

DRONES

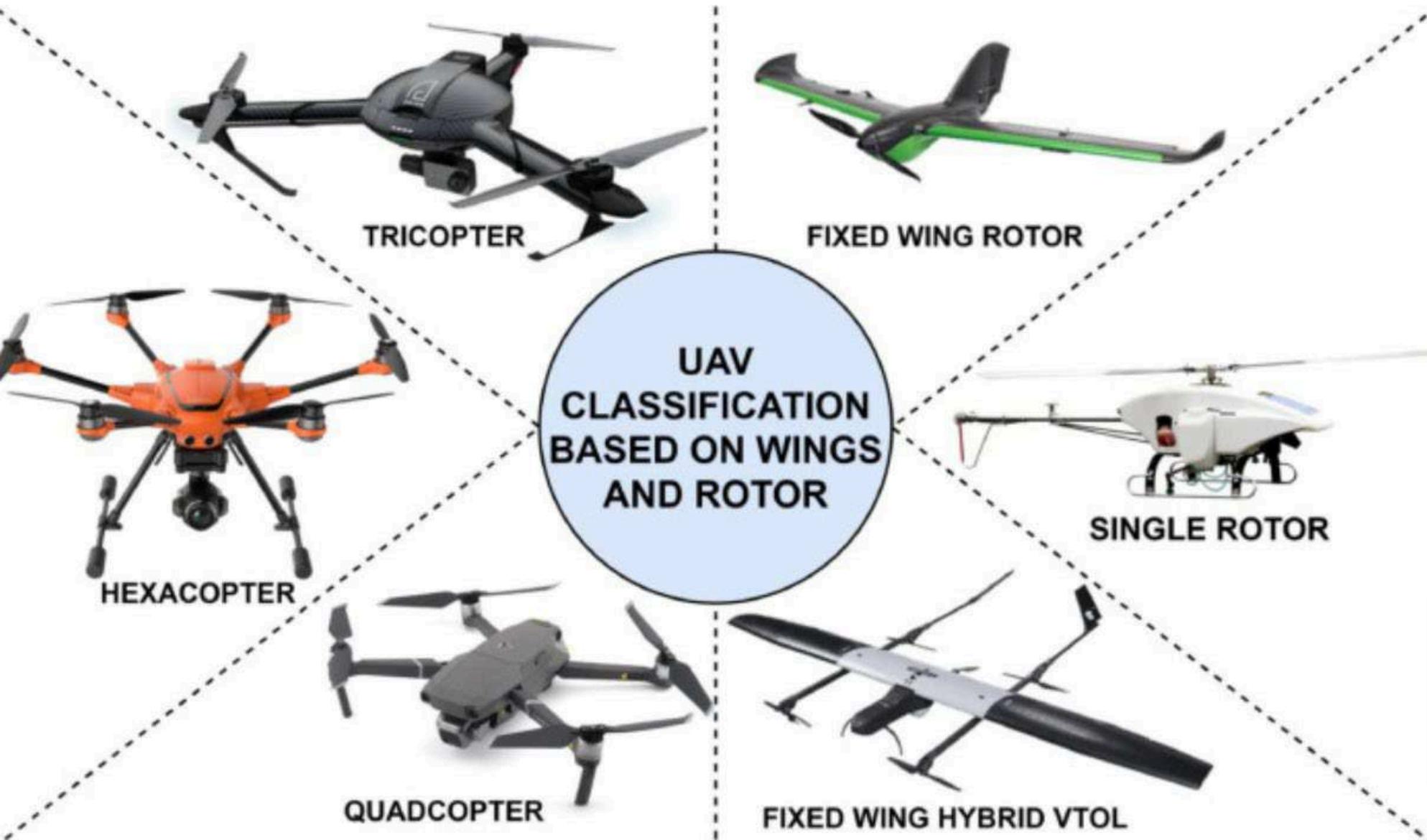
What is Drone: UAS:



DRONES κάθε Λογής



Κατηγορίες DRONES



WHAT Drones can do



Κατηγορίες DRONES

1. **Three categories of UAS operations: OPEN, SPECIFIC, CERTIFIED**
2. **Recreational Vs Commercial operations: NO distinction**
3. **Become a Drone pilot in the Open Category: Online Training and Exam (A1/A3), Additional exam at exam center (A2)**
4. **Registration: Operators are required to: (1) register themselves when drone MTOM > 250g and attach their registration number to their drones (2) register their certified UAS**
5. **5 Classes of Drones: C0-C4 based on MTOM.**
The heavier, the more restrictions where to fly
6. **Where to fly: Subcategories A1,A2**

Κατηγορίες DRONES

- **Open**
 - Low Risk Operations
 - **No Authorisation required from Aviation Authority**
 - Visual Line of Sight (VLOS)
 - Maximum altitude 120m
 - MTOM < 25kg

