

Welcome to this
introductory video on the
use of Unmanned
Aircraft Systems (UAS)
or drones in Ireland





After watching this video, you will be presented with 40 questions that you will need to answer in order to progress.

Don't worry, you can take the quiz as often as you want.



This video will include
images and slides provided
by the European Union
Aviation Safety Agency
(EASA)



**There are 3 different categories of
UAS operation**

Open

Specific

Certified

This video covers the OPEN category

**Please consult with a Designated 'UAS' Training Organisation
(DUTO) if you wish to operate an UAS in another category**

UAS are an excellent pastime when used safely and legally
Here are some items you need to know before operating one



This video will cover the following items



Obligations of a UAS Operator

- Requirement for a UAS to be registered
- Flight below a certain altitude
- Remain a minimum distance from people
- Maintain visual contact with UAS at all times

Prohibitions

- No Flight over certain areas
- No flight at night or in bad weather
- No interference with other aircraft



What is the Open Category?



The Open category covers UAS up to 25kg.

It is subdivided into 3 subcategories on the basis of operational limitations.

The subcategories relate to certain classes of UAS.

General Prohibitions in the Open Category are:

No overflight of groups of persons

No carriage or dumping of dangerous materials or goods

No autonomous operations

A1

A2

A3

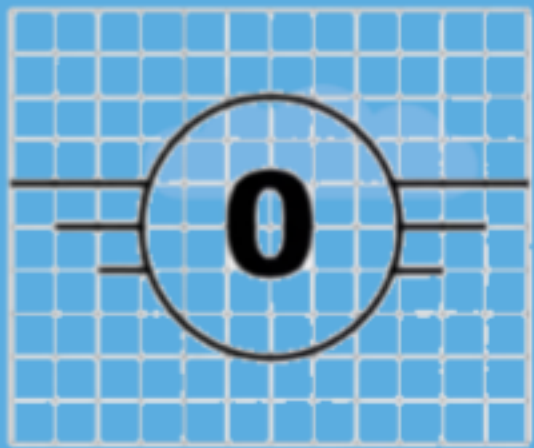


Class 0

have an MTOM of less than 250 g, including payload;

have a maximum speed in level flight of 19 m/s;

have a maximum attainable height above the take-off point limited to 120 m;



**UAS Classes may be restricted to a specific category of operation
Confirm what UAS class is permitted for your chosen category of operation**

Classes of UAS



Class 1

have an MTOM of less than 900 g, including payload;

have a maximum speed in level flight of 19 m/s;

have a maximum attainable height above the take-off point limited to 120 m;

A decorative icon on the left side of the slide. It consists of a light blue grid with a white circle in the center containing the number '1'. Horizontal lines extend from the left and right sides of the circle.

1

**UAS Classes may be restricted to a specific category of operation
Confirm what UAS class is permitted for your chosen category of operation**

Classes of UAS



Class 2

have an MTOM of less than 4 kg, including payload;

have a maximum attainable height above the take-off point limited to 120 m;

A decorative graphic on the left side of the slide. It consists of a light blue grid with a white circle in the center containing the number '2'. Four horizontal lines extend from the circle to the edges of the grid.

2

**UAS Classes may be restricted to a specific category of operation
Confirm what UAS class is permitted for your chosen category of operation**

Classes of UAS



Class 3

- have an MTOM of less than 25 kg, including payload;
- have a maximum attainable height above the take-off point limited to 120 m;



3

**UAS Classes may be restricted to a specific category of operation
Confirm what UAS class is permitted for your chosen category of operation**

Classes of UAS



Class 4

- have an MTOM of less than 25 kg, including payload;
- have a maximum attainable height above the take-off point limited to 120 m;

A decorative icon consisting of a white grid with a circle in the center containing the number '4'.

4

**UAS Classes may be restricted to a specific category of operation
Confirm what UAS class is permitted for your chosen category of operation**

OPEN - A1

Flying Over People

Flight over uninvolved persons is permitted



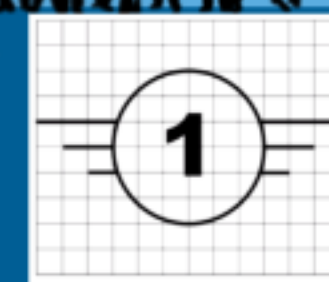
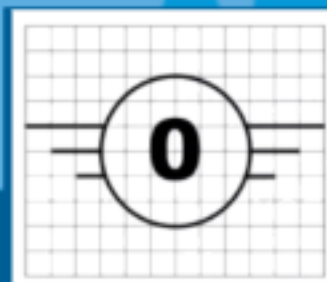
No flying over assemblies of people



