

4

DRONE CATEGORIES



THREE CATEGORIES DRONE OF FLIGHT



Which drone am I allowed to use
in which category?

Allowed drone types per flight category



OPEN

- **Cx- compliant drones:**
 - C0 labelled 'toy drone'
 - C1 labelled 'hobby drone'
 - C2 labelled 'prosumer drone'
 - C3 labelled 'professional drone'
 - C4 labelled 'aero-model drone'
- **Privately build drones <25kg**
- **Non-Cx compliant drones <25kg**
(put on the market before January 1st 2023)
- **Registration of the drone is not required**



SPECIFIC

- **Any type of drone** but technical characteristics should comply with either the Operational Declaration (in case of STS) or the Operational Authorisation
- **Remote ID obligatory as from 2/12/2021** (e.g. through add-on device on existing drones)
- **For very high risk operations** the issued Operational Authorisation might require the **drone to be certified** (and hence also registered)
- In all other cases **registration of the drone is not required**



CERTIFIED

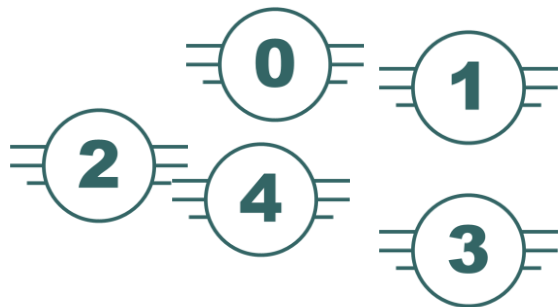
- **Any type of certified drone** (Remote ID obligatory as from 2/12/2021)
- Drone needs to be registered
- *OUT OF SCOPE FOR THIS DOCUMENT SECTION*

Delegated Act 945



C-classes for Open category flights

Class	Nickname	MTOM/J	Remote ID/ Geo-awareness	Operator Registration
C0	Toy drone	<250g	No	No, if no camera
C1	Hobby drone	<80J at V _{term} or <900g	Yes	Yes
C2	Prosumer drone	<4kg	Yes	Yes
C3	Professional	<25kg	Yes	Yes
C4	Aero-model	<25kg	Yes	Yes



if a drone was not marked with a Cx label by the manufacturer before it was sold then it is not a Cx drone

Delegated Act 945



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C2	Prosumer drone	<4kg	Yes	Yes
C3	Professional	<25kg	Yes	Yes
C4	Aero-model	<25kg	Yes	Yes

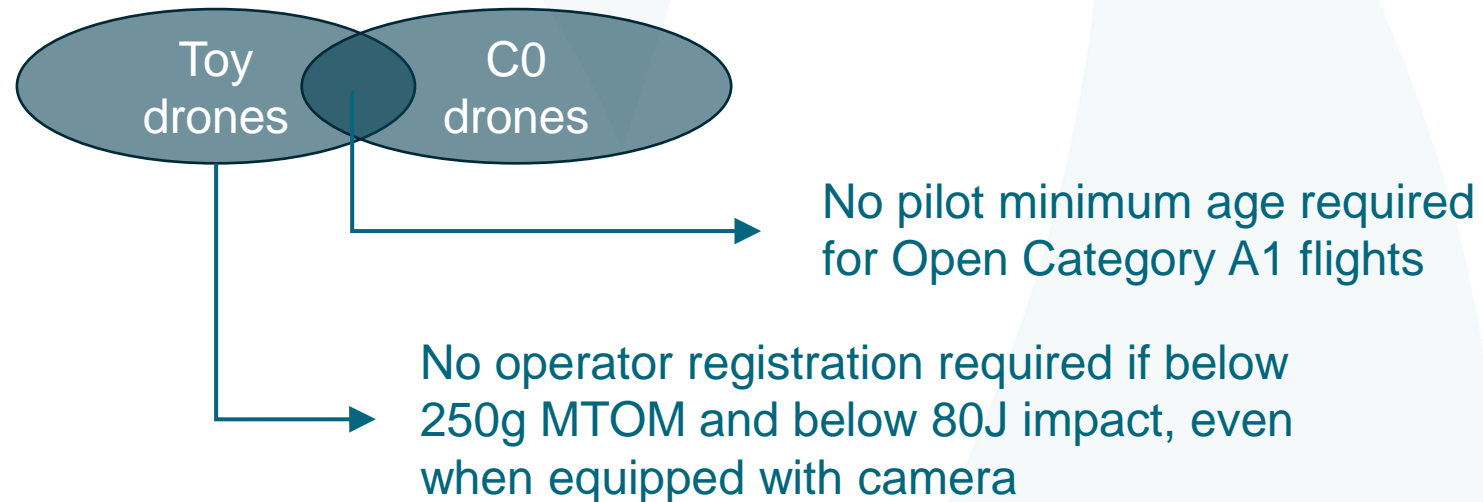
C-classes for flying a Standard Scenario in the Specific category

