

Guide to Flying Drones in Spain

Practical requirements for beginner drone operations in Spain

Important note: this is an educational guide, not legal advice. Before flying, always check the current AESA website, ENAIRE Drones map and any local restrictions for the exact location and date of the operation.

1. Quick Overview

In Spain, drone flights are regulated under the European UAS framework and Spanish national rules. The main authority is AESA, the Spanish Aviation Safety and Security Agency. For most beginner, educational or low-risk flights, the relevant framework is the Open Category, divided into A1, A2 and A3.

The key idea is simple: before flying, you must know who the operator is, what drone is being used, where the flight will take place, what category applies, what training is required, whether insurance is needed, and whether the airspace or location has restrictions.

2. Minimum Requirements Before Flying

- Register as a UAS operator with AESA when required.
- Place the operator registration number on the drone.
- Obtain the required remote pilot training certificate: usually A1/A3, and A2 when applicable.
- Check the minimum age requirement, normally 16 years, with exceptions depending on drone class and operation.
- Check whether civil liability insurance is required for the specific flight.
- Check whether the drone must have Direct Remote Identification (DRI).
- Identify the drone class marking: C0, C1, C2, C3, C4, or legacy/no class marking.
- Identify the operational category: Open, Specific or Certified.
- Check the ENAIRE Drones map and UAS geographical zones before flying.
- Respect the 120 m maximum height limit in Open Category, unless a specific permitted exception applies.
- Keep the drone within visual line of sight, unless operating under a permitted specific procedure.
- Do not fly over assemblies of people.
- Respect privacy, protected areas, airports, heliports, military zones, environmental restrictions and local rules.

3. Step-by-step Decision Process

1. Identify the drone: weight, class marking, camera/sensor, serial number and whether it is a toy or a UAS.
2. Define the purpose of the flight: leisure, educational activity, photogrammetry, filming, professional work or heritage documentation.
3. Check whether you must register as an operator with AESA.
4. If registration is required, obtain the operator number and attach it visibly to the drone.
5. Check which Open Category subcategory applies: A1, A2 or A3.
6. Complete the required training: A1/A3 for many Open Category flights; A2 for operations closer to people with C2 drones.
7. Check insurance requirements for the exact drone and operation.
8. Check whether the drone must use Direct Remote Identification.
9. Open ENAIRE Drones or the official airspace map and review restrictions at the exact location.
10. If the flight is in an urban area or sensitive location, check whether an additional communication or coordination is required with the relevant authority, including the Ministry of Interior when applicable.
11. Plan the flight: altitude, route, take-off point, emergency area, people nearby, privacy risks, weather and battery.
12. Fly only if the legal, safety and environmental conditions are clear.
13. Keep documentation available during the flight: operator registration, pilot certificate, insurance evidence when required, and any permissions or communications.

4. Operator Registration

A UAS operator is the person or organisation that uses, or intends to use, one or more drones. In Spain, operators resident in Spain or with their main place of business in Spain register through AESA.

According to AESA, registration is required in the Open Category when the drone has a maximum take-off mass of 250 g or more, or when it has a sensor capable of capturing personal data, such as a camera, unless it is classified as a toy under the relevant toy directive.

Registration is also required for any drone used in the Specific Category.

The registration is free through AESA's electronic office. Once obtained, the operator registration number must be included on all drones operated by that operator, in a way that can be read when the drone is on the ground.

5. Pilot Training

The remote pilot must have the level of training required by the operational category and subcategory. For the Open Category, AESA provides online training and examination for A1/A3. After passing the online exam, AESA issues the certificate.

A2 operations require additional competency. In the EASA Open Category framework, A2 normally applies when flying closer to people with a C2 class drone. The pilot needs A1/A3 first, practical self-training and an additional theoretical examination.

Subcategory	Typical meaning	Training idea
A1	Fly over people only under strict limits; never over assemblies of people.	Usually requires reading the manual for C0; A1/A3 training for C1.
A2	Fly close to people with distance limits.	A1/A3 plus A2 competency when applicable.
A3	Fly far from people and urban areas.	A1/A3 training for many drones.

6. Drone Classes and Legacy Drones

European drone class markings help determine where and how a drone can be flown in the Open Category. Common classes include C0, C1, C2, C3 and C4. The class marking is usually shown on the drone body and in its EU Declaration of Conformity.

Drones without class marking are often called legacy drones. Under EU transition rules, drones placed on the market before 1 January 2024 may still be used, but with specific limits. AESA information indicates that legacy drones under 250 g may operate in A1, while legacy drones under 25 kg may operate in A3, subject to the applicable conditions.

- C0: under 250 g, usually A1, no flight over assemblies of people, 120 m limit.
- C1: under 900 g, usually A1, registration required and A1/A3 training required.
- C2: under 4 kg, usually A2 or A3, distance from uninvolved people required.
- C3/C4: under 25 kg, usually A3, far from people and urban areas.
- Legacy drones: check AESA/EASA conditions carefully before flying.

7. Insurance

AESA indicates that operators must have civil liability insurance covering third-party damage that may arise during and because of each flight, subject to the rules and exceptions in Spanish regulation.

AESA's Open Category page explains that insurance obligations depend on factors such as drone mass and subcategory. It also notes exceptions for certain Open Category A1 operations and A3 operations with drones under 20 kg. Because this point depends on the exact operation, the

safest practical rule is to check AESA's current insurance section before flying and keep evidence of insurance when required.

