

# The European UAS Regulation

**Your safety is our mission.**

Established  
**2002**

*17 years*  
*in operation*



**800**

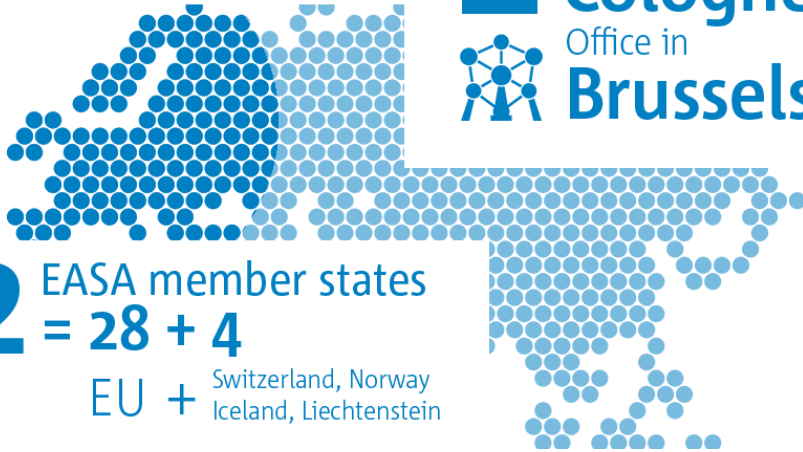
aviation experts  
& administrators



Headquarters in  
**Cologne**



Office in  
**Brussels**



**32** EASA member states  
**= 28 + 4**

EU + Switzerland, Norway  
Iceland, Liechtenstein



# Agenda

- Definitions and introduction
- The open category
- The specific category
- The U-space
- The certified category

# Definitions

UAS



Involved person

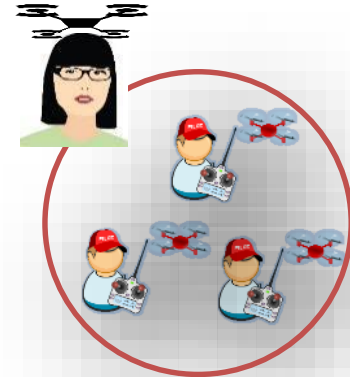


Model aircraft = UAS



However special provisions apply

UAS Operator



Remote pilot



# Legal Basis



Regulation EU 1139/2018 (EASA basic regulation) extends to all UAS the EU competence:

- EASA carries out on behalf of Member States the functions and tasks of the state of designs for all UAS
- EASA issues certificate of airworthiness for UAS, when needed

Only civil drones but ..... possibility to opt in for state and military aircraft



# Performance Based, Risk-Based, Operation Centric



**OPEN category - Low risk**  
**NO-PRE APPROVAL**

**LIMITATIONS:** 25 kg, Visual Line of Sight (VLOS), height <120m, system of zones

**3 Sub-categories:** fly over, close, far from people

*General public / recreational purpose*

*Model Flying, Photographers*

**SPECIFIC - Increased risk**  
**Authorisation by NAA based on specific operation risk assessment (SORA)**

**Declaration in case of standard scenario; LUC**

*BVLOS operations (linear inspections, aerial work, ...)*

*Transport of goods*

**CERTIFIED - Risk as manned aviation**

**Certification of UAS [by EASA], approval of the operator and licensed pilot (unless autonomous flight) [by the NAAs]**

*Air Taxi  
International IFR (cargo, passengers)*

*Package delivery over people*

# Performance Based, Risk-Based, Operation Centric



**OPEN category - Low risk**  
**NO-PRE APPROVAL**  
**LIMITATIONS: 25 kg, Visual Line of Sight (VLOS), height <120m, system of zones**



**SPECIFIC - Increased risk**  
**Authorisation by NAA based on specific operation risk assessment (SORA)**  
**Declaration in case of standard scenario; LUC**



**CERTIFIED - Risk as manned aviation**  
**Certification of UAS [by EASA], approval of the operator and licensed pilot (unless autonomous flight) [by the NAAs]**

**Commission Delegated Regulation (EU) 2019/945 & Commission Implementing Regulation (EU) 2019/947**

**NPA planned for Q4 2020**

# Status on EU Regulations for Operations in Open and Specific Category

- [Commission Delegated Regulation \(EU\) 2019/945](#) (technical requirements and third country operations)
  - entered into force and became applicable on 1<sup>st</sup> July 2019
- [Commission Implementing Regulation \(EU\) 2019/947](#) (operational requirements and registration)
  - entered into force on 1<sup>st</sup> July 2019
  - will become applicable on 1<sup>st</sup> July 2020
  - [AMC and GMs](#) published on EASA website
- ***They directly replace national drone regulations***



