



Notice of Proposed Amendment 2017-05 (A)

Introduction of a regulatory framework for the operation of drones

Unmanned aircraft system operations in the open and specific category

RMT.0230

EXECUTIVE SUMMARY

In accordance with Regulation (EC) No 216/2008 (hereinafter referred to as the 'Basic Regulation'), the regulation of unmanned aircraft systems (UAS) with a maximum take-off mass (MTOM) of less than 150 kg falls within the competence of the European Union (EU) Member States (MSs). This leads to a fragmented regulatory system hampering the development of a single EU market for UAS and cross-border UAS operations. A new proposed Basic Regulation (hereinafter referred to as 'the new Basic Regulation'), currently under discussion between the Council, the European Commission, and the European Parliament, aims to solve this issue, by extending the competence of the EU to regulate all UAS regardless of their MTOM.

In view of the adoption of this new Regulation, the objective of this sub-Notice of Proposed Amendment (sub-NPA) 2017-05 (A) is:

- to ensure an operation-centric, proportionate, risk- and performance-based regulatory framework for all UAS operations conducted in the open and specific category;
- to ensure a high and uniform level of safety for UAS;
- to foster the development of the UAS market; and
- to contribute to enhancing privacy, data protection, and security.

This NPA proposes to create a new regulation (hereinafter referred to as 'Regulation (EU) 201X/XXX') defining the measures to mitigate the risk of operations in:

- the open category through a combination of limitations, operational rules, requirements for the competence of the remote pilot, as well as technical requirements for the UAS; and
- the specific category through a system including a risk assessment conducted by the operator before starting an operation, or the operator complying with a standard scenario, or the operator holding a certificate with privileges.

Regulation (EU) 201X/XXX will provide flexibility to MSs mainly by allowing them to create zones on their territory where the use of UAS would be prohibited, limited or on the contrary facilitated.

Pursuant to new Basic Regulation, market product legislation (CE marking) ensures compliance with the technical requirements for mass-produced UAS operated in the open category. A dedicated Annex (Part-MRK) to Regulation (EU) 201X/XXX is proposed to define the conditions for making UAS available on the market.

Regulation (EU) 201X/XXX is expected to increase the level of safety of UAS operations, harmonise legislation among the EU MSs, as well as create an EU market that will reduce the cost of the UAS and allow cross-border operations.

Note: sub-NPA 2017-05 (A) contains the explanatory note and the proposed draft rules, whereas sub-NPA 2017-05 (B) contains the full impact assessment (IA) for this RMT.

Action area: Civil drones (UAS)

Affected rules: N/a

Affected stakeholders: Operators (private and commercial); competent authorities; MSs; flight crews; remote pilots; maintenance staff; UAS manufacturers; other airspace users (manned aircraft); service providers of air traffic management (ATM)/air navigation services (ANS) and other ATM network functions; air traffic services (ATS) personnel; aerodromes; general public; model aircraft associations

Driver: Efficiency/proportionality;
safety

Rulemaking group: No, but expert group

Impact assessment:

Full

Rulemaking Procedure:

Standard

• EASA rulemaking process milestones

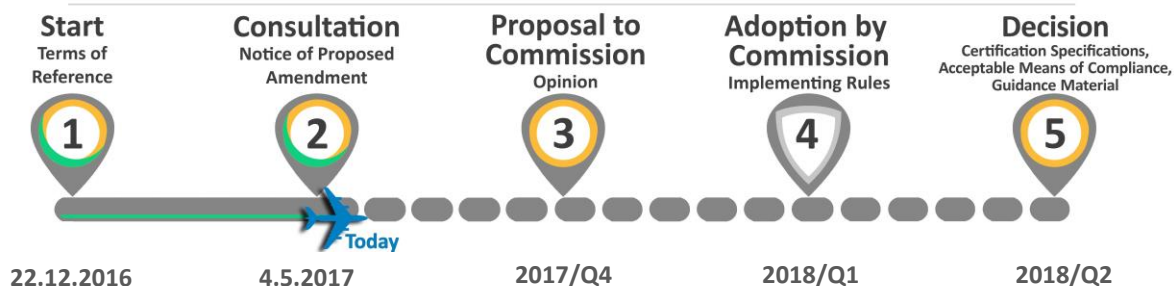


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1. About this NPA

1.1. How this NPA was developed

The European Aviation Safety Agency (EASA) developed this NPA in line with the Basic Regulation¹ and the Rulemaking Procedure². This rulemaking activity is included in the EASA 5-year Rulemaking Programme³ under rulemaking task (RMT).0230. The text of this NPA has been developed by EASA based on the input of the UAS expert group⁴. It is hereby submitted to all interested parties⁵ for consultation.

1.2. How to comment on this NPA

Please submit your comments using the automated **Comment-Response Tool (CRT)** available at <http://hub.easa.europa.eu/crt/>⁶.

The public-consultation period begins on **12 May 2017** and the deadline for submission of comments is **12 August 2017**.

1.3. The next steps

Following the closing of the public commenting period, EASA will review all comments.