Less than 250g
max speed - 19 m/s (68 kmph)
cannot be flown more than 120 m (400ft) from controller

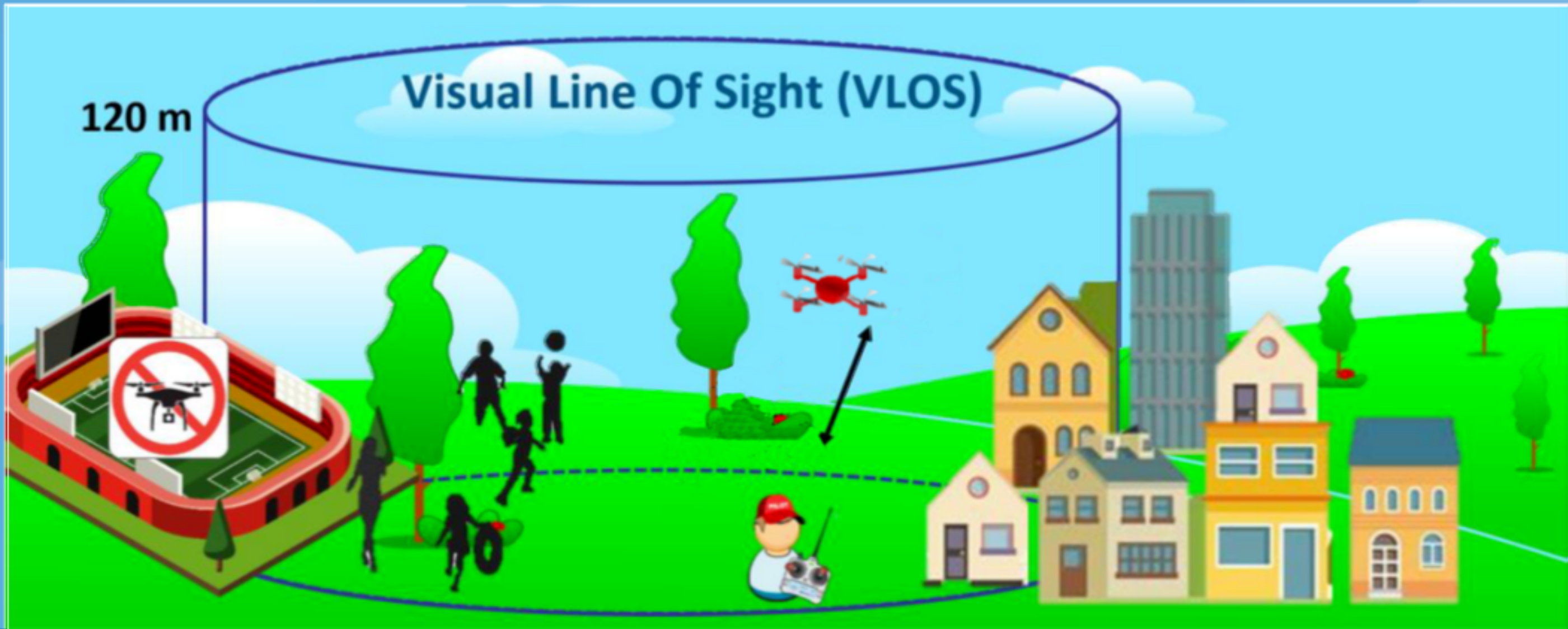
or

Less than 900g or energy transmitted of < 80 Joules
max speed - 19 m/s (68 kmph)
Constructed to minimise injury to people



OPEN - A1

Flying Over People



No flying over assemblies of people

Reasonably expect that no uninvolved person is overflown. In case of unexpected overflight over uninvolved persons, the remote pilot shall reduce as much as possible the time during which the unmanned aircraft overflies those persons

OPEN - A1

Flying Over People

UAS of private construction or built prior to the new requirements that are $< 250\text{gm}$ and slower than 19 m/s may also be flown in this sub-category

Pilots shall be familiar with the manufacturer's user manual in all cases
For C1 an Online course and theoretical exam are also required

0

1

OPEN - A2

Flying Close to People



<5m



Less than 4 kg
Fitted with e-ID and Geo-wareness
Low speed mode required

NOTE:
Additional Training, a 30-question MCQ,
practice and a practical exam need to be
completed at a DUTO.