# Registration of UAS Operators

UAS Operators shall register themselves when they operate:

- **In the open category:**

- UAS with an MTOM > 250g



- UAS (non toys) with an MTOM < 250g equipped with a sensor able to capture personal data
- UAS which, in the case of an impact, can transfer to a human a kinetic energy greater than 80 Joules (e.g. a UAS with MTOM = 250 g and speed > 130 km/h)

- **In the specific category:** All operators

Member State of residence or main place of business



# Registration of Unmanned Aircraft



*The Unmanned Aircraft shall be registered when a certificate of airworthiness is required*

# Tools for Enforcement Authorities

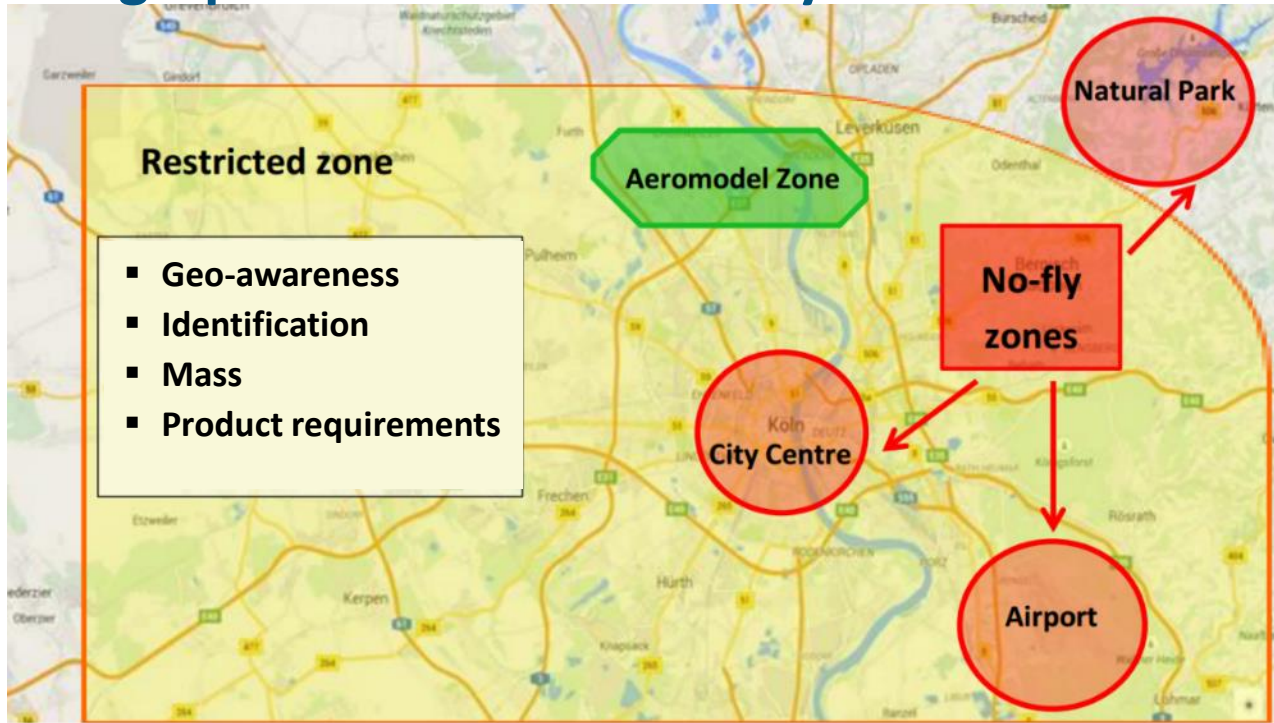
- Interoperable & real-time registration databases for:
  - UAS operators
  - certified unmanned aircraft
- Local E-identification broadcasting:
  - UAS operator registration number and UA unique serial number
  - Remote pilot or UA take-off position
  - UA current position, height, timestamp
  - Direction and speed of the UA
- UA marked with UAS operator registration number