- **Specific**
 - Medium (Increased) Risk Operations
 - **Approval based on Specific Operations Risk Assessment (SORA)**
 - Includes BVLOS
 - No limitations on MTOM and Maximum altitude

- **Certified**
 - High Risk Operations
 - UAS > 3 meters dimension
 - Transport of People
 - Carriage of dangerous goods
 - Risk and permits similar to manned aviation

- a) **Remote Identification System:** allows authorities to remotely identify the operator of the drone while the drone is in the air (for C1,C2,C3 drones)

- b) **Geo-awareness System:** automatically blocks drone functionality to high risk areas or no fly zones (for C1,C2,C3 drones)

Where can I Fly: Sub-categories A1,A2,A3

Subcategories of Operation

Subcategory

A1



Subcategory

A2



Subcategory

A3



Fly over people

(NEVER over assemblies)

Fly close to people

(min. 30m horizontal dist., or 5m with low speed mode)

Fly far from people

(min. 150m horizontal dist. from buildings etc)

Technical Requirements (UAS)

Requirements to reduce the risk linked to injuries in case of impact on people, for instance no sharp edges and kinetic energy

Requirements to reduce the risk linked to loss of control of UA, for instance lost-link management and mechanical integrity, slow speed mode, remote identification, geo-awareness system

Less technical requirements considering stringent operational limitations i.e fly 150m away from residential, industrial, recreational areas

Which Drone should I buy?

Subcategory A1



MTOM < 250g (Inc. payload)
 Max. Speed 19m/s
 Max. att. height 120m
 Safely controllable
 Safe flight design
 If Follow me mode is on,
 max.distance up to 50m
 Max. 24V power



250g < MTOM < 900g (Inc. Payload)

Max. Speed 19m/s
 Safely controllable
 Safe flight design
 Safe work design
 Data link protection
 LED indication lights
Max. att. height 120m
 or
Able to limit height to 120m
 Unique physical serial no
Direct Remote Identification
Geo-awareness system
 Low battery warning
 If Follow me mode is on,
 max.distance up to 50m
 Max. 24V power

Subcategory A2



900g < MTOM < 4kg (incl.payload)
 Max. att. height 120m or able to limit height to 120m
 Safely controllable
 Safe flight design
 Safe work design
 Low speed mode 3/s
 Data link protection
 LED indication lights
 Unique physical serial no
Direct Remote Identification
Geo-awareness system
 Low battery warning
 Max. 48V power

Subcategory A3



4kg < MTOM < 25kg (incl.payload)
 Dimension < 3m
 Max. att. height 120m or able to limit height to 120m
 Safely controllable
 Safe flight design
 Safe work design
 Data link protection
 LED indication lights
 Unique physical serial no
Direct Remote Identification
Geo-awareness system
 Low battery warning
 Max. 48V power



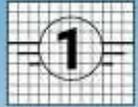
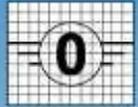
MTOM < 25kg (inc. payload)
 Model Aircraft mainly
 No automatic control modes
 Max. att. height 120m
 Safe flight design