Based on the comments received, EASA will develop an opinion containing a new proposed draft Commission implementing regulation laying down rules as regards unmanned aircraft systems operations. The opinion will be submitted to the European Commission, which will use it as a technical basis in order to prepare an EU regulation.

Following the adoption of the regulation, EASA will issue a decision containing the related acceptable means of compliance (AMC) and guidance material (GM). Additional AMC/GM will be proposed in a subsequent NPA under this RMT.

The comments received and the EASA responses thereto will be reflected in a comment-response document (CRD). The CRD will be annexed to the opinion.

¹ Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1467719701894&uri=CELEX:32008R0216>).

² EASA is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material (<http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure>).

³ <http://easa.europa.eu/rulemaking/annual-programme-and-planning.php>

⁴ Section 2.3.1.1 of this sub-NPA 2017-05 (A) provides more details on the expert group composition.

⁵ In accordance with Article 52 of the Basic Regulation and Articles 6(3) and 7 of the Rulemaking Procedure.

⁶ In case of technical problems, please contact the CRT webmaster (crt@easa.europa.eu).

2. In summary — why and what

2.1. Why we need to change the rules — issue/rationale

In the last years, the development of small unmanned aircraft (UA) with an MTOM of less than 25 kg has been extremely fast and has challenged traditional aviation. As stated in the Executive Summary, in accordance with Regulation (EC) No 216/2008, the regulation of UAS with an MTOM of less than 150 kg comes within the competence of the EU MSs. As described in the IA (see sub-NPA 2017-05 (B)), several EU MSs have adopted and implemented national rules that are not harmonised with each other. Operators and manufacturers of UAS have pleaded for a harmonisation of such rules to create a European market for UAS.

As a consequence, the new proposed Basic Regulation, currently under discussion between the Council, the European Commission and the European Parliament, contains requirements regulating all UAS, except those used for 'state' operations (e.g. military, customs, police, firefighting, etc.), and defines the essential requirements to ensure the safety of UAS. In addition, said Regulation includes the possibility of 'opting in' for MSs wishing to place UAS under EU regulation.

The requirements for UAS in the new Basic Regulation will be complemented by other Commission regulations.

This sub-NPA 2017-05 (A) proposes a draft commission regulation for the open and specific category (Regulation (EU) 201X/XXX).

Safety issues

The two main risks that need to be addressed are the following:

- air risk (collision with a manned aircraft or another UA); and
- ground risk (collision with persons or critical infrastructure).

A safety risk assessment is contained in the IA (see sub-NPA 2017-05 (B)), including a safety risk portfolio. In this context, it should be noted that since reporting on UAS occurrences is mostly made by manned-aircraft pilots, the reporting data for air risk is much more extensive than for ground risk where only anecdotal evidence exists. In general, the number of reported occurrences has considerably increased in the recent years. The risk assessment has identified three key risk areas:

- airborne conflict;
- aircraft upset (UAS out of control); and
- other systems' failures.

These risk areas are reflected, where appropriate, in the requirements for the open and specific category. For example, airborne conflict in the open category is mitigated by laying down a requirement for:

- a maximum height;
- operations in visual line of sight (VLOS); and
- for some UAS Class a, a geofencing functionality.

Exemptions⁷ in accordance with Article 14 ‘Flexibility provisions’ and/or Article 22 ‘Air operation certification’ of the Basic Regulation

There are no such exemptions.

Alternative means of compliance (AltMoC)

No AltMoC relevant to this RMT exist. However, it should be noted that the concept of AltMoC has been introduced in this sub-NPA 2017-05 (A) only in the context of the specific category. This point is further developed under Section 2.3 ‘How we want to achieve it — Overview of the proposals’ of this sub-NPA 2017-05 (A).

International Civil Aviation Organization (ICAO) and third-countries references

EASA has active cooperation links mainly with ICAO, Joint Authorities for Rulemaking on Unmanned Systems (JARUS)⁸, and the Federal Aviation Administration (FAA).

The scope of the remotely piloted aircraft systems (RPAS) ICAO Panel is international flights in instrument flight rules (IFR), which relates to the certified category. Therefore, it is not applicable to this NPA.

The EASA concept of UAS operations is highly inspired by the JARUS concept that identifies three categories, A, B, and C, related to the open, specific and certified category, respectively. The draft JARUS rules for category A and B are based on the EASA ‘Prototype’ Commission Regulation on Unmanned Aircraft Operations, published on 22 August 2016⁹.

Finally, EASA will incorporate in the additional draft AMC to Regulation (EU) No 201X/XXX (see Section 3.2), to be published in a subsequent NPA, the specific operations risk assessment (SORA), a methodology developed by JARUS for the risk assessment required for UAS operations in the specific category.