* Risk assessment to include:

- (a) weather conditions,
- (b) performance of the unmanned aircraft,
- (c) segregation of the overflown area.

OPEN - A3

Fly Far from People

This category covers the more general types of unmanned aircraft operations.

The intent is that the unmanned aircraft will only be flown in areas that are clear of uninvolved persons and will not be flown in areas that are used for residential, commercial, industrial or recreational purposes

(roughly equivalent to what is currently referred to as a 'congested area')



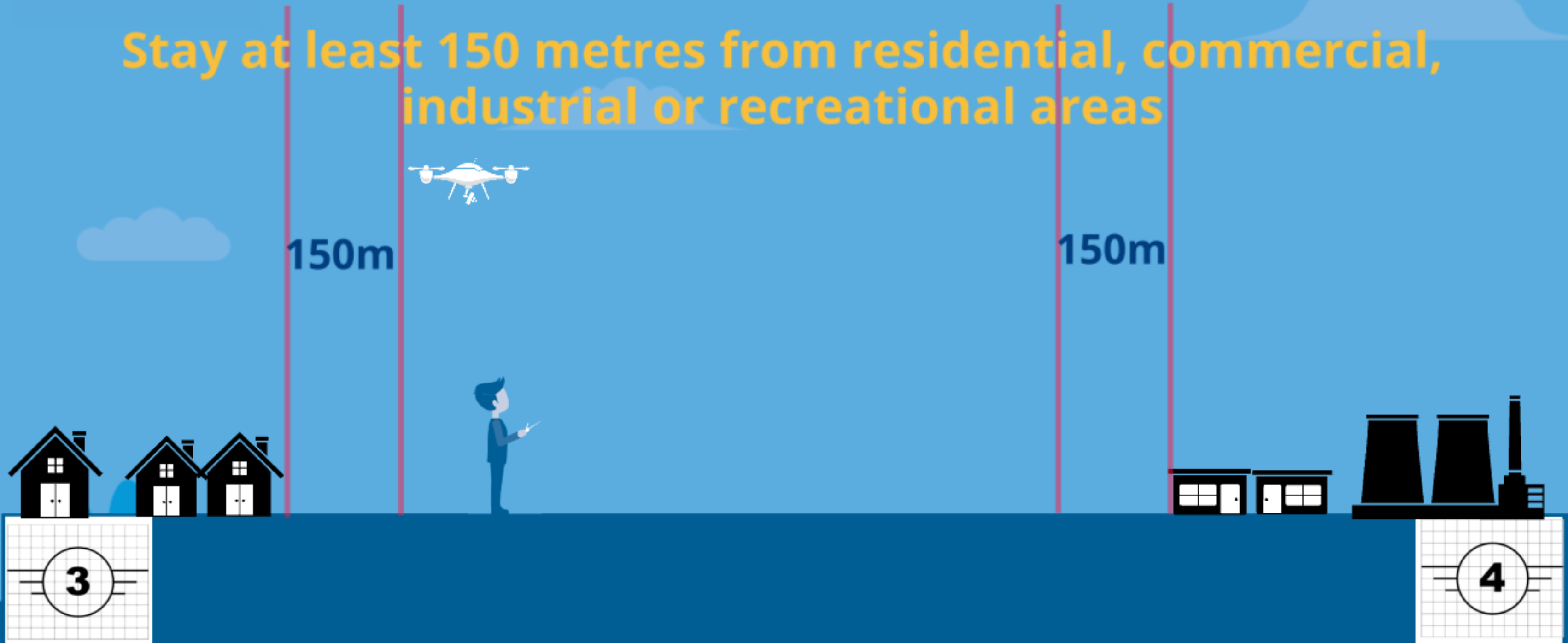
3

4

OPEN - A3

Fly Far from People

Stay at least 150 metres from residential, commercial, industrial or recreational areas



Watch your heights

Upon request of the owner
of the artificial obstacle



Open Category Overview



O P E N	A1	Fly over people	You can fly over uninvolved people (not over crowds)	Privately built	<250g	No Operator * Registration Required			
				C0					
	A2	Fly close to people	You can fly at a safe distance from uninvolved people	C1	< 80 J or 900g		Operator Registration Required		
				C2	<4 kg				
								C3	<25 kg
								C4	
A3	Fly far from people	You should: - fly in an area where it is reasonably expected that no uninvolved people will be endangered - keep a safe distance from urban areas	Privately built						

* Operator Registration is not required for privately built, Class 0 and legacy UAS unless a camera / sensor is fitted and the UAS is NOT a toy

