned above, transport of goods in Germany is only tested in a number of pilot projects.

For example, DHL Parcel has successfully integrated the DHL Parcelcopter into its logistics chain. During this project private customers in a Bavarian community could test specially developed Packstations, named Parcelcopter Skypport. After inserting the parcel into the Skypport the shipment and delivery was automatically initiated.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

In Germany there is no specific Data & Privacy Protection regulation applicable to UAS operations. However, the operation of UAS might have an impact on data protection and the Federal Data Protection Act does apply.

Data Protection and the Right to Control the Use of One's image are special codifications of the General Right of Personality, which is derived from article 2 (1) in conjunction with article 1 of the German Constitution. Hence, flying over a neighbor's property for example might be an intrusion into someone's private sphere of life and violate the General Right of Personality.

"Personal Data" is defined as "any information concerning the personal or material circumstances of an identified or identifiable individual". The act does not apply to the processing of personal data effected solely for personal or family activities.

For UAS equipped with a video camera, the requirements of section 6b of the Federal Data Protection Act apply. Video surveillance of public places may only be conducted to fulfill public tasks, to exercise the right to determine who shall be allowed or denied access to a property, or to pursue rightful interests for precisely defined purposes. According to section 4 (1) of the act, special rules apply to the surveilling of a non-public area. In such case, any collection, processing, and use of personal data is only admissible if permitted by law or if the person has consented. In addition, the person has to be informed of the identity of the data collector, purposes of collection, processing, or use of the personal data and of possible recipients.

Taking videos by UAS might also violate the right to control the use of one's image. According to section 22 (1) of the Copyright Arts Domain Act, images can only be disseminated with the express consent of the person concerned.

15. Is there a specific control-link interference regulation applicable to UAS operations?

No.

16. Do specific rules regulate UAS manufacturers?

No.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

A foreign UAS operator also needs to have the mandatory third-party liability insurance that covers the risks mentioned in question number 33.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No.

Germany

Continued...

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

There is no special registry for UAS in Germany - only labeling requirements apply. Please see question number 8 for further details.

20. Who is entitled to be mentioned in the UAS register?

N/A.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

N/A.

22. Do specific rules regulate the maintenance of UAS?

N/A.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

As already mentioned, all kinds of UAS and model aircraft that are flown within 1.5 km from an airport and UAS with a combustion engine if they are flown within 1.5 km from a residential area need a special authorization to fly.

If the UAS shall be operated within 1.5 km from an airport an additional clearance from Air Traffic Control is required.

24. Are UAS obliged to take-off from and/or land in specific facilities?

If the UAS shall be operated within 1.5 km from an airport an additional clearance from Air Traffic Control is required.

25. Which kind of airspaces are UAS permitted to operate with?

There are no special airspaces permitted for UAS. It is allowed to operate UAS wherever there is no prohibition. Please refer to question number 26 and 27 for restricted and prohibited areas.

26. Which airspaces are restricted for UAS?

UAS or model aircraft weighing less than 5 kg must be kept within the operator's visual line of sight at all times. They are not within the visual line of sight if the operator cannot see them without vision-enhancing devices or if he is not able to have an unobstructed view of the aircraft.

The operation of UAS or model aircraft with visual output devices like video glasses is not considered to be outside the visual line of sight if the aircraft is flown below 30 meters and

- Weights less than 0.25 kg, or
- The UAS is flown in another person's visual line of sight who can make the operator aware of potential dangers.

The operation of UAS in controlled airspaces is only allowed if

the maximum flight level is 50 meters. In addition, the operator has to apply for permission by the respective air traffic control.

In general, the operation of UAS above 100 meters is prohibited except for

27. Which zones are UAS operations banned?

UAS are not allowed to be operated:

- Within 100 meters of or above people and public gatherings, scene of accidents, disaster zones, operations of police or other similar organizations and military drill sites;
- Within 100 meters of or above correctional facilities, military complexes, industrial complexes, power plants, power generation and distribution facilities;
- Within 100 meters of or above the property of federal or state governments, diplomatic or consular missions, international organizations, law enforcement and security agencies;
- Within 100 meters of or above federal highways, federal waterways and railway systems;
- Above nature reserves;
- Above residential property if the UAS has an MTOM of 0.25 kg or if it is able to receive, transmit, or record optical, acoustic, or radio signals;
- Within 100 meters of or above hospitals;
- To Transport explosives, pyrotechnic articles, radioactive materials, or hazardous materials.

28. Who provides air traffic control services for UAS in your country?

Deutsche Flugsicherung GmbH.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

Since there is actually no public transport of cargo in Germany, there are also no special rules in respect of loss or damage to cargo.

30. Are there any special rules about the liability of UAS operators for surface damage?

According to article 33 (1) German Aviation Act (Luftverkehrsgesetz/LuftVG), there is strict liability of the UAS owner in case of bodily injury or damage to the property caused by the UAS operation, including damages caused by any object falling from a UAS during flight. This means that the owner is liable regardless of fault. The owner's liability applies even if it is not the user. It can discharge itself of liability only if the operator uses the UAS without the knowledge and will of the owner, and if it did not enable the operator to use the UAS.

The liability for aircraft with a Minimum Take Off Weight below 500kg is limited to a maximum of SDR 750,000 according to article 37 German Aviation Act (Luftverkehrsgesetz/LuftVG).

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

The German Federal Bureau of Aircraft Accident Investigation, which is subordinate to the Federal Ministry of Transport, is responsible for the investigation of civil aircraft accidents and serious incidents within Germany.

32. What system and procedures are in place for the investigation of UAS accidents?

No.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

As far as UAS are recognized aircraft according to the German Aviation Act (Luftverkehrsgesetz/LuftVG), the provision concerning third-party liability and mandatory insurance coverage apply also to UAS owners. As general liability insurance does not usually cover this specific risk, UAS owners need specific liability insurance.

According to article 37 German Aviation Act (Luftverkehrsgesetz/LuftVG), even UAS with less than a 500kg maximum take-off mass need third-party liability insurance that covers at least 750,000 special drawing rights. Further, according to article 113 of the Insurance Act, insurance must be provided by an insurance company that is authorized to provide insurance coverage in Germany. Proof of insurance must be provided and maintained during the operations.

34. What is insured? The operator, the business or the aircraft?

As already pointed out, the mandatory insurance only covers third-party liability insurance. The insurance industry has discovered that the new world of UAS offers an enormous market which requires many insurance solutions beyond third-party liability.

As UAS equipment is expensive, loss or damage (e.g., airframe or payload) is also an insurable risk. The insurance industry even provides risk insurances that cover any event of destruction, damage, or loss of insured items through identified and unidentified risks, unless expressly excluded.

Further risks to which UAS operators or manufacturers are exposed are numerous (e.g. violation of personal rights and data protection laws). As a result, UAS operations are a growing area for insurance solutions and will keep the industry busy in the future.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

We are not aware of any sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies in the UAS sector.

General State aid rules apply, in particular articles 107 and 108 of the Treaty on the Functioning of the European Union ("TFEU") and the Regulations and Guidelines in this field by the European Commission and Section 44 of the Federal Budget Code (Bundeshaushaltsordnung, "BHO") and the mostly identical State Budget Codes (Landeshaushaltsordnungen, "LHO").

36. What are the main principles of the stated aid rules applicable to the UAS sector?

The main principles of EU State aid law are incorporated in articles 107 and 108 TFEU. Under article 107 TFEU, any aid granted by an EU Member State or through public resources of an EU Member State in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible. There are numerous exemptions to this rule, such as State aid granted for Research and Development. Such exemptions must either be notified one by one to the EU Commission or fall under a general notified aid scheme. If a Member State fails to notify an aid measure, the Member State granting the aid has to recover the aid amount.

In the field of Research and Development (which may currently be considered the most relevant for UAS), the EU Commission has acknowledged a general need to grant aid under certain conditions, which are incorporated in particular in the EU Commission's General Block Exemption Regulation (Regulation 651/2014) and in the Commission's R&D Framework.

Section 44 of the BHO and the guidelines issued for its implementation (and the mostly identical rules at State level) govern how financial support can be granted at the federal level in general. Applicable core principles are that (i) formally, the appropriate use of the received funds has to be demonstrated by the recipients and (ii) substantially, financial support needs to be economically reasonable for a specific purpose of public interest. Financial support for R&D efforts is often granted under notified R&D support programs, e.g. the "Zentrales Innovationsprogramm Mittelstand" ("Central Innovational Program for SMEs") of the Federal Ministry for Economic Affairs and Energy.

Germany

Continued...



37. Are there exemptions from the state aid rules or situations in which they do not apply?

The EU's State aid rules apply to all measures that fulfill the conditions mentioned under question number 34 above. However, the EU Commission has acknowledged a de minimis threshold for projects that do not exceed certain support thresholds. The total amount of de minimis aid granted per Member State to a single undertaking shall not exceed EUR 200 000 over any period of three fiscal years. Support measures that do not exceed this threshold do not have to be notified.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

Yes. The principle of prior notification derives immediately from article 108 TFEU, see above at question number 36.



Guatemala

Guatemala

Contributed by: Alina Nassar

General

1. Are UAS considered as “aircraft” in your country?

According to the Aviation Regulation No. 101 (RAC-101) issued by the Civil Aviation Authority (DGAC by its acronym in Spanish) in July 22nd, 2013, they are considered as UAS.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The Civil Aviation Act No. 93-2000 (December 18th 2000) and its Regulation No. 384-2001, establish the rules for the aviation activities in Guatemala. In addition, the Aeronautical Regulation No. 45 (November 30th 2014) establishes the requirements for the registration of aircraft; and the Aeronautical Regulation No. 119 (September 22nd 2009) sets the rules regarding the Operational Certificates.

The Aeronautical Regulation No. 101 (known as RAC-101) is called “Regulation of Unmanned Aircraft, Model Aircraft and Fireworks”. It establishes the requirements for operating UAS, including model aircraft and the possible effects in the safety of aviation caused by fireworks.

3. Is there a distinction between “State UAS” and “Private UAS”?

RAC-101 does not distinguish between state or private UAS.

4. Is there any distinction between public, leisure and commercial UAS?

There is not an express regulation regarding public UAS, and they are excluded from the registration filings before DGAC. As to leisure UAS, RAC-101 indicates that it can be operated if it is a small UAS for recreational purposes, within the approved areas. The small UAS have a weight superior than 100 grams and they do not qualify as a big UAS. When operating a UAS for commercial purposes, it is mandatory to obtain an Operational Certificate (CO) and a Certificate of Exploitation (CE). All UAS used for recreational or commercial purposes must be registered before DGAC.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

No. According to DGAC, all UAS whether piloted autonomously or remotely-piloted are regulated on equal terms.

Regulation of Unmanned Aircraft Systems (“UAS”) operations - Safety

6. How are UAS operations regulated in terms of safety?

Safety regulations of UAS according to the RAC-101 are divided into the different areas of operation. Regarding the CO, DGAC

must request the applicant to provide information on the safety of communications and navigation systems. Also, when approving the authorized areas for the operation of UAS, DGAC must take into account possible consequences caused in the safety of air navigation. If there is any change on the conditions of the approved areas, the Authorities will publish the details through a note of Aeronautic Information.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

There is not an express regulation on this matter.

Regulation of Unmanned Aircraft Systems (“UAS”) operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

To operate UAS, the aircraft and the operator must be registered before DGAC. To obtain the CO, the applicant must either have training as a radio operator, or passed a theoretical aviation exam, or completed a capacitation course or 5-hour flight experience. The applicant must file a request containing the following data: information of the aeronautic license, details of aviation experience, details of theoretical experience including the radio operation, details of experience and operation of UAS, evidence of any educational course for operating UAS. The DGAC may gather more information if needed and will issue the Certificate if the applicant meets the requirements.

In addition, UAS must be registered at the Aeronautic Register of DGAC, and they will be given an identification number according to the following format “UAV-TG-XXX”. In case there is a UAS utilized for commercial purposes, the applicant must have a Certificate of Operation (CO) according to Air Regulation No. 119 and a Certificate of Exploitation according to the Regulation No. 384-2001. Regarding the Big UAS, they must have a special Certificate of Airworthiness or a Certificate of Experiment.

9. Are there any kind of taxes or fees regarding the licensing procedure?

UAS operators must pay the following fees:

Description	Amount
Issuance of first certificate	Q. 1,000.00 (One thousand Quetzales)
Registration before the Aeronautic Registry	Q. 1,000.00 (One thousand Quetzales)
Reservation of plate number	Q. 150.00 (One hundred and fifty Quetzales)

Guatemala Continued...

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

The Certificate of Airworthiness is mandatory when operating a Big UAS.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Access to the market is not regulated.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

As part of the requirements to obtain a CE, the applicant must file its financial statements. DGAC will verify if the company is in good standing. There are not restrictions regarding nationality of ownership of UAS.

13. Is drone transport permitted / regulated in your country?

It is not regulated in RAC-101.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There is not an express regulation on this matter.

15. Is there a specific control-link interference regulation applicable to UAS operations?

All aircraft being illicitly interfered will notify the Authorities, specifically the Air Traffic System to minimize the traffic conflicts that may occur.

16. Do specific rules regulate UAS manufacturers?

There is not an express regulation on this matter.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

There are not differences between the registration of national and foreign operators.

18. Are fares or pricing of UAS operations regulated and, if so, how?

There is not an express regulation on this matter.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

All UAS must be registered before the Aeronautic Registry. Also, they must be authorized by DGAC to operate. To proceed with the first-time registration, the operator must file the requirements established in Article 79 of the Regulation No. 384-2001. The procedure begins with the filing of the application for private services, copy of the legal document of the aircraft purchase, good standing certificate of the company, payment of registration, and insurance policy.

20. Who is entitled to be mentioned in the UAS register?

The UAS' owner, the operator, and if it applies, the parties of the lease contract.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No requirements or limitations apply.

22. Do specific rules regulate the maintenance of UAS?

No.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

There are limitations regarding areas and distances. In controlled air space, individuals cannot operate UAS higher than 400 feet above ground level (AGL), unless there is a permit in the specific area or an authorization issued by Air Traffic Control. Near airfields, no one is allowed to operate a UAS higher than 400 feet AGL in a radius of 3 nautical miles from airports, unless the operator has a CO or there is a special permit for the operation.

In addition, DGAC may authorize an exception to the application of the rules contained in RAC-101, if there is no risk for operational safety. The approved exceptions will be recorded on the Operations and Specifications Manual of each operator.

24. Are UAS obliged to take-off from and/or land in specific facilities?

The only requirements to take-off and land are those related to illumination and signalization. A UAS cannot operate between the sunset and the sunrise unless the surface is illuminated or painted with a visual warning.

25. Which kind of airspaces are UAS permitted to operate with?

UAS can be operated in less than 400 feet from AGL, outside populated areas and for recreational and sport purposes. However, DGAC may issue a special permit to operate in a specified area.

26. Which airspaces are restricted for UAS?

The restricted airspaces are over 400 feet AGL.

27. Which zones are UAS operations banned?

There is a ban regarding UAS operating in night-time, therefore no UAS shall operate between sunset and sunrise. In addition, no one shall operate a UAS over 400 feet AGL in a radius of three nautical miles from an aerodrome, unless there is a special permit.

28. Who provides air traffic control services for UAS in your country?

DGAC and Air Traffic Control.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

There is a general rule for civil liability that specifies that the owner of a UAS will be responsible for damages on the surface and during the flight. In addition, RAC-101 establishes that UAS owners or operators must have an insurance policy that covers the damages caused.

30. Are there any special rules about the liability of UAS operators for surface damage?

Article No. 101.57 of the RAC-101 establishes that the UAS' owner will be liable for damages caused on the surface and during the flight.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

Yes, according to the Article No. 101.51 of the RAC-101 all accidents and incidents must be reported to DGAC within 72 hours of the occurrence. The notification must be made according to Air Regulation No. 13 and specify all the information needed to proceed with the investigation.

32. What system and procedures are in place for the investigation of UAS accidents?

There is an Accident Investigation Unit (UIA by its acronym in Spanish) that is in charge of all subsequent activities from the accidents and incidents that occurred in Guatemala. All information such as UAS' ownership and details of manufacture, and the details of the event must be notified to DGAC.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

Yes. According to Article 101.59 of RAC-101 the owner or operator must have an insurance policy to cover the damages caused. The owners of UAS operating in commercial activities must send the receipts of the insurance policy to DGAC in maximum 10 days after its emission or renewal.

34. What is insured? The operator, the business or the aircraft?

According to Article No. 101.57 the insurance policy must cover surface damages and those caused during the flight.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There is not an express regulation on this matter.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

There is not an express regulation on this matter.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

There is not an express regulation on this matter.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

There is not an express regulation on this matter.

Hong Kong

Hong Kong

Contributed by: *Dominic Lee*

General

1. Are UAS considered as "aircraft" in your country?

Yes. Under section 3 of the Interpretation and General Clauses Ordinance, Cap. 1, aircraft are defined as "any machine that can derive support in the atmosphere from the reactions of the air." This definition is wide and covers UAS.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The Civil Aviation Department ("CAD") regulates UAS operations. The laws relevant to UAS are the Air Transport (Licensing of Air Services) Regulations, Cap. 448A and the Air Navigation (Hong Kong) Order 1995, Cap. 448C.

3. Is there a distinction between "State UAS" and "Private UAS"?

There is no such distinction under the relevant laws.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

There is a distinction between leisure and commercial UAS.

For leisure UAS, no pre-approval from the CAD is required before a flight. Pre-approval from the CAD is required before a commercial UAS operates.

In flying UAS for leisure, operators are encouraged to follow, inter alia, the following guidelines issued by the CAD:

- The UAS shall not be flown over populated and congested areas.
- The UAS shall not be flown in the vicinity of an airport and aircraft approach and take-off paths.
- The altitude of operations shall not exceed 300 feet above ground level.
- The operations of a UAS shall be conducted during daylight hours only.

Operators flying commercial UAS are encouraged to follow, inter alia, the following general operation parameters issued by the CAD:

- The UAS shall not be flown within the Aerodrome Traffic Zone or within 5km of any aerodrome.
- The UAS shall not be flown over or within 50m of any person, vessel, vehicle or structure not under the control of the UAS operator; except during take-off and landing, the UAS must not be flown over or within 30m of any person other than the persons in charge of the UAS.

- The UAS operator shall be on site and keep the UAS within his visual line of sight during the period of the flight.
- No hazardous material may be carried nor objects be dropped from the UAS in order to avoid endangering persons or property on the ground.
- The altitude of UAS shall not exceed 300 feet above ground level.
- UAS operations shall be conducted during daylight hours only.
- The UAS operator shall have a hand-held anemometer to monitor surface wind speed on site.
- The UAS operator is required to seek approval from the Office of the Communications Authority on the use of radio frequencies and to ensure that no RFI (Radio Frequency Interference) is caused to air traffic operations and air navigation equipment.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

There is no such distinction.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The only legal duty upon persons operating a s-UAS for leisure is the duty not to recklessly or negligently cause or permit an aircraft to endanger any person or property (Article 48 and Article 100, Cap. 448C). The maximum penalty in contravention of this duty is a fine of HKD5000 on summary conviction and a fine of HKD5000 and or imprisonment for 2 years on conviction on indictment (Article 91(6), Cap. 448C).

In addition, the operators are encouraged to follow the guidelines issued by the CAD, as elaborated in answer 4 above.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

The rule is not specified in the relevant laws.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

A person needs to obtain a permit before operating a commercial UAS, but not for operating a leisure UAS. To apply for a permit, a person will need to fill in the application forms on the CAD's website (DCA 122A and e-DCA255), and provide supporting

documents to the CAD at least 28 working days prior to the operation. The supporting documents include evidence of pilot competency, a copy of an insurance policy that appropriately insures the operator in respect of third-party risks which may be incurred, and an operations manual.

The operations manual should contain details of the operating company, technical description of UAS, operating limitations and conditions, flight team composition, flight procedures and emergency procedures etc. The CAD has issued guidance on how to write the operations manual.

For UAS weighing less than 7kg without its fuel, no certificates need to be obtained before its operation. For UAS weighing more than 7kg without its fuel, the operator needs to obtain a certificate of airworthiness (Article 7, Cap. 448C) and a certificate of registration (Article 3, Cap. 448C) before the UAS can fly in or above Hong Kong.

To apply for a certificate of registration, the applicant needs to fill in form DCA 99, and submit it to the CAD together with supporting documents and a cheque for the application fee. Only the following persons can apply for registration (Article 4(3), Cap. 448C):

1. The Central People's Government or the Government of the Hong Kong Special Administrative Region;
2. Chinese citizens;
3. permanent residents of the Hong Kong Special Administrative Region;
4. bodies:
 - a. incorporated in Hong Kong or other parts of the People's Republic of China or incorporated under the law of Hong Kong; and
 - b. having their principal place of business in Hong Kong or in other parts of the People's Republic of China.

To apply for a certificate of airworthiness, the applicant needs to fill in form DCA 46D, and submit it to the CAD with supporting documents and the application fee. The application fee is stipulated in the Schedule of the Hong Kong Air Navigation (Fees) Regulations (Cap 448D). In particular, the applicant needs to submit a recommendation from an approved organization for the issuance of a certificate of airworthiness. In Hong Kong, the requirements on becoming an approved organization (Organization Designation Approval) are governed by Hong Kong Aviation Requirements-183.

9. Are there any kind of taxes or fees regarding the licensing procedure?

An application fee needs to be paid when one applies for a certificate of airworthiness and a certificate of registration.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

See answer 8 above.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Not regulated at the moment.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

Not regulated at the moment.

13. Is drone transport permitted / regulated in your country?

There is currently no prohibition against drone transport in Hong Kong, subject to the limitations and restrictions elaborated above.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

No. However, if the UAS comes with a recording function, the operator needs to be careful not to contravene, inter alia, the Mass Transit Railway By-laws, Cap. 556B and the Personal Data (Privacy) Ordinance, Cap. 486.

Under the Mass Transit Railway By-laws, no person shall at any time, while upon the railway premises, use any video recording equipment for taking videos without prior approval (Bylaw 28 (H1) (e)). If a person contravenes this section, the person may be liable to a fine of HKD5000 on conviction (Schedule 2, Cap. 556B).

Under the Personal Data (Privacy) Ordinance, there are 6 data protection principles (Schedule 1, Cap. 486), namely:

1. Data Collection Principle - Personal data must be collected in a lawful and fair way, for a purpose directly related to a function/activity of the data user. Data subjects must be notified of the purpose and the classes of persons to whom the data may be transferred. Data collected should be necessary but not excessive.
2. Accuracy and Retention Principle - Practicable steps shall be taken to ensure personal data is accurate and not kept longer than is necessary to fulfil the purpose for which it is used.
3. Data Use Principle - Personal data must be used for the purpose for which the data is collected or for a directly related purpose, unless voluntary and explicit consent with a new purpose is obtained from the data subject.

Hong Kong Continued...



4. **Data Security Principle** - A data user needs to take practicable steps to safeguard personal data from unauthorized or accidental access, processing, erasure, loss or use.
5. **Openness Principle** - A data user must take practicable steps to make personal data policies and practices known to the public regarding the types of personal data it holds and how the data is used.
6. **Data Access and Correction Principle** - A data subject must be given access to his/her personal data and allowed to make corrections if it is inaccurate.

In 2010, the Privacy Commissioner for Personal Data (“the Commissioner”) published a Guidance Note on CCTV Surveillance and Use of Drones (“the Guidance Note”). The Guidance Note was revised in 2015 and 2017 respectively. In the Guidance Note, the Commissioner explained that users of UAS with a recording function should be careful not to breach the data protection principles. The Commissioner also suggested ways on responsible use of the UAS, including carefully planning the flight path, pre-defining the recording criteria, encrypt images if they are to be transmitted through wireless means, and be transparent about the operation of the UAS.

Although breaching a data collection principle does not constitute an offence directly, the Commissioner may serve an Enforcement Notice directing the data user to remedy the breach (s50, Cap. 486). If the data user fails to comply with the Enforcement Notice, he commits an offence, and the maximum penalty is a fine of HKD50, 000 and imprisonment for 2 years (s50A, Cap. 486).

15. Is there a specific control-link interference regulation applicable to UAS operations?

There are no specific regulations applicable to UAS operations. However, the CAD’s guidelines provide that for business UAS operations, the UAS operator is required to seek approval from the Office of the Communications Authority on the use of radio frequencies and to ensure that no RFI is caused to air traffic operations and air navigation equipment.

16. Do specific rules regulate UAS manufacturers?

No.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

No specific requirements.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No.

The Aircraft (“UAS”)

19. Must UAS be registered in any particular register?

A UAS weighing less than 7kg without its fuel need not be registered. A UAS weighing more than 7kg without its fuel needs

to be registered, and a certificate of registration issued. For details, please refer to answer 8 above.

20. Who is entitled to be mentioned in the UAS register?

Persons owning a legal interest in the aircraft or a share of the aircraft are entitled to be mentioned in the register (Article 8(7) (e)(i), Cap. 448C).

21. Do requirements or limitations apply to the ownership of a UAS listed on your country’s register?

See answer 8 above. Only specified persons can apply for registration of an aircraft.

22. Do specific rules regulate the maintenance of UAS?

No.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

Under the Airport Authority Bylaw (Cap 483A), UAS must not fly within the Bylaw area (all the Restricted Area, all that portion of the Airport Area no part of which is either in the Restricted Area or on any road or length of road; and all the designated roads).

Under the CAD’s guidelines and general operation parameters, UAS shall not normally be flown in the following areas:

- within the Aerodrome Traffic Zone
- within 5km of any aerodrome
- within the vicinity of an airport and aircraft approach and take-off paths, including
 - Hong Kong International Airport;
 - North Lantau coastal area;
 - Coastal areas from Tai Lam Chung to Tsuen Wan and Tsing Yi Island;
 - Victoria Harbour and its coastal areas; and
 - Shek Kong area

There is no certificate/permission to operate in those restricted areas at the moment.

24. Are UAS obliged to take-off from and / or land in specific facilities?

No. However, the CAD recommends that the take-off and landing sites should be flat to ensure safe take-off and landing.

25. Which kind of airspaces are UAS permitted to operate with?

The CAD recommends in its guidelines that the altitude of operations shall not exceed 300 feet above ground level.

26. Which airspaces are restricted for UAS?

There are no airspaces that only allow UAS operation.

There are areas where UAS are not allowed to operate in, as elaborated in answers 23 and 25 above.

27. Which zones are UAS operations banned?

See answer 23 above.

28. Who provides air traffic control services for UAS in your country?

The Civil Aviation Department provides air traffic control services in Hong Kong.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

There are no special rules targeted at drones in respect of loss or damage to cargo, save for the Warsaw Convention, the amended Warsaw Convention, the Montreal Convention, and the Guadalajara Convention as modified and adapted by the Carriage by Air Ordinance, Cap. 500.

30. Are there any special rules about the liability of UAS operators for surface damage?

See answer 29 above.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

In Hong Kong, the accident/incident reporting system is managed by the Accident Investigation Division ("AID") of the CAD. The accident/incident reporting system is only applicable to aircraft registered in Hong Kong (Regulation 3 of the Hong Kong Civil Action (Investigation of Accidents) Regulations, Cap. 448B) ("the Regulations"). Therefore, this accident/incident reporting system is only applicable to registered UAS weighing more than 7kg (without its fuel).

There are two systems of reporting accidents in Hong Kong - the mandatory incident reporting system, and the voluntary incident reporting system.

Mandatory incident reporting system

The commander of the aircraft, or if the operator is killed or incapacitated, then the operator of the aircraft, and in the case of an accident occurring on or adjacent to an aerodrome, the aerodrome authority should report to the authority if a reportable accident occurs (Regulation 5, Cap. 448B). The reporter can make a call to the AID; or contact them by email or fax etc. The specified form for making a report is DCA 233.

A reportable accident refers to occurrences associated with the operation of an aircraft which takes place between the time when any person boards the aircraft with the intention of flight and such time as all persons have disembarked therefrom (Regulation 2, Cap. 448B).