**FIN87astrdge12k**

# Flexibility for Member States

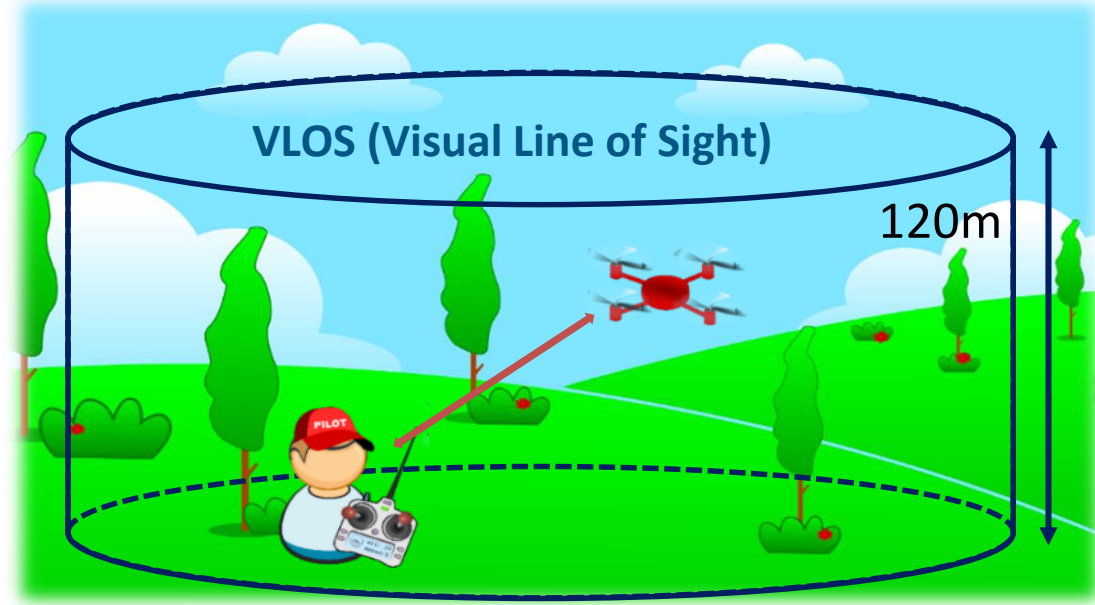
## Geographical zones defined by Member States



# The Open Category

**Your safety is our mission.**

# Open Category



- MTOM < 25 Kg
- Remote pilot minimum age 16, unless supervised (it may be reduced to 12, no minimum age for toys)
- No carriage of dangerous goods
- No dropping of material
- No autonomous operations

## Additional limitations based on operational subcategory:

- A1 fly over people

Privately built  
with MTOM<250g



- A2 fly close to people




- A3 fly far from people

Privately built  
with MTOM<25kg



# Rules Made Simple for UAS operators

Each drone package will include consumer information




**Flying a Drone**

Check the information on this box

You are responsible for safety


DO	DO NOT
Make sure you are adequately trained	Do not make changes to the drone unless approved by the manufacturer
Check your drone before each flight	Do not fly higher than 120 m from the ground
Before each flight, check the boundaries of the area where you want to operate, as defined by the national authority of the country and respect them	Do not fly near manned aircraft
Keep the drone in sight at all times	Do not fly in the proximity of airports, heliports, areas affecting public safety or areas of emergency response after an accident
Maintain a safe distance between the drone and people, animals, other aircraft and boats	Do not fly over sensitive or protected sites (airports, heliports, power plants, etc.)
Operate your drone within the performance boundaries defined by the manufacturer	Do not fly over large groups of people
Advise your national aviation authority (NCAA) if your drone is involved in an accident or in an incident that affects its normal operation	Do not take photographs, videos or record audio of people without their permission, unless you have their permission
Operate your drone within the performance boundaries defined by the manufacturer	Do not take photographs, videos or record audio of people without their permission, unless you have their permission
Advise your national aviation authority (NCAA) if your drone is involved in an accident or in an incident that affects its normal operation	Do not take photographs, videos or record audio of people without their permission, unless you have their permission

FOR MORE INFORMATION ABOUT THIS DRONE, VISIT THE [CONSUMER INFO](#) WEBSITE



**Flying a Drone**

Check the information on this box




**Flying a Drone**

Check the information on this box

You are responsible for safety


DO	DO NOT
Make sure you are adequately trained	Do not make changes to the drone unless approved by the manufacturer
Check your drone before each flight	Do not fly higher than 120 m from the ground
Before each flight, check the boundaries of the area where you want to operate, as defined by the national authority of the country and respect them	Do not fly near manned aircraft
Keep the drone in sight at all times	Do not fly in the proximity of airports, heliports, areas affecting public safety or areas of emergency response after an accident
Maintain a safe distance between the drone and people, animals, other aircraft and boats	Do not fly over sensitive or protected sites (airports, heliports, power plants, etc.)
Operate your drone within the performance boundaries defined by the manufacturer	Do not fly over large groups of people
Advise your national aviation authority (NCAA) if your drone is involved in an accident or in an incident that affects its normal operation	Do not take photographs, videos or record audio of people without their permission, unless you have their permission
Operate your drone within the performance boundaries defined by the manufacturer	Do not take photographs, videos or record audio of people without their permission, unless you have their permission
Advise your national aviation authority (NCAA) if your drone is involved in an accident or in an incident that affects its normal operation	Do not take photographs, videos or record audio of people without their permission, unless you have their permission