The FAA published Part 107 for the regulation of small-UAS operations, which became applicable in August 2016 and whose scope is comparable to the EASA open category (MTOM of 55 lb which is equivalent to 25 kg). The main differences are the following:

- The FAA relies more on operator competences and operational limitations, while the Agency uses in addition design requirements for the UAS.
- The FAA regulates model aircraft activities through Public Law 112-95, Section 336. ‘Special rule for model aircraft’, while the Agency proposes to regulate both model aircraft and UAS through the same rules. The conditions of Public Law 112-95, Section 336 are codified in Part 101,

⁷ Exemptions having a possible impact on the development of this RMT and stemming from:

- Article 14(1): measures taken as an immediate reaction to a safety problem;
- Article 14(4): exemptions from substantive requirements laid down in the Basic Regulation and its implementing rules (IRs) in the event of unforeseen urgent operational circumstances or operational needs of a limited duration;
- Article 14(6): derogation from the rule(s) implementing the Basic Regulation where an equivalent level of protection to that attained by the application of said rules can be achieved by other means; and
- Article 22(2)(b): individual flight time specification schemes deviating from the applicable certification specifications that ensure compliance with the essential requirements and, as appropriate, related IRs.

⁸ See also <http://jarus-rpas.org/>.

⁹ <http://www.easa.europa.eu/easa-and-you/civil-drones-rpas>

Subpart E ‘Special Rule for Model Aircraft’. As per the FAA website, model aircraft may also be flown in accordance with Part 107.

- The FAA has yet to regulate UAS operations conducted over people as well as extended operations (e.g. operations beyond visual line of sight (BVLOS)), while those are covered in this NPA.

2.2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 2 of the new Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2.

The specific objectives of this proposal related to UAS, as defined in the IA, are:

- to ensure an operation-centric, proportionate, risk- and performance-based regulatory framework;
- to ensure a high and uniform level of safety for UAS;
- to foster the development of the UAS market; and
- to contribute to enhancing privacy, data protection, and security.

Based on those objectives, the IA contains a problem tree graph depicting the links between the issues (problems encountered), the drivers of those issues, as well as their consequences.

2.3. How we want to achieve it — overview of the proposals

2.3.1 General issues

2.3.1.1 Background of the NPA

This NPA is a follow-up of the concept of UAS operations of A-NPA 2015-10¹⁰ publicly consulted between 31.7.2015 and 25.9.2015, as well as of the Opinion of a technical nature¹¹ (published on 18.12.2015) based on the A-NPA and the feedback received during its consultation. A ‘Prototype’ Commission Regulation on Unmanned Aircraft Operations was then published in August 2016 providing a first draft of the UAS regulation. The approximately 600 detailed comments received during the consultation of the ‘Prototype’ Regulation together with the significant inputs provided by an expert group put in place by EASA have been taken into account to prepare this NPA. More than additional 1000 comments were received via email from model aircraft practitioners expressing their dissatisfaction with the requirements for model aircraft included in the ‘Prototype’ Regulation. Based on these comments, EASA improved in this NPA the quality of the draft regulation and developed additional options for model aircraft activities. The above-mentioned expert group included representatives of the EU MSs, the UAS industry (both for large and small UAS), of manned aviation and of model aircraft associations. The size of the expert group was small, but as there were many candidatures, individuals not retained as group members were included in a distribution list and kept informed of the activities of the group, with the possibility to comment during the drafting of this NPA. Additionally, the work of JARUS has been considered when drafting this NPA.

¹⁰ <https://www.easa.europa.eu/document-library/notices-of-proposed-amendment/npa-2015-10>

¹¹ <https://www.easa.europa.eu/document-library/opinions/opinion-technical-nature>

Moreover, the information contained in two complementary reports¹² drafted by two EASA task forces respectively benefitted the work on the NPA:

- Study and Recommendations regarding Unmanned Aircraft System Geo-Limitations; and
- ‘Drone Collision’ Task Force.

The NPA requirements introduce an operation-centric concept. This concept stems from the fact that the consequences of an accident or incident with a UAS not carrying people are highly dependent on the environment where the accident or incident takes place. The requirements have been developed applying also a risk-based and performance-based approach.

The risk-based approach in the open category is exemplified by introducing subcategories, and in the specific category, by laying down the requirement for a risk assessment to be conducted by the operator before starting an operation. The subcategorisation in the open category is also based on a risk assessment where the risks (both air and ground) are mitigated by a combination of limitations, operational rules, competences of the remote pilot, as well as technical requirements for the UAS.

The performance-based approach is applied by providing the main requirements in the draft regulation as well as a significant set of related AMC/GM on the one hand, and, when dealing with technical requirements, by expressing them in terms of functionalities; these technical requirements should be supported by analogous industry standards.

In accordance with the new Basic Regulation, market product legislation (CE marking) ensures compliance with the technical requirements for the UAS operated in the open category.

2.3.1.2 Structure of the regulation

Regulation (EU) 201X/XXX has the following structure:

- the cover regulation that includes the regulatory scope, definitions of significant terms and acronyms, the timelines required for the transition period until the full implementation of the regulation, as well as high-level requirements for operations in the open and specific category (e.g. requirements for registration, geofencing and electronic identification, competent authorities, the concept of UA zones, and model aircraft);
- Annex I (Part-UAS) with detailed aviation requirements for UAS operations in the open and specific category; and
- Annex II (Part-MRK) containing the conditions for making UAS in the open category available on the market.

Consequently, the requirements in the open category rely both on aviation legislation and product legislation (CE marking). Such a system has been put in place to avoid applying Annex I (Part-21) to Regulation (EU) No 748/2012¹³ rules that would be disproportionate for the small UAS. In addition, small-UAS manufacturers are in general more familiar with the CE marking than with Part-21.