Voluntary incident reporting system

If the accident is not serious, the UAS operators can still report such accident to AID in order to assist the AID in promoting accident prevention and enhancing aviation safety. In order to do so, the operator can fill in form DCA 234 and submit the same to the AID.

32. What system and procedures are in place for the investigation of UAS accidents?

After receiving a report under the mandatory incident reporting system or the voluntary incident reporting system, the AID will determine whether an investigation is required under the Regulations.

Under the Regulations, inspectors from the AID are empowered to carry out the following (Regulation 9, Cap. 448B):

- a). Call before him and examine persons, and require them to answer any questions or furnish information;
- b). To take statements from such persons;
- c). Have access to and examine any aircraft involved in an accident, and to require the aircraft/equipment be preserved unaltered pending investigation;
- d). Examine, remove, test, take measures to preserve, deal with the aircraft involved in the accident or other aircraft;
- e). Enter and inspect places/buildings and aircraft on production of his credentials, if required;
- f). Take measures for the preservation of evidence.

After the inspectors' investigations, the inspectors shall produce a report, which will be sent to relevant persons, States and organizations, along with any safety recommendations. The details of how the report is to be released are set out in the CAD's Accident Investigation Bulletin.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

For commercial UAS operations, operators are required to insure the operator in respect of third-party risks which may be incurred.

34. What is insured? The operator, the business or the aircraft?

The operator is insured against third-party risks.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There are no sector-specific rules regulating such support in the UAS sector at the moment.

Hong Kong

Continued...

36. What are the main principles of the stated aid rules applicable to the UAS sector?

Not applicable.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

Not applicable.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

Not applicable.

Miscellaneous

39. Postscript

As Hong Kong lacks a comprehensive legislation covering UAS operations, the CAD commissioned an overseas consultant in March 2017 to conduct a study on the regulation of UAS in Hong Kong. The overseas consultant submitted their report in March 2018 and made the following six recommendations:

1. Set up a registration system for UAS above 250g;
2. Establish a risk-based classification model for UAS operations, and develop different standards and requirements for each classification;
3. Establish training and assessment requirements for UAS operators;
4. Establish a drone map for UAS operators;
5. Prescribe insurance requirements for UAS, based on the risk categories; and
6. Study whether indoor operations of UAS should be regulated, and how.

The CAD launched a three-month public consultation in April 2018, inviting the public to express their views on the six recommendations above. It is expected that the law in this area will develop rapidly in Hong Kong.

India

India

Contributed by: Ramesh Vaidyanathan

Note: The Directorate General of Civil Aviation (DGCA) [regulatory body governing civil aviation in India] had in October 2014 issued a public notice banning the use of Unmanned Aerial Vehicle/ Unmanned Aircraft Systems (UAS) in the Indian Civil Airspace by any person, corporate or organization other than those related to the Government of India.

Thereafter, in April 2016, DGCA issued draft 'Guidelines for obtaining Unique Identification Number and Operation of Civil UAS'. This draft was not finalised and did not come into effect. Subsequently, on November 1, 2017, DGCA released a new draft of Civil Aviation Requirements (referred to as Draft CAR) to prescribe the 'Requirements for Operation of Civil Remotely Piloted Aircraft System (RPAS)'. The Draft CAR is open for public comments till December 1, 2017 and after considering the public comments DGCA is expected to issue the final CAR.

Our answers below are based on the Draft CAR.

General

1. Are UAS considered as "aircraft" in your country?

Yes, UAS are considered 'aircraft' in India. The Aircraft Rules, 1937 (Aircraft Rules) define 'aircraft' as "any machine which can derive support in the atmosphere from reactions of the air other than reactions of the air against the earth's surface and includes balloons whether fixed or free, airships, kites, gliders and flying machines".

Further, Draft CAR defines UAS as "an aircraft and its associated elements which are operated with no pilot on board". As per the Draft CAR, the UAS consists of an Unmanned Aircraft, a Remote Pilot Station, Command and Control Link, the maintenance system, and the operating personnel. Remotely Piloted Aircraft, autonomous aircraft, and model aircraft are various sub-sets of UAS.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

DGCA regulates the operations of UAS in India. Once the Draft CAR is finalised and issued, the said CAR, along with the Aircraft Act, 1934, and the Aircraft Rules will be the basic laws governing the operation of UAS in India.

3. Is there a distinction between "State UAS" and "Private UAS"?

While the Draft CAR does not specifically distinguish between State UAS and Private UAS, any UAS owned and operated by Government security agencies is exempted from obtaining Unique Identification Number (UIN) and Unmanned Aircraft Operator Permit (UAOP).

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS



operations in each group?

Draft CAR does not distinguish between public, leisure, and commercial UAS.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Draft CAR only regulates the operation of remotely-piloted UAS. Operation of autonomous aircraft is strictly prohibited in India.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The Draft CAR provides that the owner/operator of the UAS shall be responsible for the safe custody, security, and access control of the UAS. In case of loss of UAS, the operator shall report immediately to local administration/police, Bureau of Civil Aviation Security (BCAS), and DGCA. The UAS operator is liable to ensure that all security measures as enumerated in the Security Programme (approved by BCAS) are in place before operation of each flight. The UAS operator shall also ensure that the ground control station (while in use or in store) is secured from sabotage or unlawful interference. The Draft CAR provides that the owner/operator of all types of UAS, except Nano UAS, shall be responsible for notifying any incident/accident involving the UAS to the Director of Air Safety, DGCA who will further intimate all the concerned agencies.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

Draft CAR provides that no person shall act as a remote pilot for more than one unmanned aircraft operation at a time. If two or more persons are available as remote pilots for a flight, at any given moment, there shall be only one person acting as a remote pilot-in-command.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

All civil UAS operations require UAOP from DGCA except Nano UAS operating below 50 ft above ground level (AGL) in uncontrolled airspace and indoor operations, Micro UAS operating below 200 ft AGL in uncontrolled airspace and clear of prohibited areas, and UAS owned and operated by Government security agencies. All civil UAS operators have to submit an application to the DGCA along with requisite fees for issue of UAOP at least 7 days prior to the actual conduct of operations along with (i) Permission from air traffic service provider (civil/defense); (ii) Permission of the land/property owner (area used for take-off and landing of UAS); (iii) Details of remote pilot(s) and training records; (iv) Insurance details; and (v) Security programme as approved by BCAS. UAOP granted by the DGCA

India

Continued...

shall be valid for a period of five years from the date of issue and shall be non-transferrable.

9. Are there any kind of taxes or fees regarding the licensing procedure?

Yes, fees are payable for obtaining the UAOP. The details regarding the quantum of fees that are payable is not released by the DGCA yet.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

Draft CAR does not mandate a certificate of airworthiness to operate a UAS but it provides that the remote pilot/user shall not fly the UAS unless he/she is reasonably satisfied that all the control systems of UAS including the radio link are in working condition before the flight.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Access to the market for the provision of UAS operation services is not regulated in India.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

The Draft CAR provides that UIN will be granted only where the UAS is wholly owned either:

- a) By a citizen of India; or
- b) By the Central Government or any State Government or any company or corporation owned or controlled by either of the said Governments; or
- c) By a company or a body corporate provided that:
 - i) it is registered and has its principal place of business within India;
 - i) its chairman and at least two-thirds of its directors are citizens of India; and,
 - ii) its substantial ownership and effective control are vested in Indian nationals; or
- d) By a company or corporation registered elsewhere than in India, provided that such company or corporation has leased the UAS to any organization mentioned in paragraph (b) or (c) above.

13. Is drone transport permitted / regulated in your country?

Drone transport is not permitted in India.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There is no specific Data & Privacy Protection regulation applicable to UAS operations in India.

15. Is there a specific control-link interference regulation applicable to UAS operations?

There is no specific control-link interference regulation applicable to UAS operations in India. The Draft CAR provides that the ground control station (while in use or in store) shall be secured by the operator from sabotage or unlawful interference. Draft CAR also provides that maintenance of the ground control equipment shall be carried out in accordance with the manufacturer's recommended inspection and overhaul interval, as applicable.

16. Do specific rules regulate UAS manufacturers?

Provisions of the Draft CAR are not applicable to the manufacturing of UAS. India presently does not have any specific rules to regulate UAS manufacturers.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

Foreign UAS operators cannot directly operate to or from India but they can lease the UAS to any organization that is wholly owned by the Central Government or any State Government or any company or corporation owned or controlled by either of the said Governments in India or by a company or a body corporate provided that (i) it is registered and has its principal place of business within India; (ii) its chairman and at least two-thirds of its directors are citizens of India; and (iii) its substantial ownership and effective control is vested in Indian nationals.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No, the fares or pricing of UAS operations are presently not regulated in India.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

No, the UAS does not have to be registered in any particular register in India.

20. Who is entitled to be mentioned in the UAS register?

India presently does not register UAS in any register but as per the Draft CAR, UIN will be granted for every UAS and UAOP is to be obtained by every operator subject to certain exceptions.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

The Draft CAR provides that UIN will be granted only where the UAS is wholly owned either:

- a) By a citizen of India; or
- b) By the Central Government or any State Government or any company or corporation owned or controlled by either of the said Governments; or



- c) By a company or a body corporate provided that:
 - i. it is registered and has its principal place of business within India;
 - ii. its chairman and at least two-thirds of its directors are citizens of India; and,
 - iii. its substantial ownership and effective control are vested in Indian nationals; or
- d) By a company or corporation registered elsewhere than in India, provided that such company or corporation has leased the UAS to any organization mentioned in paragraph (b) or (c) above.
 - (vii) Within 5 km radius from Vijay Chowk in Delhi
 - (viii) Within 500 m from the perimeter of strategic locations notified by the Ministry of Home Affairs;
 - (ix) Within 500 m from the perimeter of military installations/facilities;
 - (x) From a mobile platform such as a moving vehicle, ship or aircraft;
 - (xi) As an autonomous flight, unless it is following an Autonomous Flight Termination or Return to Home procedure; and
 - (xii) Over eco-sensitive zones around National Parks and Wildlife Sanctuaries notified by the Ministry of Environment, Forests and Climate Change without prior permission.

22. Do specific rules regulate the maintenance of UAS?

There are no specific rules to regulate the maintenance of UAS but Draft CAR provides that maintenance and repair of UAS shall be carried out in accordance with the manufacturer’s approved procedures. Further, the maintenance of the ground control equipment shall be carried out in accordance with the manufacturer’s recommended inspection and overhaul interval. Also, the remote pilot/user shall not fly the UAS unless he/she is reasonably satisfied that all the control systems of UAS including the radio link are in working condition before the flight. The UAOP holder is also required to maintain records (till the UAS is in service) of each UAS flight and make such records available to the DGCA on demand.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

The Draft CAR provides that no UAS shall be flown:

- (i) Within an area of 5 km (2.7 nautical miles) from Aerodrome Reference Point of operational airports;
- (ii) Above the Obstacle Limitation Surfaces of an operational aerodrome specified in Ministry of Civil Aviation (Height Restrictions for Safeguarding of Aircraft Operations) Rules, 2015 notified through Gazette of India notification GSR751(E) or its amendments;
- (iii) Within permanent or temporary Prohibited, Restricted and Danger Areas including Temporary Reserved Areas and Temporary Segregated Areas as notified by the Airports Authority of India in the Aeronautical Information Publication;
- (iv) Without prior approval, over densely populated areas or over or near an area affecting public safety or where emergency operations are underway;
- (v) Within 50 km from international border which includes Line of Control, Line of Actual Control and Actual Ground Position Line;
- (vi) Beyond 500 m (horizontal) into sea from coast line provided the location of ground station is on fixed platform over land;

Operation of UAS beyond the conditions specified above may be authorised by DGCA for Government Agencies. Such operations will be approved by the DGCA on a case-to-case basis.

24. Are UAS obliged to take-off from and/or land in specific facilities?

Draft CAR provides that take-off and landing areas should be properly segregated from public access but does not provide for any specific facilities for take-off or landing.

25. Which kind of airspaces are UAS permitted to operate with?

Except for the airspaces mentioned in our response to question 23 above, UAS are permitted to operate in all other airspaces subject to the presence of the following meteorological conditions:

- (i) Daylight (between sunrise and sunset).
- (ii) Visual Meteorological Conditions with a minimum ground visibility of 5 km and cloud ceiling not less than 450 m (1500 ft).
- (iii) Surface winds of not more than 10 knots.
- (iv) No precipitation (rain, hail or snow) or thunderstorm activities.

26. Which airspaces are restricted for UAS?

Please refer to our response to question 23 above.

27. Which zones are UAS operations banned?

Please refer to our response to question 23 above.

28. Who provides air traffic control services for UAS in your country?

Airports Authority of India and the Ministry of Defence will provide air traffic control services for UAS in India.

India Continued...

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

No, presently there are no special rules in India in respect of loss or damage to cargo.

30. Are there any special rules about the liability of UAS operators for surface damage?

No, presently there are no special rules in India in respect of liability of UAS operators for surface damage, but the Draft CAR provides that the UAS operator shall be responsible for any injury to persons or damage to property caused directly or indirectly by the UAS.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

Draft CAR provides that the owner/operator of the UAS, except Nano UAS, shall be responsible for notifying any incident/accident involving UAS to the Director of Air Safety, DGCA, who will further intimate all the concerned agencies.

32. What system and procedures are in place for the investigation of UAS accidents?

India presently does not have any system and procedures in place for the investigation of UAS accidents, but Draft CAR provides that the Airports Authority of India and the Indian Air Force shall monitor UAS movements in the country and mandates that the GPS tracking system of the UAS shall be self-powered and tamper/spoofing proof to ensure data relay even in the event of UAS accident.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

Yes, Draft CAR provides that all civil UAS operators shall have insurance for the liability that they might incur for any damage to third-party resulting from an accident/incident.

34. What is insured? The operator, the business or the aircraft?

The Draft CAR does not specify whether the operator/business or the aircraft has to be insured.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

Presently India does not have any sector-specific rules / general state rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies in the UAS sector.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

Presently no state aid rules are applicable in India to the UAS sector.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

Please refer to our response to question 36 above.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

Please refer to our response to question 36 above.

Italy



Italy

Contributed by: Laura Pierallini

General

1. Are UAS considered as "aircraft" in your country?

Pursuant to article 743 of Italian Navigation Code, UAS are considered aircraft as defined by special laws, regulations issued by ENAC (i.e. the Italian Civil Aviation Authority) and by decrees of the Ministry of Defence for military UAS. Furthermore, the regulation issued by ENAC identifies as UAS subject to the provisions of Italian Navigation Code only those used for commercial and professional purposes (so called "specialised operations").

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The remotely-piloted aircraft operations are regulated by ENAC, whose specific regulation on UAS has been issued for the first time in 2013 and then amended from time to time (hereinafter the "ENAC Regulation"). The ENAC Regulation only provides for UAS which do not exceed a maximum take-off weight (MTOW) of 150 kg. On the contrary UAS exceeding 150 kg are regulated by the EASA according to Regulation (EC) n. 216/2008. Furthermore, the ENAC regulation identifies two types of UAS: remotely piloted aircraft systems (RPAS) and model aircraft.

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes, according to Article 744 of the Italian Navigation Code, "State UAS" are the military UAS, those owned by the State and engaged in institutional services of Police, Customs, Fire Corps and Civil Protection Department. Any other UAS is considered to be "Private UAS".

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Yes, a distinction is provided under the ENAC regulation. Model aircraft are only used for public and leisure activities, while remotely-piloted aircraft systems (RPAS) are used for specialised operations (i.e. commercial operations) or for experimental, scientific or research activities.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Yes. During the flight of a remotely-piloted UAS the pilot-in-command must be present, able to intervene at any time and make the UAS landing for any need. During the flight of a completely autonomous UAS the drone must be able to pursue its mission following the pre-set route without the assistance of a pilot.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

In respect of safety UAS operations are divided in two categories: "non-critical" and "critical" operations. According to the ENAC Regulation, non-critical operations refer to "VLOS (visual line-of-sight) operations which do not overfly, even in case of malfunctions and/or failures: congested area, crowded of people, urban areas or critical infrastructure (ref. article 9.1). On the other hand, "critical operations" are those operations not falling with the application of the said article 9.1 (ref. article 10.1). For non-critical operations it is required to submit a declaration of compliance to ENAC, whilst for critical operations a stricter requirement is provided, i.e. the operator shall apply for and obtain a prior authorization by ENAC.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

Generally speaking yes, but it must be noted that in the event of flight in extended visual line of sight (EVLOS) – being such operations carried out at a distance exceeding the limits of the VLOS operations – the command and control of the UAS must be transferred to another pilot at the time the UAS is no longer in the visual line of sight of the first pilot. Therefore, for EVLOS operations the UAS is generally under the command and control of more than one pilot.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

The professional use of UAS shall be subject to the filing of a declaration in the event of non-critical operations, or to a prior authorization by ENAC in the event of critical operations. Furthermore, the pilot-in-command must have a flight certificate (for UAS with MTOW up to 25 kg) or a flight license (for UAS with MTOW over 25 kg).

9. Are there any kind of taxes or fees regarding the licensing procedure?

ENAC charges Euro 90 per hour to process a licensing application (usually it takes 4-5 hours to complete the procedure).

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

Yes, UAS are approved to fly by holding a Permit to Fly or a Restricted Certificate of Airworthiness issued by ENAC.

Italy Continued...

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

No, it is not. The sole requirement for access to the market is to obtain in advance the ENAC authorization for either non-critical or critical operations.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There is no specific regulation in the areas of financial strength or nationality ownership in respect of UAS.

13. Is drone transport permitted/regulated in your country?

No, it is not. However, in October 2017 a test flight of a cargo operation with UAS successfully took place at Trapani Airport, at the conclusion of the first stage of a research program overseen by ENAC. The results of the research and testing carried out by ENAC will be one of the key elements to support the development of a future regulation on drone transport for both commercial and governmental use.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

No, there is not. The rules laid down in Regulation (EU) 2016/679 (GDPR) apply to the flight operations with UAS. However, the Italian Personal Data Protection Authority has recently published guidelines regarding the use of UAS, according to which: (i) UAS must not violate personal spaces and privacy; (ii) the use of photos and videos is permitted only with the prior written consent of the subjects, or, without such authorization, if the subjects cannot be recognized; (iii) personal data (such as home addresses and car license plates) cannot be reproduced.

15. Is there a specific control-link interference regulation applicable to UAS operations?

No, there is not. UAS data link must ensure functions of command and control appropriate for the area of operations in terms of reliability and stability. The data link must use frequencies authorised and selected in order to minimize the possibility of unexpected and/or unlawful interferences, capable of jeopardizing the safety of flight operations.

16. Do specific rules regulate UAS manufacturers?

Yes. Manufacturers willing to produce UAS must apply ENAC for a design certification pursuant to article 13 of the ENAC Regulation.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

According to the European Regulation EC no. 216/2008, UAS with MTOW up to 150 kg are regulated under the national laws of the Member States. A foreign company can be authorized to operate UAS in Italy subject to compliance with the Italian legislation.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No, they are not.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

UAS with MTOW exceeding 25 kg must be registered in the Italia UAS Register held by ENAC. In addition, UAS are assigned dedicated registration marks. Irrespective of the MTOW, UAS must also be registered in a specific website called www.d-flight.it, where an identification code is assigned to each UAS, which must in turn be shown on both the aircraft and the ground control station.

20. Who is entitled to be mentioned in the UAS register?

The owner of the UAS, along with the operator if it differs from the owner, is/are entitled to be mentioned in the Italia UAS Register.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No, they do not.

22. Do specific rules regulate the maintenance of UAS?

UAS operators must establish an appropriate maintenance programme to ensure the continuing airworthiness of the system on the basis of manufacturer instructions. Routine maintenance must be carried out by the operator upon the attendance of a specific maintenance course held by the manufacturer or by other organizations authorised by the manufacturer.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

VLOS operations are permitted to be performed in daylight, up to maximum height of 150 m AGL (above ground level), within maximum horizontal distance of 500 m, and must be carried out safely and without causing damages to third parties. Higher distances and heights may be evaluated and authorized by ENAC from time to time, upon review of an appropriate risk assessment submitted by the UAS operator.

24. Are UAS obliged to take-off from and / or land in specific facilities?

No, they are not.

25. Which kind of airspaces are UAS permitted to operate with?

See answer to question 26 below.

26. Which airspaces are restricted for UAS?

Only UAS with an operating mass of no more than 25 kg are allowed to fly within the CTR (controlled traffic region) area, up to a maximum height of 70 m AGL, and up to a horizontally maximum distance of 200 m. A maximum height of 30 m AGL

is provided under take-off and landing areas beyond the limits of ATZ (aerodrome traffic zone) and within 15 km away from the airport. If it is not possible to satisfy these requirements a specific authorization from ENAC is necessary.

27. Which zones are UAS operations banned?

Flying over a crowd of people, demonstrations or events is forbidden. Furthermore, overflying inside the ATZ of an airport and under the take-off and landing areas, or within 5 km from the airport is prohibited as well.

28. Who provides air traffic control services for UAS in your country?

The public authority engaged in the management of the air traffic is ENAV (Ente Nazionale Assistenza Volo, i.e. the Italian Air Navigation Service Provider).

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

See answer to question 30 below.

30. Are there any special rules about the liability of UAS operators for surface damage?

Pursuant to Article 971 of the Navigation Code the overall liability of the operator is limited to the amounts set forth in the EU regulation as to the minimum third-party insurance for each accident accrued. Such provision makes reference to the minimum insurance requirements provided by Regulation (CE) n. 785/2004 and mentioned by Article 32 of the ENAC Regulation. The liability limitation for surface damages caused by UAS to third parties shall be equal to the minimum insurance coverage provided for UAS pursuant to Article 32 of ENAC Regulation. Therefore, in case of damages caused by a UAS with an MTOW lower than 500 kg the liability limit is set to Euro 962.843,24 (as per the minimum insurance coverage set out in the above-mentioned table contained in Article 7 of Regulation (CE) no. 785/2004).

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

Pursuant to article 29 of ENAC Regulation, the operator, the manufacturer, the design organization, the pilot of UAS shall report to ENAC, within 72 hours and pursuant to Regulation (UE) n. 376/2014, occurrences as per Annex V of the Regulation (UE) n. 2015/1018.

Pursuant to Regulation (UE) n. 996/2010, in case of accident or serious incident it is mandatory to inform within 60 minutes ANSV (Agenzia Nazionale Sicurezza Volo, i.e. the Italian Flight Safety Agency).

ENAC, in order to carry out its checks, is entitled to have unrestricted access to the UAS, the flight data recorder, if installed, and any relevant documentation issued or used by the operator, the manufacturer, the design organization and the pilot of UAS.

32. What system and procedures are in place for the investigation of UAS accidents?

See answer to question 31 above.

33. Are UAS operators obliged to have an insurance for their operations? If so, which are their main features?

Pursuant article 32 of ENAC Regulation no UAS must be operated without a third-party insurance, which shall be adequate to the operations and compliant with the minimum insurance coverages provided by Regulation (CE) 785/2004.

34. What is insured? The operator, the business or the aircraft?

The aircraft.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

No, there are not.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

N/A

37. Are there exemptions from the state aid rules or situations in which they do not apply?

N/A

38. Must clearance from the competition authorities be obtained before state aid may be granted?

N/A

Malta

Malta

Contributed by: Karl Cini

General

1. Are UAS considered as "aircraft" in your country?

UAS in excess of 150kg are regulated by Regulation EC 216/2008.

Other UAS are, by inference, considered as aircraft. The only laws that apply to UAS are two articles in the Air Navigation Order.

Art. 90 re Non-Applicability of the ANO to small aircraft: The provisions of this Order, except Article 47, shall not apply to or in relation to other aircraft weighing not more than 20kg without its fuel, provided that an aircraft weighing more than 7kg without its fuel shall be flown not above 400 feet above the surface and in accordance with the permission and any conditions set out by the Director General.

The exception, Art. 47: A person shall not recklessly or negligently cause or permit an aircraft to endanger any person or property.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

Civil Aviation Directorate – Director General

For the time being there are no local drone laws for drones <150kg and so only the provisions in the Air Navigation Order apply. However, permits of drone operations may be issued on a case by case basis by the Director General for Civil Aviation, either in terms of a Self-Declaration Form to be assessed by the CAD, or in terms of a Single Permit issued by the CAD.

3. Is there a distinction between "State UAS" and "Private UAS"?

No.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

No.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

No. No regulation. Self-Declaration Form mentions only RPAs.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The Civil Aviation Directorate (CAD), in the absence of regulation, has adopted and uses with success a risk-based approach on a case by case basis depending on the scope and complexity of request and, more importantly, on the risk of the proposed operation.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

No regulation, however the Self-Declaration form assumes singular operator.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

Submission of a Self-Declaration Form, which if successful would be valid for 6 months. Alternatively, if the operating conditions or operational requirements in the self-declaration need to be exceeded then a one-off permit may be issued on a case by case basis by the Director General for Civil Aviation. The Civil Aviation Directorate requires that every operator who requests such permit conducts a risk assessment.

9. Are there any kind of taxes or fees regarding the licensing procedure?

No.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

No.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

No.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

None.

13. Is drone transport permitted/regulated in your country?

By exclusion: RPAs shall not be flown if transporting explosives, pyrotechnic articles, radioactive materials, or other hazardous materials.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

Drone operators and pilots are made aware that the collection of images of identifiable individuals, even inadvertently, when using cameras mounted on small drones, may be subject to the Data Protection Act.



15. Is there a specific control-link interference regulation applicable to UAS operations?

N/A.

16. Do specific rules regulate UAS manufacturers?

N/A.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

N/A.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

The CAD retains a list of permitted RPAs (internal document).

20. Who is entitled to be mentioned in the UAS register?

The list only mentions specifications & serial number of the RPA and applicant.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No.

22. Do specific rules regulate the maintenance of UAS?

No.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

N/A.

24. Are UAS obliged to take-off from and/or land in specific facilities?

N/A.

25. Which kind of airspaces are UAS permitted to operate with?

N/A.

26. Which airspaces are restricted for UAS?

N/A.

27. Which zones are UAS operations banned?

Operational limitations:

RPAs

- (i) shall give way to manned aircraft;
- (ii) shall not be flown within a prohibited area or a restricted area;
- (iii) shall not be flown within 1000 meters of an airport;
- (iv) shall not be flown at a distance of less than 50 meters from a person, vessel, vehicle or structure not under the direct control of the operator;
- (v) shall not be flown over water unless the following procedures shall be followed:
 - a) The Master/Operator to abide by instructions issued by VTS Valletta/VTS Marsaxlokk, marine VHF Ch. 12/14 which may require that the drone is landed back on board or ashore due to traffic/public safety matters.
 - b) Master/Operator to contact VTS prior to launching the drone.
 - c) Master/Operator to confirm with VTS that drone is airborne.
 - d) Master/Operator to confirm with VTS once drone operations are completed
- (vi) shall not be flown at a distance of 120 meters from sites of operation of police or other organisations with security-related duties, and military drill sites;
- (vii) shall not be flown at a distance of 120 meters from an assembly of 12 or more persons not under the control of the operator;
- (viii) shall not be flown within 120 meters of or above correctional facilities, military complexes, industrial complexes, power plants, and power generation and distribution facilities;
- (ix) shall not be flown within 120 meters of or above diplomatic or consular missions, international organisations, and law enforcement and security agencies and hospitals;

Malta Continued...

- (x) shall not be flown within 120 meters of or above arterial roads, ports and above nature reserves;
- (xi) shall not be flown at a height of more than 60 meters above ground or water;
- (xii) shall not be flown if transporting explosives, pyrotechnic articles, radioactive materials, or other hazardous materials;
- (xiii) shall not be flown beyond direct unaided visual line of sight and not further than 300 meters from point of operation;
- (xiv) shall not be flown if the RPA has a maximum take-off mass exceeding 25kg;
- (xv) shall not be flown over or in the vicinity of an incident/accident site established by the emergency services or the Armed Forces in connection with an accident or extraordinary event unless instructed to do so by the incident commander after consultation with the Director General;
- (xvi) shall not be flown from any place unless the RPAs may take off and land without undue hazard to persons, animals or property, and nothing in this regulation shall affect the rights and interests of the owner or other individuals;
- (xvii) shall not be flown without a valid third-party liability insurance covering the scope and complexity of the drone operation.