Open Category

OPEN A1

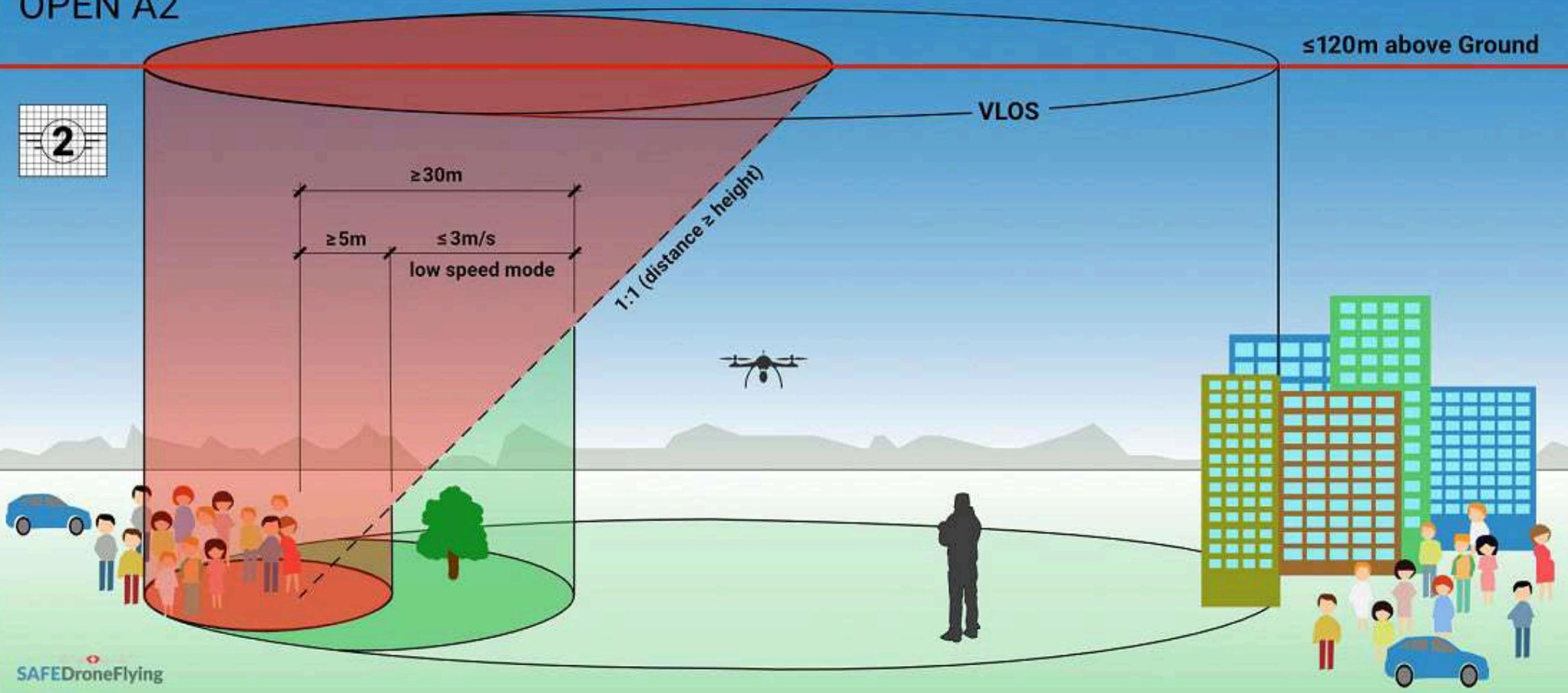
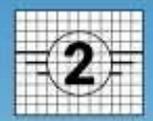
≤120m above Ground