¹² <http://www.easa.europa.eu/easa-and-you/civil-drones-rpas>

¹³ Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 224, 21.8.2012, p. 1) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1493049463572&uri=CELEX:32012R0748>).

Article 1 of Regulation (EU) 201X/XXX defines the issues not addressed by this NPA. It clarifies that said Regulation does not cover the certified category of UAS, or indoor operations since the new Basic regulation applies to the single European sky (SES) and indoors activities are not considered part of the SES.

Counter-UAS equipment and operations are also not addressed in this NPA as they are more related to security matters.

2.3.1.3 UA zones

In order to address the strong request for flexibility made by certain MSs, a concept of zones has been introduced into Article 12 of Regulation (EU) 201X/XXX. Such zones are defined by MSs and the related information must be published in a manner and format established by EASA to ensure standardisation. The requirements of this article must be read in conjunction with those of the open and specific category. It allows for two generic types of zones:

- those where UAS operations are prohibited or restricted; and
- those that alleviate certain requirements in the open or specific category.

The first type of zones may be established for safety, security, privacy or environmental reasons, whereas the second one, for example, to facilitate flight testing of new designs or operations.

2.3.1.4 Security and privacy

Furthermore, the NPA addresses security and privacy risks. The need to contribute to the mitigation of these risks has been disputed as some stakeholders strongly believed that the NPA should deal with safety issues only. However, Recital 19 of the new Basic Regulation indicates that UAS rules should contribute as much as possible to respecting the right to privacy and family life. The essential requirements of said Regulation for UAS also refer to privacy and environment. Based on the above, it is prudent to include in this NPA requirements that contribute to addressing security threats as well as to enforcing privacy and data protection rights in order to support the smooth development of an EU UAS market. Related examples can be found in the requirements for:

- Registration: UAS operators must register the UA except those operating UAS with an MTOM of less than 250 g. It was considered that below this weight threshold, in case of impact, the energy involved is low enough to pose only some negligible safety risk. The performance of the UA, in terms of autonomy, additionally reduces the privacy risk. For security considerations, the UAS operator must also register the UA when the UA is heavier than 900 g.
- Electronic identification: this functionality is required for UAS equipped with an audio sensor or a camera of more than 5 megapixels (MP) and a real-time video transmission link or any other type of sensor able to record personal data, or required by the zone of operation.
- Geofencing: this functionality is required for UAS heavier than 900 g, or required by the zone of operation.
- The definition of zones: MSs may define zones or airspace areas where UAS operations are prohibited or restricted also for security or privacy reasons.
- The obligation of the operator to comply with the security requirements defined in Article 3 of Regulation (EU) 201X/XXX.
- The obligation of the remote pilot of a UA to avoid flying close to emergency response efforts.

- The basic remote-pilot competence: in order to operate in the open category, the remote pilot must demonstrate knowledge not only of safety regulations but also of relevant EU security and privacy/data protection regulations.

2.3.1.5 Model aircraft

Model aircraft are within the scope of this NPA since, pursuant to the definition of a UA in the new Basic Regulation, a model aircraft is a UA. A definition that could distinguish model aircraft from UAS is not easy to be developed. Some model aircraft pilots argue that they would be reluctant to use certain UAS technology supposed to assist them in conducting the flight (e.g. a flight control system with higher automation than a typical radio control) since this would reduce their pleasure. Said technology instead is widely used in UAS since in this case, a remote pilot could focus more on the payload (e.g. filming with a camera) than in flying the UAS. Therefore, a definition of model aircraft could be based on the absence of a flight control system that potentially allows a UAS to fly within the BVLOS range. In reality, certain model aircraft are indeed equipped with some form of assisted flight control system. This approach was therefore rejected. On the other hand, it is recognised that model aircraft activities have good safety records. This is not due to the type of aircraft used but rather to the code of conduct developed by the model club and associations. In most cases, they have related procedures, they build awareness, and in some cases, they also provide training to their members, thus creating a safety framework.

For this reason, the NPA contains in Article 14 of Regulation (EU) 201X/XXX dedicated requirements for recreational flight activities conducted in the framework of model clubs and associations, allowing competent authorities to issue an operational authorisation in which they may define deviations from the rules proposed in this NPA. This operational authorisation is issued based on the procedures, management system, etc. of the club or association, without further showing of compliance. In addition to said Article 14, this NPA offers two other possibilities to model aircraft pilots not intending to join a model club:

- operations in specific zones designated by MSs, as described in Article 12(1)(d) of Regulation (EU) 201X/XXX, where MSs can alleviate the requirements of the rules proposed in this NPA; and
- operations in Subcategory A3 of the open category.