Other declarations:

I shall not permit the RPA to be operated:

- (a) So as to cause hazard to another RPAs; or
- (b) in the vicinity of Aircraft manoeuvring in an aerodrome traffic circuit; or
- (c) in a negligent or reckless manner so as to endanger life or to cause damage to persons, animals and/or property of others.

Drone operators must be aware of their responsibilities regarding operations from private land and any requirements to obtain the appropriate permission before operating from a particular site. In particular, they must ensure that they observe the relevant trespass laws and do not unwittingly commit a trespass whilst conducting a flight.

The CAD does not regulate airspace which falls within the confines (highest obstacle on the premises and lateral boundaries) of private property.

28. Who provides air traffic control services for UAS in your country?

Malta Air Traffic Services Ltd (MATS) is the Air Navigation Service Provider for Malta, and it falls under the Ministry for Tourism.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

N/A.

30. Are there any special rules about the liability of UAS operators for surface damage?

N/A.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

N/A.

32. What system and procedures are in place for the investigation of UAS accidents?

N/A.

33. Are UAS operators obliged to have an insurance for their operations? If so, which are their main features?

Currently, applicants for a permit are required to submit a signed insurance document for third-party liability covering the scope and complexity of the requested operation for the specific geographical areas/limits of such operation.

34. What is insured? The operator, the business or the aircraft?

N/A

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

N/A.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

N/A.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

N/A.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

N/A.

Mexico

Santamarina
+ Steta

Mexico

Contributed by: Andrés Remis, Juan Carlos Machorro and Ricardo Orea

General

1. Are UAS considered as "aircraft" in your country?

Yes. They are considered as aircraft: RPAS (Remote Piloted Aircraft Systems) or RPA (Remote Piloted Aircraft).

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The Ministry of Communications and Transportation (Secretaría de Comunicaciones y Transportes) through the General Bureau of Civil Aeronautics (Dirección General de Aeronáutica Civil) ("DGAC") under the Civil Aviation Law (Ley de Aviación Civil) and mandatory rules "CO AV23/10 R4" issued by the DGAC.

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes. State RPAS and RPA include military, police, border patrol, marine patrol, among others and are regulated through the provisions established on article 37 of the Civil Aviation Law. Private RPAS are classified by a weight and type of use criteria and are regulated through mandatory rules "CO AV23/10 R4".

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Yes, the regulation distinguishes recreational private RPA, non-recreational private RPA, and commercial RPA.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Yes. Mandatory rules "CO AV23/10 R4" only applies to remotely-piloted RPA. Autonomous aircraft (UAS) and RPA operated indoors are not regulated by mandatory rules "CO AV23/10 R4".

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

Through mandatory rules "CO AV23/10 R4".

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

Yes. These mandatory rules "CO AV23/10 R4" establish 1 (one) pilot per RPA; however, crew per RPA is also considered for other operation-related aspects of RPAS.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

Procedures to obtain RPAS licenses are established on mandatory rules "CO AV23/10 R4". Requirements depend on the size (light or small, medium and heavy) of the RPA. Also, registration within the DGAC depends on the RPA characteristics.

9. Are there any kind of taxes or fees regarding the licensing procedure?

Yes. There are fees for licensing and registration.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

A Certificate of Airworthiness can be required depending on the RPA characteristics and use (i.e., heavy RPAS for commercial use).

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Yes. Mandatory rules "CO AV23/10 R4" are aimed for all entities and people willing to operate an RPAS under commercial, recreational private, and non-recreational private scopes.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

No limitation exists to ownership as long as the RPA is registered with the Mexican Aeronautic Registry.

13. Is drone transport permitted / regulated in your country?

No. Mandatory rules "CO AV23/10 R4" do not regulate RPA as transportation aircraft/vehicles; however, RPAS are authorized to operate with load and/or cargo onboard.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

Yes, there is the Electronic Registry of RPAS (Registro Electrónico de RPAS) at the Mexican Aeronautic Registry, regulated through the Law on Transparency and Access to Information (Ley de Transparencia y Acceso a la Información).

15. Is there a specific control-link interference regulation applicable to UAS operations?

There is no specific regulation; however, communication interference in general is regulated in the General Communications Law (Ley de Vías Generales de Comunicación).

Mexico Continued...

16. Do specific rules regulate UAS manufacturers?

Mandatory rules number "CO AV23/10 R4" establish that Mexican RPAS manufacturers must register and notify the DGAC and/or the Ministry of Communications and Transportation of RPAS sold with a take-off weight exceeding 250 grams.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

Foreign RPAS operators and foreign registered RPAS cannot operate in Mexico unless a bilateral agreement between Mexico and the foreign country exists. Foreign registered RPAS to operate for scientific purposes must apply for a special permit before the Ministry of Defense (Secretaría de la Defensa Nacional).

18. Are fares or pricing of UAS operations regulated and, if so, how?

RPAS fares or pricing are not regulated.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

Yes. RPAS must be registered with the Mexican Aeronautic Registry.

20. Who is entitled to be mentioned in the UAS register?

RPAS' manufacturer and owner.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No.

22. Do specific rules regulate the maintenance of UAS?

No.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

On a general basis, RPAS are only allowed to fly "G" (golf) airspace, under visual flight rules (VFR), in places (whether they are open or closed) where 12 (twelve) people or less are met, and under 10 nautical miles out of any airport or aerodrome. Also, RPAS pilots must operate the RPAS on a line-sight-view (línea de vista). Under special authorization, RPAS can perform night and instrumental flight rules (IFR) operations. Further limitations must be observed depending on the size, use, and/or characteristics of the RPAS.

24. Are UAS obliged to take-off from and / or land in specific facilities?

Mandatory rules "CO AV23/10 R4" do not establish specific facilities for take-off or landing.

25. Which kind of airspaces are UAS permitted to operate with?

RPAS are permitted to operate within "G" (Golf) airspace. If the specifications and the characteristics of the RPAS allow it, access to "D" (Delta) airspace can be permitted prior to authorization and coordination with the air traffic control entity in charge of such airspace.

26. Which airspaces are restricted for UAS?

RPAS are permitted to operate within "G" (Golf) airspace. "D" (Delta) airspace can be permitted (see question 25). Further access to other airspace must be requested to the air traffic control entity in charge of such airspace. Visual corridors are also restricted to RPAS but can be accessed prior to air traffic control authorization.

27. Which zones are UAS operations banned?

RPAS are banned from all prohibited, restricted, and dangerous zones as established in aeronautical information publications (also known as AIP) in Mexico, section ENR 5.1.

28. Who provides air traffic control services for UAS in your country?

Air traffic control services for RPAS are provided by Servicios a la Navegación en el Espacio Aéreo Mexicano (SENEAM), which is the Mexican governmental body in charge of providing air traffic control services on all controlled airspaces in Mexico.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

Mandatory rules "CO AV23/10 R4" provide that RPAS must have insurance covering damages against third parties. There is no specific regulation on cargo related operations.

30. Are there any special rules about the liability of UAS operators for surface damage?

Mandatory rules "CO AV23/10 R4" provide that RPAS must have insurance covering damages against third parties.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

There is no accident or incident reporting system for RPAS in Mexico.

32. What system and procedures are in place for the investigation of UAS accidents?

There are no specific systems or procedures for the investigation of RPA accidents. The DGAC is in charge of all air accident investigations.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

Yes. Mandatory rules "CO AV23/10 R4" establish that the RPAS must have insurance covering damages against third parties.

34. What is insured? The operator, the business or the aircraft?

The RPA.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

No.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

N/A.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

N/A.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

N/A.

Miscellaneous

39. New regulations

Please note that the DGAC is currently working in preparing a new set of regulations on RPAS expected to be passed during the first quarter of 2018.

Nepal

Nepal

Contributed by: *Devendra Pradhan*

General

1. Are UAS considered as "aircraft" in your country?

Yes. The Civil Aviation Authority of Nepal ("CAAN"), which is the main regulatory body with jurisdiction over civil aviation, defines an Unmanned Aerial Vehicle ("UAV") as a "remotely piloted aircraft". Currently, only UAV's that weigh less than 20 kg are permitted in Nepal. UAV's that weigh more than 20 kg are not permitted. Please note that throughout this questionnaire, the terms "UAV" and "UAS" are used interchangeably.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

CAAN is the main government body regulating remotely-piloted and/or unmanned aircraft operations in Nepal. The main regulations that apply to UAV's in Nepal are:

- 1) CAAN's Flight Operations Directives, No. 07, May 2015 ("Directives"); and
- 2) The Ministry of Home Affairs ("MOHA")'s Unmanned Aerial Vehicle Flight Procedure 2016 ("Procedure").

3. Is there a distinction between "State UAS" and "Private UAS"?

UAV-related regulations do not distinguish between "State UAV" and "Private UAV."

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

If the UAV operation is to be operated for commercial purposes, an additional recommendation letter from the relevant government ministry, in addition to the documents specified in our response to Q8 below, is required. For example, conducting an aerial survey of a farmland for commercial farming through a UAV operation requires a recommendation letter from the Ministry of Agricultural Development. All other UAV-related regulations apply equally to public, leisure and commercial UAV.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

The Procedure lists three types of UAV's: Autonomous UAV; Programmable UAV; and UAV controlled via radio transmissions through remote-controlled device. Please note that autonomous UAV's are prohibited in Nepal.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

To ensure safety of UAV operations, the Directives and Procedure specify certain conditions that all UAV operators must abide by, which are as follows:

- i. The UAV operator ("operator") may not drop any article from a UAV.
- ii. The operator must maintain direct visual contact with the UAV and monitor its path vis-à-vis other persons, vehicles, vessels and structures in order to avoid collisions.
- iii. Airport areas, including take-off and landing paths, must remain free of all UAV at all times regardless of altitude.
- iv. UAV that conducts surveillance activities (such as observation or inspection) may not fly over or within 150 meters of any congested area, over or within 150 meters of an organized open-air assembly of more than 1000 persons; within 50 meters of any vessel, vehicle or structure, which is not under the operator's control; or within 50 meters of any person.
- v. During take-off or landing, a UAV may not be flown within 30 meters of any person (other than the operator).
- vi. UAV's may be operated during the daytime in Visual Meteorological Conditions ("VMC") only.
- vii. Security Clearance letter is required from the MOHA or the local security agency, which is the local police station with jurisdiction over the area where the UAV is to be flown.
- viii. The UAV's Specified Endurance must be limited to 15 minutes and the flight must be limited to horizontal distance of 300 meters from the operator and within an altitude of 100 meters.
- ix. Prior to flight, the local security agency must be informed and any information, aerial photos, or maps obtained after the flight must be submitted to local government and security agency.
- x. CAAN may impose additional terms and conditions at the time of issuing its permission to fly the UAV.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

The applicable regulations do not have any provision regarding the rule of 1 UAV = 1 pilot.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

Please refer to the following for the documentary and procedural requirements to obtain permission to operate a UAV.

1. Application Letter to CAAN;
2. A copy of the UAV's Operation Specifications;
3. A copy of map showing the Operation Area where the UAV will be flown;
4. A copy of map showing the latitude and longitude of Operation Area;
5. No objection letter from the Ministry of Information and Communication for the UAV's frequency (if requested by the MOHA);
6. Security clearance letter from either the MOHA, which has jurisdiction over the nation's security agencies, or the local security agency (i.e. a local police station) with jurisdiction over the Operation Area);
7. Permission from the Department of Tourism (if the applicant is a foreigner); and
8. No objection letter from the relevant owner or government authority, if the UAV operation is to be operated over private or public property.

The application must be submitted at least 7 working days before the date of UAV operation. Upon review of the application, including the above documents, CAAN will issue its permission to operate a UAV. The operation of the UAV must be conducted in accordance with the terms and conditions as specified by CAAN.

Please note that remotely controlled aerial toys weighing less than 2 kg that operate within private property within 200 ft. above ground level do not require separate permission from CAAN. However, depending on the type of UAV and its usage, permission from MOHA or a local security agency may be required, even for UAV's that are less than 2 kg that are operating within 200 ft. above ground level.

9. Are there any kind of taxes or fees regarding the licensing procedure?

A fee of USD 10 (+ 13% VAT) must be paid to CAAN when CAAN issues its permission for UAV operation.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

A Certificate of Airworthiness is not required to operate a UAV.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

There is no regulation regarding access to the market for UAV operation services.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There is no specific legislation regulating areas of financial strength and nationality of ownership regarding control of UAV.

13. Is drone transport permitted/regulated in your country?

Transportation of any item via drone is not permitted.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

Though there is no separate regulation related to protection of data and privacy, conducting a UAV flight in a manner that interferes with individual privacy or peace and security of the general public is prohibited under the Directives and Procedure.

15. Is there a specific control-link interference regulation applicable to UAS operations?

The UAV operation must be limited to horizontal distance of 300 meters from the operator and within an altitude of 100 meters.

16. Do specific rules regulate UAS manufacturers?

There are no specific rules regulating UAV manufacturers.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

As specified in our response to Q8 above, a foreigner intending to fly a UAV during their visit to Nepal must also obtain an additional permission from the Department of Tourism.

18. Are fares or pricing of UAS operations regulated and, if so, how?

There are no provisions regulating fares or pricing of UAV operations.

Nepal
Continued...

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

A UAV does not have to be registered in any particular register.

20. Who is entitled to be mentioned in the UAS register?

N/A

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

N/A

22. Do specific rules regulate the maintenance of UAS?

There is no specific rule in connection with the maintenance of UAV.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

The UAV operation must be limited to horizontal distance of 300 meters from the operator and within an altitude of 100 meters. In addition, a UAV may not be operated in airport areas, including take-off and landing; airspace controlled by Air Traffic Control, and flight pathways. Similarly, a UAV may not be operated within:

- An aerial radius distance of 1000 meters of security agencies, such as police stations, army bases etc.;
- 5000 meters of horizontal distance from international border;
- Private home/land of others;
- Public areas of significant religious and cultural importance;
- Sensitive archaeological sites that are considered No Fly Zones by the relevant government authority; and
- Additional areas designated by MOHA or CAAN as No Fly Zone from time-to-time.

To operate beyond the above limitations, specific permission from CAAN is required.

24. Are UAS obliged to take-off from and/or land in specific facilities?

PG&A Response: UAVs are not obligated to take-off from and/or land in specific facilities.

25. Which kind of airspaces are UAS permitted to operate with?

CAAN and the MOHA have not designated specific airspace for UAV operations, though there are restrictions on the kind of airspaces that UAV's are permitted to operate in. For example, a UAV operation must be limited to horizontal distance of 300 meters from the operator and within an altitude of 100 meters.

For additional restrictions, please refer to our response to Q23 above.

26. Which airspaces are restricted for UAS?

Please refer to our response to Q23 above for details regarding the areas that are restricted for UAV operations.

27. Which zones are UAS operations banned?

Please refer to our response to Q23 above for details regarding the areas that are restricted for UAV operations.

28. Who provides air traffic control services for UAS in your country?

When applicable, air traffic control services are provided by the respective air traffic control of the nearest airport in the area where the UAV is being flown.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

Any liability for harm to person or damage to property caused by UAV operation must be borne by the UAV operator.

30. Are there any special rules about the liability of UAS operators for surface damage?

Any liability for harm to person or damage to property caused by UAV operation must be borne by the UAV operator.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

Though a mandatory accident and incident report system is not specified under UAV-related regulations, any accident or incident involving a UAV must immediately be reported to CAAN for further investigation.

32. What system and procedures are in place for the investigation of UAS accidents?

There are no specific system and procedures in place for investigation of UAV accidents. Investigation involving a UAV operation is conducted by CAAN upon receiving accident report on a case-by-case basis.

33. Are UAS operators obliged to have an insurance for their operations? If so, which are their main features?

UAV operators are not obligated to have insurance for their operations.

34. What is insured? The operator, the business or the aircraft?

N/A

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There are no rules regulating direct or indirect financial support to companies in the UAV sector by the government or government-controlled agencies or companies (state aid).

36. What are the main principles of the stated aid rules applicable to the UAS sector?

N/A

37. Are there exemptions from the state aid rules or situations in which they do not apply?

N/A.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

N/A

Nicaragua

Nicaragua

Contributed by: Alina Nassar

General

1. Are UAS considered as "aircraft" in your country?

Yes, UAS are considered aircraft according to the Regulation No. 34-2014 issued by the Nicaraguan Institute for Civil Aviation (INAC by its acronym in Spanish). This regulation establishes that aircraft capable of flying without a pilot are not allowed to operate in Nicaraguan territory.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The Civil Aviation Act No. 595 issued on August 3rd, 2006 regulates the aeronautic activity in Nicaragua. INAC is the civil aviation authority in this country and it issued, in the year 2014, the Regulation No. 34-2014 that prohibited the use of UAS operating higher than 100 feet with a horizontal displacement of 30 meters, arguing that they are dangerous for the aircraft flying in the national airspace.

3. Is there a distinction between "State UAS" and "Private UAS"?

The Regulation does not make a distinction between State UAS and Private UAS.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

There are no distinctions regarding public, leisure, or commercial UAS.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

No.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

In Nicaragua the operation of UAS above 100 feet with a horizontal displacement of 30 meters is not allowed based on safety reasons.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

The Regulation does not make any reference to pilots.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

There are not procedures or requirements established to obtain licenses or the rights to operate UAS. However, a permit can be requested to INAC if the UAS is going to be operated under 100 feet. Once INAC receives the request it will inspect the drone.

9. Are there any kind of taxes or fees regarding the licensing procedure?

If a UAS is authorized to operate it must pay the following fees:

Description	Amount
Permit for introducing remotely controlled UAS	\$50
Permit for inspecting remotely controlled UAS	\$50

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

No.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

According to INAC, UAS are not allowed to enter the country and consequently they cannot be commercialized.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There is not an express regulation on this matter.

13. Is drone transport permitted / regulated in your country?

There is not an express regulation on this matter.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There is not an express regulation on this matter.

15. Is there a specific control-link interference regulation applicable to UAS operations?

There is not an express regulation on this matter.

16. Do specific rules regulate UAS manufacturers?

There is not an express regulation on this matter.



17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

Considering the prohibition to operate UAS in the country, INAC has not established the requirements for foreign UAS operators.

18. Are fares or pricing of UAS operations regulated and, if so, how?

There is not an express regulation on this matter.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

There is not an express regulation on this matter.

20. Who is entitled to be mentioned in the UAS register?

There is not an express regulation on this matter.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

There is not an express regulation on this matter.

22. Do specific rules regulate the maintenance of UAS?

There is not an express regulation on this matter.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

As it was mentioned before, Regulation No. 34-2014 prohibited the use of UAS operating higher than 100 feet with a horizontal displacement of 30 meters. It is not possible to obtain a permit to operate beyond these limitations.

24. Are UAS obliged to take-off from and/or land in specific facilities?

There is not an express regulation on this matter.

25. Which kind of airspaces are UAS permitted to operate with?

They are allowed to operate in spaces under 100 feet above ground level.

26. Which airspaces are restricted for UAS?

The airspace above 100 feet.

27. Which zones are UAS operations banned?

Airspace where UAS can operate higher than 100 feet with a horizontal displacement of 30 meters is banned by INAC.

28. Who provides air traffic control services for UAS in your country?

INAC and Traffic Air Control.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

There is not an express regulation on this matter.

30. Are there any special rules about the liability of UAS operators for surface damage?

There is not an express regulation on this matter.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

There is not an express regulation on this matter.

32. What system and procedures are in place for the investigation of UAS accidents?

There is not an express regulation on this matter.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

There is not an express regulation on this matter.

34. What is insured? The operator, the business or the aircraft?

There is not an express regulation on this matter.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There is not an express regulation on this matter.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

There is not an express regulation on this matter.

Nicaragua

Continued...

37. Are there exemptions from the state aid rules or situations in which they do not apply?

There is not an express regulation on this matter.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

There is not an express regulation on this matter.

Norway



Norway

Contributed by: Kyrre W. Kielland and Alexander W. Barg

General

1. Are UAS considered as "aircraft" in your country?

As a starting point - yes. However, pursuant to section 15-1 of the Norwegian Aviation Act 1993 (the "Aviation Act"), the Ministry of Transport and Communications is given authority to give derogative regulations for aircraft without a human pilot on board. This opportunity has been applied by Regulations FOR-2015-11-30-1404 on aircraft without a human pilot on board etc. (the "UAS Regulations").

It should also be noted that UAS which are exclusively used for recreational, sports, or competition purposes are to be regarded as model airplanes and not "aircraft". Such operations are nevertheless considered as "aviation" and provisions of the Aviation Act not specific to "aircraft" will apply.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The supervision of operators of UAS is performed by The Norwegian Civil Aviation Authority ("NCAA"), cf. the UAS Regulations Section 5.

3. Is there a distinction between "State UAS" and "Private UAS"?

According to Section 69 of the UAS Regulations, the UAS Regulations (except for section 18 on insurance coverage) do also apply for civil aviation with a governmental purpose in connection with police work, customs, public search and rescue services, firefighting, coast- and border patrol, or similar activities and services.

The UAS Regulations do not apply to the Norwegian Armed Forces' use of UAS, cf. Section 3.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

There is a distinction. As mentioned above, if the aviation is exclusively for recreational, sports, or competition purposes, this is regarded as operation of model airplanes and is thus subject to the provisions of the UAS Regulations chapter 2, which are much less comprehensive than the provisions which apply to other UAS.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

The UAS regulations do not allow completely autonomous UAS which cannot be overruled by a pilot. Further, there is a regulatory distinction between UAS operated within the visual line of sight (VLOS) and UAS operated beyond the line of sight (BLOS).

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

Chapters 3 to chapter 9 of the UAS Regulations include comprehensive safety regulations concerning UAS operations.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

No.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

If the UAS operation in question is considered as flying of model airplanes, there are no licensing requirements. For other UAS operations, the UAS Regulations have different rules based on which category the operations fall within - RO1, RO2, or RO3 - depending on the weight of the UAS and the scope of the operations.

Operations in the RO1 category do not require a license. It is sufficient to send the NCAA a notice prior to the commencement of the operations and a declaration stating that the operator will comply with the applicable requirements as set out in the UAS Regulations. RO2 and RO3 operators must obtain a license from the NCAA.

9. Are there any kind of taxes or fees regarding the licensing procedure?

Fees payable to the NCAA may apply, cf. Regulations FOR-2017-03-03-286. There is a fee for the processing of applications for approval as RPAS-operator. Licensed operators within the RO2 and RO3 category must also pay an annual fee.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

Operators of UAS in the RO2 and RO3 category can only operate UAS which are documented to be airworthy.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Yes, the UAS Regulations Chapters 4-6 contain provisions relevant for providers of UAS operation services that will vary with category (RO1, RO2 and/or RO3).

Norway

Continued...

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There is no requirement as to financial strength, but pursuant to Section 18 of the UAS Regulations all operators (excluding governmental operators) are obliged to have liability insurance covering statutory strict liability for any damage to third parties caused by the UAS operations.

The Aviation Act Section 2-2 provides requirements regarding nationality. Aviation within Norwegian territory may only be undertaken with aircraft which are of Norwegian nationality (except as otherwise provided by the act, such as in Section 16-1 regarding EEA) or if the aircraft has nationality in a foreign state which has signed an agreement with Norway regarding aviation rights. Further, aviation may be allowed by a special authorization by the NCAA.

13. Is drone transport permitted / regulated in your country?

Transportation of passengers with UAS is not yet permitted. Transportation of goods with UAS is possible, however this is subject to a special permit and must be described in the operations manual.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There is no specific Data & Privacy Protection regulation focused on UAS operations. More general rules on privacy and data protection may apply to the specific use of the UAS, such as the Personal Data Act.

The Norwegian Data Protection Authority has made its own instruction manual on the use of drones.

15. Is there a specific control-link interference regulation applicable to UAS operations?

No.

16. Do specific rules regulate UAS manufacturers?

There are no specific rules governing the legal position of UAS manufacturers. General rules on manufacturing and distribution of products will apply, hereunder the Product Control Act and the Product Liability Act (both based on similar EU directives).

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

The UAS Regulations apply to all operations of UAS in Norway, hereunder Svalbard, and in the airspace above the Norwegian continental shelf and economic zone. No distinction is made between Norwegian and foreign UAS operators.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

According to the NCAA there exists no particular register for the registration of UAS and the Norwegian Civil Aircraft Registry ("NCAR") does not deal with the registration of UAS.

However, as RO2 and RO3 operators must obtain a license from the NCAA and the application must be accompanied by an operations manual, one could say that such UAS are registered at least by implication.

20. Who is entitled to be mentioned in the UAS register?

N/A.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

N/A.

22. Do specific rules regulate the maintenance of UAS?

The UAS Regulations contain provisions on the maintenance of UAS.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

Concerning UAS falling within the scope of model airplanes, Section 6 of the UAS Regulations provides that the UAS may only be flown during daylight hours and not at altitudes of more than 120 metres above ground or water. Further, the UAS may not be flown closer than 150 metres to people, motor vehicles or buildings which are not controlled by the aircraft operator, except during take-off and landing.

If the flight is securely conducted under the auspices of a model aircraft association, the above-mentioned restrictions do not apply.

Flying of a model airplane-UAS is not permitted in the vicinity of military areas, embassies or prisons without permission from the local person in charge. Further, flying of a model airplane is not permitted in restricted areas pursuant to the Aviation Act or the Police Act, in the vicinity of an incident site established by the emergency services or the Armed Forces in connection with accidents or extraordinary events, cf. Section 7.

UAS which are not regarded as model airplanes are not to be flown over or in the vicinity of military areas, embassies or prisons, and further not to be flown closer than 5 km to an aerodrome, unless the flight has been cleared with the local air traffic control services or flight information service, cf. Section 54. Flying above or in the vicinity of places where an incident site has been established by the emergency services or the Armed Forces in connection with an accident or other extraordinary event may only be performed by permission from the incident commander, cf. Section 55.

Chapter 8 and 9 of the UAS Regulations contain more detailed provisions on operational and distance limitations.

24. Are UAS obliged to take off from and/or land in specific facilities?

No, but according to the UAS Regulations Section 16, as a main rule UAS cannot land or take off at an airport.

25. Which kind of airspaces are UAS permitted to operate with?

We refer to the answer given to question No 23 above.

26. Which airspaces are restricted for UAS?

We refer to the answer given to question No 23 above.

27. Which zones are UAS operations banned?

We refer to the answer given to question No 23 above.

28. Who provides air traffic control services for UAS in your country?

Governmentally owned Avinor Air Navigation Services AS.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

The Aviation Act chapter 10 contains provisions regarding liability for carriers concerning loss or damage to cargo when the transportation is performed as a paid service.

30. Are there any special rules about the liability of UAS operators for surface damage?

According to the UAS Regulations Section 8, operators of UAS falling within the model airplane category have a strict liability for damage or loss occurring due to the aviation operations.

According to Section 17, which applies to all RPAS-operators (other than just operation of model airplanes) there is a strict liability for the operator for any third-party loss or damage due to the aviation operations. The strict liability does not apply to damage to other aircraft or persons or objects within such aircraft.

Civil UAS operators must have mandatory liability insurance, cf. Section 18.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

According to the Aviation Act Section 12-2 the operator and owner (among others) of the aircraft are under a joint duty to immediately inform the closest unit of the air traffic service, closest police authority, or the rescue coordination centre, unless they are aware that such notice has already been given.

32. What system and procedures are in place for the investigation of UAS accidents?

There are no specific rules on the investigation of UAS accidents,

but the provisions in the Aviation Act on the investigation of accidents will apply.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

Pursuant to the UAS Regulations Section 18, which applies to all RPAS-operators, the operator is responsible for the existence of a valid insurance covering third-party liability, cf. Section 11-2 of the Aviation Act. The insurance obligation does not apply to UAS which are considered as model airplanes.