Class	Purpose	Specs
STS-01 C5	STS-01 VLOS operations over controlled ground area in populated environments	C3 based
STS-02 C6	STS-02 BVLOS operations using visual observers over controlled ground area in sparsely populated environments	C3 based

Delegated Act: drone as a toy



- Directive 2009/48/EC: *a toy is a product designed or intended (whether or not exclusively) for use in play by children under 14 years of age*
- Not all C0 drones are toys, not all toy drones are C0



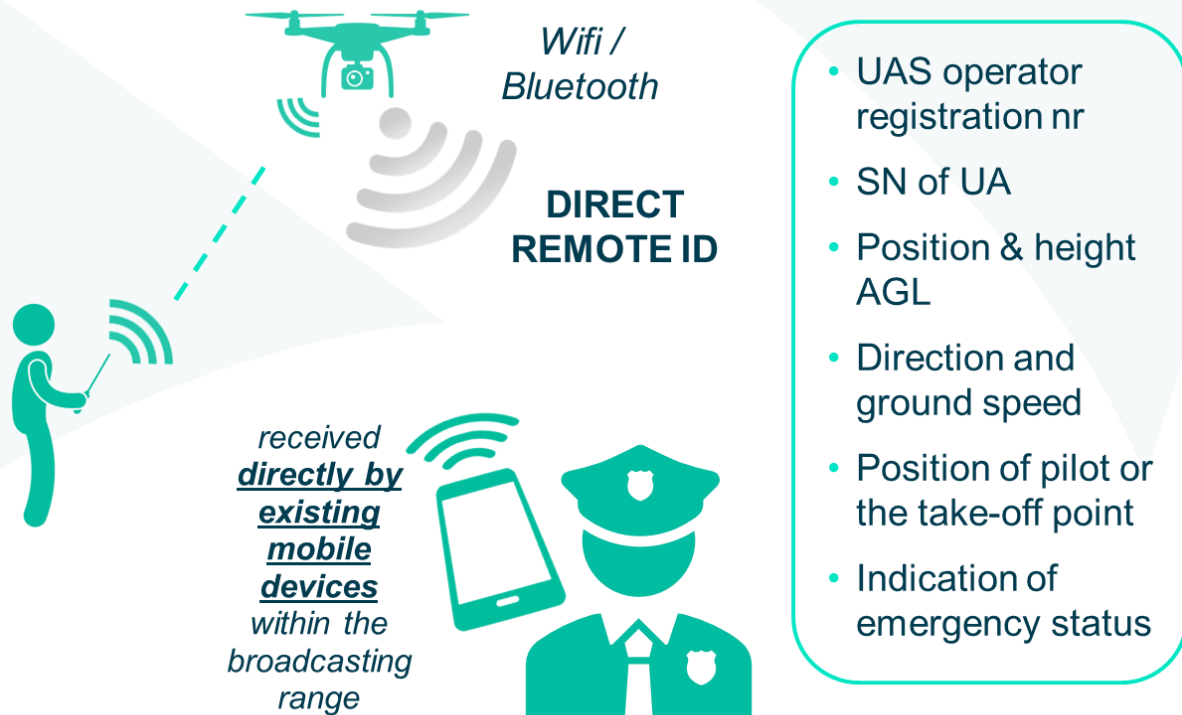
Delegated Act C-classes of drones for Open category