Open Category Overview



O P E N	A1	Fly over people	You can fly over uninvolved people (not over crowds)	Privately built	<250g	No Operator * Registration Required			
				C0					
	A2	Fly close to people	You can fly at a safe distance from uninvolved people	C1	< 80 J or 900g		Operator Registration Required		
				C2	<4 kg				
								C3	<25 kg
A3	Fly far from people	You should: - fly in an area where it is reasonably expected that no uninvolved people will be endangered - keep a safe distance from urban areas	Privately built						

* Operator Registration is not required for privately built, Class 0 and legacy UAS unless a camera / sensor is fitted and the UAS is NOT a toy

**The MTOM for a drone
in the Open Category
is 25 kg**

Max Weights* per Class

C0 - 250 g

C1 - 900 g

C2 - 4 kg

C3 and C4 - 25 kg



* MTOM - Maximum
Take off Mass
including payload and
fuel, as defined by the
manufacturer or the
builder

Flying near tall obstacles



15 m

<50 m

>105 m

When flying a drone within a horizontal distance of 50 metres from an artificial obstacle taller than 105 metres, the maximum height of the UAS operation may be increased up to 15 metres above the height of the obstacle at the request of the entity responsible for the obstacle.



Minimum Age



You need to be at least 16 before you can be registered as an operator



Follow the UAS manufacturers' instructions to stay safe





Ensure you are familiar with your UAS and its controls



Drone operators must be familiar with the User Manual supplied by the manufacturer



PREPARE YOUR UAS FOR EVERY FLIGHT



Check that your UAS is charged, calibrated and in a safe condition as described in the user manual





Familiarise yourself with any limitations of your UAS.

e.g. UAS operation may be affected by temperature changes or wind speed



**Know how
different weather
may affect your
UAS operation**

**Will you be able to
operate it safely?**

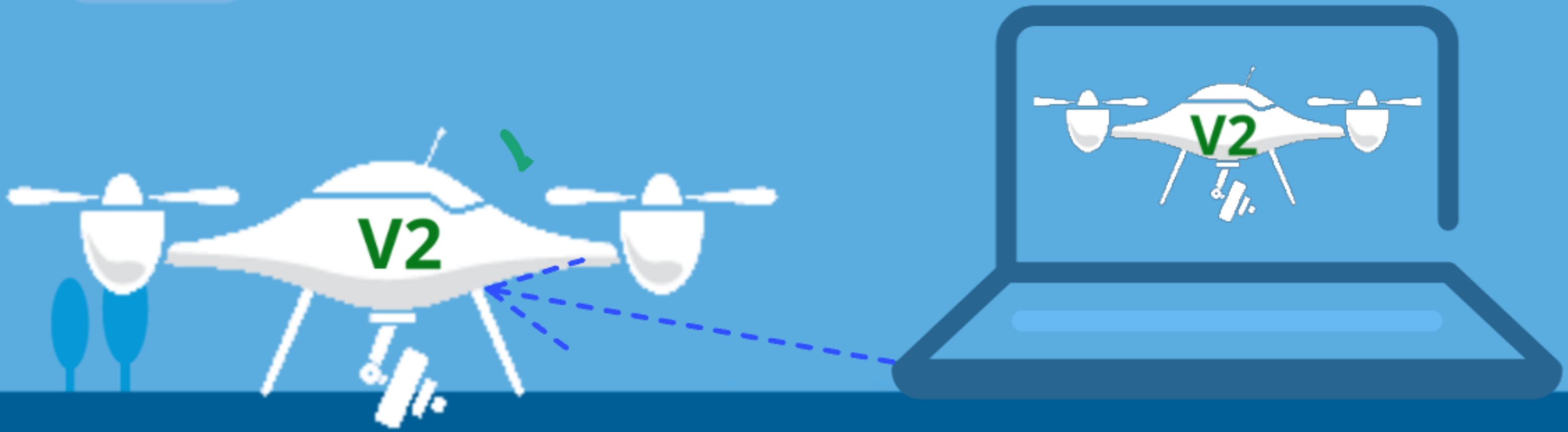
Software Updates



Keep your UAS's firmware up to date

Regular updates keep your drone operating as the manufacturer intended

Check regularly with the manufacturer



UAS Identification



**Ensure the UAS Operator
Registration Number is displayed
on the UAS prior to flight**



YOU MUST REGISTER AS A UAS OPERATOR



UAS operator means any legal or natural person operating or intending to operate one or more UAS