34. What is insured? The operator, the business or the aircraft?

What is insured depends on the specific insurance contract. However, the compulsory insurance coverage which is to be taken out by the operator, relates to coverage of third-party liability.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

General state aid rules apply, which in Norway is based on the EU/EEA regulations on state aid.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

Any state aid falling within the scope of EU/EEA regulations on state aid must be reported to the Ministry of Trade, which will decide whether state aid will be contrary to any Norwegian or international regulations on state aid.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

Not for UAS in particular.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

Pre-clearance from the Ministry of Trade is required, cf. question 34 above

Pakistan

Pakistan

Contributed by: Syed Ali Bin Maaz, Mubeena Ellahi and Wahab Thaheem

General

1. Are UAS considered as "aircraft" in your country?

Yes, a UAS is considered an aircraft in Pakistan, as per the definition of the word "aircraft" provided in the Civil Aviation Ordinance 1960 (the "Ordinance"), which defines an aircraft as "any machine which can derive support in the atmosphere from reactions of the air, and includes balloons, whether captive or free, airships, kites, gliders and flying machines".

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

Unmanned Remotely Controlled Small UAV Airships ("URCSUAs") in Pakistan are regulated by the Pakistan Civil Aviation Authority (the "CAA") pursuant to the Ordinance, the Civil Aviation Rules 1994 (the "Rules") and Air Navigation Order 016 AWRG 2.0 dated 4th April 2011 (the "ANO").

On the one hand, Small UAV Airship" means an Airship UAV with a volume less than or equal to 100 cubic meters and a gross weight of over 100 grams.

On the other hand, "UAV" means unmanned airship (other than a balloon or a kite) whose intended purpose is other than recreational use.

Finally, "Airship" means a power driven lighter-than-air aircraft.

3. Is there a distinction between "State UAS" and "Private UAS"?

No.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

The ANO only applies to URCSUAs, which are intended for purposes other than recreational use. The ANO therefore regulates URCSUAs, which are intended to be used only for commercial purposes. The regulatory body, however, of the manufacturer of the URCSUA is required to endorse the URCSUA for commercial operations if that is the intended purpose of its use pursuant to the ANO.

Generally, the rules governing the operation of recreational vehicles and recreational flying activities within Pakistan are set out in ANO-003-AWRG-4.0 dated 04.04.2011 and ANO-021-FSXX-3.0 dated 01.02.2018.

In Pakistan, "Recreational Vehicle" means "a piloting device used for the purpose of recreational activities, such as an Ultra Light Vehicle, Sports Airplane, Hang Glider, Powered Parachute, etc."

Furthermore, "Ultra Light Vehicle" means "an aeronautical vehicle that:

- a) is used or intended to be used for manned operations in the air by a maximum of two occupants;
- b) if empowered, weighs less than 200 pounds; or
- a) if powered:
 - i) weighs not more than 500 pounds empty weight, excluding fuel, floats and safety devices which are intended for deployment in a potentially catastrophic situation;
 - ii) has a fuel capacity not exceeding 15 US gallons;
 - iii) is not capable of more than 85 KCAS at full power in level flight; and,
 - iv) unless otherwise approved by the Competent Authority, has a poweroff stall speed not exceeding 45 KCAS.

And, "Sports Airplane" means an amateur built vehicle that:

- a) has capacity for not more than two occupants;
- b) has a gross weight not exceeding 1200 lb;
- c) unless otherwise approved by the Competent Authority; has a stall speed not exceeding 52 KCAS.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Currently there are no rules and regulations governing autonomous URCSUAs in Pakistan. However, there is a general prohibition on flying aircraft without a pilot unless prior permission of the Director General of the CAA ("Director General") is obtained and compliance is made with any conditions proposed by the Director General under rule 145 of the Rules. In respect of the regulations pertaining to unmanned remotely controlled airships, please refer to our response to question 2.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The "Operator-in-Command" or the "OIC" is directly responsible for the operations of a URCSUA. The URCSUA OIC is accountable for controlling his aircraft according to the same standards as the pilot of a manned aircraft in accordance with the Rules which provide that pilots-in-command shall be responsible for the operation and safety of the aircraft, passengers and the

conducts of the crew. The Director General of the CAA has the power, under rule 72 of the Rules, to ground an aircraft if it believes that the intended flight of the aircraft would contravene any provision of the rules relating to safety of flight operations. Further, the ANO sets out additional requirements in order to regulate the safety of URCSUA's which include, among other things, the following:

- a) A URCSUA cannot drop/discard a thing in a way that it creates a hazard for another aircraft, person or property on ground;
- b) URCSUA cannot operate within 10m horizontally and 30m vertically of a person not involved in the operation;
- c) In the event of a lost link, a URCSUA must be equipped with an automatic recovery system;
- d) Only URCSUA's "purpose-built" for night time operations will be allowed to operate at night.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

We are not aware of any such consideration under the applicable laws of Pakistan.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

The person in active control of the URCSUA i.e. the Operator-in-Command or the OIC is subject to the following eligibility requirements:

1. the applicant must be 17 years of age or above;
2. the applicant shall hold a Secondary School Certificate (matriculation) or an equivalent qualification;
3. the applicant has undergone and completed a training course conducted by the airship Manufacturer/Operator in the operations of the type of URCSUA that operator proposes to operate and has received a Competence Certificate or equivalent, and must indicate any applicable ratings;
4. the applicant must be a member of the URCSUA's organisation which is duly registered with the CAA;
5. the applicant shall hold either a valid Micro Light Competency Medical Certificate (MCC) or a higher Medical Certificate from the CAA or its authorised medical officer;

The applicants with the following qualifications and experience

shall only require the type training with URCSUA basic subjects and need to satisfy the requirements prescribed in clauses 3,4 and 5 set out above, excluding the extended requirements of 1-17 below (except 3) of this question 8:

1. The applicant holds or has held a pilot license (PPL or above) or has equivalent military qualifications; or
2. The applicant is a qualified Air Traffic Control Officer (ATCO) or has an equivalent military qualification; or
3. The applicant is a qualified Forward Observation Officer (FOO);

The training course as mentioned in paragraph 3 above shall include, but not be limited to, the following subjects:

1. Air Law - Basic Concepts;
2. Applicable Rules, ANOs, Directives, Air Safety Circulars;
3. Airship General Knowledge;
4. Flight performance and planning;
5. Human performance and limitations;
6. Meteorology;
7. Navigation;
8. Airship Operational procedures;
9. Radiotelephony, accident/incident reporting requirements of CAA;
10. Use of the applicable portions of the Aeronautical Information Public (AIP);
11. Recognition of critical weather situations from the ground and in flight, wind avoidance, the applicable procurement and use of aeronautical weather reports/forecasts;
12. The safe and efficient operation of airships including collision avoidance, recognition and avoidance of wake turbulence;
13. Weight and balance computations;
14. Principles of applicable aerodynamics, power plants and airship systems;
15. Aeronautical decision making and judgment;
16. Pre-flight action as applicable; and
17. Radio communication skills.

Pakistan Continued...

To qualify for the Unmanned Airship Operator's Certificate, the applicant must have a minimum of 5 hours experience under supervision in operating the type of airship for which the applicant is seeking an Unmanned Airship Operator's Certificate in an uncontrolled airspace and a minimum of 10 under-supervision landings and take-offs.

Furthermore, the applicant must undertake a skill test to demonstrate his skills to the CAA Inspector or a Designated Examiner in the following fields:

1. Take off and landings
2. Circuit flying
3. Ground level hovering
4. Altitude hovering
5. Limited glide
6. Emergency procedures
7. Coordination with respective Air Traffic Services units.

9. Are there any kind of taxes or fees regarding the licensing procedure?

Yes, fees and other relevant requirements are prescribed by each concerned directorate of the **CAA**. The owner shall make an application to the **CAA** for the registration of the drone and obtain a certificate of registration by paying a prescribed fee of \$60. Unless an exemption as set out in our response to question 10 below is obtained for the application of a certificate of airworthiness, the applicant shall pay a fee of \$250.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

No, however the ANO requires an exemption to be sought from the general requirements of obtaining a Certificate of Airworthiness ("COA") from the Director General of the CAA. Therefore, the exemption from the COA can only be availed if the applicant has successfully applied for the exemption.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Yes, by way of the Ordinance, the Rules, the ANO and the ANO 91.0021 dated 13th September 2000.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There are no specific criteria in respect of creditworthiness of an applicant intending to apply for a licence to operate and control a URCSUA in Pakistan under the Rules and the ANO and there are no restrictions set out in respect of nationality of owners thereunder.

13. Is drone transport permitted/regulated in your country?

Yes, assuming that the term transport is intended to mean

the transport of the drone from one place to another and not transport of other things by the drone. Even otherwise, there is no express prohibition on the transport of goods by drones; however, the ANO provides that "A person must not cause a thing to be dropped or discharged from an URCSUA in a way that creates a hazard to another aircraft, person or property on ground".

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

No. However, under the local laws it is an offence to access or transmit an information system or data without first obtaining authorization from the person(s) whose information system or data is being accessed or transmitted.

15. Is there a specific control-link interference regulation applicable to UAS operations?

Refer to our response to question 31 below.

16. Do specific rules regulate UAS manufacturers?

No.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

The rules and regulations governing URCSUAs apply equally to foreign and local operators. There are no additional or separate requirements for foreign URCSUA operators.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

Yes, the URCSUA must be registered in the Pakistan Aircraft Register maintained by the CAA ("PAR").

20. Who is entitled to be mentioned in the UAS register?

The name of the owner/operator of the URCSUA will be mentioned in the PAR.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No, apart from the requirement stated in our response to question 19 there are no other requirements or limitations that we are aware of.

22. Do specific rules regulate the maintenance of UAS?

Yes, the ANO regulates the maintenance of the URCSUAs. It states that "operators", which term is defined to mean "a person, organization or enterprise engaged in, or offering to engage in

URCSUA operations and having management of URCSUA”, can maintain the URCSUA and its associated engines in accordance with the manner prescribed by the manufacturer of the URCSUA after seeking an approval from the CAA. The Operators are required to provide the following documentations to the Airworthiness Directorate for their approval:

1. Company Exposition Manual.
2. Qualification for CAA approved position of Chief Engineer
3. Maintenance Schedule.
4. Illustrated parts catalogue, wiring diagram manual/ structural repair manual as applicable.
5. Source of receipt of modification from manufacturers and Airworthiness Directive, service bulletins or service letters etc, from regulatory body of country of manufacturer as applicable.

If a person does not hold the approval mentioned above, he cannot carry out maintenance of URCSUA or its component or material. It is important to note that any person responsible for the maintenance of the URCSUA is subject to compliance of any requirements that may be prescribed by the CAA for the maintenance of the URCSUA.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

A person may operate a URCSUA up to 400 feet Above Ground Level (“AGL”) only in an area approved as an area for the operation of unmanned airship, and in accordance with any conditions prescribed in the approval.

A person may operate a URCSUA above 400 feet AGL in controlled airspace only in an area approved for the operations of unmanned airship of the same kind as the URCSUA, and in accordance with any conditions of the approval and Air Traffic Control clearance provided that the person is a certified URCSUA Operator, maintaining a listening watch on a specified frequency and makes broadcasts on a specified frequency at the specified interval giving the specified information.

A person may operate a URCSUA outside an approved area only if the URCSUA is operated above 400 feet AGL, the Operator has obtained CAA’s approval and has duly co-coordinated with Air Traffic Services/Control Unit.

Any person operating a URCSUA must not operate it within 30 meters of an individual who is not directly associated with the operations of the URCSUA unless the individual is present behind the URCSUA while it is taking off or the URCSUA is at a distance of 10 meters horizontally and 30 feet vertically from that individual.

Furthermore, a URCSUA should not be operated in poor weather conditions which lead to low cloud base and ground visibility of less than 1 km unless the URCSUA is in sight of the operator and beneath the cloud base at all times

A purpose-built URCSUA for night-time operations can be used at night. A person may operate a URCSUA at night or in conditions other than Visual Flight Rules/In-sight, which term is defined to mean the method of control and collision avoidance that refers to the URCSUA OIC or observer directly viewing the URCSUA with human eyesight. Corrective lenses (spectacles or contact lenses) may be used by the OIC or observer. Aids to vision, such as binoculars, field glasses, or telephoto television may be employed as long as their field of view does not adversely affect the surveillance task” in accordance with an air traffic control clearance/instruction.

24. Are UAS obliged to take-off from and / or land in specific facilities?

Please refer to our response to question 25 below.

25. Which kind of airspaces are UAS permitted to operate with?

Any person may apply to the Director Operations at the Head Quarters of the CAA to approve and designate an area as an area for the operation of URCSUA. However, an area or airspace already designated for military and other purposes cannot be applied for to be used as a designated area for operation of a URCSUA.

Generally, URCSUA can be operated in or over restricted areas, controlled areas, uncontrolled areas and in the vicinity of aerodromes, subject to necessary approvals and permissions being sought by the operator from the CAA.

The terms “Restricted Area”, “Prohibited Area”, “Control Area” are defined to mean an area designated by the Director General under rule 67 of the Rules to be a restricted area, a prohibited area, or a control area. Pursuant to rule 67 of the Rules the Director-General may designate:

1. an aerodrome at which aerodrome control service is provided as a controlled aerodrome;
2. an airspace that is within defined horizontal and vertical limits as an airway, a control area, or a control zone;
3. an airspace in respect of which flight information and alerting services are available as a flight information region;
4. an airspace within which activities dangerous to aircraft may exist as a danger area;
5. an airspace within which the flight of aircraft is restricted as a restricted area; and
6. an airspace within which the flight of aircraft is prohibited, as a prohibited area.

Pursuant to the ANO, for operations in a restricted area, the operator must first apply to the concerned controlling authority of that area and intimate the director of operations and obtain permission of the controlling authority and operate the URCSUA in accordance with the conditions imposed by the authority controlling that area. The operator must submit a copy of the approval/permission to the director of the CAA one day in advance from the date of operating the URCSUA.

Pakistan Continued...

For operations in a controlled airspace, which is an area approved for the operations of unmanned airship of the same kind as the URCSUA, the operator must act in accordance with any conditions imposed in the approval and Air Traffic Control clearance.

For operations in an uncontrolled airspace, a person may operate the URCSUA with prior coordination and permission of the Director of CAA and in accordance with any conditions of the approval. The operation in uncontrolled areas must be duly coordinated with Air Traffic Services/Control Unit and shall be conducted as per instructions of concerned Area Control Centre/ Air Traffic Services unit.

A person may operate a URCSUA in the vicinity of an aerodrome only in accordance with the permission of DGCAA and according to Air Traffic Control clearance/instructions. If the concerned aerodrome is a controlled aerodrome, permission of the air traffic control service for the aerodrome must be obtained, and if the aerodrome is a private aerodrome then the permission of the owner of the aerodrome (airstrip) has to be obtained.

URCSUA may also operate in non-designated areas subject to the approval of ATS Units and the conditions imposed by the concerned ATS Unit.

26. Which airspaces are restricted for UAS?

Please refer to our answer to question 25.

27. Which zones are UAS operations banned?

Please refer to our answer to question 25.

28. Who provides air traffic control services for UAS in your country?

The CAA is the body that provides air traffic control services in Pakistan.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

Please refer to our response to question 30 below.

30. Are there any special rules about the liability of UAS operators for surface damage?

No, however under the ANO, no person shall operate a URCSUA in a way that creates a hazard to another aircraft, another person, or property.

Every person operating the URCSUA shall ensure no thing is dropped or discharged from a URCSUA in a way that creates a hazard to another aircraft, person or property on ground.

The Operations-Commander ("OC") are the "on field" persons designated to take responsibility for all matters relating to the operation of the URCSUA and for the safety, including safety of crowd, collision avoidance and adherence to the Rules. All operations related matters are also the OC's responsibility. The OC may also be or act as the OIC. In any event, the OC has to be declared the OC before the commencement of an operation.

If the OC for any reason is not physically present on the field, the operations must be halted until another OC is declared to be present on the field.

It is important to note that the URCSUA OIC is held accountable for controlling the aircraft to the same standards as a pilot of a manned aircraft is and it is the responsibility of the OC to ensure that the OIC maintains the said standard.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

No, however, pursuant to the ANO, the OC shall at all times ensure the integrity of communication and coordination with the Air Traffic Controller. In the event of loss of controller link or loss of control, the operator must instantly notify the nearest ATS unit with the following information:

1. The original location of the URCSUA.
2. The time the URCSUA lost controller link or control was lost over the URCSUA for any other reason.
3. The status of the URCSUA.
4. The estimated flight path of the URCSUA.
5. Last known height/altitude

A URCSUA in Pakistan has to be equipped with a means of automatic recovery or considerable risk mitigation factors in the event of a lost link to ensure that the airborne operations are predictable/recoverable or considerably non-destructive in nature in the event of Lost Link. Lost link measures must be autonomously activatable by the airship itself without any external input whatsoever. The Operator must demonstrate a capability of ensuring that this system is operational. Civil Aviation Authority will judge for itself the competence of an Operator's Lost Link system and whether it is indeed worthy of implementation.

32. What system and procedures are in place for the investigation of UAS accidents?

Please refer to our response to question 31 above.

33. Are UAS operators obliged to have an insurance for their operations? If so, which are their main features?

Yes. Pursuant to Rule 48 of the Insurance Rules, 2017, read with 165(2) of the Insurance Ordinance, no person shall insure outside Pakistan any risk or part thereof in respect of any property or interest which is located in Pakistan at the time the insurance is affected. The implication of the specific wording of the statute is that in the case of an ambulatory chattel, which is physically located outside Pakistan at the time the insurance is affected, the insurance need not be affected with a Pakistani insurer. However, we have in practice not seen Pakistani aircraft operators being required by their lenders to affect insurance outside Pakistan principally because of the assignment of reinsurances and/or cut-through arrangements.

The aircraft must be insured in Pakistan unless an exemption is obtained as set out above. It is customary for Pakistani insurers of aircraft to reinsure a substantial proportion of the risk in the international markets.

However, if need be, the Federal Government may grant an exemption where (a) any risk cannot be insured suitably in Pakistan; or (b) there are reasons of exceptional nature for granting exemption.

Additionally, please note that pursuant to Rule 18 of the Insurance Rules 2017 ("Insurance Rules"), no insurer shall reinsure facultatively outside Pakistan any insurance business or any part thereof underwritten by it in Pakistan without the permission of the Securities Exchange Commission of Pakistan ("SECP"). However, SECP may grant permission under Rule 18(2) of the Insurance Rules in any of the following circumstances: (a) the insurance or any part thereof is in excess of the insurer's treaty arrangements, and SECP is provided with documentary evidence that such excess cannot be reasonably placed within Pakistan; (b) the insurance business, although covered by a treaty arrangement, shall be desired to be reinsured facultatively for protecting the treaty or for any other special reason: provided that such facultative reinsurance shall not run contrary to subsisting contractual obligations under the treaty; and (c) the insurance business is of special nature and there are no treaty arrangements for it. Thus, the aircraft located in Pakistan must be insured/reinsured in Pakistan unless an exemption is obtained as set out above.

34. What is insured? The operator, the business or the aircraft?

Please refer to our response to question 33.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

No.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

N/A.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

N/A.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

N/A.

Panama



PATTON, MORENO & ASVAT
INTERNATIONAL LAWYERS

Panama

Contributed by: *Maria de Lourdes Marengo and Felipe Escalona*

General

1. Are UAS considered as "aircraft" in your country?

An RPAS is considered as an aircraft in Panama. The Aeronautical Standard No. AAC/DSA/DG/01-16, which regulates all the aspects and the registration of RPAS in Panama, defines aircraft as a machine that can be sustained in the atmosphere from reactions of the air, and not by the reactions of the same against the earth's surface.

2. Which bodies regulate the remotely-piloted and unmanned aircraft operations in your country, under what basic laws?

The Civil Aviation Authority of Panama ("AAC") regulates the operations of the RPAS in Panama, under the Aeronautical Standard No. AAC/DSA/DG/01-16 (the "Regulations").

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes, there is a distinction in the Regulations. The State RPAs are used for state or governmental operations, and the Private RPAs are used for civil or private operations.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Yes, there is a distinction between the recreational or leisure RPAS and the commercial ones. The main difference is that all the RPAS operators and members of their crew, who desire to carry out commercial operations in Panama, shall have an Operation Certificate issued by the AAC according to the local aeronautical regulations. This certificate will allow the operator to carry out commercial operations of such RPAS, in accordance with the conditions and limitations established within.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Yes, the distinction is made in the definitions' section of the Regulations. In fact, the regulations mention in Section E, that the same applies to i) all the remote piloted aircraft systems ("RPAS"); (ii) all the RPAS of any weight, that were specifically designed for performing aerial work or cargo transportation; and (iii) all the RPAS's operators and members of their crew, who desire to carry out commercial operations in Panama.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The safety of the RPAS operations in Panama will have the same importance as a manned piloted aircraft. To that end, any investigation of a drone accident or incident must be carried out by the AAC, their units, and other applicable departments.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

The Regulation considers the RPAS' pilot as responsible for the safe operation of the RPAS during his flight so we may consider the rule 1 RPA = 1 pilot as the applicable one.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

All the RPAs which operate within the Panamanian territory, except the micro RPA, shall be registered at the AAC and need to obtain a registration number.

In sum, the registration process and requirements are as mentioned below:

- a. The operator or owner of an RPA must fill out a form that can be found at the AAC's website, and provide documentation accrediting that the RPA is their property;
- b. In the mentioned form the operator or owner of the RPA must identify the same indicating the brand, model, weight, color, and serial number;
- c. The RPA must have a nationality and registration number, and if that is not the case, the owner must request the same to the AAC. Once the registration number is assigned, and the RPA is enrolled in the Panamanian registry, the owner must place the nationality marks and registration number in a visible place;
- d. All the RPA's owners must request the registration number, except the micro RPAs, which are used for sports and recreation purposes;
- e. All the owners of an RPA must have and should provide to the AAC a third-party damage insurance since the owner is the sole entity responsible for any damage caused by the drone;
- f. The operator or owner of the RPA must demonstrate to the AAC that the RPA does not exceed the noise emission levels provided in the local regulations.

It is very important to mention that while all RPA's operators must have a valid Operation Certificate issued by the AAC, every person who desires to pilot any type of RPA, with the exception of the micro RPA, must obtain an RPA pilot license issued by the AAC and be trained in any matter related with the use of an RPA.

One of the requirements to obtain an RPA pilot license under local regulations is that the applicant has a valid aircraft pilot license or has been in possession of one in the past. The AAC is constantly monitoring all the drone's operators and pilots to



ensure that the quality and compliance with the requirements prescribed in the local regulations are maintained.

9. Are there any kind of taxes or fees regarding the licensing procedure?

The registration of the RPAS cost US\$5.00 dollars, except for the micro RPA which is free.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

Except for the micro RPA, all the other types of RPAS require a certificate of airworthiness to operate in Panama.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Yes, all the RPAS's operators who desire to carry out commercial operations in Panama must obtain an Operation Certificate issued by the AAC.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There are no restrictions regarding nationality or ownership for the operation of an RPAS in Panama.

13. Is drone transport permitted/regulated in your country?

Yes, the transportation of cargo by drones is permitted in Panama, and the same is regulated by the Regulations. However, the transportation of dangerous goods or illicit substances by drones is strictly prohibited.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

The non-consensual photography or video recording of third parties or their property or belongings, interference, annoyance or observation, performed by a drone, which are not for sports or recreational purposes, is prohibited by local regulations.

15. Is there a specific control-link interference regulation applicable to UAS operations?

Yes, Section P of the Regulations contains a reference to the communication and navigation equipment that the RPAs should have and the requirements for the operations of the RPAs within air-controlled spaces.

16. Do specific rules regulate UAS manufacturers?

No, there are no specific rules for the manufacturers within Panamanian regulations.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

Any RPA operator that desires to operate an RPA in Panama commercially must obtain an Operation Certificate from the AAC. Nonetheless, the AAC will recognize as valid, the Operation Certificate of a foreign operator that has been issued by another contracting state of ICAO, under similar requirements to those required by the AAC, or under the base of a reciprocal agreement.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No, fares or pricing of UAS operations are not regulated in Panama.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

The Regulations do not provide a guideline or requirements for the registration of UAS in Panama.

20. Who is entitled to be mentioned in the UAS register?

Please refer to the answer to question 19.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

There are none.

22. Do specific rules regulate the maintenance of UAS?

There are no specific rules that regulate the maintenance of UAS.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

The operation of any aircraft involving aerial work is regulated by the Book XVII of the Civil Aviation Regulations of Panama ("RACP"). To provide such services, the operator of such RPAS must obtain an Operation Certificate for aerial works with an RPA authorization. The conditions for such operations and all related terms, limitations, etc., will be provided in such Operation Certificate.

24. Are UAS obliged to take-off from and / or land in specific facilities?

No, an RPA may operate in airspace which is not restricted or prohibited by local regulations.



Panama Continued...

25. Which kind of airspaces are UAS permitted to operate with?

The RPA may operate in any airspace as long as the AAC authorizes it.

26. Which airspaces are restricted for UAS?

Airspaces type A, C, D or E are restricted for RPA's and its operators unless they have authorization from the AAC.

27. Which zones are UAS operations banned?

RPA's cannot fly: (i) within a radius of 8 kilometers from any airport in the Panamanian territory; and (ii) over restricted, dangerous or prohibited areas, unless they have a special authorization or permission issued by the AAC, and the permit from the owner or authority in charge of the applicable area.

28. Who provides air traffic control services for UAS in your country?

The Civil Aviation Authority of Panama (AAC).

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

There are no special rules within the Regulations which apply to the loss or damage to cargo.

30. Are there any special rules about the liability of UAS operators for surface damage?

The Regulations establishes that all the operators and RPA's pilots of every RPA category, regardless of their use, will be responsible for the damages they may cause to third parties during their operations. Furthermore, as we mentioned above, all the operators that desire to use their RPA's for commercial purposes should obtain, before the beginning of their commercial activities, the Operation Certificate from the AAC, and being one of the requirements for its procurement, the obtaining of a third-party liability insurance policy.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

There is no mandatory accident and incident reporting system required or specified within the Regulations or other rules in respect to RPAS.

32. What system and procedures are in place for the investigation of UAS accidents?

The Regulations establishes that any investigation of a drone accident or incident must be carried out by the AAC, their units, and other applicable departments. However, there is no system or special procedures applicable to RPAS.

33. Are UAS operators obliged to have an insurance for their operations? If so, which are their main features?

As we mentioned above, all the operators that wish to use their RPA's for commercial purposes should obtain, before the beginning of their commercial activities, the Operation

Certificate from the AAC, and being one of the requirements for its procurement, the obtaining of a third-party liability insurance policy.

34. What is insured? The operator, the business or the aircraft?

The Regulations requires that the operator and the pilot have a third-party liability insurance policy.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There are no sector-specific rules related to direct or indirect financial support to such companies in Panama, either from the government or the private sector. Furthermore, there are no general aid rules that apply in such cases.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

Please refer to our answer to question 35.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

There are no applicable general state aid rules that would apply.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

There are no applicable general state aid rules that would apply.

Portugal

ALVES PEREIRA & TEIXEIRA DE SOUSA RL

Portugal

Contributed by: Joao Marques de Almeida

General

1. Are UAS considered as "aircraft" in your country?

A new regulation from the Portuguese Civil Aviation Authority (ANAC) on the operation of UAS was recently enacted in Portugal (ANAC's Regulation nr. 1093/2016 of 14th December 2016 which came into force on 14th January 2017). Under the rules set forth in the said regulation, all UAS, including UAS toys (i.e. UAS without a combustion engine, with less than 0.250 kg and only intended to be used for recreational purposes by children with less than 14 years of age), are qualified as aircraft.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

UAS operations in Portugal are supervised by ANAC under Regulation nr. 1093/2016 of 14th December 2016.

The use of drones for videos or photography is subject to the prior authorization of the National Aeronautical Authority/Portuguese Air Force and may also be subject to prior authorization from the Portuguese Data Protection Commission.

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes, there is. State UAS are used for military, customs, or police services and they are subject to special regulation. Only Private UAS are subject to the rules of ANAC's Regulation nr. 1093/2016.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

No. There is only a distinction between "State UAS" and "Private UAS".

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

In the definition of UAS included in section 2(f) of ANAC's Regulation nr. 1093/2016 of 14th December 2016, it is clearly stated that UAS can be completely autonomous or remotely-piloted. However, the rules set forth in the said regulation are expressly aimed at remotely-piloted UAS and are being opened to discussion as to if they should also be extended to completely autonomous UAS (as we believe they should).