VLOS

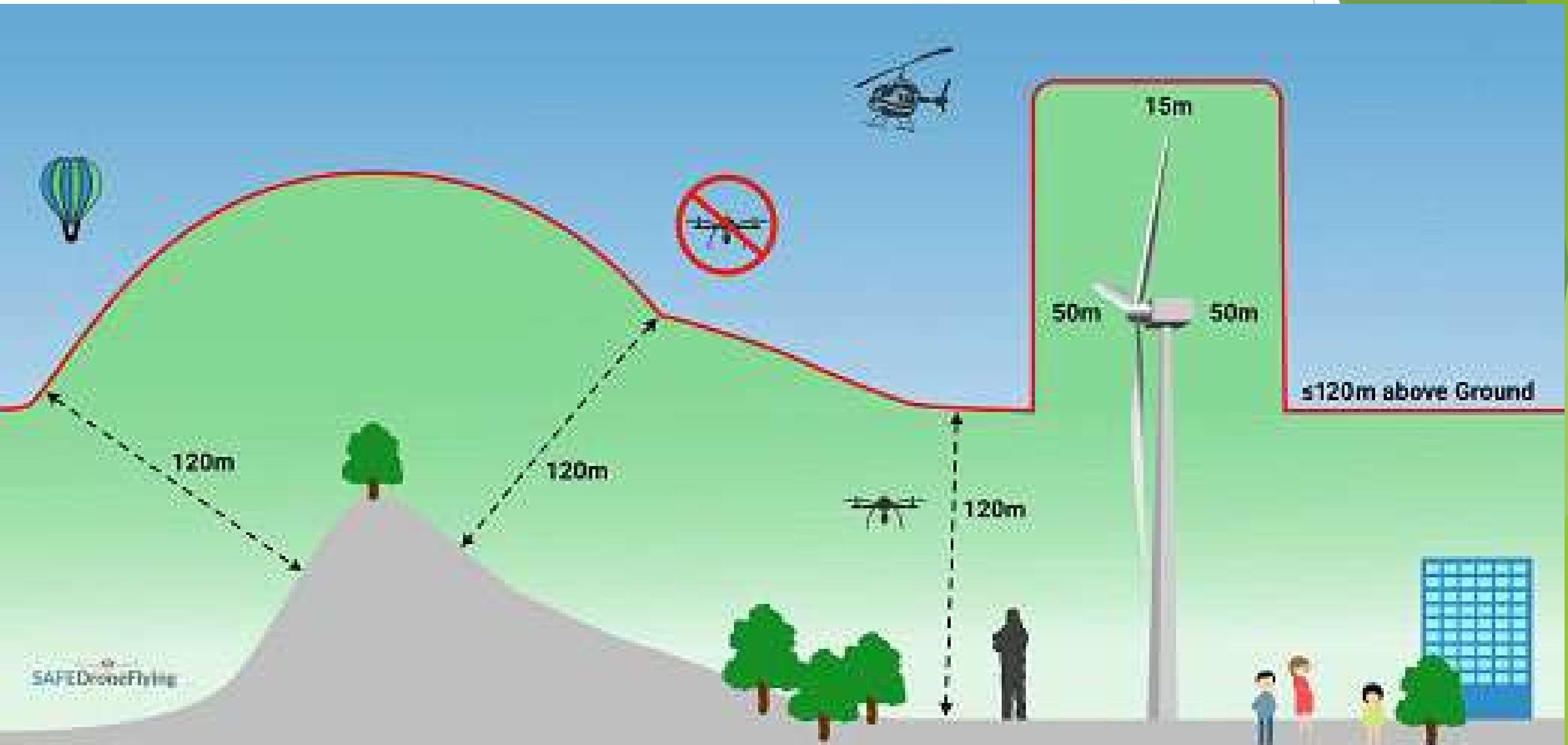


Open Category

OPEN A2



Open Category



WHAT TYPE OF DRONE CAN I FLY?

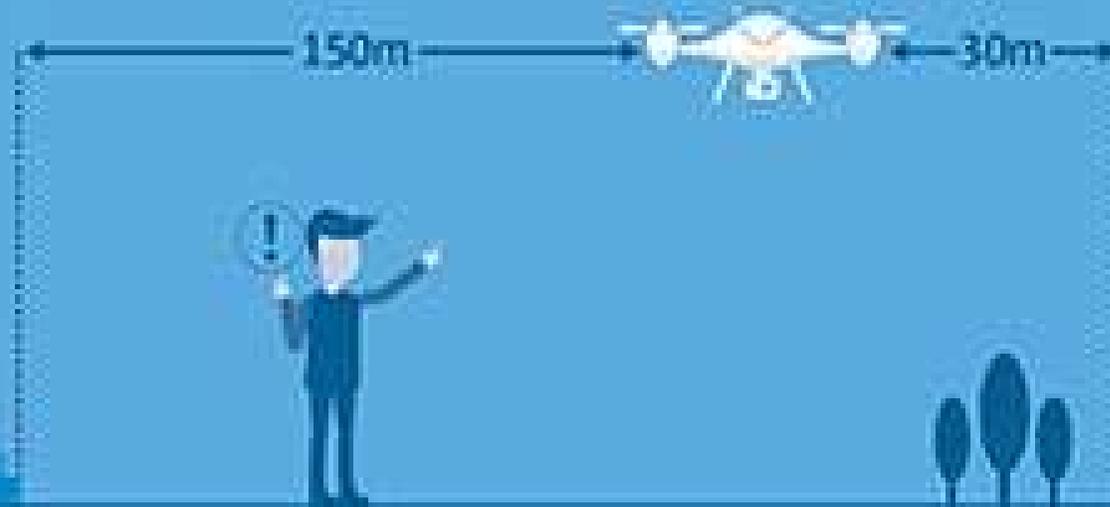
Operation			Drone Operator / pilot			
C-Class	Max Take off mass	Subcategory	Operational restrictions	Drone Operator registration?	Remote pilot qualifications	Remote pilot minimum age
Privately build	<250g 	A1 Not over assemblies of people (can also fly in subcategory A3)	Operational restrictions on the drone's use apply (follow the QR code below)	Yes No if toy or not fitted with camera/sensor 	Read user's manual	No minimum age (certain conditions apply)
legacy < 250g						
C1				<900g 		
C2	<4kg 	A2 Fly close to people (can also fly in subcategory A3)		Yes	Check out the QR code below for the necessary qualifications to fly these drones	16
C3	<25kg 	A3 Fly far from people				
C4						
Privately build						
Legacy drones (art 20)						