**Following the
registration process at
www.iaa.ie/drones**



YOU MUST REGISTER AS AN UAS OPERATOR



UAS that are not classed as a toy and have a MTOM of <250g but are equipped with a sensor able to capture personal data, shall be registered



**You must register in
the Member State
where you have your
residence or your main
place of business**



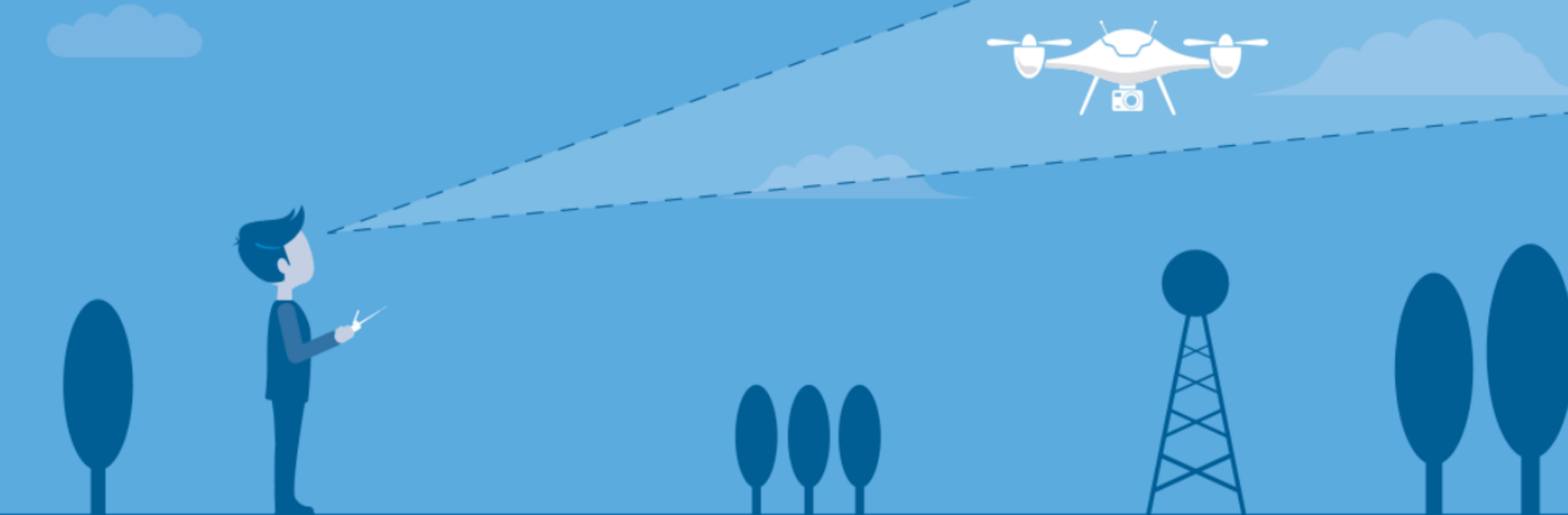
Check which training and tests are relevant for you type of UAS

Note: If you have a C2
UAS you also need to
complete additional
theoretical training and
test



ALWAYS KEEP YOUR UAS IN SIGHT

Ensure that you can see your UAS and avoid obstacles and people



Maintain Visual Line of Sight VLOS



Always keep your UAS in sight!