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

UAS toys can only fly by day, up to an altitude of 100 ft., and have to maintain a horizontal clearance of at least 30m in relation to any person below. They can also only operate in Visual Line of Sight (VLOS) flights.

Regular UAS can fly by day, up to an altitude of 400ft., and in VLOS. However, regular UAS can only operate (i) by night, (ii) at an altitude higher than 400ft., or (iii) Beyond Visual Line-of-Sight (BVLOS) with the prior authorization from ANAC. Under certain circumstances (e.g. in remote locations and with First-Person-View camera) regular UAS with less than 1.0kg can also be operated in BVLOS at an altitude below 16ft. without prior authorization of ANAC.

Operating UAS with more than 25kg is always subject to the prior authorization of ANAC.

If a UAS operator spots a regular aircraft nearby he/she must immediately land the UAS. All UAS must also be operated with signaling lights turned on at all times (even during the day).

ANAC's regulation also establishes no-flying zones for UAS (e.g. in the vicinity of airports, military zones, over crowds of more than 12 people).

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

The rule of 1 UAS = 1 pilot is expressly applicable in all VLOS flights. Since nothing is said in respect to BVLOS flights, by exclusion it would appear that the said rule is not applicable.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

As mentioned before, depending on the nature of the UAS and the type of flight, a prior authorization from ANAC may be required where a number of information pertaining to the type of flight and flight plan, details of the UAS, and the identification of the pilot is required. As a general rule, such authorization must be requested from ANAC with at least 12 working-days in advance and preferably by email.

The use of drones for videos or photography is subject to the prior authorization from the National Aeronautical Authority/Air Force (the request must be made through a specific form filed in person at the National Aeronautical Authority's office) and may also be subject to prior authorization from the Portuguese Data Protection Commission.

9. Are there any kind of taxes or fees regarding the licensing procedure?

No.

Portugal

Continued...

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

There is no mandatory requirement for a Certificate of Airworthiness. However, before any flight the pilot of the UAS must first make sure that the UAS and all related equipment is in proper working order.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

No.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

N/A.

13. Is drone transport permitted / regulated in your country?

It is not regulated.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

No. General data & Privacy Protection rules are applicable.

15. Is there a specific control-link interference regulation applicable to UAS operations?

N/A.

16. Do specific rules regulate UAS manufacturers?

N/A.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

N/A.

18. Are fares or pricing of UAS operations regulated and, if so, how?

N/A.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

UAS with a maximum operating mass of more than 250 grams must be registered with the ANAC (Portuguese CAA).

Any vendor of such UAS must communicate the sale to ANAC. Subsequent sales must also be registered.

Although a law was already passed by the Portuguese parliament (Decree-Law n.º 58/2018 of 23 July), registration will actually only become mandatory as soon as the registry platform is made available by the Portuguese authorities.

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20. Who is entitled to be mentioned in the UAS register?

The UAS operator.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No.

22. Do specific rules regulate the maintenance of UAS?

N/A.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

The limitations mentioned in question 6 above are applicable. Flying beyond 400ft. is always subject to the prior authorization from ANAC.

24. Are UAS obliged to take off from and/or land in specific facilities?

No.

25. Which kind of airspaces are UAS permitted to operate with?

The limitations mentioned in question 6 above are applicable.

26. Which airspaces are restricted for UAS?

The same ones established for model aircraft.

27. Which zones are UAS operations banned?

ANAC's regulation establishes no-flying zones for UAS (e.g. in the vicinity of airports, military zones, buildings of official entities, over crowds of more than 12 people). UAS also cannot operate on Prohibited Areas, Restricted Areas, Danger, Reserved, or Temporarily Reserved Areas.

Airport operators with an annual volume of passenger traffic of more than 1 million passengers per year must install systems for the detection and disabling of drones. Such systems must be approved by ANAC.

28. Who provides air traffic control services for UAS in your country?

N/A.

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Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

No.

30. Are there any special rules about the liability of UAS operators for surface damage?

UAS operators are strictly liable for any damage caused to third parties, except if the accident was exclusively caused by the party who sustained the damage.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

No.

32. What system and procedures are in place for the investigation of UAS accidents?

N/A.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

UAS with a maximum operating mass of more than 900 grams must have a civil liability insurance policy.

The mandatory conditions for the said insurance policy have not yet been determined by the Portuguese authorities. Thus, UAS operators are not required to take such insurance policy.

34. What is insured? The operator, the business or the aircraft?

In principle, the policy should provide coverage for damage caused by the UAV to third parties. Hence, both the operator and the actual pilot of the UAS should be protected under the said coverage for damage caused to third parties.

In any case, the mandatory conditions for the liability insurance policy have not yet been determined by the Portuguese authorities.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There are no specific rules for UAS. General state aid rules are applicable.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

N/A.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

N/A.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

General state aid rules are applicable.

Miscellaneous

39. New law proposed

A new law was enacted on 28th July 2018 (Decree-Law n^o. 58/2018 of 23 July) which establishes the mandatory registration of UAS and their operators and also mandatory insurance for damage to third parties. However, the said registration and insurance shall only be actually mandatory after the Portuguese authorities (i) create the registry platform and (ii) regulate the applicable terms and conditions for the insurance policy.

For the moment, the requirements for registration and insurance are not yet in full force and effect.

Puerto Rico

Puerto Rico

Contributed by: *Corinne Cordero*

General

1. Are UAS considered as "aircraft" in your country?

Yes. Puerto Rico, being part of the United States of America (USA), is subject to the jurisdiction of the Federal Aviation Administration (FAA), and applicable regulations. Puerto Rico is treated as a State for these purposes.

At this time, there is no State (Puerto Rico) law that regulates this matter. However, there is pending proposed legislation.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

FAA: Small Unmanned Aircraft Regulations (Part 107).

Puerto Rico: Proposed Laws PC 2294 and PC 667.

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes, FAA regulations apply.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Yes, FAA regulations apply just as in the USA. There is no current State regulation.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Yes, FAA regulations apply just as in the US. There is no current State regulation.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

FAA regulations apply.

Leisure: Must ALWAYS yield right of way to manned aircraft; must keep the aircraft in sight (visual line-of-sight); UAS must be under 55 lbs.; must follow community-based safety guidelines; must notify airport and air traffic control tower before flying within 5 miles of an airport.

Commercial: Must keep the aircraft in sight (visual line-of-sight); must fly under 400 feet; must fly during the day; must fly at or below 100 mph; must yield right of way to manned aircraft; must NOT fly over people; must NOT fly from a moving vehicle; must be less than 55 lbs.; must be registered if over 0.55 lbs. (online); must undergo pre-flight check to ensure UAS is in condition for safe operation.

Proposed State Law PC 667: Flying less than 400 feet and one mile away from public safety buildings; 5 miles away from airports.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

FAA regulations apply.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

FAA rules apply.

Leisure: no pilot requirements.

Commercial: Must have Remote Pilot Airman Certificate; must be 16 years old; must pass TSA vetting.

9. Are there any kind of taxes or fees regarding the licensing procedure?

There is no special drone taxation in Puerto Rico.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

FAA rules apply. Only for commercial use.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

There is no current State regulation in Puerto Rico governing the market for the provisions of UAS operation services.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

Currently, Puerto Rico has no state regulations governing this matter.

13. Is drone transport permitted / regulated in your country?

Yes. FAA Rules apply. Part 107 permits the transportation of property for compensation or hire, provided the operator complies with all the provisions of the rule: the operator must keep the UAS within his/her sight; the flight is conducted within visual line-of-sight and not from a moving vehicle; external loads must be securely attached and cannot adversely affect the flight characteristics or controllability of the aircraft; and the aircraft with payload must weigh less than 55 lbs. at take-off. The transportation must also occur wholly within the bounds of a state and may not involve transportation of property between: (1) Hawaii and another place in Hawaii through airspace outside



of Hawaii; (2) the District of Columbia and another place in the District of Columbia; or (3) a territory or possession of the United States and another place in the same territory or possession.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There is no current state legislation in Puerto Rico covering this. Proposed legislation PC 2294 provides for privacy protection.

15. Is there a specific control-link interference regulation applicable to UAS operations?

There is no current state legislation in Puerto Rico covering specific control-link interference.

16. Do specific rules regulate UAS manufacturers?

There is no current state legislation in Puerto Rico covering UAS manufacturers.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

FAA rules apply.

For the Aeronautical Knowledge Testing/Remote Pilot Certification:

US citizens and resident aliens: Driver permit, or license issued by a U.S. state or territory, U.S. Government identification card, U.S. Military identification card, Passport, Alien residency card.

Non-US citizens: Passport and Driver permit, or license issued by a U.S. state or territory, or Identification card issued by any government entity

18. Are fares or pricing of UAS operations regulated and, if so, how?

There is no state legislation in Puerto Rico covering this.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

There is no special state registry in Puerto Rico. FAA registry applies.

An airworthiness certificate is needed under FAA regulations for commercial use drones. Federal law requires that small unmanned aircraft weighing more than .55 pounds and less than 55 pounds that do not fly exclusively under the Special Rule for Model Aircraft, be registered with the FAA and marked with a registration number, either online or by using the legacy paper registration process.

The paper registration process must be used if:

- unmanned aircraft is 55 pounds or greater
- to qualify a small unmanned aircraft for operation outside the United States
- hold title to an aircraft in trust
- small unmanned aircraft owner uses a voting trust to meet U.S. Citizenship requirements

20. Who is entitled to be mentioned in the UAS register?

The UAS operator.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

Foreign nationals are not eligible to register their UAS.

22. Do specific rules regulate the maintenance of UAS?

Yes, FAA regulations apply. Advisory Circular 107-2, 6/21/16, Chapter 7.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

Yes. FAA requires leisure drones to be 5 miles from airports. Please see answer to question 26.

24. Are UAS obliged to take-off from and / or land in specific facilities?

There is no State regulation covering this. FAA regulations apply.

25. Which kind of airspaces are UAS permitted to operate with?

There is no State regulation covering this in Puerto Rico. FAA applies.

26. Which airspaces are restricted for UAS?

FAA restrictions apply. Under 14 CFR § 99.7 – Special Security Instructions (SSI), has prohibited all UAS flights within the airspace defined under UAS NOTAM FDC7/7282.

The restrictions extend from the ground up to 400 feet AGL, apply to all types and purposes of UAS flight operations, and remain in effect 24 hours a day, 7 days a week.

Temporary Flight Restrictions (TFRs) define a certain area of airspace where air travel is limited because of a temporary hazardous condition, such as a wildfire or chemical spill; a

Puerto Rico

Continued...

security-related event, such as the United Nations General Assembly; or other special situations.

Flying UAS in and around stadiums is prohibited starting one hour before and ending one hour after the scheduled time of any of the following events:

- Major League Baseball
- National Football League
- NCAA Division One Football
- NASCAR Sprint Cup, Indy Car, and Champ Series races

Specifically, UAS operations are prohibited within a radius of three nautical miles from a stadium or venue.

Recreational operators are required to give notice for flights within five miles of an airport to both the airport operator and air traffic control tower, if the airport has a tower. However, recreational operations are not permitted in Class B airspace around most major airports without specific air traffic permission and coordination.

27. Which zones are UAS operations banned?

In Puerto Rico there is no special ban.

28. Who provides air traffic control services for UAS in your country?

The FAA.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

There is no state legislation covering this in Puerto Rico.

30. Are there any special rules about the liability of UAS operators for surface damage?

There is no state legislation covering this in Puerto Rico.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

There is no state legislation covering this in Puerto Rico.

32. What system and procedures are in place for the investigation of UAS accidents?

There is no state legislation covering this in Puerto Rico.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

There is no state legislation covering this in Puerto Rico.

34. What is insured? The operator, the business or the aircraft?

There is no state legislation covering this in Puerto Rico.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There is no state legislation covering this in Puerto Rico.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

There is no state legislation covering this in Puerto Rico.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

There is no state legislation covering this in Puerto Rico.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

There is no state legislation covering this in Puerto Rico.

Romania

Romania

Contributed by: Dr. Crenguta Leaua and Gina Gheorghe

General

1. Are UAS considered as "aircraft" in your country?

Yes, UAS are considered as "aircraft" in Romania. They are defined as "aircraft without pilot" by the law (article 3.8¹ from the Aviation Code). They are also referred to as UAV in secondary legislation. Generally, the law makes distinction between various UAS in accordance with their weight and technical characteristics.

Mainly, there are two UAS classes:

- a) Class A: UAS with maximum weight when taking off below 25 kg, with the following restrictions:
 - (i) Aerodynes:
 - UAS with piston engine: total cylindric capacity less or equal with 150 cm³,
 - UAS with electrical engine: total power less or equal with 15kW;
 - UAS with turbo engine: total power less or equal with 15kW,
 - UAS with reactor engine: total traction less or equal with 30daN, with a fraction for traction/weight without fuel less or equal with 1.3;
 - (ii) Aerostat:
 - UAS with warm air: total mass of gas less or equal with 5 kg,
 - UAS with inert gas: structural maximum mass less than 25 kg.

When a UAS class A has several types of propulsion, the limit is established pro-rata with the maximum values above.
- b) Class B1: any UAS which does not fall under the limitations set forth for class A and which has a weight of less than 150 kg.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The Ministry of Transportation and the Romanian Civil Aeronautical Authority ("RCAA").

The basic laws regarding the use of UAS are the Code of civil aviation from 1997, as amended, the Ministry of Transportation Disposal no. 8/2014, the Ministry of Transportation Disposal no. 1338/2016, the Government Decision no. 912/2010, Civil Romanian Aeronautic Regulation "RACR-IA" - "Civil Aircraft

Registration" from 25 October 2016, 1st Edition/2016, Regulation (EC) no. 785/2004 of the European Parliament and of the Council of 21 April 2004 on insurance requirements for air carriers and aircraft operators, Regulation (EC) no. 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation.

3. Is there a distinction between "State UAS" and "Private UAS"?

There is a distinction between the state aircraft and private aircraft, in general, but no legal distinction regarding precisely the UAS. The State aircraft are defined at Art. 3 para. 3.8 form Aerial Civil Code, respectively: "state aircraft - the aircraft used by state institutions for services regarding defense, public order, national security and also for custom services".

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

There is no distinction between these three categories.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

No, the legal definition of an "aircraft without pilot" (article 3.8¹ from the Code of civil aviation) refers both to the completely autonomous UAS and to remotely-piloted UAS.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The UAS holder must keep at least the following registrations in order to allow the RCAA to verify them before issuing the relevant authorizations: the maintenance and operation registrations, the changes performed on the UAS, a copy of the technical file sent to RCAA. Also, RCAA keeps track on registrations of any issuance, suspension, revocation or renewal of a national flight permit. Thus, provided that the specific terms applicable to UAS are observed, the general rules on aircraft safety apply:

The relevant regulations in this area are: Chapter IX: Flight safety from the Aerial Civil Code, Minister of Transportation order no. 1182/27.09.2016, National Safety Plan of Civil Aviation 2017. There is also specific legislation with respect to licensing or identification or registration, as the case may be. Further, there are several limitations as to operation areas (see also answers below).

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

There is no reference to this rule in the national legislation.

Romania

Continued...

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

There are different procedures depending on the weight or technical characteristics of a UAS.

For the UAS under class A that have a maximum take-off mass less or equal to 500 grams there is neither registration nor other permit required to allow their operation.

For UAS class A between 0,500 kg and 15 kg it is required to have an identification certificate (issued by RCAA).

For UAS under class A over 15 kg or class B1 (provided their weight is less than 150 kg) it is required to have an identification certificate as well as a national flight permit issued by RCAA when such are used for air working operations for industrial, agricultural, health, environment, search and saving, scientific research, photography, monitoring, advertising, as well as for other purposes by air operators.

For UAS over 150 kg it is required to hold a registration certificate, an airworthiness certificate and a certified operator. This operator must always have the airworthiness certificate when operating the UAS.

Possessing an insurance policy for damages suffered by third parties, for UAS with maximum take-off mass over 20 kg is mandatory.

The flight permit is obtained based on an application filed with RCAA together with the technical file of the UAS (description of the UAS, characteristics, engine, remote control system, safety measures for third parties, mitigation of risk in case of impact, use of UAS, and manufacturer's conformity statement).

RCAA issues the national flight permit if the UAS fulfils the conditions set forth by the law, the technical file contains all the data required by the law, and the UAS was verified both on land and in flight by the RCAA inspectors in accordance with a testing program established by RCAA. A metallic plate easily visible shall be applied to the UAS indicating the number of the flight permit.

The identification certificate is issued by RCAA following an application together with information on the owner, operator, UAS (manufacturer, colour, manufacturing number, colour of the insignia, design and layout of the insignia), and history of previous identification procedures.

9. Are there any kind of taxes or fees regarding the licensing procedure?

Yes, the cost for obtaining the identification certificate is 90 EUR + VAT, while the flight permit is 540 EUR + VAT. For the identification certificate to be prolonged, an additional 300 EUR + VAT fee must be paid.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

A certificate of Airworthiness is necessary to operate UAS over 150 kg.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

It is not regulated.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There are no requirements in the area of financial strength of the owner. Regarding the ownership of UAS, according to Art. 21 from Aerial Civil Code the right of ownership is recognized, without discrimination, to the natural and legal persons.

13. Is drone transport permitted/regulated in your country?

It is not regulated at this moment.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There are no specific data and privacy protection regulations applicable to UAS operations. However, it is to be noted that for photography, movies or topo geodesic measurements at a scale bigger than 1:20000 it is required to have a permit from the Ministry of National Defense. The general rules apply in this field as well.

15. Is there a specific control-link interference regulation applicable to UAS operations?

It is mandatory to obtain the authorization of the National Ministry of Defense if (i) the UAS is equipped with photographic/video cameras, (ii) the UAS performs topo geodesic measurements at a scale bigger than 1:20000, (iii) the UAS is used for VFR traffic information, (iv) the UAS is to fly under 3,000 m height above Bucharest (except for those which are within the control zone of Baneasa aerodrome and flights after take-off or for landing on any of the other authorized aerodromes in Bucharest area).

It is mandatory to obtain the approval from RCAA for flights below the limits imposed by the law: (i) 300 m over the highest fixed obstacle above areas with dense population, (ii) 150 m in the other areas, (iii) acrobatic flights, (iv) technical flights.

Special authorization is also required for flights over border areas and Delta Danube Biosphere.

16. Do specific rules regulate UAS manufacturers?

No.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

There are no special requirements applicable only for foreign UAS operators, if they have obtained the identification certificate for the UAS they are using. When a UAS has a registration or identification certificate issued by the relevant authority in another country it may be recognized by RCAA.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No specific regulation is applicable.

The Aircraft ("UAS")**19. Must UAS be registered in any particular register?**

Yes, the UAS must be registered in RIAC (Registrul Unic de Identificare al Aeronavelor Civile -Section RPAS), except for those which require no certification (Class A UAS under 0,500 kg).

20. Who is entitled to be mentioned in the UAS register?

It is mandatory to mention the owner as well as the operator.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No.

22. Do specific rules regulate the maintenance of UAS?

No. The general rule is that the national flight permit for a UAS may be obtained only if the owner/ operator demonstrates that the UAS was designed and manufactured accordingly and that it respects the requirements for safe operation. Also, the owner/ operator has the obligation to keep the record of the maintenance and operation registrations, the changes performed on the UAS, a copy of the technical file sent to RCAA.

Operation Zones**23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?**

UAS with an MTOM lighter than 150 kg are allowed to be used only in the G class airspace. The G class airspace is situated at least 150 meters below the minimum limit of the controlled airspace, at a minimum height of 300 meters from the tallest obstacle in highly populated areas and 150 meters from the soil in the other areas. With a special approval from RCAA the UAS may be operated under these limits.

24. Are UAS obliged to take off from and/or land in specific facilities?

No, according to the Government Decision no. 912 from 2010, it is possible for aircraft (including UAS) to take-off from and land not only in specific facilities, but also from/on other terrains.

25. Which kind of airspaces are UAS permitted to operate with?

The UAS are permitted to fly in the so-called G class airspace, which is a determined airspace situated at least 150 meters below the minimum limit of the controlled airspace.

26. Which airspaces are restricted for UAS?

The UAS are not permitted to fly outside the G class airspace. See also above answers.

27. Which zones are UAS operations banned?

It is forbidden to take off or land from/on urban areas, as well as to fly over places where big crowds of people are gathered. See also above answers.

28. Who provides air traffic control services for UAS in your country?

The main characteristic of the G class airspace is the lack of any traffic control.

Liability and accidents**29. Are there any special rules in respect of loss or damage to cargo?**

Regulation (EC) no. 785/2004 of the European Parliament and of the Council of 21 April 2004 on insurance requirements for air carriers and aircraft operators, stipulates that for liability in respect of cargo, the minimum insurance cover shall be 17 SDRs (Special Drawing Right as defined by the International Monetary Fund) per kilogram in commercial operations.

30. Are there any special rules about the liability of UAS operators for surface damage?

No, there are no special rules about the liability of UAS operators for surface damage, excepting the general provisions from the Civil Code regarding the civil liability.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

According to Art. 90 from The Aerial Civil Code the aerial operators or other institutions that have technical and operational competences in civil aeronautics are obliged to inform Minister of Transportation for every civil aviation incident or accident.

Further, according to the Regulation (EC) no. 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, in order to improve aviation safety, relevant civil aviation safety information should be reported, collected, stored, protected, exchanged, disseminated and analysed, and appropriate safety action should be taken on the basis of the information collected.

The competent national authority in Romania in the field of civil aviation safety is CIAS.

32. What system and procedures are in place for the investigation of UAS accidents?

There are no specific rules for UAS accidents, the general dispositions regarding the aeronautical incidents and accidents being applied.

According to Art. 87 from The Aerial Civil Code the Minister of Transportation is the state authority for regulation, organizing and development of the activities regarding the administrative inquiry of civil aviation incidents and accidents. In this regard, Minister of Transportation adopted Order no. 305/1995 for approval of instructions regarding the research of civil aviation accidents and incidents.

Romania

Continued...

33. Are UAS operators obliged to have an insurance for their operations? If so, which are their main features?

It depends upon the weight of the UAS. According to the Regulation (EC) no. 785/2004 of the European Parliament and of the Council of 21 April 2004 on insurance requirements for air carriers and aircraft operators, it is mandatory to have an insurance policy for all the aircraft that have an MTOM (maximum take-off mass) exceeding 20 kg.

In the case of a model aircraft with an MTOM of less than 20 kg, the insurance is optional.

Air carriers and aircraft operators shall be insured in accordance with this Regulation as regards their aviation-specific liability in respect of passengers, baggage, cargo and third parties. The insured risks shall include acts of war, terrorism, hijacking, acts of sabotage, unlawful seizure of aircraft and civil commotion.

34. What is insured? The operator, the business or the aircraft?

The European Regulation previously mentioned refers to air carriers and aircraft operators.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

There are no specific rules regulating direct or indirect financial support to companies operating UAS. General state aid rules shall be applied.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

There are no special state aid rules in this field.

As a general rule, the state aid must comply to art. 107 of TFEU.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

There are no special rules concerning the UAS operations from this perspective.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

The general rule would require for any state aid to be notified to the Competition Council.

South Africa

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South Africa

Contributed by: Neerasha Singh

General

1. Are UAS considered as "aircraft" in your country?

Yes. The Civil Aviation Act defines an 'aircraft' as any machine that can derive support in the atmosphere from the reactions of the air, other than the reactions of the air against the surface of the earth. The Civil Aviation Regulations (CARs) refer to a UAS as a 'remotely piloted aircraft' and define it as an unmanned aircraft which is piloted from a remote pilot station, excluding model aircraft and toy aircraft. Furthermore, an 'autonomous unmanned aircraft' means an unmanned aircraft that does not allow intervention in the management of the flight. Accordingly, a UAS is considered an aircraft in South African law.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The Civil Aviation Act forms the basis for regulating UAS operations. Based on the authority conferred to them by the Civil Aviation Act, the Ministry of Transport and the South African Civil Aviation Authority (CAA) have recently developed regulations, technical standards, and technical guidance material and circulars to regulate UAS operations.

The CARs were issued by the Minister of Transport and apply to what are known as Class-1 and Class-2 UAS and to owners, operators, pilots, and those who maintain such UAS. The Director of Civil Aviation also issued technical standards on UAS operations known as the South African Civil Aviation Technical Standards (SA-CATS) as well as a number of aeronautical information circulars (AICs) applicable to UAS.

3. Is there a distinction between "State UAS" and "Private UAS"?

A private operation is defined as the use of a UAS for an individual's personal and private purpose where there is no commercial outcome, interest, or gain. Private operations are subject to specific restrictions. The CARs specifically apply to private operations and are silent on state-owned UAS and UAS intended for state use.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Yes. UAS may be operated for commercial operations, corporate operations, non-profit operations, and private operations. Once an operator begins to derive commercial benefits from the operation of a UAS, the operation no longer constitutes a private operation for recreational purposes.

Commercial, corporate, and non-profit UAS operations are subject to various restrictions. The CARs include restrictions that state that a UAS cannot be operated for non-private purposes in South Africa unless the CAA Director has issued the operator a letter of approval and a certificate of registration. Furthermore, a

UAS cannot be operated, in the case of commercial, corporate, and non-profit operations, unless such operator is the holder of a valid UAS Operators Certificate (ROC) including the operations specifications attached thereto; and in the case of commercial operations, an air services licence.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Yes. UAS are distinguished from autonomous unmanned aircraft by the fact that UAS are regulated by the CARs whilst such application does not extend to autonomous unmanned aircraft.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

In terms of safety, the regulation of UAS focuses on ensuring that safety measures are proportionate to the size of UAS operators and the type of UAS operations being conducted. The holder of a ROC must establish a safety management system appropriate to the size of the organisation or entity and the complexity of its UAS operations. This safety management system must include: a process to identify actual and potential safety hazards and assess the associated risks; a process to develop and implement remedial action necessary to maintain an acceptable level of safety; and provision for continuous and regular assessment of the appropriateness and effectiveness of the stated safety management activities.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

No. A person or organization may hold ROCs for multiple UAS and therefore there is a possibility that there may be multiple pilots for 1 UAS.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

There are set procedures to obtain licenses and rights to operate UAS in South Africa. Any person who wished to operate a UAS within South Africa must obtain a letter of approval by the Director, which is valid for 12 months. Furthermore, a valid remote pilot licence (RPL) is required for commercial, corporate, and non-profit operations of a UAS. An RPL is issued for a two-year period at the end of which the holder must submit to a "revalidation check" before the RPL can be renewed. There are 3 categories of an RPL: Remote Pilot License (Aeroplane) (RPL (A)); Remote Pilot License (Helicopter) RPL (H); and Remote Pilot License (Multi-rotor) RPL (MR). There are also three different ratings of an RPL: visual line-of-sight (VLOS) operations; extended visual line-of-sight (E-VLOS) operations; and beyond visual line-of-sight (B-VLOS) operations.

South Africa

Continued...

9. Are there any kind of taxes or fees regarding the licensing procedure?

Yes. An application for the issuing or renewal of a letter of approval must be accompanied by a fee of R300.00.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

No. The CARs are silent on the issue of a Certificate of Airworthiness; however they do provide that a UAS may not be operated unless it is in a fit-to-fly condition.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

No. The Regulations are silent on this. However, the sale and resale of UAS within South Africa is regulated and there are certain requirements that a UAS seller must meet before the sale of a UAS may be affected.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

None. The regulations are silent on this, however a UAS registered on the South African Civil Aircraft Register shall be deemed to have South African nationality.

13. Is drone transport permitted/regulated in your country?

No. The operation of UAS is permitted and regulated, however such regulation does not extend to the use of UAS as a means of transport.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

No.

15. Is there a specific control-link interference regulation applicable to UAS operations?

No.