COMPLETE THE ONLINE TRAINING AND TESTS



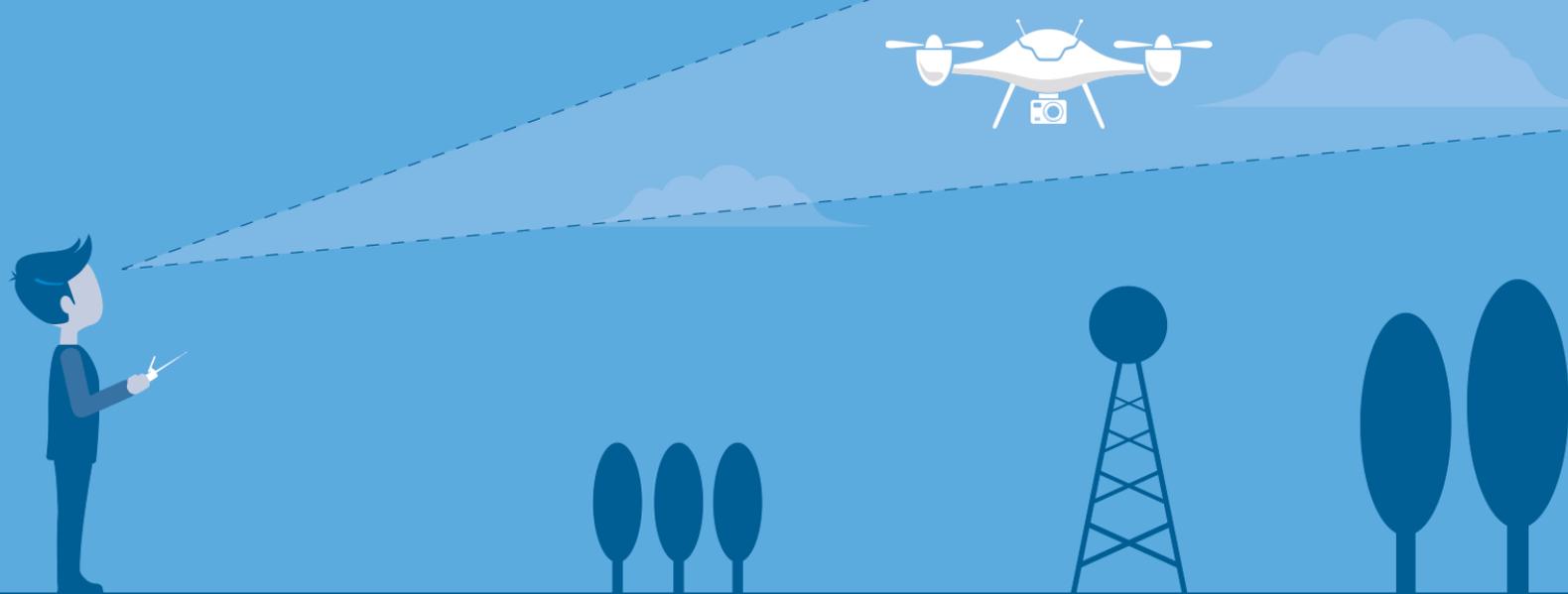
KEEP THE RIGHT DISTANCE FROM PEOPLE AND PROPERTY



Stay away from people and property*. Do not overfly crowds

*For C3 and C4 keep 150m from built-up areas and at least 30m from people

ALWAYS KEEP YOUR DRONE IN SIGHT



DO NOT FLY ABOVE 120M (400 FT)



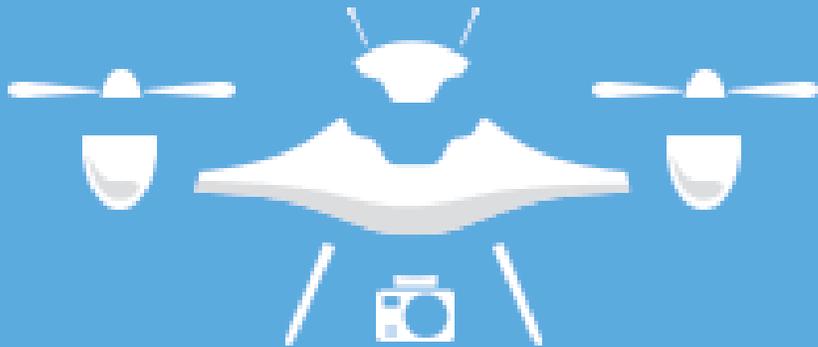
STAY AWAY FROM AIRPORTS, AIRFIELDS AND AIRCRAFT



CHECK WHERE YOU ARE ALLOWED TO FLY



KNOW HOW TO FLY YOUR DRONE



PREPARE YOUR DRONE FOR EVERY FLIGHT



How to become a Drone Pilot?

CLASS	COMPETENCY REQUIREMENTS	DETAILS
	Read User's manual / leaflet	
 	<u>Remote Pilot Online Competency Certificate</u> a. Online Training and	<u>A1/A3 Online Theoretical Exam</u> 40 multiple choice on: <ul style="list-style-type: none">❖ Air safety❖ Airspace restrictions❖ Aviation regulation❖ Human performance limitations❖ Operational procedures❖ UAS general knowledge❖ Privacy and data protection❖ Insurance❖ security
 	b. Pass online theoretical knowledge exam	

How to become a Drone Pilot?

CLASS	COMPETENCY REQUIREMENTS	DETAILS
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Subcategory A2



Certificate of Remote Pilot Competency

- Online Training and
- Pass online theoretical knowledge exam and
- Complete and declare completion of self-practical training and
- Pass additional theoretical knowledge exam at Exam Center

A2 Additional Theoretical Exam

30 multiple choice questions on:

- ❖ Meteorology
- ❖ UAS flight performance
- ❖ Technical and operational mitigations for ground risk

Specific - Certified Category



The 'Specific' Category

- Any Drone Operation that deviates from the standard Open Category falls under the Specific Category
- Operators shall perform the SORA - Specific Operations Risk Assessment - and submit it to the DCA for approval
- The SORA identifies risk mitigation factors to reduce Air Risk Class (ARC) and Ground Risk Class (GRC)
- More 'Complex' Operators will be able to authorize their own operations via a LUC (Light UAS Operator Certificate)