8. Direct Remote Identification

Direct Remote Identification, or DRI, allows certain information about the drone and operation to be broadcast locally during flight. AESA states that drones in Open Category with class markings C1, C2 and C3, and drones in Specific Category under certain scenarios or authorisations, must be equipped with DRI.

For practical purposes, before flying in Spain, check whether your drone class and operation require DRI, confirm that the drone has the required serial number and identification function, and make sure the operator number is correctly configured when required.

9. Where You Can Fly

Location is one of the most important parts of drone compliance. Even if the drone, pilot and insurance are correct, the flight may be restricted by airspace, airports, heliports, military areas, protected natural areas, critical infrastructure, urban environments or local rules.

Before every flight, check the official ENAIRE Drones map or the relevant official UAS geographical zone information. Do this for the exact coordinates, date and type of operation. A place that looks empty may still be restricted.

- Check nearby airports, aerodromes and heliports.
- Check controlled airspace and UAS geographical zones.
- Check military, police, emergency or critical infrastructure restrictions.
- Check environmental protection zones.
- Check urban restrictions and privacy risks.
- Check whether the site owner or heritage authority requires permission.

10. Basic Flight Rules

- Do not exceed 120 m above ground level in Open Category, unless a permitted exception applies.
- Keep the drone within visual line of sight.
- Do not fly over assemblies of people.
- Respect the distance required from uninvolved people according to A1, A2 or A3.
- Do not fly if weather, wind, visibility or battery conditions are unsafe.
- Respect privacy: avoid capturing people, homes, license plates or sensitive spaces unnecessarily.
- For FPV flights, use a competent observer when required so the operation remains safe and compliant.

- Land immediately if the flight becomes unsafe or if an emergency aircraft appears.

11. Urban Flights and Additional Communications

The video highlights that urban flights may require additional communication to the Ministry of Interior or relevant authority. Treat this as an important warning point: flying in cities, near people, buildings or sensitive infrastructure can trigger extra national requirements beyond the basic Open Category rules.

Before any urban flight in Spain, check AESA guidance, ENAIRE Drones and the Ministry of Interior procedure that applies to the location and type of operation. Keep a copy of any communication, authorisation or acknowledgement with your flight documentation.

12. Practical Checklist Before a Flight

- Drone identified: model, weight, class marking and serial number.
- Operator registration completed if required.
- Operator number attached to the drone.
- Remote pilot certificate available: A1/A3 and A2 if required.
- Insurance checked and evidence available when required.
- DRI requirement checked and configured when required.
- ENAIRE Drones map checked for the exact location.
- Site permissions checked, especially for heritage, private property or urban spaces.
- Weather, wind, visibility and daylight checked.
- Take-off and landing points selected.
- Emergency landing area identified.
- People, vehicles, animals and obstacles considered.
- Battery, propellers, firmware, memory card and controller checked.
- Camera settings checked if the purpose is photogrammetry or filming.
- Flight plan explained to the team.

13. Step-by-step Example: Educational Photogrammetry Flight

14. Choose a simple, legal and low-risk site, such as an open outdoor area without uninvolved people nearby.
15. Check ENAIRE Drones and confirm there are no restrictions or additional requirements.
16. Confirm operator registration, pilot certificate, insurance and DRI requirements.
17. Define the goal: for example, an orthophoto, simple 3D model or documentation of a small heritage element.
18. Plan the photo route: nadir images for the ground or roof, oblique images for facades or vertical elements.
19. Set a safe altitude below the applicable limit and choose a slow, stable route.

20. Capture overlapping images systematically; do not rely on random attractive shots.
21. Review the images before leaving: check blur, gaps, exposure and coverage.
22. Organise the dataset in a named folder.
23. Upload the images to WebODM and review the processing report and outputs.
24. Document lessons learned and what would be improved in a second flight.

14. Common Mistakes to Avoid

- Buying a drone and flying before checking registration and training requirements.
- Assuming drones under 250 g have no rules at all.
- Forgetting that a camera can trigger operator registration requirements.
- Flying in an apparently empty location without checking ENAIRE Drones.
- Ignoring insurance requirements.
- Flying in urban areas without checking additional communications or restrictions.
- Flying above 120 m in Open Category.
- Flying over crowds or assemblies of people.
- Using random images for photogrammetry instead of a planned overlapping dataset.
- Leaving the site without reviewing the photos.

15. Useful Official Sources

- AESA - Do you have a UAS/drone?:
<https://www.seguridadaerea.gob.es/es/ambitos/drones/tienes-un-uas-dron>
- AESA - UAS operator registration:
<https://www.seguridadaerea.gob.es/es/ambitos/drones/registro-de-operador-de-drones-uas>
- AESA - Open Category A1, A2 and A3:
<https://www.seguridadaerea.gob.es/es/ambitos/drones/operaciones-uas-drones/operaciones-con-uas-drones---categoria-abierta-subcategorias-a1-a2-y-a3>
- EASA - Open Category: <https://www.easa.europa.eu/en/domains/drones-air-mobility/operating-drone/open-category-low-risk-civil-drones>
- ENAIRE Drones map: <https://drones.enaire.es/>
- Video reference: <https://www.youtube.com/watch?v=ufXq-Zgay5w&t=352s>

16. Short Summary for Learners

To fly a drone in Spain, do not start with the drone. Start with the operation: who is responsible, what drone is used, where it will fly, what category applies, what training is needed, whether insurance and DRI are required, and whether the location allows the flight.

For educational photogrammetry, the best habit is to combine legal preparation with technical planning: check the rules first, then plan safe, overlapping, well-lit image capture that can later be processed in WebODM.