Operations in Subcategory A3 may be conducted with privately built UAS, or UAS Class C3 or Class C4. This last class was developed with a minimum set of technical requirements focusing mainly on providing the remote pilot with operational instructions issued by the manufacturer, as well as on raising the remote pilot's awareness of the EU regulations through a leaflet. Subcategory A3 has been designed to offer the possibility to model aircraft pilots to operate in the open category. The only constraint is that mass-produced model aircraft must comply with Class C4 requirements. However, this will create a negligible additional burden for manufacturers. Indeed, model aircraft currently available on the market are already required to display a CE marking to show compliance with the applicable regulations (e.g. Directive 2014/53/EU¹⁴ on radio equipment). Regulation (EU) 201X/XXX will only require the manufacturer to comply, in addition, with the following requirements:

- (a) have an MTOM, including payload, of less than 25 kg;

¹⁴ Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC (OJ L 153, 22.5.2014, p. 62) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1493633541462&uri=CELEX:02014L0053-20140611>).

- (b) be designed and manufactured to fly safely;
- (c) be placed on the market with clear operational instructions; and
- (d) include an awareness leaflet.

Compliance with the above requirements will be attested by the CE marking for Class C4.

According to Article 15 of Regulation 201X/XXX, all model aircraft currently in use will be able to be operated also after the entry into force of this Regulation, still using one of the three options explained above (be member of a model club, operate in dedicated areas, or follow the operational limitations for Subcategory A3), without the need of any modification to the aircraft.

2.3.1.6 Boundaries of the open, specific, and certified category

The categorisation of UAS operations in the open, specific, and certified category is based on the risk of the operation. This NPA sets the boundaries of the open-category for operations conducted:

- with a UAS with an MTOM of less than 25 kg;
- below 120-m height; and
- in VLOS.

As explained above, UAS operators may be exempted from such limits in the zones described in Article 12(1)(d) of Regulation (EU) 201X/XXX, or in the authorisation for model clubs and associations described in Article 14 of said Regulation. When the intended operation exceeds one of the limits set for the open category, then it falls into the specific category.

A UAS operation is then classified into the certified category when considering the risks involved, it requires the certification of the UA and of its operator, as well as licensing of the flight crew.

It has been proposed that the certified category might not be needed at all as all operations not fitting into the open category could be covered by the specific category. Although this is theoretically possible, there would be cases with so numerous mitigation measures required that certification would be more efficient and would allow, in addition, to cover more operations than the one described in the risk assessment.

Recital 20(a) of the new Basic Regulation proposes the following:

‘The conditions for situations in which the design, production, maintenance and operation of unmanned aircraft, as well as the personnel and organisations involved in these activities, should be subject to certification, should take into account the nature and risk of the type of operation concerned. These conditions should in particular take into account the type, scale, and complexity of the operation, including, where relevant, the size and type of the traffic handled by the responsible organisation or person; whether the operation is open to members of the public; the extent to which other air traffic or persons and property on the ground could be endangered by the operation; the purpose of the flight and type of airspace used; the complexity and performance of the unmanned aircraft involved.’

However, these criteria are quite similar to the elements of the risk assessment, thus leading to the conclusion that an operation must be certified only after a detailed investigation (bottom-up approach).

A top-down approach defining clear-cut cases would usefully complement this bottom-up approach, and meet the expectations at political level.

The following have been proposed to be classified as certified-category operations:

- large or complex UAS operating continuously over open assemblies of people;
- large or complex UAS operating BVLOS in high-density airspace;
- UAS used for transport of people; and
- UAS used for the carriage of dangerous goods, which may result in high risk for third-parties in case of crash.

This list is still under development within the JARUS Working Group 7 (WG-7) concept of operation. Comments on the list are specifically encouraged.

2.3.1.7 Third-country UAS operators

After some debate within the expert group, Article 10 has been added to the Regulation (EU) 201X/XXX. The debate was about the actual risk to have third-country UAS operators performing activities in the EU. As it was impossible to exclude that this might happen, said Article has been added to extend the applicability of said Regulation to them. The competent authority where a third-country operator needs to register is the one of the MS of operations because this authority is best acquainted with the area of operation. The difference between those rules and those for manned aircraft is due to the use of an operation-centric concept in the UAS environment. Such third-country operators have to comply with the proposed Regulation with the exception of certain certificates (i.e. the certificate of the remote pilot or of the UAS operator) that may be accepted by EASA, when it has analysed the third-country regulations and has concluded that they provide a level of safety equivalent to that ensured by the requirements included in this NPA. EASA performing this analysis may avoid multiple recognition of certificates by several MSs. EASA will involve experts from the MSs in the team performing this analysis. The approach presented in Article 10 of Regulation (EU) 201X/XXX is the one developed in Article 57(2) of the new Basic Regulation, which allows the European Commission to lay down detailed rules with regard to the acceptance of certificates or other documents issued by third countries. Such certificates or documents may also be accepted using international agreements between the EU and a third country (e.g. bilateral aviation safety agreements (BASAs) with the United States of America (USA)).

2.3.1.8 Registration

Registration is fundamental for law enforcement and unmanned aircraft traffic management (UTM) or U-Space operations. Five options have been analysed in the IA (see sub-NPA 2017-05 (B), Chapter 5) and they are presented below for ease of reference:

<i>Option No</i>	<i>Short title</i>	<i>Description</i>
R0	Do nothing	Registration is defined at MS level.
R1	Operator	Only the operator must register.
R2	Operator and UA (not for toys)	Both the operator and the UA must be registered (except toys).
R3	Operator and UA (not for toys and UA Class1)	Both the operator and the UA must be registered (except toys and UA C1).