UAS			
Class	MTOM / Joule	Main technical requirements	Remote ID & geo-awareness
C0 (‘toy drone’)	< 250g	Max speed 19m/s, max attainable height above the take-off point of 120m, no sharp edges, follow-me within max 50m	No
C1 (‘hobby drone’)	< 80J impact at V _{term} or <900g	Max speed 19m/s, max height above the take-off point of 120m or selectable and visualised height limitation, no sharp edges, follow-me within max 50m, mechanical strength, lost-link management, geo-awareness pilot warning, battery warning, be equipped with green lights, max sound power level	Yes + unique SN for identification
C2 (‘prosumer drone’)	< 4kg	Max height above the take-off point of 120m or selectable and visualised height limitation, no sharp edges, mechanical strength, lost-link management, geo-awareness pilot warning, low-speed mode (3m/s), battery warning, max sound power level, be equipped with green lights, protected C2 link	
C3 (‘professional’)	< 25kg < 3m in size	Max height above the take-off point of 120m or selectable and visualised height limitation, mechanical strength, lost-link management, geo-awareness pilot warning, battery warning, max sound power level, be equipped with green lights, protected C2 link	
C4 (aero-model)	< 25kg	No automatic flight, lost-link management	if required by zone of operations

What is Direct Remote ID?

Definition as per 945/947 EU reg.

When/where is it mandatory?
(if not imposed by a GeoZone)