16. Do specific rules regulate UAS manufacturers?

Yes. With regards to UAS which have been manufactured to be sold or re-sold within South Africa, there are certain requirements that a UAS seller must meet before the sale of a UAS may be affected. A seller of a UAS must, by way of a packaging label, or in the case of the resale thereof, by way of written notification, notify a buyer of the certain specific provisions of the CARs which stipulate the relevant requirements and restrictions which apply regarding the operation and use of a UAS.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

None. The current legislative framework is silent regarding registration and operational requirements for foreign UAS operators, however, it is presumed that a foreign operator would

have to follow the same licensing and registration application process as a South African operator.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

Yes. The Director maintains a register of all registered UAS in the South African Civil Aircraft Register. A UAS registered in this register shall be deemed to have South African nationality.

20. Who is entitled to be mentioned in the UAS register?

All registered UAS.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

Yes. If the holder of a certificate of registration transfers ownership of the UAS to another person, such holder, must within 30 days, notify the Director of such transfer.

22. Do specific rules regulate the maintenance of UAS?

Yes. The CARs provide that a UAS must be compliant with the manufacturer's instructions for continued equipment maintenance through actions or inspections. A UAS owner must submit a maintenance programme for the UAS to the Director for approval.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

The CARs provide that a UAS may not tow another aircraft; perform aerial or aerobatic displays; or be flown in formation or swarm. This is a general restriction and no permission may be granted to operate beyond these limitations

Furthermore, no one, except the holder of a ROC, and as approved by the Director, may operate a UAS above 400ft above the surface; within a radius of 10km from an aerodrome; within restricted or prohibited airspace; or adjacent to or above a nuclear power plant, prison, police station, crime scene, court of law, national key point, or strategic installation. This is also a general restriction and no permission may be granted to operate beyond these limitations.

There are specific operational limitations which limit the operation of a UAS beyond visual line-of-sight, at night, in the vicinity of people, property, structures and buildings, and on public roads.

24. Are UAS obliged to take-off from and / or land in specific facilities?

No. With regards to taking-off and landing the CARs only provide for the restriction that no person may use a public road as a place

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of landing or take-off of a UAS, except a holder of a ROC and as approved by the Director in the operator's operations manual; and when approved by the relevant local authority.

25. Which kind of airspaces are UAS permitted to operate with?

UAS may only be operated in controlled airspace by a ROC holder and upon the approval of the Director in the operators' operations manual. The Director may approve a UAS operation in controlled airspace only in a visual meteorological condition (VMC), in an airfield traffic zone (ATZ) and control zone (CTR) below 400ft; and subject to compliance with the conditions prescribed in the technical standards.

26. Which airspaces are restricted for UAS?

The following airspaces are restricted: above 400ft above the surface, within a radius of 10km from an aerodrome (airport, helipad, and airfield), and adjacent to or above a nuclear power plant, harbour, prison, police station, crime scene, court of law, national key point, or strategic installation.

27. Which zones are UAS operations banned?

UAS are banned in the following zones: near a manned aircraft, 10 km or closer to an aerodrome (airport, helipad, airfield), in controlled airspace (airport), in restricted airspace (harbours, power plants, prisons, police station, courts of law, key points etc.), and in prohibited airspace.

28. Who provides air traffic control services for UAS in your country?

Air traffic control services are provided by the Air Traffic and Navigation Services Company SOC Limited.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

Yes. All incidents involving a UAS where there is any damage to property must be reported. The CARs also provide that a UAS may not carry dangerous goods as cargo, except if operated by a holder of a ROC and as approved by the Director in the operations manual.

30. Are there any special rules about the liability of UAS operators for surface damage?

No.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

Yes. All accidents and incidents involving a UAS where there is any injury or death to a person, damage to property, or destruction of the UAS beyond economical repair must be reported in accordance with the specific provisions of the CARs. The system operates similar to other aircraft, to the extent that the relevant specific provisions of the CARs provide. All incidents involving a UAS where loss of control occurred must be reported to the holder of the ROC.

32. What system and procedures are in place for the investigation of UAS accidents?

The CARs are silent on the investigation of UAS accidents and incidents; however the Aviation Safety Investigation Board established by the Civil Aviation Act is primarily responsible for conducting an analysis into the cause of an air accident and the prevention of such accidents in the future. Once the Aviation Safety Investigation Board has completed its investigation of the air accident, it is obliged to prepare a report, which is made publicly available and which should specify any safety deficiencies identified and possible recommendations for the improvement of safety in the future.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

Yes. A UAS must be adequately insured for third-party liability. Registered owners or operators of aircraft must have insurance for damage or loss caused by an aircraft to any person or property on land or water.

34. What is insured? The operator, the business or the aircraft?

The UAS.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

No.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

N/A.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

N/A.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

N/A.

Miscellaneous

39. Legal Framework

The South African legal framework in relation to UAS operation is fairly new. There was previously considerable uncertainty regarding the use and operation of UAS, as there were very few references made to UAS operations in both the Civil Aviation Act and the CARs, due to a lack of regulation. However, the Ministry of Transport has as recently as 2015 issued CARs which relate specifically to UAS operations in South Africa. Furthermore, the Director issued the SA-CATS which took effect on 1 July 2015. In addition, the Director also issued a number of AICs applicable to UAS operations and the CAA also issued technical guidance

South Africa

Continued...

material for UAS operations in September 2015. Even though it is still in the early days, time will tell whether South Africa's drone regulations will set the pace and become the benchmark or if they will be surpassed by other jurisdictions.

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Spain

Spain

Contributed by: *Sergi Giménez & Miquel Campos*

General

1. Are UAS considered as "aircraft" in your country?

Pursuant to article 11 of the Law 48/1960, of 21 July, of Air Navigation (the "Air Navigation Act"), since 2014 it is considered an aircraft in Spain "Any remotely-piloted machine that can be supported in the atmosphere by reactions of the air that are not the reactions of the same against the surfaces of the earth". Although this definition only applies for civil remotely-piloted aircraft, a much more comprehensive definition is provided in the Royal Decree 601/2016, of 2 December, which enacts the Operational Air Traffic Regulation where in Book 1, Chapter I "Definitions" includes RPAS, UAV and UAS definitions for both civil and military purposes.

It is necessary to distinguish that although UAS are considered as aircraft, and aerial legislation applies on their operations, if the operation is performed indoors, no aerial regulations apply to these flights. Likewise, if the purpose of the flight is for aerial exhibitions or for leisure, the provisions applicable to these flights will differ.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The main body which regulates and controls the operations, safety and security, and compliance of the legal requirements provided in the Law is the Spanish National Aviation Authority called AESA ("State Agency of Aviation Safety") assigned to the Ministry of Development of Spain.

The legal rules that empower AESA to act as a regulatory body for RPAS/UAS operations is the Act 21/2003, of 7 July, of Aviation Safety, the Royal Decree 1036/2017, of 15 December, by which the use of civil remotely piloted aircraft are regulated, the Royal Decree 552/2014, of 27 June, by which the Regulation of the air and common operative dispositions for the air navigation services and proceedings is developed, and the Royal Decree 57/2002, of 18 January, by which the Regulation of Air Traffic is approved (the "RPAS Royal Decree"). Article 7 of the RPAS Royal Decree transfers to the ASESA the oversight, control and penalty regime over UAS operations. The RPAS Royal Decree replaced the previous temporary regulation (the Act 18/2014), extending the operational scenarios where UAS are allowed to fly but also increasing the requirements for operating these aircraft. Now the provisions of the Act 18/2014 have been entirely repealed.

3. Is there a distinction between "State UAS" and "Private UAS"?

The provisions of the article 2.1 and 2.2 of the RPAS Royal Decree, provide the legal framework just for civil UAS only. The State UAS (military UAS) are regulated in the Royal Decree 601/2016, of 2 December, which enacts the Operational Air Traffic Regulation. Other State UAS are not regulated in general but each public administration has its own protocols and rules in compliance with the European standards.



4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Article 150.2 of the Air Navigation Act provides that "the civil remotely-piloted aircraft, whichever its purposes are, unless those exclusively operated for recreational or sport purposes, are subject to the provisions of this Act [...]" making the difference between leisure and commercial UAS. The RPAS Royal Decree expressly states that the leisure or sport flights with UAS are not regulated, although the Second and Third Additional Dispositions of the Royal Decree list the minimum requirements and obligations that leisure RPAS pilots are obliged to comply with, and recommendations for the appropriate way to fly leisure drones based on avoiding any kind of risk over properties, aeronautical facilities or people during the flight.

As mentioned in question 3 above, specific regulations for State (non-military) UAS have not been enacted yet. Nevertheless, article 3 of the RPAS Royal Decree provides that for those operations carried out by the State Security Forces, Custom Surveillance Service AND Traffic General Directorate and also for the National Intelligence Center, certain aspects of the RPAS Royal Decree are excluded.

Finally, if the activities of customs, police, save and rescue, firefighting, or coastguard or similar are made by another administrative body different from the above mentioned, then the general rules of the RPAS Royal Decree shall apply without any kind of exemption.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

The RPAS Royal Decree indeed furnishes a distinction between UAS and RPAS. Current Spanish regulations are only applicable for civil RPAS and not for completely autonomous aircraft. However, even if the aircraft is completely autonomous in terms of the ICAO Cir 328, the operators usually register said aircraft with AESA. The RPAS Royal Decree and the Royal Decree 601/2016, of 2 December, which enacts the Operational Air Traffic Regulation reserved for military UAS and RPAS are the main rules which provide this distinction. Moreover, the RPAS Royal Decree literally states that the civil operations with completely autonomous UAS are not permitted in any case.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

Spanish regulation on RPAS operations is in line with the general safety measures provided by the supranational organisms (EASA and ICAO mainly). The operator of the UAS is responsible for the operation and the aircraft. The operator must also comply with the regulations applicable to the aerial work including those related to the data protection or radio spectrum - to give some examples.

Spain Continued...

There are certain common obligations for RPAS up to 25kg of MTOW which need to be complied with before starting the aerial works:

- As a general rule, operations must be performed out of crowds, cities and towns, in uncontrolled airspace and out of FIZ, with visual meteorological conditions (VMC) always within the vision range of the pilot (VLOS) or the observer (EVLOS). This line of sight comprises a distance of 500 meters and within a maximum height (and not altitude) of 120 meters from the surface or the highest obstacle inside the radius of 150 meters from the aircraft.
- The same rule applies for RPAS of less than 2kg of MTOW with the only difference that they can fly in BVLOS mode but conditioned to having a Sense & Avoidance system approved by AESA and the issuing of a NOTAM by the relevant Authority.
- The UAS operations over crowds, cities and towns inside uncontrolled airspace and out of FIZ are permitted but certain restrictions apply, such as, the MTOW does not need to exceed 10kg, the maximum horizontal distance from the pilot cannot exceed 100 meters and the maximum height cannot exceed 120 meters from the ground or from the highest obstacle within a radius of 600 meters from the aircraft. In those cases, the operation will need to coordinate with the competent authority for limiting the access in the surface with a minimum-security distance of 50 meters from buildings and people.
- If the UAS intends to fly inside controlled airspace, then the rules of SERA 5005 need to be complied with.
- Certain documentation needs to be kept and updated for any flight such as, (i) configuration of the aircraft, (ii) Operation Manual, (iii) Aeronautical security assessment (specific or generic for any operation comprising all possible scenarios), (iv) test flight with successful results, (v) updated maintenance program and (vi) be sure that pilots comply with the relevant regulations in terms of medical and license and skill certifications.
- During the flight, the pilot needs to avoid reckless manoeuvres, taking additional measures to ensure the security and safety of properties and people on the ground and for other airspace users. Likewise, it is necessary to keep a distance of at least 8km from any aerodrome if they have Visual Flight Rules procedures (VFR) or a distance of 15km if those aerodromes have instrumental procedures (IFR). The latter is only available for BVLOS flights and always in coordination with the relevant authorities and ATC.

During the operation, the RPAS needs to be insured as provided in the RPAS Royal Decree. For those RPAS up to 20 kg of MTOW insurance rules of the Royal Decree 37/2001, of 19 January, shall apply. For RPAS that exceed said MTOW the rules of the Regulation (EC) no. 785/2004 of the European Parliament and Council of 21 April 2004 shall apply.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

Although this is not expressly observed, there is no possibility to fly more than one UAS by a single RPAS pilot.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

Flying UAS lawfully in Spain requires carrying out certain administrative procedures. Depending on the MTOW of the UAS, the specific proceeding may be different. For example, for operating UAS up to an MTOW of 25kg out of controlled airspace, crowds and buildings, it is just necessary to submit a prior communication to AESA five working days before starting the operations, which contains certain technical documents described in question 6 above. Once the communication has been received the "license" is valid without time limitation but new communications need to be submitted if there is any modification in the documents or details provided in the first communication.

On the other hand, if the UAS exceeds 25kg of MTOW, then it is required to obtain an administrative authority issued by the NAA. Also, an Airworthiness Certificate needs to be obtained and the aircraft should be recorded with the Spanish Aircraft Registry.

Additionally, for those operators flying with a UAS between 25kg and 50kg it will be necessary to comply with several additional measures such as having an appropriate organization and management in order to guarantee the compliance with the legal requirements and the nomination of duly qualified operation managers.

9. Are there any kind of taxes or fees regarding the licensing procedure?

No taxes or fees need to be paid for the communication of activities for a UAS of less than 25kg. With respect to authorisations, certain taxes are involved, not for the authorisation process itself but for other procedures before applying for said authorisation, such as the Airworthiness Certificate procedure or the Aircraft Registry recording fees.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

The Airworthiness Certificate is only mandatory for UAS that exceed 25kg of MTOW as foreseen in article 9 of the RPAS Royal Decree. For those aircraft below that threshold, the certificate is optional.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Access to the market is regulated only with respect to the compliance requirements contained in the air navigation and air safety regulations. Beyond that, there are no other specific rules applying to the provision of UAS operations rather than the general provisions in the RPAS Royal Decree, the Aircraft Registry Act and the Air Navigation Act.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

No specific requirements apply for financial strength and nationality ownership regarding control of UAS.

13. Is drone transport permitted / regulated in your country?

Although it is not expressly observed in the Spanish RPAS regulations, the commercial carriage of goods (including dangerous goods) and people is not permitted in Spain as provided in article 150 of the Air Navigation Act. This is not applicable to State and military UAS, as its regulations do not oblige them to comply with this prohibition.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others**14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?**

Article 26 of the RPAS Royal Decree provides that data protection regulations are applicable to drone operations and the operator shall be responsible for complying with said regulations. The data protection regulations will be applicable to UAS operations only if the UAS is collecting and recording personal details of people that are or can be identified.

If this is the case, the requirements, obligations, rights and fines provided in the Spanish Data Protection Act and the regulations of the European Union shall be applicable, and the Spanish Data Protection Agency may initiate administrative proceedings against the operator.

15. Is there a specific control-link interference regulation applicable to UAS operations?

Following article 13 of the same legislation, the operator is obliged to comply with the radio spectrum regulations as regards the operation with its UAS. This means that the regulation on General Telecommunications (Act 9/2014, of 9 May) is applicable to its operations, and the European regulations on this matter (Directive 2014/53/UE and other complementary legislation) are applicable as well. In case of non-complying with the provisions of said legislation, the fines described in Act 9/2014 shall apply.

From the Spanish perspective, the operator and the pilot shall comply with the CNAF (National Frequency Allocation Table) not only with respect to the aircraft itself but also in relation to the link with the control station and any other device remotely controlled through a radio frequency. Regarding said regulations, the operators shall keep their communications safe from unlawful interference, duly encrypted, and try to protect the links with the aircraft from any interception and protect the data transferred in the electronic communications.

16. Do specific rules regulate UAS manufacturers?

The same RPAS Royal Decree provides certain rules for the UAS manufacturers. For example, the manufacturers are liable for the aircraft and must elaborate on the aircraft's relevant documentation. Likewise, those organizations manufacturing UAS that exceeds 25kg of MTOW shall be previously approved by AESA unless their production is limited to a low number of aircraft.

Finally, the manufacturers will be obliged to elaborate on the operating and maintenance manuals and conduct the relevant maintenance of the aircraft.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

It is not established for any different or specific requirement or procedure to be conducted in order to operate a foreign UAS in Spain. This implies that a foreign UAS operator shall necessarily submit the communication of start of its activity in the same manner and under the same procedure as a Spanish UAS operator.

Nevertheless, the RPAS Royal Decree has a specific mention to the possibility for the AESA to recognize foreign licenses or authorisations and also Airworthiness and type certificates from other EU Member States operators, European Economic Space and even Turkey, on the basis of the principle of reciprocity when it is proven that the requirements of said State are equivalent to the ones required under Spanish legislation.

18. Are fares or pricing of UAS operations regulated and, if so, how?

The prices for UAS operations in Spain are not regulated.

The Aircraft ("UAS")**19. Must UAS be registered in any particular register?**

The registration of a private UAS is only mandatory if its MTOW exceeds 25kg. If so, the operator shall proceed to register the aircraft under an administrative procedure before the Spanish Aircraft Registry. Such administrative procedure will be subject to the provisions of the Royal Decree 384/2015, of 22 May, by which it is approved the Regulation on civil aircraft registration.

It is also applicable for State Aircraft to complete the registration with the Spanish Aircraft Registry.

20. Who is entitled to be mentioned in the UAS register?

The owner of the aircraft will be entitled to be mentioned in the Spanish Aircraft Registry. Furthermore, lessee and lessor are entitled to appear in the registry records if they exist. The rules of the registry information are the same as conventional aircraft and are detailed in the Royal Decree 384/2015, of 22 May, by which it is approved the Regulation on civil aircraft registration.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

No limitations to the ownership of a UAS listed in the Spanish Aircraft Registry apply.

22. Do specific rules regulate the maintenance of UAS?

The rules for UAS maintenance are provided in the general rule which regulates the UAS operations, the RPAS Royal Decree. It is mandatory to establish a maintenance program adjusted to the recommendations of the manufacturer. The AESA has published in its website a set of guidance rules with the reviews and tests to be carried out in the maintenance program of an RPAS, which provide the minimum necessary revisions and tests to be carried

Spain

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out on the aircraft. The operator is obliged to have an updated registry system of the status, inspections and significant events having occurred in each aircraft.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

In accordance with Spanish regulations several limitations apply depending on the case and the kind of aircraft. A description of said general limitations is detailed as follows:

- **RPAS that do not exceed 2kg of MTOW:** These aircraft shall be able to fly in zones out of or above crowds, cities and towns and in uncontrolled airspace, with visual meteorological conditions (VMC), beyond the line of sight of the pilot and within a maximum height of 120 meters from the surface.
- Said RPAS only will be allowed to fly beyond the line of sight of the pilot if they have a GPS system incorporated. The performance of these operations will be subject to the issuance of a NOTAM by the Air Information Service (AIS) before application of the operator. The pilot should be in possession of an "Advanced Pilot Certificate" for these flights.
- **RPAS between 2kg and 25kg of MTOW:** These aircraft shall be able to fly out of or above crowds, cities and towns and in uncontrolled airspace, with visual meteorological conditions (VMC), always within the line of sight of the pilot, comprised in a distance of 500 meters from the position of the pilot and within a maximum height of 120 meters from the surface.
- **RPAS that exceed 25kg of MOTW:** These aircraft shall be able to fly only for fire fight or search and rescue services and subject to the conditions and limitations established in the relevant Airworthiness Certificate issued by EASA.
- **RPAS that exceed 150kg of MTOW:** The operational limits of this class of aircraft are subject to European regulations which are still pending to be determined and enacted.

In the first two scenarios it would be necessary to keep a distance of 8km from any airdrome in the zone and in the case of the 2kg RPAS, the distance will be enlarged to 15km if the facilities have IFR rules.

24. Are UAS obliged to take off from and/or land in specific facilities?

In accordance with article 150. 2 of the Air Navigation Act, it is not required to use specific facilities for taking-off or landing the RPAS except in those cases in which the law provides for it. This case could be, for example, if AESA issues an authorisation to operate an RPAS which MTOW exceeds 25kg expressly stating the necessity to take-off or land from a specific facility such as aerodromes or heliports.

25. Which kind of airspaces are UAS permitted to operate with?

As per current regulations on UAS/RPAS operations, they are only permitted to operate on non-controlled airspace equivalent to F and G class airspace foreseen in the Implementing Regulation (EU) 2016/1185 of the Commission of 20 July 2016.

26. Which airspaces are restricted for UAS?

Airspaces from A to E class are restricted to civil RPAS depending on the kind of aircraft and also if the Authorisation issued by the Spanish NAA foresees the possibility to fly in these spaces. Also, those airspaces classified as "R" class, "D" (Dangerous) and those zones with sensitive wildlife will operate with the same manner for RPAS than for conventional aircraft.

27. Which zones are UAS operations banned?

Besides those geographical zones banned in the RPAS Royal Decree as indicated in question 22, and those identified as controlled airspace (CTR, TMA, ATZ etc.), if the clearance from the ATC has not been provided, RPAS operation will be banned in those zones classified as "P" class airspace which only permits to fly to the State and Military UAS as well as sensitive State facilities (e. g. Nuclear power plants).

28. Who provides air traffic control services for UAS in your country?

The Air Traffic Control (ATC) is entitled to provide air traffic control services in Spain, which can be divided in the following stages:

- Aerodrome control service: Provided by the control tower from the aerodromes in charge of the land movements and movement in its proximities.
- Approach control service: Provides air traffic control to the users of the controlled airspace relating to the take-off and landings.
- Area control service: Provides air traffic control to those aircraft which are not in the aerodrome or in approach phase.

Furthermore, there are also FIS (Flight Information Service) providing useful information to all users and ALRS (Alert Service) responsible for informing the relevant organisms in respect of aircraft which require save and rescue assistance.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

As commercial transportation UAS are not permitted to operate in Spain this question is not applicable. Nevertheless, if the case may be, the losses regarding cargo damages, the Royal Decree 37/2001 of 19 January, by which the compensations on damages are updated in the Air Navigation Act should apply.

30. Are there any special rules about the liability of UAS operators for surface damage?

Due to UAS been considered aircraft, they are subject to the same liabilities as any other conventional aircraft. Following the provisions of the RPAS Royal Decree, generally, the operator is liable for the operation with its UAS. However, other specific rules in terms of liability for surface damages also apply. Such special rules for surface damage are provided in the Royal Decree 37/2001 of 19 January, by which compensation for damages is updated in the Air Navigation Act (specifically article 119 of the Air Navigation Act) which is applicable for RPAS that do not exceed 20kg of MTOW.

The Royal Decree establishes economic compensation for each aircraft and accident which are limited in relation with its weight to a certain amount in Special Drawing Rights (SDR).

For RPAS of more than 20kg of MTOW the limits and liabilities for surface damage of the Regulation (EC) no. 785/2004 of the European Parliament and Council of 21 April 2004 shall apply.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

As a Member State of the European Union, Regulation (EU) no. 376/2014 of the European Parliament and Council, which entered into force the 15 November 2015, is applicable in Spain. In this regulation, the EU obliges all Member States to have an incident reporting system for civil aviation events. In Spain the Events Notification System (SNS) is the body in charge of said notifications and aims to prevent future accidents and incidents. The SNS receives, processes, analyses and spreads the information in order to upgrade the security and safety on civil aviation.

32. What system and procedures are in place for the investigation of UAS accidents?

UAS are subject to the same incident reporting procedure as conventional aircraft in Spain. This procedure is established in Act 21/2003 of 7 July, of Aerial Safety, and in Regulation (EU) no. 996/2010 of the European Parliament and Council of 20 October 2010. The former determines the competent authority for the investigation of serious incidents and accidents in civil aviation. The competent body for this task is the Commission for Accidents and Incidents of Civil Aviation subject to the Spanish Development Ministry. The investigation will be ruled by the provisions of the Regulation above mentioned and by the Royal Decree 389/1998, of 13 March, by means of which the investigation of civil aviation incidents and accidents are regulated, and the resolutions of this administrative body are published.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

The RPAS Royal Decree sets out the obligation to subscribe an insurance policy or any other equivalent financial guarantee for operating UAS. This insurance must be specific for the aviation industry; therefore, a usual insurance liability is not enough. It would be necessary to subscribe a Public liability insurance. Said coverage, often referred to as third-party liability, must cover operators for damage caused by its aircraft or its payload to the ground (goods and physical damages), and other airspace

users. These insurances will be subjected to the limits set forth in question 29 above.

The fact that the operator has subscribed the relevant insurance policy and that the latter is still in force needs to be proved to the AESA before starting the operation.

34. What is insured? The operator, the business or the aircraft?

Although this matter is not clarified in the RPAS Royal Decree, according to article 126 of the Air Navigation Act, the aircraft (UAS) is the element that needs to be insured. In this respect, it is necessary to subscribe a new insurance for each operator aircraft, and all of them need to be provided to the competent authority. This does not prevent the operator to enter into other kinds of insurances, but it is necessary to fly the UAS lawfully.

Financial support and state aid**35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?**

No sector-specific rules regulate direct or indirect financial support to companies by the government. However, the main entities which are contributing to the financial strength of the Spanish UAS market are private equity funds and other private investors. At a State aid level, as UAS operators can be considered as start-up companies with a highly technological component, they can obtain credit lines from the Official Credit Institute, the Center for the Technological Industrial Development - CDTI (mainly for R+D projects) or ENISA.

At a regional level, several authorities have promoted the creation of drone hubs, like the Catalonia Smart Drone Project by the Government of Catalonia, or the project of the Aerospace Technique National Institute (INTA) in the Centre of Excellence Unmanned Air Systems (CEUS) in Andalusia. Those projects are also for research, development and testing of new inventions and upgrades on drones and special devices attached.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

The principles of the organizations mentioned above are foster feasible and innovative business projects. In the case of CDTI, it is necessary that the project could be implemented to develop the process or service in the industrial sector.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

No exemptions apply in general terms. The aids are just for developing feasible business projects which are subject to study by the public organizations before approval.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

Clearance is not required from competing authorities at this stage for the UAS Spanish industry. Nevertheless, the National Competition Commission ("CNMC") will be involved in cases of companies' concentration in this sector (mergers, acquisitions or

Spain

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similar) representing 30% or more of the relevant market in the national territory or a specific geographic zone. In those cases, the concentrations need to be communicated to the CNMC and conduct a review procedure of the concentration as stated in the specific competition regulations.

Switzerland

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ATTORNEYS AT LAW

Switzerland

Contributed by: Philippe Wenker and Shawn Gregory

General

1. Are UAS considered as "aircraft" in your country?

Unmanned Aircraft Systems (UAS) are considered aircraft but are subject to special regulation.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

Although located in the centre of Europe, Switzerland is neither a member state of the European Union (EU) nor the European Economic Area (EEA). However, in relation to aviation, the relevant EU legislation applies to the extent adopted by Switzerland on the basis of the Bilateral Agreement on Air Transportation of June 21, 1999 (as updated from time to time) between Switzerland and the EU. In relation to remotely-piloted and/or unmanned civil aircraft above 150 kg, the relevant EU Directives and Regulations apply (in particular Regulation (EC) 216/2008) in Switzerland, whereas UAS below 150 kg are subject to Switzerland's own domestic regulation, in particular the Federal Act on Air Transport and the respective ordinances. The competent bodies are the European Aviation Safety Agency (EASA) and the Swiss Federal Office for Civil Aviation (FOCA), respectively. The respective EU legislation is currently undergoing a revision. It is intended that the revised legislation applies to UAS of all sizes. At what time and to what extent the revised legislation will be implemented and applicable in Switzerland may not be assessed at the moment.

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes, there is special regulation for military UAS and other state UAS, i.e. the usage of drones by authorities. The applicable regulation must be determined according to the planned operation and the UAS used.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Swiss regulation does at the moment not make a distinction between commercial and non-commercial UAS operations. In the event UAS would become able to transport passengers, it is likely that a distinction will be made in order to implement a higher security standard.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

Operating completely autonomous UAS is in principle not permitted in Switzerland, but a visual line of sight (VLOS) requirement for the pilot of a UAS applies. However, the FOCA may issue a special permit to exempt an operation from this requirement, if the other users of the air space and people on the ground are not endangered.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

Regulations for safety purposes of UAS operations may be found in multiple regulations. Primarily however, the Standardised European Rules of the Air (SERA) according to the European ordinance (No. 923/2012) apply. For UAS below 150 kg, Swiss law provides for rules on dropping or spraying items or liquids according to the general Swiss ordinance on air traffic rules as well as further air traffic rules according to the Swiss ordinance of the Federal Department of the Environment, Transport, Energy and Communications (DETEC) on special categories of aircraft (see also answers to questions 26 and 27 below).