FOR MORE INFORMATION ABOUT THIS DRONE, VISIT THE [CONSUMER INFO](#) WEBSITE



**Flying a Drone**

Check the information on this box




**Flying a Drone**

Check the information on this box

You are responsible for safety


DO	DO NOT
Make sure you are adequately trained	Do not make changes to the drone unless approved by the manufacturer
Check your drone before each flight	Do not fly higher than 120 m from the ground
Before each flight, check the boundaries of the area where you want to operate, as defined by the national authority of the country and respect them	Do not fly near manned aircraft
Keep the drone in sight at all times	Do not fly in the proximity of airports, heliports, areas affecting public safety or areas of emergency response after an accident
Maintain a safe distance between the drone and people, animals, other aircraft and boats	Do not fly over sensitive or protected sites (airports, heliports, power plants, etc.)
Operate your drone within the performance boundaries defined by the manufacturer	Do not fly over large groups of people
Advise your national aviation authority (NCAA) if your drone is involved in an accident or in an incident that affects its normal operation	Do not take photographs, videos or record audio of people without their permission, unless you have their permission
Operate your drone within the performance boundaries defined by the manufacturer	Do not take photographs, videos or record audio of people without their permission, unless you have their permission
Advise your national aviation authority (NCAA) if your drone is involved in an accident or in an incident that affects its normal operation	Do not take photographs, videos or record audio of people without their permission, unless you have their permission

FOR MORE INFORMATION ABOUT THIS DRONE, VISIT THE [CONSUMER INFO](#) WEBSITE



**Flying a Drone**

Check the information on this box




**Flying a Drone**

Check the information on this box

You are responsible for safety

DO	DO NOT
Make sure you are adequately trained	Do not make changes to the drone unless approved by the manufacturer
Check your drone before each flight	Do not fly higher than 120 m from the ground
Before each flight, check the boundaries of the area where you want to operate, as defined by the national authority of the country and respect them	Do not fly near manned aircraft
Keep the drone in sight at all times	Do not fly in the proximity of airports, heliports, areas affecting public safety or areas of emergency response after an accident
Maintain a safe distance between the drone and people, animals, other aircraft and boats	Do not fly over sensitive or protected sites (airports, heliports, power plants, etc.)
Operate your drone within the performance boundaries defined by the manufacturer	Do not fly over large groups of people
Advise your national aviation authority (NCAA) if your drone is involved in an accident or in an incident that affects its normal operation	Do not take photographs, videos or record audio of people without their permission, unless you have their permission
Operate your drone within the performance boundaries defined by the manufacturer	Do not take photographs, videos or record audio of people without their permission, unless you have their permission
Advise your national aviation authority (NCAA) if your drone is involved in an accident or in an incident that affects its normal operation	Do not take photographs, videos or record audio of people without their permission, unless you have their permission