Open Category vs Specific Category

No pre-authorisation required before



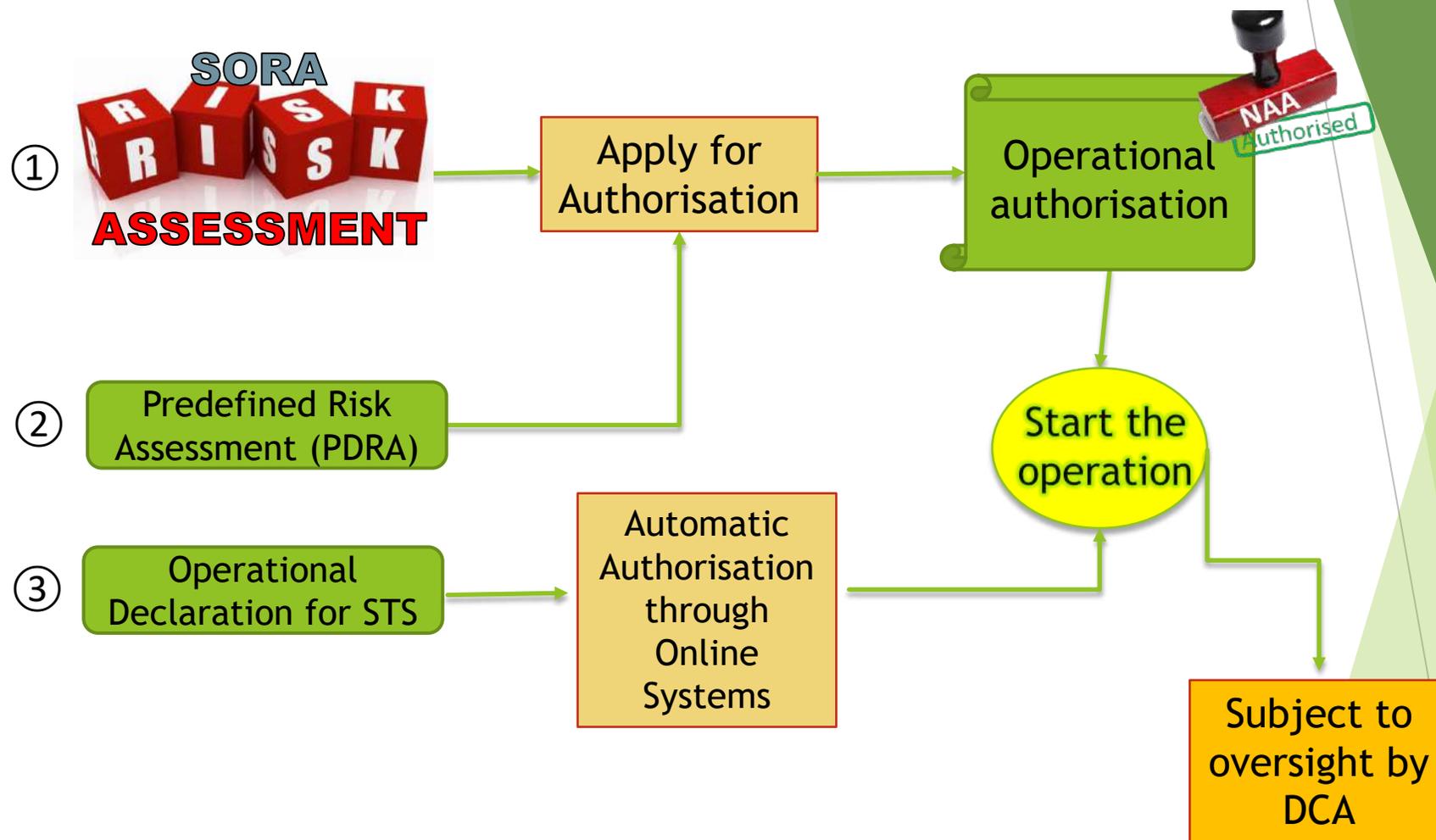
Manufacturer responsible for compliance with technical requirements via CE marking