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

The 1 UAS = 1 pilot rule is inherent in the VLOS requirement (see also our answer to question 5 above).

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

UAS above 150 kg: Rules and procedures according to European aviation law; UAS between 30 kg and 150 kg: Operations of such UAS require the prior authorization by FOCA; UAS below 30 kg: No authorization is required but only the rules on operation and safety must be complied with.

9. Are there any kind of taxes or fees regarding the licensing procedure?

The fee for the authorization of a UAS between 30 kg and 150 kg is charged on a time spent basis and may vary between CHF 50 and CHF 5'000. Taxes and fees for UAS above 150 kg are to be evaluated on a case-by-case basis.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

A Certificate of Airworthiness is mandatory for UAS above 150 kg according to the European aviation law. For UAS below 150 kg, the airworthiness of UAS is on principle not examined. However, in relation to the UAS between 30 kg and 150 kg, the FOCA determines the operation conditions on a case-by-case basis and the authorization may be subject to certain operational constraints. Operations of UAS below 30 kg do not require a certificate of airworthiness.

Switzerland
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11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

There are no particular regulations for the provisions of such services but only for the operation of UAS itself.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

There is no such particular requirement in relation to financial strength/nationality of ownership.

13. Is drone transport permitted / regulated in your country?

Drone transport is not prohibited but regulated, in particular by the Montreal Convention 1999 and the Swiss Ordinance on Air Transport. Also, additional regulation may apply depending on the specific goods transported, e.g. dangerous goods.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

The general Federal Act on Data Protection and the general civil rights in relation to the protection of privacy are applicable to UAS operations. However, specific regulations in relation to data protection and UAS operations are currently discussed in Switzerland.

15. Is there a specific control-link interference regulation applicable to UAS operations?

No, the general control-link interference regulation applies.

16. Do specific rules regulate UAS manufacturers?

UAS manufacturers are not specifically regulated. However, specific rules may apply in relation to the procurement of state UAS.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

This depends on the specific operation at hand. However, according to art. 8 of the Chicago Convention 1944, unmanned civil aircraft are only allowed to fly over the sovereign territory of another country with that country's special permission. In order to operate to or from Switzerland, one must also specifically be aware of Swiss customs law and possibly tax law.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No, there is no specific regulation applying to UAS operations.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

UAS are currently not registered in Switzerland in the Aircraft Registry maintained by the FOCA. However, the FOCA registers the authorization it grants in relation to UAS between 30 kg and

150 kg and the special permits (see answers to questions 5, 25, 26). According to the proposed EU regulation (see answer to question 2 above), it is likely that in the near future drone operators of UAS which upon impact with a person are capable of transferring more than 80 Joules of kinetic energy will have to register themselves. Also, the Swiss legislator intends to implement a registration obligation for UAS as soon as possible, and different companies currently work together with Skyguide, the air traffic control provider in Switzerland, to implement a so-called U-Space by 2019 in order to allow for an e-registration and e-identification of the UAS.

20. Who is entitled to be mentioned in the UAS register?

Depends on intended legislation (see answer to question 19 above).

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

Depends on intended legislation (see answer to question 19 above).

22. Do specific rules regulate the maintenance of UAS?

Depends on intended legislation (see answer to question 19 above).

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

There are no specific limitations for aerial work. However, see our answers to questions 26 and 27 below for the general restrictions and bans.

24. Are UAS obliged to take-off from and / or land in specific facilities?

No. However, take-off or landing from non-public places may infringe civil law in relation to privacy protection.

25. Which kind of airspaces are UAS permitted to operate with?

It is permitted to operate UAS in the airspace above Switzerland, subject to the applicable law. The FOCA provides a map of flight zones in Switzerland (see <https://www.bazl.admin.ch/bazl/de/home/gutzuwissen/drohnen-und-flugmodelle/drohnenkarte.html>).

26. Which airspaces are restricted for UAS?

The general restrictions of airspace (e.g. bans) apply. In particular, it is also not allowed to operate UAS within a radius of 100 m of a "group of people" (i.e. already a gathering of 20 people). However, it is possible to apply for a special permit to be exempted from this last requirement. Such special permit may be granted by the FOCA.

27. Which zones are UAS operations banned?

The operation of UAS within a distance of five kilometres from runways of any civil or military airport as well as above an altitude of 150 m within control zones of airports is prohibited. However, it is possible to apply for a special permit to be exempted from these requirements. Such special permit may be granted by the competent airport controller.

28. Who provides air traffic control services for UAS in your country?

Air traffic control services are provided by Skyguide, a Swiss company headquartered in Geneva and majority-owned by the Swiss Confederation.

Liability and accidents**29. Are there any special rules in respect of loss or damage to cargo?**

Switzerland has ratified the Montreal Convention 1999 which provides for special rules in this regard. Insofar the Montreal Convention 1999 is not applicable, the Swiss Ordinance on Air Transport provides further rules.

30. Are there any special rules about the liability of UAS operators for surface damage?

The Rome Convention 1952 has not been ratified in Switzerland. However, art. 64 of the Federal Act on Air Transport provides for a liability of the operator of the UAS (which does not necessarily correspond to its legal owner) for damages to persons or things on the surface. This liability is construed as a strict liability, i.e. irrespective of negligence or fault.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

Yes, mandatory accident reports are reported by using the reporting system provided by the European Union (See <http://www.aviationreporting.eu/AviationReporting/>). Such reports are then automatically forwarded to the FOCA.

32. What system and procedures are in place for the investigation of UAS accidents?

The Swiss Transportation Safety Investigation Board (STSB) is mandated to investigate accidents and dangerous incidents involving aircraft. Please note that penal authorities may conduct further investigations in relation to criminal activities.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

The operator (which does not necessarily correspond to its legal owner) of UAS between 0.5 kg and 150 kg must enter into a third-party liability insurance policy covering at least one million Swiss francs.

34. What is insured? The operator, the business or the aircraft?

Mandatory is only third-party liability insurance for the operator, whether this is an individual person or a legal entity. Insurance of

the UAS itself is optional.

Financial support and state aid**35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?**

No, there are no sector-specific rules regulating state aid in the UAS sector but the general state aid rules apply.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

State aid rules exist both on a federal and a state level. The main principles are that there is a public interest, which is not sufficiently pursued by the private sector and which may not be satisfied efficiently by the state.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

UAS operations are not specifically exempted from state aid.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

As a general rule, no, such clearance must not be obtained.

Miscellaneous**39. Local regulations**

The answers to these questions are limited to the Swiss regulation on civil aviation, unless where explicitly stated otherwise. Also, to a certain extent, the cantons of Switzerland are entitled to regulate UAS operations themselves, where there is no regulation on a federal level. Possible cantonal requirements would thus have to be examined in relation to the individual case at hand.

Ukraine



Ukraine

Contributed by: Vadym Samoilenko

General

1. Are UAS considered as "aircraft" in your country?

Yes. According to the Air Code, the term "unmanned aerial system" ("UAS") is defined as any aircraft intended to fly without a pilot on board. The flight and control of such systems are performed by a special control station not located onboard the aircraft (Paragraph 23 of Part 1 of Article 1 of the Air Code of Ukraine No. 3393-VI dated 19 May 2011, as amended (the "Air Code)). The Registration Rules further elaborate that UAS include unmanned, untethered balloons and remotely piloted aircraft (the Rules of Registration of Civil Aircraft in Ukraine, approved by the Order of the Ministry of Infrastructure of Ukraine (the "Infrastructure Ministry") No. 636 dated 25 October 2012, as amended (the "Registration Rules")).

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

Generally, the regulatory authorities for UAS operations in Ukraine are as follows:

- (a) State Aviation Service of Ukraine - the main government body in the sphere of aviation and use of airspace of Ukraine, which is directed and coordinated by the Cabinet of Ministers of Ukraine ("CMU") through the Infrastructure Ministry (the "Aviation Authority");
- (b) Ukrainian State Air Traffic Service Enterprise, also known by its Ukrainian acronym 'Ukraerorukh' or its English acronym 'UkSATSE' - the exclusive state-owned provider of air navigation services in Ukraine ("UkSATSE");
- (c) National Bureau of Air Accidents Investigation of Ukraine, also known by its abbreviated name 'NBAAI' - the national civil aviation incident investigation authority of Ukraine, a "specialist expert organization" consisting of 40 experts and subordinate to CMU.

The legal status of UAS, including drones, is not specifically determined by Ukrainian law (the "Law"). Instead, general aviation regulations are applicable to UAS operations. The main pieces of legislation regulating the legal status of UAS, their use of air space and air traffic are the following:

- (a) ICAO Convention on International Civil Aviation of 7 December 1944 (the "Convention"), joined by Ukraine in 1992;
- (b) Air Code, which is the main piece of the Law regulating activities in aviation sphere;
- (c) Registration Rules, which define the procedure and requirements for maintaining the State Register of Civil Aircraft of Ukraine (the "Register") and rules for registration and re-registration of new, modified, and

repaired aircraft in possession of Ukrainian resident legal entities and individuals;

- (d) Regulation on Use of the Airspace of Ukraine, approved by CMU Resolution No. 954 dated 6th December 2017 (the "Airspace Regulation"), which establishes the legal framework for using airspace by legal persons and individuals, as well as defines the competences and functions of the airspace and air traffic control authorities;
- (e) Rules of Civil Aircraft Flights in the Airspace of Ukraine, approved by the Order of the Infrastructure Ministry No. 478 dated 28 October 2011, as amended, which provide for general rules of performing flights and manoeuvring of aircraft, including in the classified air space of Ukraine and the airspace over the high seas, where the responsibility for air traffic control services is assigned to Ukraine by international agreements;
- (f) Aviation Rules of Ukraine "General Rules of Flights in the Airspace of Ukraine", approved by the Order of the Aviation Authority No. 66/73 dated 6th February 2017; and
- (g) Rules of Air Operators Certification, approved by the Order of the State Service of Ukraine on Supervision for Aviation Safety No. 684 dated 20 September 2005, as amended (the "Certification Rules").

However, neither of the above regulations takes into account the specificities of UAS operations, which remain a "grey area" in the Law. As it often happens with such quickly evolving trends, Ukrainian policy makers are having a hard time keeping up and, currently, have reacted to the novelty only by developing certain concept documents and temporary regulations relating to the UAS sphere, e.g. the Concept "Rules of Air Operation of Civil UASs in Ukraine", presented by the Aviation Authority at the round table on 5th March, 2018 (the "Concept"), and the Temporary Procedure for Use of the Airspace of Ukraine, presented to the general public on 1st June, 2018 (the "Temporary Procedure"). Notwithstanding that the Concept and the Temporary Procedure have attracted extensive discussion, the legal status of the both documents remains unclear. Taking into account that neither the Concept nor the Temporary Procedure has undergone mandatory adoption and registration procedures, it appears that currently these documents may not be considered validly adopted legal acts.

At the same time, on the commercial and leisure side of the industry, UAS have been making far more progress. A fraction of the price of helicopters, they have brought down the cost of low-flying aerial shots and have introduced a wide range of other commercial uses in very different spheres, from agriculture to internet access. UAS are also becoming an invaluable asset for Ukraine's fledgling army that constantly upgrades its technical equipment to meet the NATO standards.



3. Is there a distinction between "State UAS" and "Private UAS"?

Generally, there is no clear distinction between the "state UAS" and "private UAS".

However, the Law distinguished between such general terms as "state aviation" and "civil aviation".

According to Part 4 of Article 4 of the Air Code, these terms are defined as follows:

- 1) civil aviation attends to the needs of the state and individuals in air transportation and other aviation works, as well as in conducting flights for private purposes; the civil aviation is divided into two major groups: the commercial and general (utility, transport) aviation;
- 2) state aviation utilizes aircraft for the purposes of national security, defense and protection of the population, which are assigned to the Armed Forces of Ukraine and other competent authorities.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

The Law does not specifically provide a distinction between public, leisure, and commercial UAS, nor does it contain any clear definitions of these terms.

At the same time, the Law provides for a different legal treatment for certain types of UAS, in particular:

- 1) UAS that are intended for leisure and sport and have the take-off weight of no more than 20 kg (44.09 lb.) shall not be subject to the state registration in the Register (please see our answer to Question 19 below);
- 2) it is required to register commercial UAS in the Register regardless of their weight.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

No. In terms of regulation, currently, there is no distinction between completely autonomous UAS and remotely-piloted UAS.

However, such a distinction is expected to be introduced to the Law with the implementation of the Concept, which provides for the UAS classification four major classes depending on their maximum take-off weight:

- a) Very small (take-off weight of 0,25kg (0.55 lb.) and less) - shall be used only for leisure purposes (commercial usage is prohibited);

- b) Small (take-off weight from more than 0,25kg (0.55 lb.) to 20kg (44.09 lb.) inclusive), which shall be further divided into three subclasses: (i) UAS with the take-off weight from more than 0,25kg (0.55 lb.) to 4kg (8.82 lb.) inclusive - non-commercial usage, (ii) UAS with the take-off weight from more than 4kg (8.82 lb.) to 20kg (44.09 lb.) inclusive - non-commercial usage, and (iii) UAS with the take-off weight from more than 0,25kg (0.55 lb.) to 20kg (44.09 lb.) inclusive - commercial usage;
- c) Medium (take-off weight from more than 20kg (44.09 lb.) to 150kg (330.69 lb.) inclusive) - commercial and non-commercial usage; and
- d) Large (take-off weight of more than 150kg (330.69 lb.)) - commercial and non-commercial usage.

Although the Temporary Procedure does not directly incorporate the abovementioned classification, it considers that UAS weight of 2kg (4.4 lb.) to be a key indicator for the application of the Temporary Procedure rules.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

While the current Law does not regulate the use of UAS specifically, the Air Code and the Registration Rules mention UAS among civil and commercial aircraft. This means that general rules and aero navigation restrictions for all users of the airspace shall also apply to UAS operators (for more details, please see our answers to Question 24-26 below).

The Concept preliminarily envisages gradual implementation of safety requirements to UAS operations, e.g., it allows conducting the UAS flights in the reserved and uncontrolled airspace outside inhabited settlements and open-air assemblies of people at the height that does not exceed 50 meters. The flights over 50 meters are also possible for certain types of UAS upon the obtainment of a specific permit from the air traffic service/departmental air traffic control body (for more details, please see our answer to Question 10 below).

The Concept also permits that the flights of small commercial UAS with the take-off weight from 0,25kg (0.55 lb.) to 20kg (44.09 lb.) inclusive, as well as medium and large UAS, be carried out under the BVLOS (Beyond Visual Line of Sight) conditions, subject, however, to certain limitations and the mandatory reservations of airspace.

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

No. The Law does not contain the rule of 1 UAS = 1 pilot. However, this rule has been introduced at the level of the Concept and the Temporary Procedure.

Ukraine Continued...

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

Under the term "license" we understand a special business permit issued by respective licensing authority (e.g., the Aviation Authority) entitling a licensee to carry out a particular type of business activity, which is specifically listed in the Law of Ukraine "On Licensing of Types of Business Activity" No. 222-VIII dated 2 March 2015, as amended. In line with such an interpretation, no license shall be needed for operating UAS.

As to the other permits, in absence of specific regulation applicable to UAS, one should refer to the general rules of operating civil aircraft in Ukraine. That being said, should a UAS require state registration, it shall also obtain a Certificate of Airworthiness as a precondition for such state registration. Additionally, a UAS operator shall obtain an Operator Certificate. At that, the procedures for the obtainment of both permissive documents shall be analogous to the procedure that applies to other civil aircraft.

The Airspace Regulation also mentions two types of permits issued to the operators of the civil aircraft: (i) a flight permit, and (ii) a permit for the use of airspace. According to Paragraphs 3-7 of Part 18 of the Airspace Regulation, the applications for use of airspace are not submitted in the flights if the flights of civil aircraft are performed on the conditions of the general air traffic and outside the controlled airspace of air traffic control, unless they are performed:

- (1) In specially established zones (temporarily reserved airspace);
- (2) within the aerodrome zones and areas of air traffic control by departmental air traffic control bodies;
- (3) within zones with a special mode of the airspace use;
- (4) with crossing the state border.

However, taking into account specific characteristics of UAS, as well as the lack of legislative regulation, currently, it is the general practice that UAS are operated in Ukraine without undergoing any of the above procedures. This is also demonstrated by the fact that, as of today, the Register does not contain information regarding any UAS.

Generally, the above requirements appear to be in compliance with the Convention which provides that: "[n]o aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorization by that State and in accordance with the terms of such authorization. Each contracting State undertakes to ensure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft".

9. Are there any kind of taxes or fees regarding the licensing procedure?

As licensing, in its classic sense, is not required for UAS, no taxes and fees shall be withdrawn.



10. Is a Certificate of Airworthiness mandatory to operate a UAS?

Should a UAS require state registration with its inclusion into the Register, the obtainment of a Certificate of Airworthiness shall be mandatory. In accordance with Part 4 of Article 39 of the Air Code, the Aviation Authority has the right to refuse registering UAS if airworthiness is not confirmed.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

No.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

The Law does not establish any requirements in the areas of financial strength and/or nationality of ownership regarding control of UAS.

13. Is drone transport permitted / regulated in your country?

UAS operations are a "grey area" in the Law. Consequently, drone transport is neither banned nor explicitly permitted.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

No.

15. Is there a specific control-link interference regulation applicable to UAS operations?

No. The Law does not contain any specific control-link interference regulations applicable to UAS operations.

16. Do specific rules regulate UAS manufacturers?

No.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

Pursuant to Article 8 of the Convention, UAS intending to operate over the territory of Ukraine shall obtain a special authorization from Ukraine. However, at the moment the Law does not contain any specific rules or requirements regulating UAS operations over, to, or from the territory of Ukraine.

According to Part 5 of Article 46 of the Air Code, international flights of foreign UAS shall be conducted subject to the special permit issued by the Aviation Authority and agreed by the Ministry of Defense of Ukraine in accordance with the aviation rules of Ukraine. Despite the existence of such a general requirement, currently, there are no procedures or aviation rules for the obtainment of such a special permit.

18. Are fares or pricing of UAS operations regulated and, if so, how?

No.



The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

The Registration Rules state that an aircraft must be included into the Register if it is owned by a legal entity incorporated in Ukraine or an individual resident in Ukraine, or rented or leased by a Ukrainian operator from a non-resident owner. Unmanned, untethered balloons without a payload and remotely piloted aircraft having the maximum take-off weight not exceeding 20 kg (44.09 lb.) that are used for leisure and sports activities are not subject to registration in the Register. The Air Code provides that these types of unregistered aircraft must be governed by rules established by professional organizations (federations) regulating the activity of such vehicles.

There is a number of UAS federations in Ukraine, e.g., All-Ukrainian Federation of Drone Owners, All-Ukrainian Federation for Support and Development of Unmanned Aircraft. However, neither of them has legally established status to adopt respective aviation rules.

By a reversal of logic, should UAS exceed the above weight requirement and/or be used for activities other than sport and leisure, it shall be registered in the Register. Despite mandatory nature of such a requirement, it remains declarative and, currently, there are no UAS included into the Register.

The Concept envisages mandatory online registration (without registration in the Register) of non-commercial UAS having the flight weight from 0.25kg (0.55 lb.) to 20 kg (44.09 lb.), while smaller UAS are not subject to any such registrations. However, as mentioned above, the Concept is still in the process of development and is not yet implemented into the Law.

20. Who is entitled to be mentioned in the UAS register?

An aircraft's operator and/or owner is entitled to be mentioned in the Register.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

The Registration Rules provide that an aircraft, including UAS, must be included into the Register if it is owned by a Ukrainian resident legal entity or individual, or rented or leased by a Ukrainian operator from a non-resident owner.

22. Do specific rules regulate the maintenance of UAS?

No. In absence of the specific rules regulating the maintenance of UAS, one should refer to general requirements on safety, compliance, and technical conformity of civil aircraft.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

The Temporary Procedure envisages that no permits or notifications are required as long as the flight of a UAS under 2kg (4.4 lb.) is in compliance with the below limitations:

- (a) a UAS shall keep the maximum distance of 500m (1640.42 feet) from a remote pilot and be operated under VLOS (Visual Line of Sight) conditions;
- (b) a UAS shall have a maximum flight speed of 160 km/h (99.4 mph);
- (c) a maximum flight height shall be 50m (164.04 feet) above the ground and only until a remote pilot is able to visually observe a UAS;
- (d) flights may be performed only in daylight;
- (e) a UAS shall not cross the state border and borders of special restricted and/or banned areas;
- (f) flights may be performed at the minimal distance of 5km (16404.2 feet) from another aircraft in the air;
- (g) a UAS shall maintain the minimum distance of 500m (1640.42 feet) from another aircraft in the air;
- (h) a pilot shall not operate a UAS from another aircraft or other means of transport in motion;
- (i) a remote pilot may simultaneously operate only one UAS;
- (j) UAS flights shall be banned within the areas of police/antiterrorist/special operations, as well as within the areas established to guarantee safety of persons under the state defense;
- (k) UAS flights are prohibited:
 - i. above state (international, national, regional, local) roads, state and regional railways (intersection allowed);
 - ii. above central streets of cities, town-type settlements, villages (intersection allowed);
 - iii. above and along electricity transmission lines, product pipelines, unless otherwise agreed with an owner (intersection allowed);
 - iv. above industrial estate, electricity stations, railway stations, seaports, storages of oil products or other dangerous products, unless otherwise agreed by an owner;
 - v. above areas of accidents and calamities, except for UAS flights for rescue operations purposes;
 - vi. above penal authorities and investigatory isolation wards, except for flights performed on behalf of administrations of such institutions;
 - vii. above generally restricted and/or banned areas (please see our answers to Questions 26 and 27 below).

Ukraine Continued...

- (l) UAS flights may be performed:
- i. at least 30m (98.43 feet) away from a person not involved in such flight;
 - ii. at least 50m (164.04 feet) away from an outdoor group of people up to 12 persons, animals, vehicles, ships, boats, private property objects;
 - iii. at least 150m (491.13 feet) away from an outdoor group of people over 12 persons, areas of multistoried buildings.

UAS flights that either (i) involve a UAS exceeding 2kg (4.4 lb.) limit or (ii) do not comply with the limitations stated above shall be conducted in accordance with the general terms and conditions.

The Concept also envisages that it shall be possible to extend the standard operating terms by obtaining a special permit from an authorized body.

24. Are UAS obliged to take-off from and / or land in specific facilities?

Neither the Law nor the Concept contain any requirements to the UAS take-off and/or land facilities.

25. Which kind of airspaces are UAS permitted to operate with?

Currently, the Law does not contain any specific requirements regarding airspaces permitted for operation by UAS. In such a situation, one should refer to the general aero navigation rules applicable to the civil aircraft operation.

In accordance with the Airspace Regulation, UAS are permitted to use airspace that is not "restricted" or "banned". Urgent information about restricted/banned zones shall be periodically published in the Aeronautical Information Publication of Ukraine and/or in the airspace usage plans.

26. Which airspaces are restricted for UAS?

According to the general regulation applicable to civil aircraft, the following airspaces are restricted for civil aircraft, including UAS:

- (a) Flight Restriction Zones - areas of airspace over land or territorial waters that are restricted to aircraft flights;
- (b) Danger Zones - areas of airspace where, during a specified period of time, certain activities dangerous to air traffic can be conducted;
- (c) Temporarily Reserved Airspace - airspace where air traffic is not allowed within a specified time because of a threat to regular aviation flights or the use of airspace for other purposes.

Aircraft can fly in the above zones only upon obtaining authorization from respective air traffic control entity.

27. Which zones are UAS operations banned?

According to the general regulation applicable to civil aircraft, some airspace zones may be banned for aircraft flights on a temporary or permanent basis.

Prohibition of the use of airspace on a permanent basis shall be established by the Aviation Authority upon submission by relevant state bodies, enterprises, institutions, and organizations and shall be published in the aeronautical documents. Additionally, airspace over objects of natural reserve fund or industrial sites which constitute increased environmental hazard (e.g., hydroelectric power plants, nuclear power plants, dams, etc.) are constantly banned for any flights, including those of UAS.

A temporary ban on the use of some areas of airspace shall be established for the benefit of users who submitted the relevant applications, taking into account the priorities set in the Airspace Regulation and the principles of flexible use of airspace in accordance with the European Concept of the Flexible Use of Airspace.

Urgent information about temporary and constantly prohibited areas could be found in the Aeronautical Information Publication of Ukraine and/or in the airspace usage plans.

28. Who provides air traffic control services for UAS in your country?

There is no specific authority to provide air traffic control services for UAS.

In Ukraine the air traffic control services are generally provided by UkSATSE.

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

As the Law does not contain any special rules in respect of loss or damage to cargo of UAS, the general aviation rules shall apply.

30. Are there any special rules about the liability of UAS operators for surface damage?

No. In absence of special rules about the liability of UAS operators for surface damage, one should refer to the general liability regulations.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

There is no reporting system which is specifically intended for UAS.

Apparently, in cases of UAS accidents and incidents, it is necessary to apply the general provisions of the Law, including the Indicative List of Occurrences in Civil Aviation Sector and Recommended Amount of Information to Be Provided When Notifying about Occurrences, approved by Order of the Aviation Authority No. 619 dated 21 August 2013 (the "Occurrences List").



Accidents and incidents that require mandatory reporting within 72 hours after they take place are listed in Annex B1 of the Occurrences List. Relevant notification shall be made in strict accordance with the notification form attached as Annex B2 to the Occurrences List.

Notably, the Concept provides for a shorter list of mandatory reports as compared to the Occurrences List. The Concept establishes that only collisions with another aircraft, people or objects of critical infrastructure shall be mandatory reported.

32. What system and procedures are in place for the investigation of UAS accidents?

The Law does not specifically regulate the investigation of UAS accidents; therefore, the general investigation rules shall apply.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

Generally, aviation insurance matters are regulated by the Procedure and Rules of Mandatory Aviation Insurance of Civil Aviation, approved by CMU Resolution No. 676 dated 6 September 2017, as amended (the "Insurance Rules"). However, these Insurance Rules do not stipulate specific rules for the UAS sector.

Considering the norms of the Insurance Rules, UAS operators shall be obliged to have insurance for their operations regardless of the take-off weight or weight of a UAS.

The Concept envisages mandatory liability insurance for operating: (i) small non-commercial UAS with the take-off weight between 4 kg (8.82 lb.) and 20kg (44.09 lb.), (ii) small commercial UAS, and (iii) medium and large UAS, regardless of their commercial/non-commercial usage.

34. What is insured? The operator, the business or the aircraft?

The Concept envisages mandatory liability insurance for damage caused to third parties.

According to the Insurance Rules, mandatory insurance shall include, inter alia:

- a. liability insurance of air carriers for damage to passengers, luggage, mail, cargo;
- b. liability insurance of commercial aircraft operators for damage caused to third parties;
- c. liability insurance of non-commercial aircraft operators or owners for damage caused to third parties;
- d. insurance of aircraft crew members and other aviation personnel;
- e. insurance of aircraft;
- f. liability insurance of educational institutions for damage caused to third parties during performance of flight trainings;

- g. insurance of customers of aviation works and persons authorized to ensure the technological process during performance of such works.

Financial support and state aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

The Law does not foresee any financial support by the government and/or state aid in the UAS sector.

The Law establishes state support through certain exemptions from taxation for companies of the aviation industry in general. According to Article 2 of the Law of Ukraine "On Development of Aircraft Construction" No. 2660-III dated 12 July 2001, as amended (the "Aircraft Construction Law"), Ukrainian legal entities may receive state support if they meet certain mandatory criteria and are included to the List of Subjects of Aircraft Construction for Which Temporary Measures on State Support are Introduced, approved by the CMU (the "Support List").