FOR MORE INFORMATION ABOUT THIS DRONE, VISIT THE [CONSUMER INFO](#) WEBSITE



**Flying a Drone**

Check the information on this box

# Open Category - Subcategory A1



CE



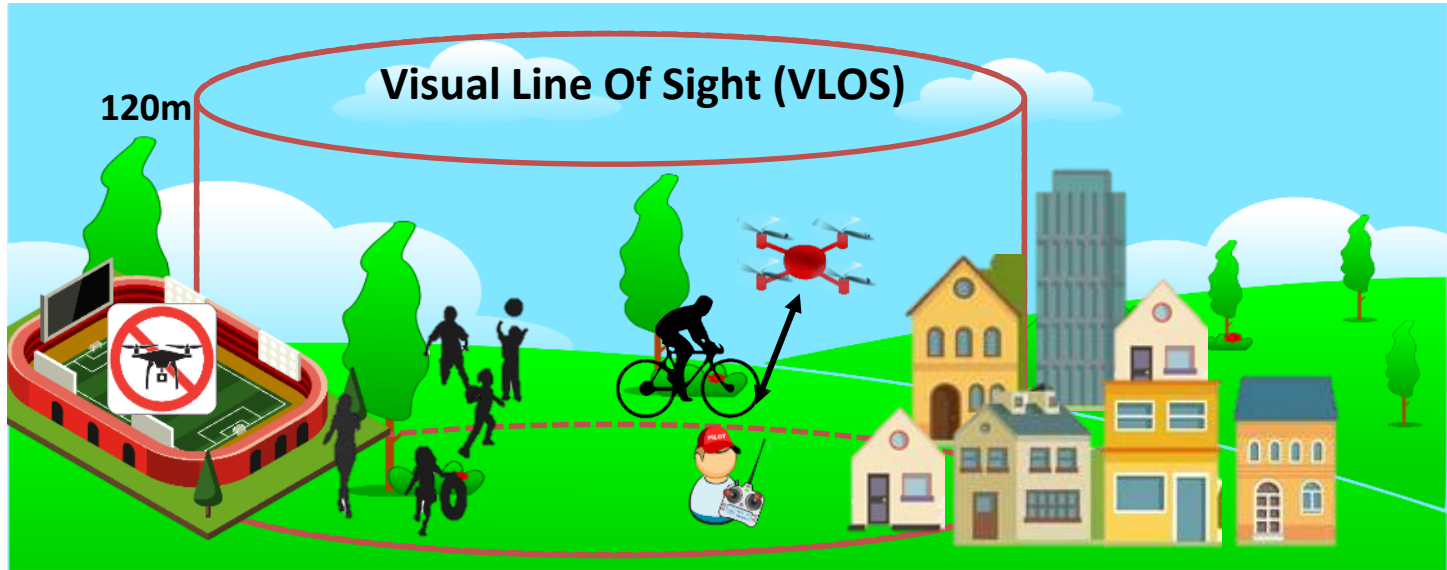
MTOM<250g

Privately built  
with MTOM<250g

- No flight over groups of people

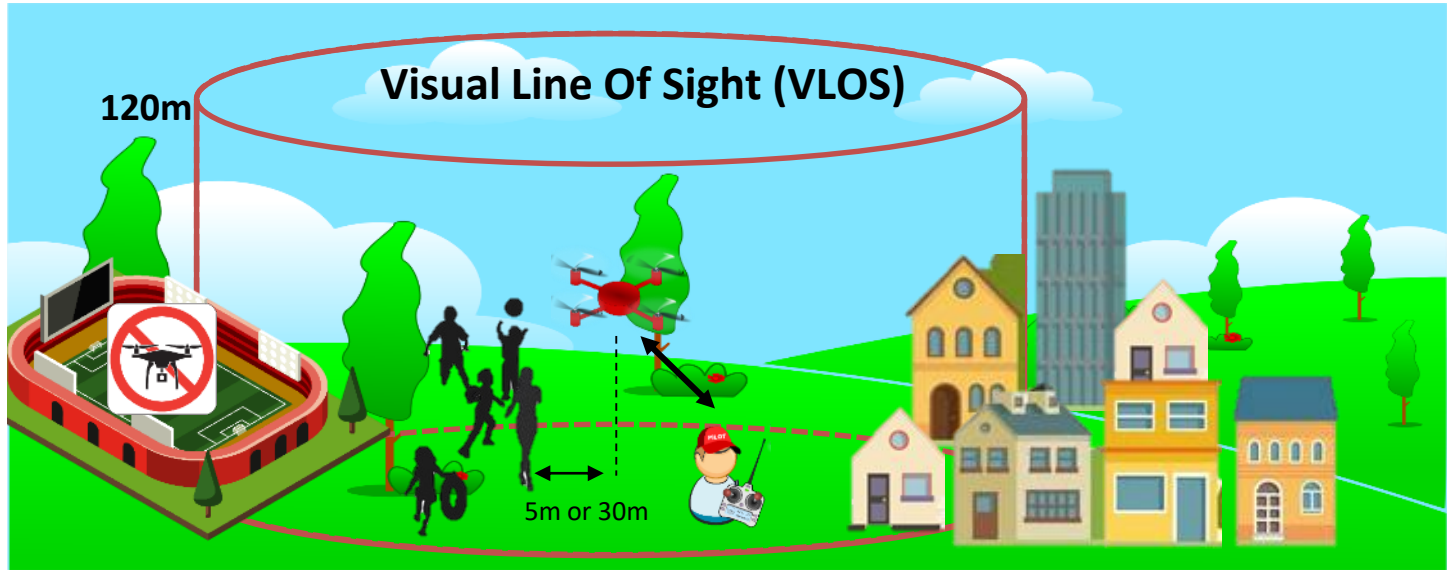


# Open Category - Subcategory A1



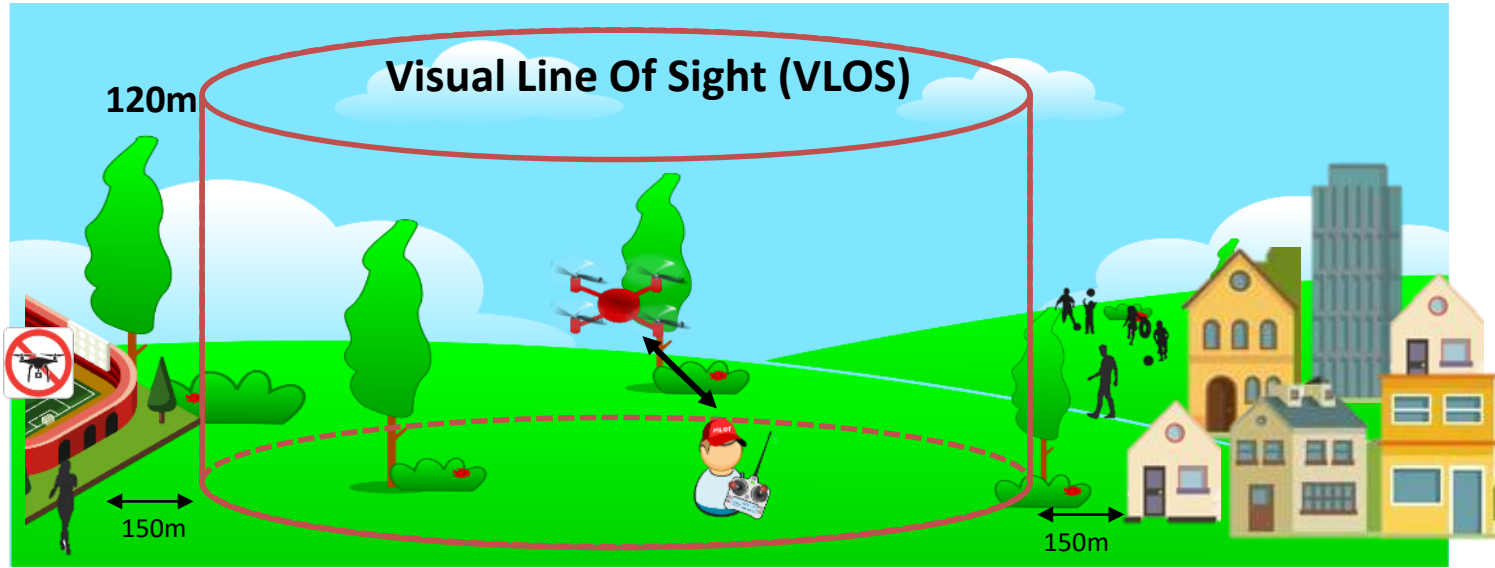
- **No flight over groups of people**
- Reasonably expect that no uninvolved person is overflown. In case of unexpected overfly over uninvolved persons, the remote pilot shall reduce as much as possible the time during which the unmanned aircraft overflies those persons

# Open Category - Subcategory A2



- **No flight over uninvolved people**
- UAS at a horizontal distance of at least 30 metres from uninvolved persons, or up to a of 5 metres when low speed mode function is activated

# Open Category - Subcategory A3



MTOM<25kg

Privately built  
with MTOM<25kg

➤ **No flight over uninvolved people**

➤ Conducted in an area where the remote pilot reasonably expects that no uninvolved person will be endangered within the range where the unmanned aircraft is flown during the entire time of the UAS operation

# Training for Remote Pilots



Privately built  
with MTOM<250g

- Familiarisation with the manufacturer's instructions



- Familiarisation with the manufacturer's instructions



- Complete the online training



Privately built  
with MTOM<25kg

- Pass the online test

Remote Pilot training proof  
of completion number



After passing the examination, the MS issues the proof to the remote pilot