R4	EASA registration	The registration system is designed at EU level (EASA).
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The IA describes the rationale for choosing Option R3. In addition, it was considered that registration at EU level (Option R4) could save costs and resources for authorities. Even if this Option has a certain merit for EASA, other considerations that fall outside of EASA's competence should be taken into account, which are part of the current negotiations between the Council, the European Commission, and the European Parliament.

Views of stakeholders are also sought on another option, which was identified at a later stage. Said option would consist in requiring the operators to register (except for toys) and allowing the MSs to decide which aircraft should be registered. Those registers would still need to be interoperable based on EASA standards. The advantage of this option would be to allow MSs the flexibility to decide which aircraft should be registered based on the national situation, for example in matters of security.

2.3.1.9 Link with the U-Space

The high-level conference on UAS held in Poland on 23-24 November 2016¹⁵ acknowledged that the development of the potential of the UAS service market would not only require the development of an appropriate EU regulatory framework but also '... urgent action on the airspace dimension, in particular the development of the concept of the "U-Space" on access to low level airspace especially in urban areas'.

U-Space is a set of new services and specific procedures designed to support safe, efficient and secure access to airspace for large numbers of UAS (e.g. registration, electronic identification, geofencing, flight approval, tracking, etc.). A draft blueprint of the U-space concept has been presented by the Directorate General (DG) Move of the European Commission at a workshop held on 20 April 2017 in the Hague. The blueprint will be incorporated into an addendum relative to the integration of UAS into the European ATM Master Plan that should be adopted by the end of 2017. The Single European Sky ATM Research (SESAR) Joint Undertaking (SJU) is responsible for developing both the blueprint and the addendum.

As it can be derived from the U-Space description, there is a strong link between the U-Space concept and the Regulation (EU) 201X/XXX. The SJU and EASA compared the proposed requirements of this NPA and the ones incorporated into the draft blueprint, which led to the identification of gaps/differences listed in the Appendix to this sub-NPA 2017-05 (A). Reviewing the latest version of the blueprint, it is evident that the requirements of the NPA and the draft blueprint are consistent with regard to the implementation of the U-space in 2019.

The coordination to ensure consistency will continue until publication of the related opinion and of the blueprint, taking into account comments received on the blueprint, as well as during the public consultation of the NPA. Publication of both documents is expected towards the end of 2017.

The airspace and U-Space concept issues are discussed in more detail in the dedicated Section 1.2.4.4 'Issue 4 — Lack of airspace classification and of rules for low-level operations' of sub-NPA 2017-05 (B).

2.3.1.10 Applicability

Article 15 of Regulation (EU) 201X/XXX addresses applicability issues. The new rules are proposed to be applicable 2 and/or 3 years after adoption of the Regulation by the European Commission. This is due to

¹⁵ Its outcome was the 'Warsaw Declaration' (see Section 1.2.3.1.3 of sub-NPA 2017-05 (B)).

the fact that there are several national rules, and it is therefore necessary to allow sufficient time to both MSs and stakeholders to take the appropriate measures to comply with Regulation (EU) 201X/XXX.

2.3.2 Open-category issues

2.3.2.1 Subcategories

The main topic of the expert group discussions was the definition of subcategories in the open category, and how to achieve the right balance between the following elements:

- development of a UAS market;
- safety (air risk and ground risk);
- security;
- privacy and data protection; and
- environmental concerns.

Subcategories are defined by a set of parameters, such as the following:

- MTOM of the UAS;
- distance of the UAS from people;
- height of the UAS above the ground;
- age and competence of the remote pilot;
- UAS technical requirements;
- UAS registration; and
- electronic identification and geofencing.

EASA's initial proposal focused on technical requirements and remote-pilot competence, and defined several subcategories complemented by the designation of zones by MSs. This system of zones could allow MSs to determine which UAS subcategories are allowed in each zone. As an alternative to this proposal, 21 MSs drafted a counterproposal that contained simpler rules focusing on remote-pilot responsibility and on few or no technical requirements for risk mitigation.

The MSs counterproposal is summarised in Table 1¹⁶ below:

Table 1

UAS subcategory	UAS MTOM (AIS ¹⁷)	Distance from people	Maximum height of the operation	Remote-pilot competence	Age of the remote pilot	Electronic identification/geofencing	Technical requirements
A0 Fly over people	< 250 g or AIS < 3 <i>Note (a)</i>	No limitation	VLOS and in no case higher than 30 m below the ICAO visual flight rules (VFR) minimum altitude, normally 120 m	None	Decided by MSs <i>Note (c)</i>	No (or on a voluntary basis)	Yes, if AIS < 3, or Directive 2009/48/EC ¹⁸ <i>Note (b)</i>
A1 Fly close to people	250 g to 25 kg <i>Note (a)</i>	More than 50 m away from crowds		Online training <i>Note (e)</i>		Yes, if U-Space available <i>Note (d)</i>	No <i>Note (b)</i>
A2 Fly far from people	250 g to 3 kg <i>Notes (a) and (b)</i>	Less than 50 m, but not directly above crowds		Exam including theoretical and practical skills <i>Note (f)</i>			

During the 5th expert group meeting, a compromise between the initial proposal and the counterproposal was reached, by reducing the complexity of the rule, as required by the 21 MSs, by keeping some technical requirements, and by defining the remote-pilot competence in a more proportionate way. The subcategorisation in the open category as well as the designation of zones provide flexibility to the MSs, and were generally supported by the expert group.