Send a declaration or ask for authorisation before conducting an operation

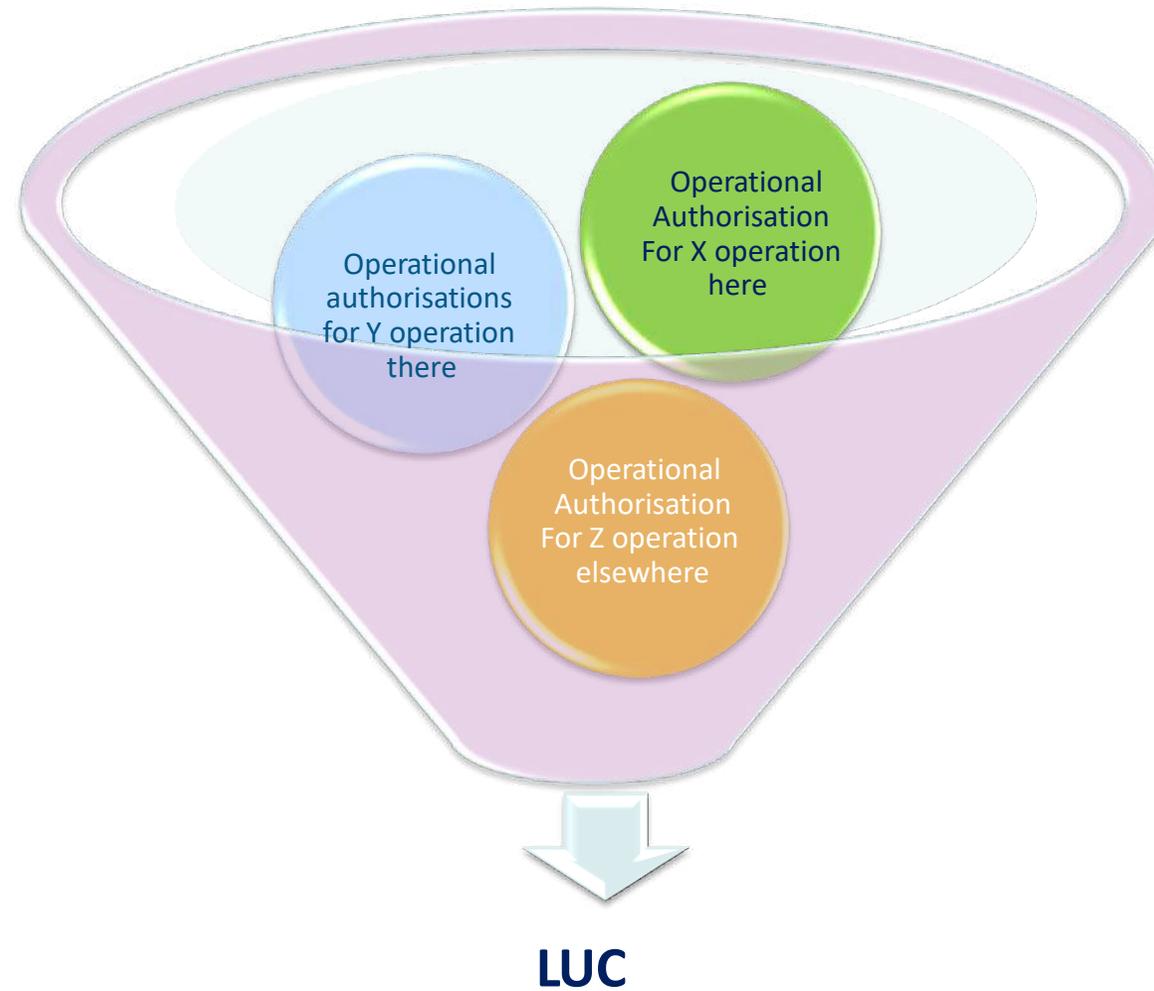
Operator responsible for risk assessment and compliance with technical requirements



Authorisation process in the Specific Category



LUC (Light UAS Operator Certificate)



LUC (Light UAS Operator Certificate)

- LUC is a legal entity approval certificate through which DCA may assign privileges based on maturity of the organisation
- A LUC shall be granted to those organisations that have established a Safety Management System (SMS)
- The SMS must correspond to the size of the operator (small or large organizations) as well as the nature and complexity of its activities

Special zones of operations, using a common unique digital format based on described in Chapter 8 ‘UAS geographical zone data model’ of ED-269:

- where certain UAS operations or types of UAS operations are not permitted without prior authorization or are not permitted at all
- where access is allowed only to certain UAS classes i.e C0 and C1 only
- where access is allowed only to UAS equipped with an electronic identification and / or geo-awareness system
- where UAS operations shall comply with specified environmental standards
- where UAS operations are exempted from one or more of the open category requirements of this Regulation i.e allowed height > 120m