# Open Category: Training for Remote Pilots

CE



- Familiarisation with the manufacturer's instructions
- Complete the online training
- Pass the online test
- Conduct a self-practical training in a "safe" area (A3 subcategory conditions)
- Declare completion of the practical training
- Pass a written test in an entity recognised by the competent authority



# UAS Operator Registration Number vs Remote Pilot Training Proof of Completion Number



UAS operator registration number

**FIN87astrdge12k**



# Open Category: Renewal of Remote Pilot Training

- Online theoretical competency and certificate of remote pilot competency are valid for 5 years
- Competencies need to be re-demonstrated or remote pilot may attend a seminar provided by the NAA or an entity recognised by the NAA

# Flying in a Hilly Environment and Over Obstacles

Upon request of the owner of the artificial obstacle





# Model Aircraft

## Option 1 - Article 16 regulation (EU) 2019/947

- Model clubs and associations may receive an authorisation from the NAA defining the applicable conditions (i.e. NAA may define the full set of rules such as minimum age, maximum altitude etc.). Registration still mandatory
- All members of an authorised model club or association must operate according to the procedures of the club or association

### Option 2

Fly in areas designated by the NAA where different conditions apply



### Option 3

Fly in subcategory A3



Privately built  
with MTOM < 25kg

# Responsibilities of UAS Operators



*Develop operational procedures adapted to the type of operation and the risk involved*