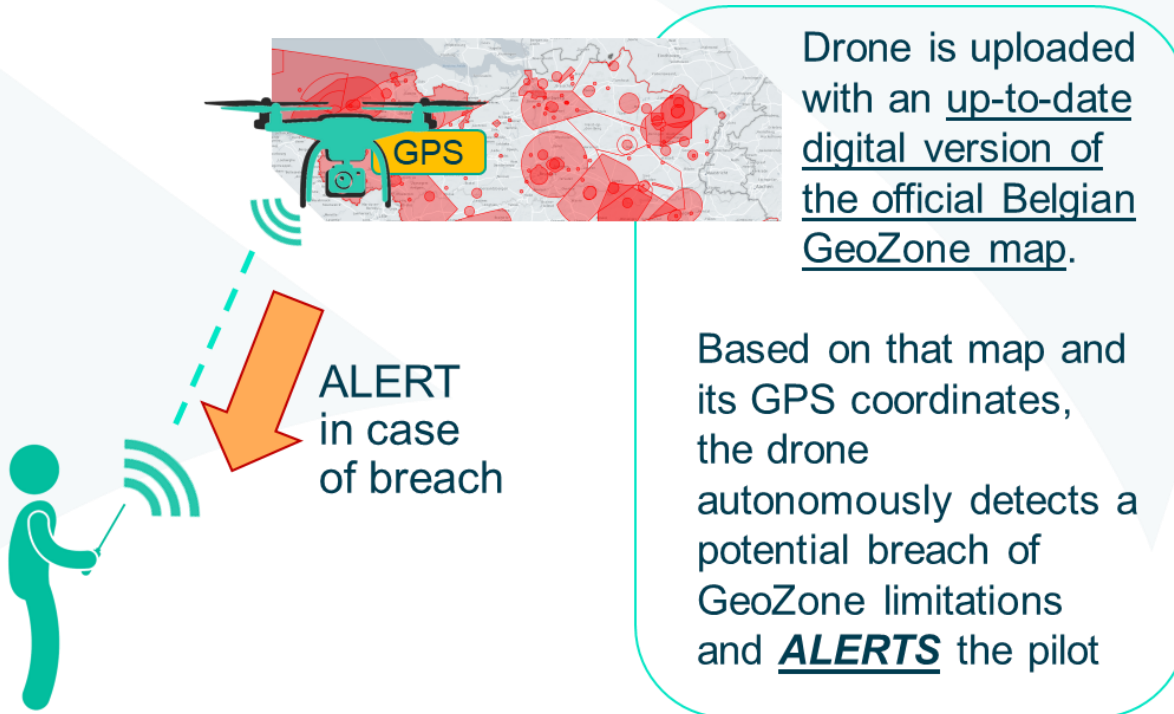


For flights in the Open category: C1, C2, non-tethered C3, C5 and C6 drones by definition have this feature on board and only when using those drones is there an obligation in the Open category to have direct remote ID active during the flight. Such Cx-compliant drones are however not yet available on the market.

Its use is obligatory for all flights in the Specific category only as from 2/12/2021.

What is Geo-awareness?

Definition as per 945/947 EU reg.



not be confused with the functionality offered on DJI drones called 'DJI geofencing' as this DJI drone feature refers to the alerting of the pilot based on a bespoke map designed and made public by DJI based on its very own safety criteria.

When/where is it mandatory? (if not imposed by a GeoZone)

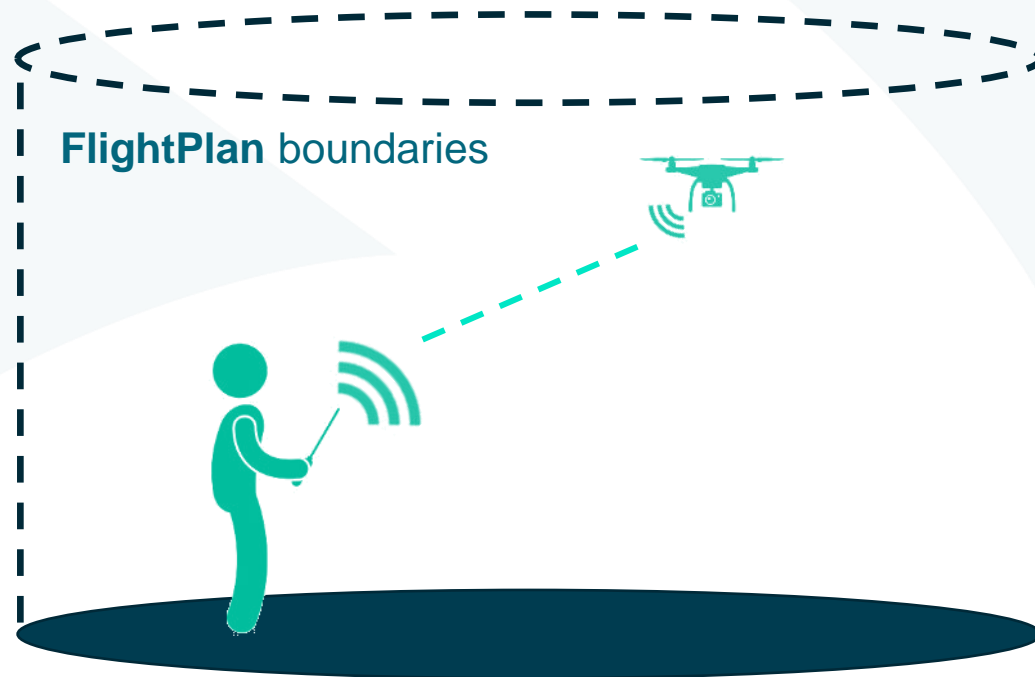
C1, C2 and C3 drones operated in the Open category by definition have this feature on board and should have it activated during all flights. It is optionally available on C5 and C6 drones (to be used to execute STS1 and STS2 as of 2/12/2021), if present on them it should be activated during all flights.

Cx-compliant drones are however not yet available on the market on 1/1/2021.

What is Geo-caging?

No definition in the 945/947 EU reg.

Can only be imposed imposed by a GeoZone



Referred to as a system that prevents the drone from flying over a given altitude and a given distance outside a given volume of airspace (vertically and horizontally) as defined during the flight planning phase of the drone operation.