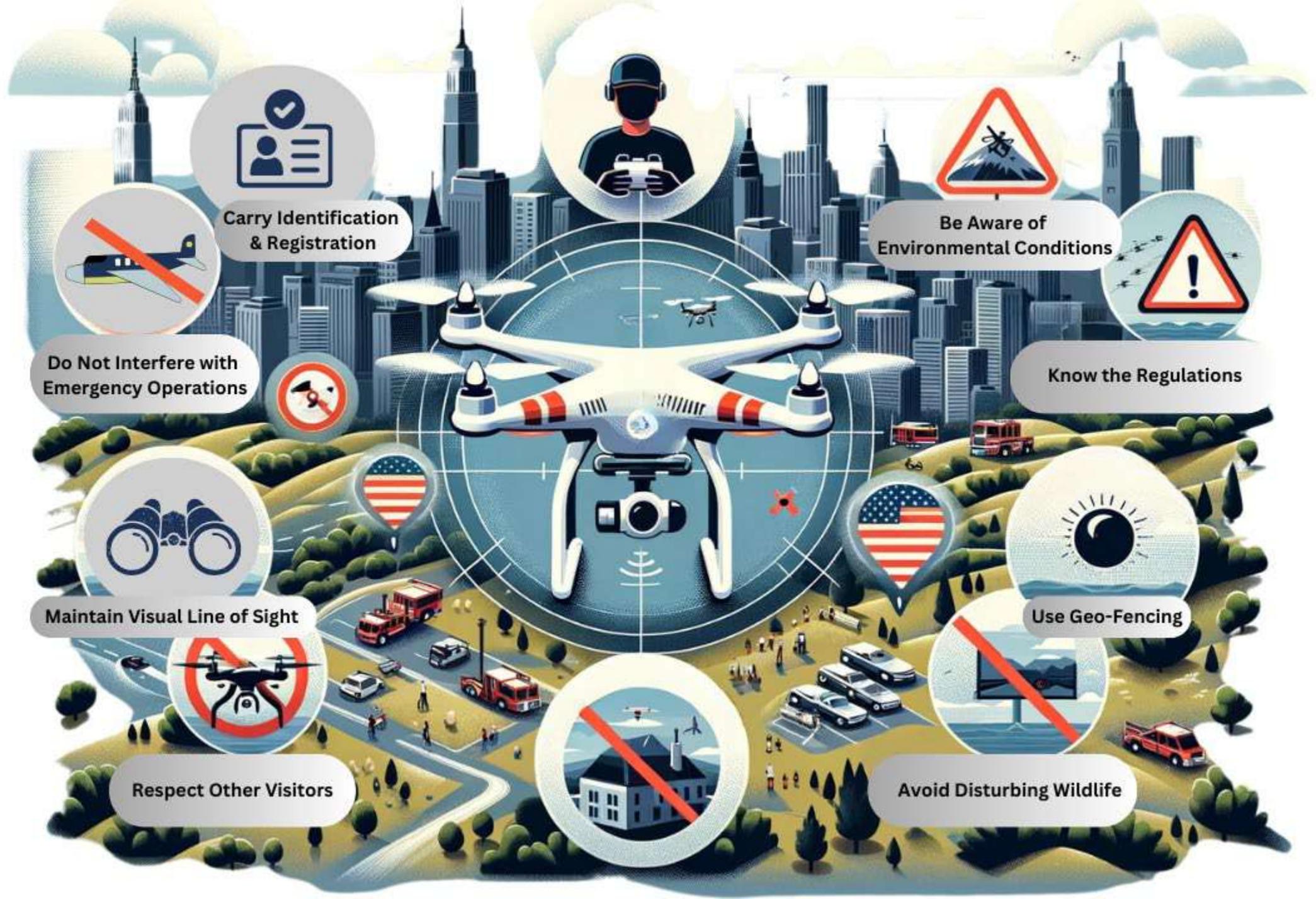
Geographical Zones

Art. 15 (EU) 2019/947





**Fly Your Drone
Near an Airport?**



Carry Identification & Registration



Do Not Interfere with Emergency Operations



Be Aware of Environmental Conditions



Know the Regulations



Maintain Visual Line of Sight



Respect Other Visitors



Use Geo-Fencing



Avoid Disturbing Wildlife



Certified Category

RPAS Remotely Piloted Aircraft System



Swarm of Drones



Certified



Specific



≤120m above Ground

U-Space



Open



SAFEDroneFlying

VLOS

BVLOS

Traffic Management

The future



U space

“U-space airspace” means a UAS geographical zone designated by Member States, where UAS operations are only allowed to take place with the support of U-space services.

“U-space service” means a service relying on digital services and automation of functions designed to support safe, efficient and secure access to U-space airspace for a large number of UAS.

Manned aircraft operating in airspace designated by the competent authority as a U-space airspace, and not provided with an air traffic control service by the ANSP, shall continuously make themselves electronically conspicuous to the U-space service providers.

U-space airspace could be designated within controlled airspace where manned aircraft operate alongside unmanned aircraft. To ensure the safety of those operations Implementing Regulation (EU) 2017/373 should be amended to include the necessary requirements on air traffic service providers regarding coordination with U-space service providers and, where applicable, single common information service providers.

Within the designated U-space airspace in controlled airspace, air navigation service providers should remain responsible for the provision of air navigation services to operators of manned aircraft. Air traffic service providers should also conduct a so called dynamic reconfiguration of the U-space airspace to ensure that manned and unmanned aircraft remain safely segregated.

end