*Ensure efficient use of radio spectrum*



*Designate a remote pilot for each UAS operation*



*Ensure that remote pilots and all other personnel supporting operations have the required competency and information*

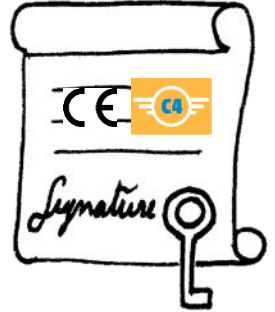


# Responsibilities of UAS Operator



Update the information into the geo-awareness system

When operating a UAS with CE class mark ensure that the UAS is accompanied by the corresponding EU declaration of conformity



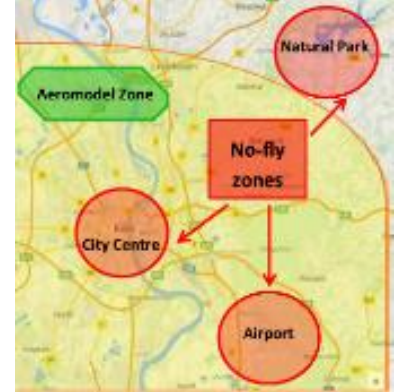
Ensure that all involved persons present in the area of the operation have been informed of the risks and have explicitly agreed to participate.

# Responsibility of the Remote Pilot



*Have the appropriate competency and carry a proof of competency*

*Obtain updated information about any geographical zones and comply with them*



*Ensure that the UAS is in a condition to safely complete the intended flight and operate the UAS in accordance with the user manual and manufactures' procedures*



*Not perform duties under the influence of psychoactive substances or alcohol*



# Responsibility of the remote pilot



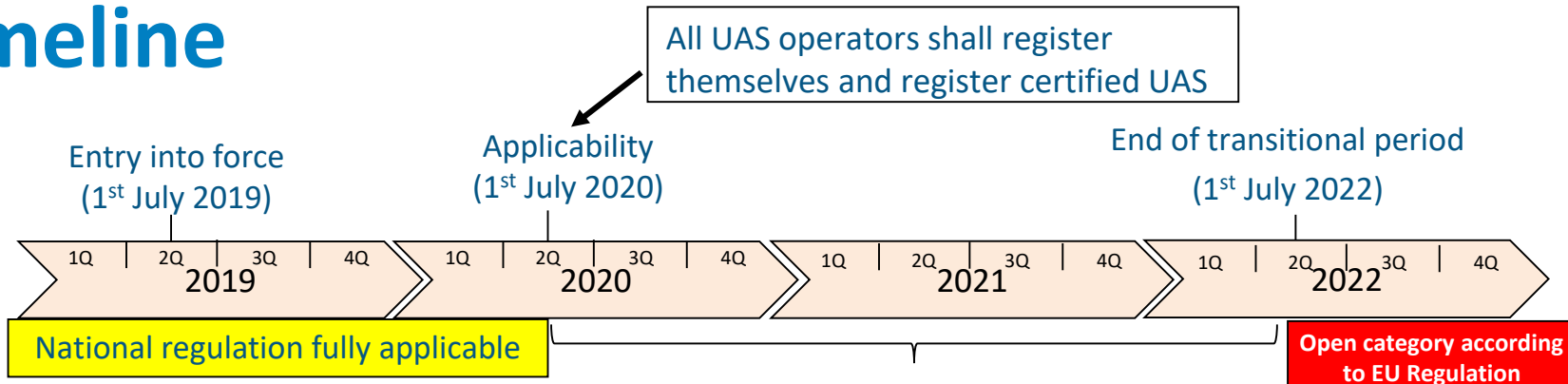
*Keep the UA in VLOS and maintain a thorough visual scan of the airspace surrounding the UA in order to avoid any risk of collision with any manned aircraft. Discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment or property*

*Remote pilots may be assisted by an UAS observer, situated alongside them, who, by unaided visual observation, assists in safely conducting the flight*

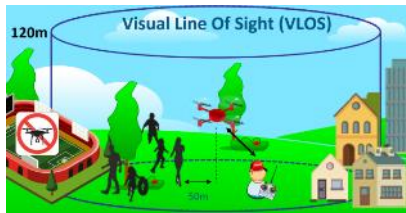


*Do not fly close to or inside areas where an emergency response effort is ongoing unless with permission*