Maintain Visual Line of Sight VLOS

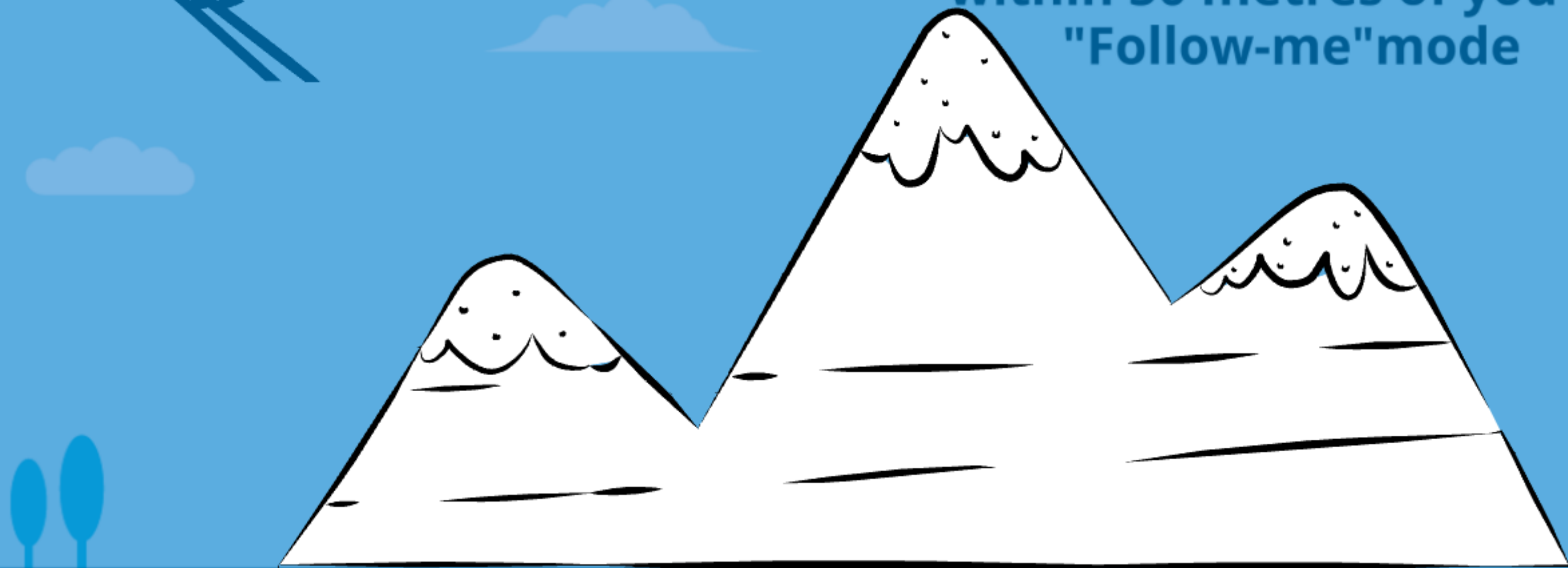


You may not use binoculars, telephoto lens or electronic viewing equipment to see your UAS

"Follow-me" Mode



Your drone must stay within 50 metres of you in "Follow-me" mode



Fatigue



If you feel fatigued, do not fly your drone



DO NOT FLY ABOVE 120M (400 FT)



Stay below 120m and keep away from aircraft

The maximum altitude above the ground that a UAS in the open category may fly is 120m (400 Ft)





**Safety related occurrences
must be reported to the IAA**



**120m
(400 Ft)**

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 area and at least 30m from people**