¹⁶ Notes to Table 1:

- (a) It applies to model aircraft and UAS; emergency recovery systems may be excluded up to a certain limit.
- (b) Not directly over people (without EC marking, with AIS < 3): the main driver of the complexity of the draft rule is the subcategorisation in the open category, as well as the link with the EU harmonisation legislation (CE marking). The use of CE marking complicating the draft rule can only be justified for flights directly over people. Furthermore, US Code of Federal Regulations (CFR) 14, Part 107 does not address the safety of the UAS as a product for operations that are not conducted directly over people. Thus, the CE marking should only be used to confirm that a UAS can be operated safely directly over people (i.e. it complies with the applicable AIS requirement).
- (c) According to current experience, there is no correlation between the age of the UAS pilot and the risk to uninvolved people.
- (d) Alignment of the regulatory approach with the U-Space: all electronic-identification and geofencing requirements must only require a connection to the U-Space. Installing equipment for electronic identification or geofencing that is not compatible with the U-Space is unjustifiable, considering the time frame set for the creation of the U-Space (2019).
- (e) Online training approved by a competent authority or qualified entity: theoretical remote-pilot competence is an essential element in ensuring safety in the open category.
- (f) Exams can be provided by a competent authority or qualified entity.

¹⁷ Abbreviated injury scale (see sub-NPA 2017/05 (B) for additional information).

¹⁸ Directive 2009/48/EC of the European Parliament and of the Council of 18 June 2009 on the safety of toys (OJ L 170, 30.6.2009, p. 1) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1493656682583&uri=CELEX:02009L0048-20140721>).

The compromise proposal is summarised in Table 2 below:

Table 2

UAS subcategory	UAS class	MTOM/ Joule (J)	Distance from people	Maximum height of the operation	Remote-pilot competence	Age of the remote pilot	Main technical requirements (CE marking)	UAS registration	Electronic identification, geofencing
A1 Fly over people	Privately built	< 250 g	Fly over uninvolved people (not over assemblies of people)	< 50 m	Leaflet	No limitation	N/a	No, if without camera of > 5 MP or an audio sensor	No
	C0						Directive 2009/48/EC, no sharp edges, awareness leaflet		
	C1	< 80 J or 900 g		< 50 m or < 120 m or up to 50 m above a higher obstacle, at the request of the owner of the object	Leaflet plus online training with a test	14 years or with supervisor	Kinetic energy, no sharp edges, selectable height limit, awareness leaflet	Only for operator	If required by the zone of operations
A2 Fly close to people	C2	900 g to 4 kg	Fly intentionally in proximity to but at a safe distance from uninvolved people (> 20 m for rotary-wing UAS or > 50 m for fixed-wing UAS)	< 120 m or up to 50 m above a higher obstacle, at the request of the owner of the object	Leaflet plus CoC (theoretical qualification) and exam in an approved centre	16 years or with supervisor	Mechanical strength, lost-link management, selectable height limit, awareness leaflet	Operator and UA	Yes
A3 Fly far from people	C3	< 25 kg	Fly in an area where it is reasonably expected that no uninvolved person will be present	< 120 m or up to 50 m above a higher obstacle, at the request of the owner of the object	Leaflet plus online training with a test	16 years or with supervisor	Lost-link management, selectable. height limit, awareness leaflet	Operator and UA	If required by the zone of operations
	C4		In addition to the above, keep a safety distance from the boundaries of congested areas of cities, towns or settlements, or aerodromes				Operational. Instructions, awareness leaflet		
	Privately built						N/a		



It should be noted that Table 2 includes Class C4 that was not part of the agreement reached at the 5th expert group meeting. The rationale behind this addition is explained further below.

This proposal still allows MSs to use Article 12 of Regulation (EU) 201X/XXX to define zones where only some classes of UAS are admitted.

Manufacturers are required to:

- include a leaflet in the package of the manufactured UA providing the rules of conduct as well as the main elements of Regulation (EU) 201X/XXX; and
- affix a dedicated label on the UA, defining the class it belongs to; in this way, the UAS operator will immediately know the operational limitations it needs to comply with.