# Timeline



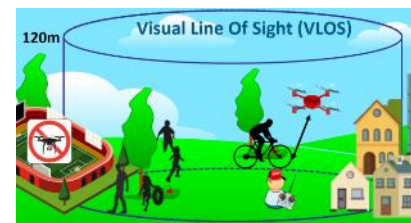
## Limited open category



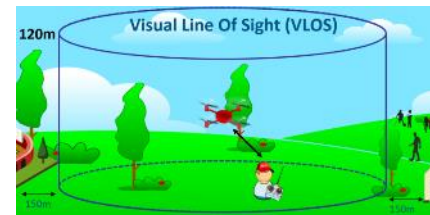
UAS with MTOM < 2 kg may be operated at a minimum horizontal distance of 50 m from people

Remote pilot competency defined by Member State

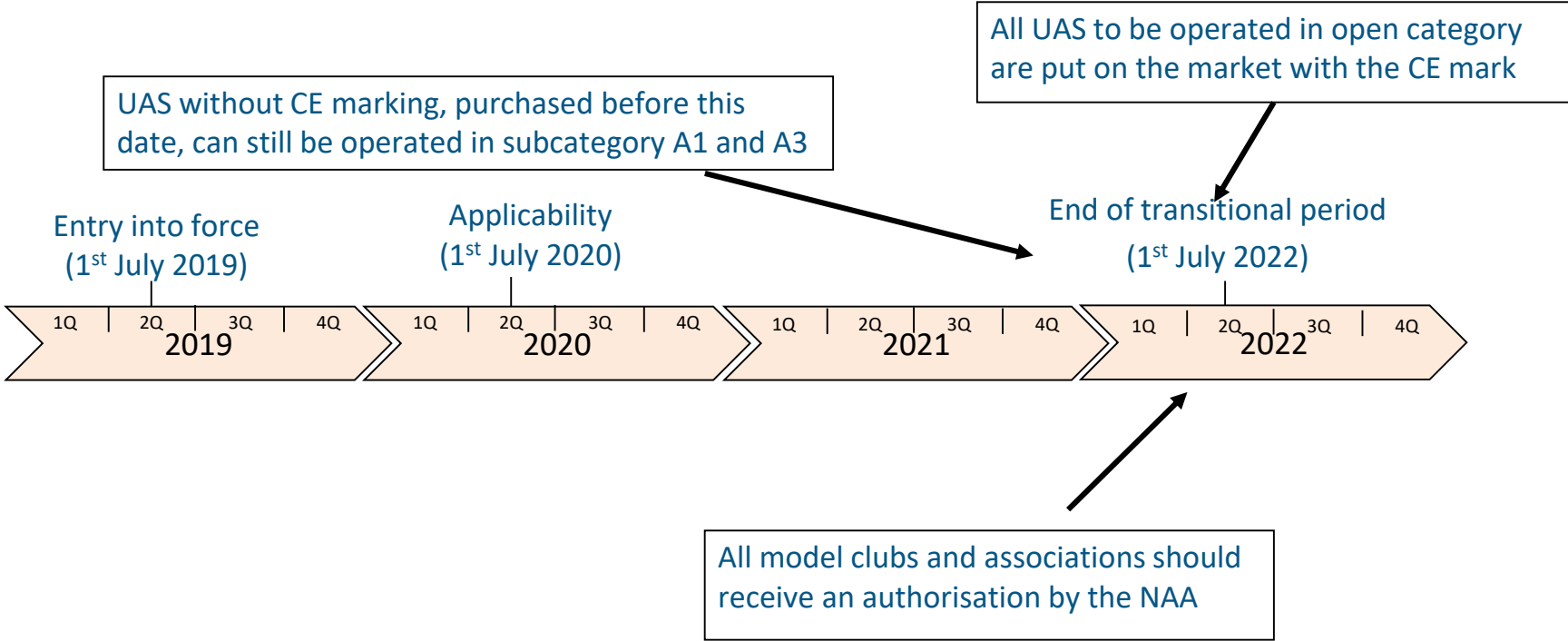
UAS with MTOM < 500 g may operate in subcategory A1



UAS with MTOM < 25kg may be operated in subcategory A3

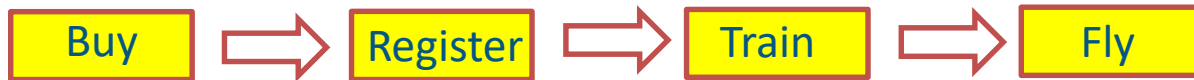


# Timeline for Implementation



# Summary of 'Open' Category

- New European Rules (Regulation (EU) 2019/947) will apply from mid 2020 and become fully applicable in mid 2022
- Registration of UAS operator and certified Unmanned Aircraft
- Flying in the Open Category is easy:





# You are the pilot!



<https://easa.europa.eu/drones/>

**Your safety is our mission.**