STAY AWAY FROM AIRPORTS, AIRFIELDS AND AIRCRAFT



Avoid Controlled Airspace

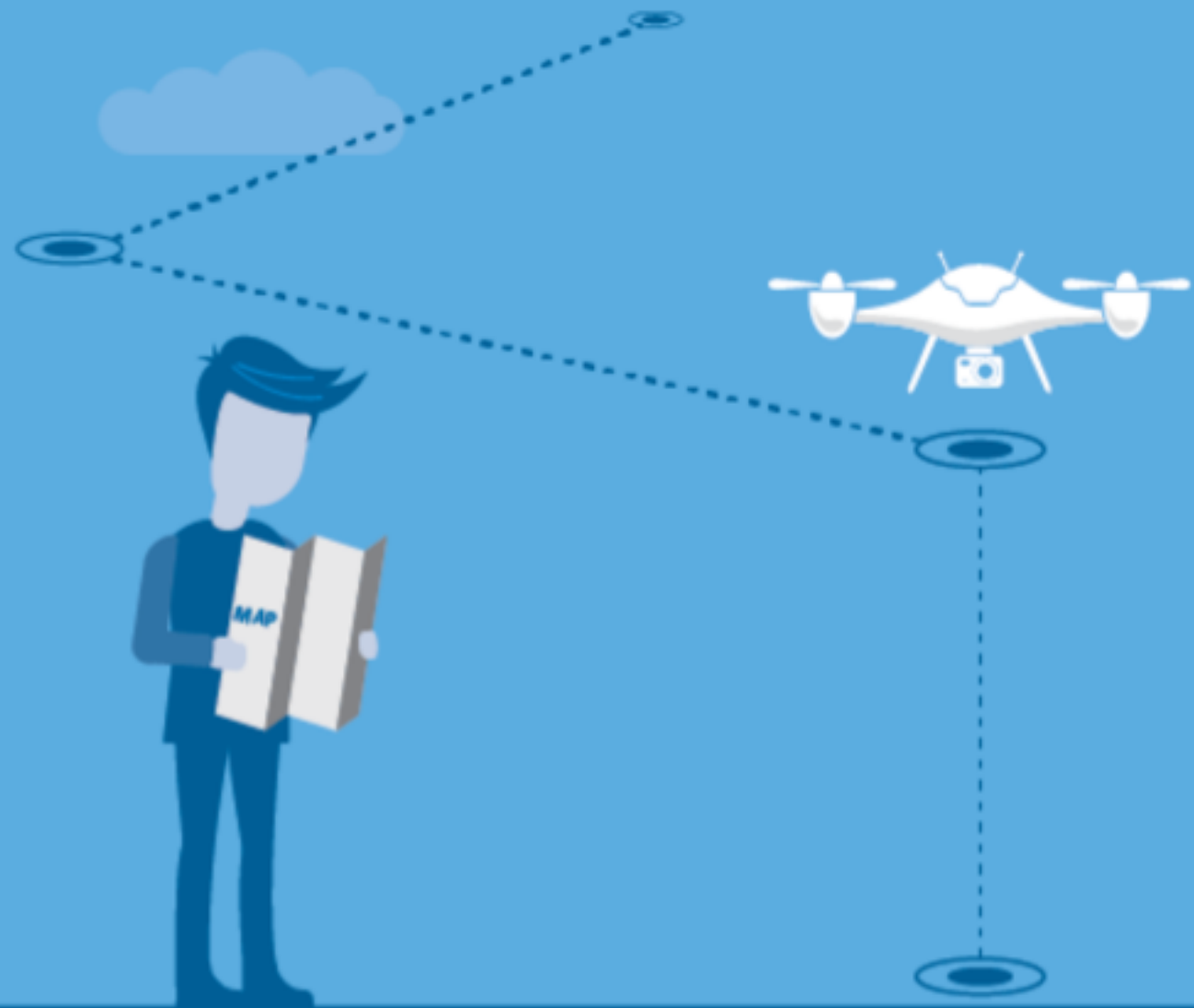


CHECK WHERE YOU ARE ALLOWED TO FLY

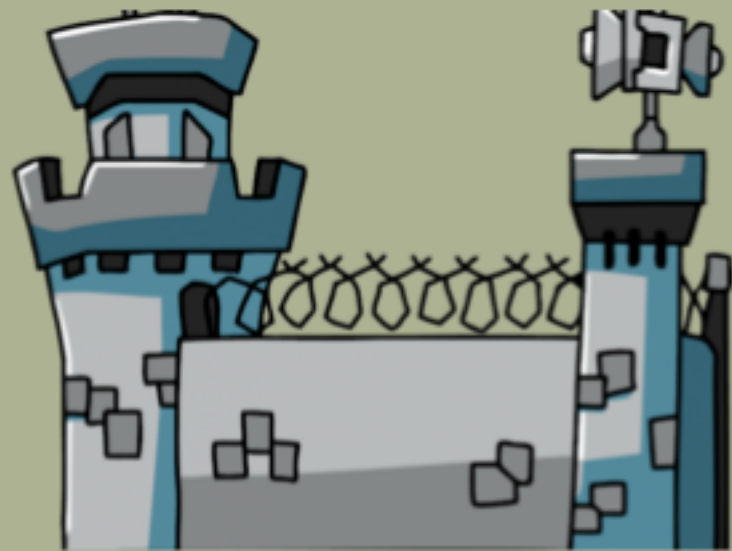
Check and respect the geographic zones in which you are allowed to fly as defined by the Irish Aviation Authority



CHECK WHERE YOU ARE ALLOWED TO FLY



Restricted Geographic Zone



'geo-awareness' systems should be fitted in order to detect a potential breach of airspace limitations and alert the remote pilots so that they can take immediate and effective action to prevent that breach

A prison is an example of a restricted geographic zone



Quickly fly your UAS out of the way and either wait or land safely

Dropping Material

You may not drop anything from a UAS!