It is equivalently referred to in the EU Delegated Act in the section used to define the obligatory characteristics of a C6 drones as being ‘a system that prevents the UA from breaching the horizontal and vertical limits of a programmable operational volume’.

Delegated Act C-classes of drones for Specific category

UAS		
Class	MTOM / Joule	Main technical requirements
C3 (‘professional’)	< 25kg < 3m in size	Max height above the take-off point of 120m or selectable and visualised height limitation, mechanical strength, lost-link management, geo-awareness pilot warning, battery warning, max sound power level, be equipped with green lights, protected C2 link
C5 For STS-01	< 25kg < 3m in size	Max height above the take-off point of 120m or selectable and visualised height limitation , mechanical strength, lost-link management, <u>optional</u> geo-awareness pilot warning, battery warning, max sound power level, be equipped with green lights, protected C2 link, <u>no fixed wing, height info to pilot, low speed mode 5m/s, independent flight termination system (incl. impact dynamics reduction), C2 link quality info</u>
C6 For STS-02	< 25kg < 3m in size	Max height above the take-off point of 120m or selectable and visualised height limitation , mechanical strength, lost-link management, <u>optional</u> geo-awareness pilot warning, battery warning, max sound power level, be equipped with green lights, protected C2 link, <u>max. speed 50m/s, height info to pilot, geo-caging, independent flight termination system (not incl. impact dynamics reduction), trajectory programming, C2 link quality info</u>

STS-01

STS-02

How about privately build drones?

- Definition = a drone assembled or manufactured for the builder's own use, not including drones from sets of parts sold as a single ready-to-assemble kit
- Can fly in the Open A1 category if MTOM < 250g, provided the operating speed is limited to 19m/s
 - *You can fly over people (involved or not)*
 - *No flying over "assemblies of people"*
- Can fly in the Open A3 category if MTOM < 25kg
 - *You can fly over involved people but only in an area where the pilot reasonably expects that no uninvolved person will be endangered*
 - *Keep a safe horizontal distance of 150m from residential, commercial, industrial or recreational areas*
- Can fly in the Specific category if technical characteristics comply with the Operational Authorisation

How about non-Cx-compliant drone? What if I still buy one tomorrow?

- You can fly in the OPEN category for as long as the drone will last, provided it was put on the market by the manufacturer before January 1st 2023, but only:
 - in the Open A1 category if MTOM < 250g
 - *you can fly over people (involved or not)*
 - *no flying over “assemblies of people”*
 - in the Open A3 category if MTOM < 25kg
 - *you can fly over involved people but only in an area where the pilot reasonably expects that no uninvolved person will be endangered*
 - *keep a safe horizontal distance of 150m from residential, commercial, industrial or recreational areas*
- Can fly in the Specific category if the technical characteristics comply with the Operational Authorisation

How about non-Cx-compliant drone? What if I still buy one tomorrow?

- Up to 1/1/2023 a special 'Limited' Open category was created to temporarily allow you to fly in more than just the Open A1 (<250g) or Open A3 category:
 - In Open A1/C1 conditions if MTOM < 500g (in stead of 900g)
 - *You can fly over involved people*
 - *In case of unexpected flight over uninvolved people, the pilot shall reduce that time as much as possible*
 - *No flying over assemblies of people*
 - Keeping a safe horizontal distance of 50m from people (in stead of 30m) if MTOM < 2kg (in stead of 4kg)

HAVE A SAFE FLIGHT

1. PLAN



2. Category & Authorisation



3. Check Geozone and Geozone rules



HAVE A SAFE FLIGHT



Do you comply with the (Limited) Open category?

NO

Do you comply with an STS?

NO

Do you comply with any of your existing Operational Authorisations?

NO

Get an Operational Authorisation that covers your planned flight

YES

YES

YES

YES

Make sure you have a valid Operation Declaration

YES

Check the overlap between your flightplan and any GeoZone and if so: comply with all relevant GeoZone rules, including eventual need to get flight authorisation from the GeoZone Manager (e.g. skeyes in controlled airspace)