Since the criteria of the Aircraft Construction Law currently refer to the spheres of vehicle repair, military aircraft construction, and fulfilment of Ukrainian international obligations, the Support List does not list any companies in the UAS sector.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

Please see our answer to Question 35 above.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

Please see our answer to Question 35 above.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

Please see our answer to Question 35 above.

Miscellaneous

39. Legal Outlook

Over the past few years, UAS have become central to the operations of various businesses and government bodies in Ukraine and have forced its way through areas where certain industries the modern UAS legislation requires comprehensive adjustment and integration of different areas of the Law, including aviation laws, telecommunication laws, privacy laws criminal justice laws, etc., which is a matter of long-term and multi-level reforms.

United Kingdom

United Kingdom

Contributed by: Ben Graham-Evans

Note: Answers to the questions below are accurate as at 21st Feb 2019 however the law applicable to drones in the UK is evolving fast. On 20 Feb 2019 the UK Government published an amendment to the UK Air Navigation Order 2016 which contains material changes to legislation regarding the operation of small unmanned aircraft. The amendment is "The Air Navigation (Amendment) Order 2019" which can be found at <http://www.legislation.gov.uk/ukxi/2019> and this comes into force on 13 March 2019. Additional changes come into force on 30 November 2019. A summary of the key changes to be made can be found via the following link: <https://publicapps.caa.co.uk/docs/33/CAP1763%20New%20UAS%20guidance.pdf>

A key focus of the amendment covers the safeguarding of the aerospace surrounding UK aerodromes, infringement of which has recently made headline news around the world. For specific advice and guidance please don't hesitate to contact the author.

Ben Graham-Evans
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General

1. Are Unmanned Aircraft Systems ("UAS") considered as "aircraft" in your country?

Drones are considered 'unmanned aircraft' by the UK CAA; 'an aircraft that does not carry a human operator'.

2. Which bodies regulate the remotely-piloted and/or unmanned aircraft operations in your country, under what basic laws?

The UK CAA regulates the use of drones through application of the Civil Aviation Act 1982 and the Air Navigation Order 2016.

3. Is there a distinction between "State UAS" and "Private UAS"?

UK Emergency services are exempt from flying only within line of sight and from flying in congested areas in short term reactive situations aimed at preventing risk to human life or during a major incident.

Drones are also used in the military for air surveillance and airstrikes. These drones are regulated by the Military Aviation Authority and are classified by reference to their size, how they are operated and the risk they pose to people on the ground. The classification the drone is given determines the level of regulation.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Yes - there are separate rules from the UK CAA for drones being used for recreational purposes and those used for commercial purposes. The rules applying to commercial operations are further divided between small drones and larger unmanned aircraft with an operating mass of > 20kgs.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

No.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The UK CAA is responsible for drone safety regulations which currently impose the following restrictions on flights:

- (1) Drone must be kept in sight at all times
- (2) Stay below 400ft (120m)
- (3) 150m away from people and properties
- (4) 50m from crowds or built up areas
- (5) Stay away from aircraft, airports and airfields

7. Is the applicable regulation considering the rule of 1 UAS = 1 pilot?

No. There is no proposed restriction of 1 pilot for 1 drone.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

To operate commercial drones, or to operate a drone beyond the restrictions imposed on recreational drones, permission must be sought from the UK CAA directly.

9. Are there any kind of taxes or fees regarding the licensing procedure?

Currently no, however the UK is bringing in a requirement for all drones over 250g to be registered, which will carry a registration fee.



10. Is a Certificate of Airworthiness mandatory to operate a UAS?

No - anyone can buy a UAS and fly it for recreational purposes.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

No

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

None stipulated.

13. Is drone transport permitted/regulated in your country?

No. Amazon Logistics have proposed using drones to deliver within short distances from their warehouses, however this is not permitted by current regulations and was reported incorrectly by the media.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

No, although in the case of drones with cameras the Data Protection Act 2018 may apply.

15. Is there a specific control-link interference regulation applicable to UAS operations?

N/A

16. Do specific rules regulate UAS manufacturers?

Not aviation specific as far as we are aware.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

Comply with UK requirements pertaining to UAS operations.

18. Are fares or pricing of UAS operations regulated and, if so, how?

Not as far as we are aware.

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

Currently there is no requirement. However, the UK Government has announced plans to introduce mandatory registration of drones over 250g and a requirement to take a safety awareness course.

20. Who is entitled to be mentioned in the UAS register?

There is no firm set of rules or a timescale on implementation of the new registration requirements, however it is thought that the register would reflect the owner of the drone only.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

N/A

22. Do specific rules regulate the maintenance of UAS?

No.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

Consumer drones (those under 20kg) are restricted to being flown no higher than 120 meters and kept at least 50 meters away from people and private property and 150 meters from crowds and built up areas. The drone must always remain in line of sight. To amend the restrictions permission is required from the CAA where pilot competence should be demonstrated.

For commercial drones, the drone must be registered with the CAA. This commercial definition extends to YouTube and personal blogging. Any permission given from CAA lasts for 12 months.

24. Are UAS obliged to take-off from and / or land in specific facilities?

No - other than the restrictions outlined above.

25. Which kind of airspaces are UAS permitted to operate with?

Must be operated within the permitted restrictions but also avoid restricted airspaces (military, airports etc.).

26. Which airspaces are restricted for UAS?

As above.

27. Which zones are UAS operations banned?

Restricted airspace such as military airspace are banned.

28. Who provides air traffic control services for UAS in your country?

None.

United Kingdom *Continued...*

Liability and accidents

29. Are there any special rules in respect of loss or damage to cargo?

Not as far as we are aware.

30. Are there any special rules about the liability of UAS operators for surface damage?

Not as far as we are aware.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

Not as far as we are aware.

32. What system and procedures are in place for the investigation of UAS accidents?

Not as far as we are aware.

33. Are UAS operators obliged to have insurance for their operations? If so, which are their main features?

It is advised to have public liability insurance when using a drone in public spaces. In some instances, insurance may be covered by home insurance policies, however most will exclude liability arising out of vehicles or aircraft.

United States of America

McAfee & Taft

United States of America

Contributed by: John R. Chubbuck and Allison C. McGrew

General

1. Are UAS considered as "aircraft" in your country?

Yes. The United States Transportation Code defines an "aircraft" as "any contrivance invented, used, or designed to navigate, or fly in, the air". The Federal Aviation Administration (the "FAA") has adopted the term "unmanned aircraft" or "unmanned aircraft system" to describe the subset of aircraft that are commonly known as "drones." The FAA defines an "unmanned aircraft" as an aircraft that is "operated without the possibility of direct human intervention from within or on the aircraft." (FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, § 331(8), 126 Stat. 11, 72 (2012), which is referred to herein as the "FAA Modernization Act", and which has directed the promulgation of regulations specific to UAS). Additionally, the term "unmanned aircraft system" has been adopted by the FAA in recognition of the fact that an unmanned aircraft system includes not only the airframe, but also associated elements necessary for the safe and efficient operation of the aircraft, such as the control station and communication links.

Additionally, some UAS may qualify as "model aircraft." A model aircraft is an "unmanned aircraft that is - (1) capable of sustained flight in the atmosphere; (2) flown within visual line of sight of the person operating the aircraft; and (3) flown for hobby or recreational purposes" (FAA Modernization Act § 336(c), which is referred to herein as the "Special Rule for Model Aircraft").

2. Which bodies regulate the remotely piloted and/or unmanned aircraft operations in your country, under what basic laws?

The FAA regulates registration and operation of aircraft in the national airspace system, including UAS.

Because UAS are included in the definition of "aircraft," UAS are subject to all of the FAA regulations related to aircraft (found generally at 14 C.F.R. Parts 1 through 1310), unless specifically excluded from a regulation. In addition, small UAS are also subject to more specific regulations found at 14 C.F.R. Part 48, regarding registration and marking, and 14 C.F.R. Part 107 ("Part 107"), regarding operation. Operators may obtain waivers of certain Part 107 requirements.

It is contemplated that the FAA will issue regulations specific to large UAS; however none have been issued at this time. As a result, large UAS remain subject to all FAA Regulations pertaining to aircraft.

A further subset of UAS has been identified as "model aircraft." Under the Special Rule for Model Aircraft, the FAA is specifically prohibited from promulgating rules regarding model aircraft that meet all of the following criteria:

- (1) the aircraft is flown strictly for hobby or recreational use;
- (2) the aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization;
- (3) the aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program administered by a community-based organization;
- (4) the aircraft is operated in a manner that does not interfere with and gives way to any manned aircraft; and
- (5) when flown within 5 miles of an airport, the operator of the aircraft provides the airport operator and the airport traffic control tower (when an air traffic facility is located at the airport) with prior notice of the "operation"

Accordingly, UAS which qualify as "model aircraft" are not subject to Part 107's requirements if they are operated exclusively within the Special Rule for Model Aircraft. Model aircraft are subject to 14 C.F.R. Part 101, which restricts the use of model aircraft in a manner so that such use does not "endanger the safety of the national airspace system."

Part 107 is limited to small UAS, and thus does not apply to large UAS. The operational requirements of 14 C.F.R. Part 91 ("Part 91"), which are generally applicable to aircraft, apply to large UAS. However, large UAS by their nature may not be able to comply with all of the requirements of Part 91. Accordingly, operators of large UAS must seek exemptions to such requirements under Section 333 of the FAA Modernization Act ("Section 333"). Section 333 exemptions are granted on a case-by-case basis.

Local governments (e.g., states and municipalities) may also pass laws relating to UAS. However, it is well established in the United States that federal law is the "supreme Law of the Land," and that state and local laws may be invalidated if a court determines that federal law preempts the local laws. The United States Transportation Code further clarifies that "[t]he United States Government has exclusive sovereignty of airspace of the United States." Thus, state and local laws attempting to regulate UAS operations may be preempted by federal law. Whether or not a state law is preempted by federal law, however, depends upon the particular subject and scope of the state law. Therefore, some state laws regulating UAS may stand in conjunction with federal regulation, while others may be deemed preempted by a federal law regulating the same subject matter. The exact scope of federal preemption of state laws relating to UAS is still developing on a case-by-case basis and is not well settled.

United States of America

Continued...

3. Is there a distinction between "State UAS" and "Private UAS"?

Yes, operators of privately owned UAS and operators of UAS owned by government entities or organizations have different requirements for operations, pilot qualifications, and registration. These distinctions are discussed further below.

4. Is there any distinction between public, leisure and commercial UAS? What regulations are provided for UAS operations in each group?

Yes, UAS used for public, leisure, and commercial purposes are subject to different requirements.

Generally speaking, "public aircraft" include aircraft owned by agencies, offices or subdivisions of the United States (other than aircraft of the U.S. Armed Forces), the states, the District of Columbia, or a territory or possession of the United States. UAS owned by such entities ("public UAS") must be registered with the FAA in accordance with 14 C.F.R. Part 47 ("Part 47") or 14 C.F.R. Part 48 ("Part 48") (which registration processes are discussed further below).

Operators of public UAS may operate under Part 107 or under a blanket public Certificate of Waiver of Authorization under Section 334 of the FAA Modernization Act.

UAS operated for recreational or hobby use ("recreational UAS") are operated "for enjoyment and not for work, business purposes, or for compensation or hire."

Operators of recreational UAS have two options for operations. The first option is to fly in accordance with the Special Rule for Model Aircraft (which operational limitations are discussed above). If the operator of a recreational UAS does not operate under the Special Rule for Model Aircraft, the UAS must be registered with the FAA as a "non-modeler," the operator must obtain a remote pilot certificate, and the operations must comply with Part 107.

All UAS used for commercial purposes (i.e., not solely for recreational or hobby purposes) ("commercial UAS") must be registered with the FAA under Part 47 or Part 48 (which registration processes are discussed further below).

Commercial UAS may be operated in the following ways:

- (1) Under Part 107 (applies only to small UAS);
- (2) Under an exemption granted under Section 333; or
- (3) By obtaining an airworthiness certificate.

If the anticipated operations of the UAS do not fall within the Special Rule for Model Aircraft or Part 107, the owner may apply for a Part 107 waiver or a Section 333 exemption.

5. Is there a distinction, in terms of regulation, between completely autonomous UAS and remotely-piloted UAS?

The current regulations do not distinguish between completely autonomous UAS and remotely-piloted UAS. While current regulations do not specifically prohibit the operation of

completely autonomous UAS, certain operational rules effectively limit the opportunity for the operation of completely autonomous UAS. For example, unless permitted by a Section 333 exemption, Part 107 waiver, or other special authorization, UAS operators (or visual observers in communication with the operator) must maintain a visual line of sight of the UAS during all UAS operations. UAS operators may obtain a waiver of this requirement under Part 107. Additionally, Part 107 requires (1) the designation of a remote pilot in command before or during the flight of the small UAS and (2) the remote pilot in command to have "the ability to direct the small unmanned aircraft to ensure compliance with the applicable provisions of [14 C.F.R. Chapter I]." This requirement is not waivable under Part 107.

Regulation of Unmanned Aircraft Systems ("UAS") operations - Safety

6. How are UAS operations regulated in terms of safety?

The FAA's regulatory framework for UAS operations and registration aims to safely integrate UAS into the national airspace system by promoting safe operations of UAS and increasing accountability for incidents involving UAS by accurately identifying UAS owners. For example, Part 107 sets forth the qualifications for remote pilot certification as well as a requirement that the remote pilot in command inspect the UAS prior to operation to determine that it is in a condition for safe operation. Part 107 also includes restrictions on where small UAS may be operated (e.g., not above non-participating human beings) and requires that small UAS yield the right of way to all other aircraft or other airborne vehicles.

For UAS operated exclusively in accordance with the Special Rule for Model Aircraft, the community-based safety guidelines (such as those of the Academy of Model Aeronautics) would govern these operations.

For UAS operated pursuant to a Section 333 exemption, the exemption details the operational limitations for the UAS to promote safety, including pilot qualifications and maintenance requirements.

7. Is the applicable regulation considering the rule of 1 UAS=1 pilot?

With respect to small UAS, Part 107 provides that "[a] person may not operate or act as a remote pilot in command or visual observer in the operation of more than one unmanned aircraft at the same time." However, UAS operators may obtain a waiver of this requirement. Additionally, an operator's Section 333 exemption could potentially allow an operator to operate more than one UAS at a time.

Regulation of Unmanned Aircraft Systems ("UAS") operations - licensing

8. What procedures are there to obtain licenses or the rights to operate UAS?

Parties who operate small UAS for commercial purposes must obtain a remote pilot certificate to operate a small UAS under Part 107 or be under the direct supervision of an operator with such a certificate. To obtain the certificate, the operator must take an aeronautical knowledge test and complete the FAA Airman

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Certificate and/or Rating Application. Additionally, operators of commercial UAS are vetted by the Transportation Security Administration. Pilots who hold an Airman Certificate issued pursuant to 14 C.F.R. Part 61 may obtain a remote pilot certificate by completing the FAA's online course, having a current flight review, submitting the appropriate application, and having the application approved by a certificated flight instructor, designated pilot examiner, an airman certification representative for a pilot school, or the local Flight Standards District Office.

Parties who operate small UAS for recreational purposes are not required to obtain a remote pilot certificate.

With respect to large UAS, the Section 333 exemption will specify the pilot qualifications.

9. Are there any kind of taxes or fees regarding the licensing procedure?

Owners of UAS which are subject to the FAA's registration requirements must pay the \$5.00 registration fee.

The Knowledge Testing Centers that administer the aeronautical knowledge test required for obtaining a remote pilot certificate charge approximately \$150.00 for the initial aeronautical knowledge test.

The cost of obtaining and maintaining the license required by a Section 333 exemption (including training) varies depending on the type of license required.

10. Is a Certificate of Airworthiness mandatory to operate a UAS?

No. UAS may be operated without a Certificate of Airworthiness under Part 107 or pursuant to a Section 333 exemption.

11. Is access to the market for the provision of UAS operation services regulated and, if so, how?

Other than the pilot licensure, operational, and registration requirements discussed herein, there are no additional government barriers to entering the UAS operation services market.

12. What requirements apply in the areas of financial strength and nationality of ownership regarding control of UAS?

Part 107 does not contain an economic requirement for small UAS operations.

It is possible that a Section 333 exemption may require a certain level of financial strength, but this is determined on a case-by-case basis.

Please see below for discussions regarding nationality of ownership.

13. Is drone transport permitted/regulated in your country?

Transportation of property by small UAS for compensation or hire is permitted by Part 107 so long as the operator complies with all requirements of Part 107. However, Part 107 provides that no waivers will be issued to allow the carriage of property of another

by aircraft for compensation or hire when such operations are from a moving vehicle or aircraft or beyond the visual line of sight. Otherwise, drone transport is generally not permitted without a waiver or exemption.

Regulation of Unmanned Aircraft Systems ("UAS") operations - others

14. Is there a specific Data & Privacy Protection regulation applicable to UAS operations?

There are no FAA-promulgated data or privacy protection regulations specifically directed at UAS operations. However, generally applicable federal laws (such as the Fourth Amendment's protection against unreasonable searches) may affect UAS operations in connection with data and privacy protection. Additionally, local government entities may promulgate laws aimed at data and privacy protection.

15. Is there a specific control link interference regulation applicable to UAS operations?

On a federal level, there are no regulations specifically addressing UAS control-link interference. However, it is possible that general laws relating to interference with radio signals and communications could come into play.

16. Do specific rules regulate UAS manufacturers?

On a federal level, there are no regulations specifically directed at the manufacture of UAS.

17. What requirements must a foreign UAS operator satisfy in order to operate to or from your country?

This depends on the purpose and under which authority the UAS is operated.

If the foreign UAS operator is operating in compliance with the Special Rule for Model Aircraft, the foreign operator must complete the online registration process to obtain a "recognition of ownership" from the FAA prior to operating the UAS in the United States.

If the foreign UAS operator is not operating for commercial purposes but the operations are not in compliance with the Special Rule for Model Aircraft, the foreign operator may operate under Part 107 by obtaining a remote pilot certificate from the FAA. This requires the foreign operator to submit an application for foreign air carrier economic licensing.

If the UAS is to be operated for commercial purposes, the foreign owner must register the UAS in the country in which the owner is eligible to register and obtain operating authority from the U.S. Department of Transportation.

18. Are fares or pricing of UAS operations regulated and, if so, how?

On a federal level, there are no regulations specifically directed at the fares or pricing of UAS operations. However, laws generally applicable to consumer protection, price fixing, etc., could apply.

United States of America

Continued...

The Aircraft ("UAS")

19. Must UAS be registered in any particular register?

In general, a person may not operate an aircraft (including UAS) in United States airspace unless the aircraft is registered. This includes small UAS which qualify as model aircraft (after the decision in Taylor, model aircraft were not required to be registered with the FAA -See Taylor, 856 F.3d at 1092-, however, Congress reinstated the registration requirement for unmanned aircraft). UAS which are less than 0.55 pounds are not required to be registered with the FAA. If a UAS is required to be registered with the FAA, the failure to so register may result in the assessment of regulatory and criminal penalties.

There are currently two methods available to register a UAS with the FAA: (1) the traditional **"paper"** registration process used for manned aircraft under Part 47, and (2) the newer online registration system created pursuant to Part 48.

Registration under Part 48

The FAA's online system is available for most small UAS, regardless of their use. However, online registration is not available:

- for large UAS;
- for UAS owned by a trustee under a trust agreement;
- for UAS whose owner uses a voting trust to meet U.S. citizenship requirements;
- for UAS that need N-number registration to operate outside the United States; and
- when public recording is desired for a UAS's security, loan, lease, or ownership documents.

If one of the above applies, then the owner must register the UAS using the traditional **"paper"** registration and recordation system under Part 47, which is discussed in further detail below.

When registering a UAS online, the owner must indicate whether the UAS will be used for recreational purposes only or for commercial purposes. If the UAS will be used for recreational purposes only, the owner must indicate whether the UAS will be operated under Part 107 or under the Special Rule for Model Aircraft. Registration is valid for three years. The Certificate of Aircraft Registration must be available to the operator when operating the UAS and can be available either in paper form or electronically. The online UAS registration system may be accessed at <https://faadronezone.faa.gov/#/>.

Registration under Part 47

If a UAS is not eligible for online registration, then the applicant must use the traditional **"paper"** registration process. The process to register a UAS under Part 47 is similar to the process of registering a manned aircraft with the FAA. An applicant for registration must file certain documents (including evidence of ownership and a registration application) with the FAA Civil Aircraft Registry in Oklahoma City, Oklahoma, and will receive a hard copy Certificate of Aircraft Registration. As with manned aircraft, UAS registered under Part 47 are assigned N-numbers.

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As noted above, if public recording is desired for a UAS's loan, lease, or ownership documents, the UAS must be registered with the FAA under Part 47. Accordingly, a lender must perfect its security interest in a UAS by filing the instrument granting such interest with the FAA Civil Aircraft Registry.

20. Who is entitled to be mentioned in the UAS register?

The United States FAA Civil Aircraft Registry is an owner registry (rather than an operator registry) for both manned and unmanned aircraft. For UAS registered under Part 47, the documents filed with the FAA (including documents evidencing ownership and any lease or security agreements) are available to the public through the FAA Civil Aircraft Registry. The Part 48 online registration is not currently searchable by the general public. However, the FAA's Freedom of Information Act webpage includes a list of small UAS registry enrollments and registrants, which includes general geographic data such as the city, state, and country of the registrants, but not specific personal information such as names or addresses.

21. Do requirements or limitations apply to the ownership of a UAS listed on your country's register?

As with manned aircraft, to be eligible for U.S. registration, the owner of the UAS must qualify as a citizen of the United States under the United States Transportation Code or a lawful permanent resident. Registrants of small UAS used solely for hobby or recreational purposes must be at least 13 years old, while registrants of small UAS used for commercial purposes must be at least 16 years old.

22. Do specific rules regulate the maintenance of UAS?

Part 107 requires the remote pilot in command to ensure that the UAS is in a safe operating condition without setting forth specific maintenance requirements.

UAS operated exclusively within the Special Rule for Model Aircraft may be subject to maintenance or inspection requirements under the community-based safety guidelines.

For large UAS, the Section 333 exemption will detail maintenance and inspection requirements.

Operation Zones

23. Which are the operational and distance limitations for an aerial work with a UAS? Is there any kind of certificate or permission to operate beyond those limitations?

Generally, small UAS may be operated up to 400 feet above ground level or within 400 feet of a structure's immediate uppermost limit, in permitted airspace. See below for airspace restrictions. Additionally, unless provided otherwise by a waiver or exemption, UAS operators (or a visual observer in communication with the operator) must maintain a visual line of sight of the UAS, unaided by any device other than corrective lenses, throughout the entire flight. UAS operators may request waivers or special authorizations in order to operate in otherwise prohibited areas or beyond a visual line of sight.

McAfee & Taft

24. Are UAS obliged to take-off from and / or land in specific facilities?

Not as a general rule. However, the conditions of a Part 107 waiver or Section 333 exemption could potentially impose such requirements.

25. Which kind of airspaces are UAS permitted to operate with?

UAS operations are generally permitted up to 400 feet above ground level or within 400 feet of a structure's immediate uppermost limit, in permitted airspace. Some airspace restrictions that commonly affect UAS operations in the United States are discussed below.

26. Which airspaces are restricted for UAS?

UAS operations (including public UAS, recreational UAS/model aircraft, and commercial UAS) are prohibited within the Security Sensitive Airspace defined under UAS NOTAM FDC 7/7282. The restrictions extend from the surface to 400 feet above ground level. UAS operations are prohibited in areas where a Temporary Flight Restriction ("TFR") is in effect. A list of active TFRs is available at <http://tfr.faa.gov/tfr2/list.html>. There are also special restrictions related to the operation of UAS in and around certain stadiums and sporting events. Additionally, UAS operations are generally prohibited in airspace classified as prohibited, restricted or special use airspace. Special use airspace consists of **"airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature, or wherein limitations are imposed upon aircraft operations that are not a part of those activities or both"** (14 C.F.R. § 73.3 (2016)). UAS operators can use a smartphone app called B4UFLY (available in the App Store for iOS and Google Play Store for Android) to determine whether there are any restrictions or requirements in effect at the location where they want to operate their UAS.

Part 107 prohibits the operation of small UAS in Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport without prior authorization from Air Traffic Control. The FAA is in the process of deploying the Low Altitude Authorization and Notification Capability ("LAANC"), which **"provides access to controlled airspace near airport through near real-time processing of airspace authorizations below approved altitudes in controlled airspace."** Additionally, operators may obtain a Part 107 waiver in order to operate in such airspace. In situations requiring both a waiver and an airspace authorization, the waiver process must be used in lieu of LAANC.

Recreational UAS operators operating under the Special Rule for Model Aircraft must give notice to both the airport operator and air traffic control tower (if the airport has a tower) for operations within five miles of an airport. Recreational UAS operations are not permitted in Class B airspace around most major airports (e.g., New York, Chicago, Dallas-Fort Worth, Denver) without specific air traffic permission and coordination. This includes heliports and sea-based airports. The airport operator can object to the proposed UAS model aircraft operation if the proposed operation would endanger the safety of the airspace. However, other than airports with Class B airspace, the airport operator cannot prohibit or prevent the model aircraft operator from operating within five miles of the airport.

27. In which zones are UAS operations banned?

See above.

28. Who provides air traffic control services for UAS in your country?

To the extent that air traffic control service is available for UAS, UAS air traffic control services are provided by the same ATC system as manned aircraft.

Liability and Accidents

29. Are there any special rules in respect of loss or damage to cargo?

The FAA has not promulgated specific rules, but general tort law, contract law, and other state specific laws may apply.

30. Are there any special rules about the liability of UAS operators for surface damage?

The FAA has not promulgated specific rules, but general tort law, contract law, and other state specific laws may apply.

31. Is there a mandatory accident and incident reporting system and, if so, how does it operate?

Under 14 C.F.R. § 107.9, the remote pilot in command of the small UAS is required to report to the FAA within 10 calendar days of the occurrence of any of the following resulting from a small UAS operation:

- (1) Serious injury to any person or any loss of consciousness;
- (2) Damage to any property, other than the small unmanned aircraft, unless one of the following conditions is satisfied:
 - (a) The cost of repair (including materials and labor) does not exceed \$500; or
 - (b) The fair market value of the property does not exceed \$500 in the event of total loss.

Accidents may be reported via an online portal <https://faadronezone.faa.gov/#/home>. The FAA also encourages witnesses to contact local law enforcement if a UAS incident results in injury or damage to property or if a person observes a UAS being operated recklessly or in a dangerous manner.

Large UAS are subject to the reporting requirements of 49 C.F.R. Part 830, which applies to aircraft generally. Generally speaking, the operator must notify the nearest National Transportation Safety Board office immediately and by the most expeditious means available following an accident or certain incidents such as equipment malfunctions or failure or incapacity of required flight crewmembers.

United States of America

Continued...

32. What system and procedures are in place for the investigation of UAS accidents?

Upon being notified of an accident by the remote pilot in command, witnesses, or local law enforcement, the FAA may investigate the incident. The investigative process is not as well developed as the process for investigating accidents involving manned aircraft.

33. Are UAS operators obliged to have an insurance for their operations? If so, which are their main features?

Generally speaking, current FAA regulations do not require insurance for small or large UAS. However, a waiver or exemption could require that the owner or operator obtain insurance.

34. What is insured? The operator, the business or the aircraft?

This depends on the type of coverage. Insurers offer a variety of coverages for UAS operations, including on-demand coverage that allows remote pilots to only pay for coverage for specific flights.

Financial Support and State Aid

35. Are there sector-specific rules regulating direct or indirect financial support to companies by the government or government-controlled agencies or companies (state aid) in the UAS sector? If not, do general state aid rules apply?

We are not aware of any rules regulating state aid to UAS operators or state aid programs specifically targeting the UAS industry. However, it is possible that generally applicable state aid programs could be available to qualified UAS operators, in which case the rules and regulations pertaining to such programs would apply.

36. What are the main principles of the stated aid rules applicable to the UAS sector?

Please see response to Question 35, above.

37. Are there exemptions from the state aid rules or situations in which they do not apply?

Please see response to Question 35, above.

38. Must clearance from the competition authorities be obtained before state aid may be granted?

Please see response to Question 35, above.

Contributors

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