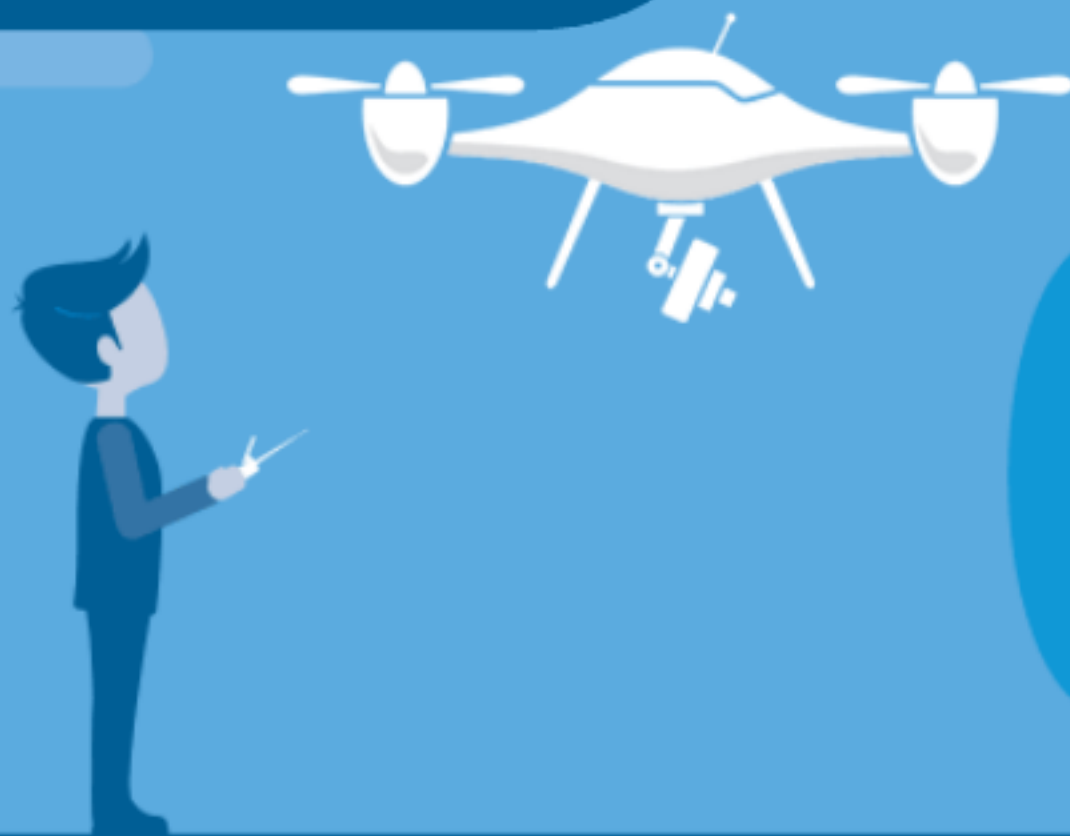
Dangerous Goods

You may not carry dangerous goods on a UAS unless specifically authorised to do so!



**GDPR also applies
when a camera is
fitted to a UAS**

**Do not take photographs,
videos or sound
recordings of people
without their permission**



RESPECT PEOPLE'S PRIVACY



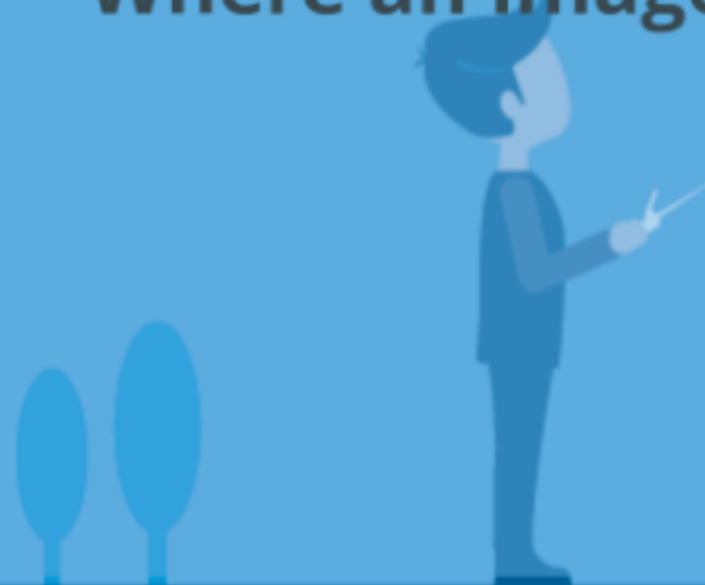
Personal data includes:




When a person's face is clearly visible in the image


Where a person can be identified in another way

Where an image shows details about a person that can be used to identify them



An aerial photograph of a large reservoir with a central island. The water is a deep blue-green color, and the surrounding landscape consists of rugged, brownish mountains under a cloudy sky. A semi-transparent blue rounded rectangle is overlaid on the image, containing white text.

**Keep an eye out for any changes to requirements
that impact your use of the drone.**



Safe flying!

This video has been created by
the Irish Aviation Authority



www.iaa.ie

Some images courtesy of European Union Aviation Safety Agency