Chapter 4 of sub-NPA 2017-05 (B) contains a thorough evaluation of the benefits and drawbacks of the various options. Here is only a set of key points:

- Subcategories: three subcategories have been identified:
 - A1 — fly over people: operations in Subcategory A1 can be conducted only with lighter UA (Class C0 or C1 with an MTOM of less than 900 g). A remote pilot operating a UA Class C0 or a privately built UAS with an MTOM of less than 250 g is only required to read the leaflet included in the UA package, and allowed to fly up to a maximum height of 50 m. If operating a UA Class C1, the remote pilot is required to complete an online training as well as an online test, and allowed to fly up to 120 m.
 - A2 — fly close to people: operations in Subcategory A2 are conducted with a UA Class C2. The remote pilot is required to successfully complete a test in a centre approved by the competent authority enabling the remote pilot to fly up to a maximum altitude of 120 m and at a distance of 20 m from uninvolved persons, if operating a rotary-wing UAS, or up to 50 m from uninvolved persons, if operating a fixed-wing UAS.
 - A3 — fly far from people: Subcategory A3 was the most contentious during the expert group meetings; the group finally achieved a delicate balance, which was due to the difficulty to define the condition ‘far from people’ on the one hand, and to develop an appropriate set of technical requirements for the UAS authorised in Subcategory A3. Different views were voiced in the group on the definition of the right balance between operational limitations and technical requirements.

Different kinds of UAS may be operated in this Subcategory, including privately built and model aircraft operated outside of model club and associations or outside of the areas designated by the MSs in accordance with Article 12(1)(d) of Regulation (EU) 201X/XXX. In addition to the class for privately built UAS and UAS Class C3, discussed with the expert group, EASA, at the request of the European Commission, has included an additional Class C4. This Class will ensure a proper implementation of Annex II to Regulation (EU) 201X/XXX for all commercially produced UAS authorised in the open category, thus preventing unfair competition. The two Classes under Subcategory A3 are defined as follows:

- Class C3 dedicated to UAS for which the manufacturer opts not to meet the full set of requirements defined for Class C2, but the UAS is still equipped with a small set

of functions (i.e. loss-link management and height limitation). These UAS are allowed to operate in areas and airspace where the remote pilot is required to assess that, reasonably, no uninvolved person will be present during the entire time of the operation.

- Class C4 dedicated to less complex UAS (i.e. not including a flight control system, like certain model aircraft) for which the requirements defined in the other classes are not practicable. UAS Class C4 are required to comply with a very limited set of technical requirements. They focus mainly on providing the remote pilot with operational instructions, issued by the manufacturer, on how to conduct the UAS, as well as on raising the remote pilot's awareness of the EU regulations through a leaflet. UAS class C4 operations are limited outside of the boundaries of congested areas of cities, towns or settlements, or aerodromes. The remote pilot is required to assess that, reasonably, no uninvolved person will be present in the area and airspace where the UA is intended to be flown, during the entire time of the operation. In addition, the remote pilot is required to keep the UA at a safe distance from the boundaries of the aforementioned congested areas. This supplementary condition has been introduced to compensate for the limited technical requirements of Class C4. The safe distance should be determined based on the actual performance of the UA such that no third party is endangered in case of UA loss of control.

Additionally, UAS Class C0, C1 and C2 can also be operated in this Subcategory.

This solution offers the following benefits:

- allows MSs the flexibility to designate special zones for certain classes only;
 - addresses the concern raised by some MSs requiring a minimum set of technical requirements for UAS operated in urban environment (i.e. Class C3);
 - improves the remote pilots', including model aircraft pilots', awareness of the regulations;
 - provides for a proper oversight; and
 - ensures law enforcement of the harmonisation legislation.
- Technical requirements (CE marking): the compromise proposal includes technical requirements for all UAS except the privately built ones. This supports the development of different market niches (e.g. hobbyist activities may develop in Subcategory A1, as training requirements are maintained at a low level but compensated by the performance limitations of UAS Class C1, while professional applications might better develop under Subcategory A2, using the heavier UAS Class C2 with its high-level training requirements), and addresses the issues of ground and air safety by providing the following:
- a lost-link management in Class C2 that allows to address the issues of ground risk and air risk; and
 - a selectable flight altitude limit that allows to limit the air risk (Classes C1 and C2).

- Registration, electronic identification, and geofencing: These three elements are already proposed in this NPA as it is assumed that they constitute the fundament of any U-Space concept. In addition, they are already necessary for the following reasons:
 - safety: geofencing reduces the air risk when zones are created for the protection of aerodromes;
 - law enforcement: registration and electronic identification allow to take action against a negligent or reckless operator;
 - security: electronic identification and geofencing contribute to addressing the security risk through identification of potential threats or the designation of zones for the protection of sensitive installations; and
 - privacy: electronic identification contributes to the law enforcement of privacy rights and geofencing contributes to addressing the privacy risk through the creation of zones for the protection of the privacy of a community.

Moreover, such requirements could act as the forerunner of analogous national requirements that might be imposed by the MSS' security authorities. In order to discuss how to best incorporate the aspect of security into Regulation (EU) 201X/XXX, the European Commission and EASA collaborate with a group of security authorities' officials, established by the Commission, to address the security threats related to UAS (Counter UAV Pioneer Group).

The definition of the subcategories and the corresponding classes are intended to foster the development of a future UAS market in the open category. UAS manufacturers are kindly requested to provide their feedback on this matter. In particular, they are invited to provide information about the development of market niches that each open subcategory could support, as well as to indicate in which Class (C0, C1, C2, C3 or C4) they would decide to develop and commercialise their products.

2.3.2.2 CE marking

Part-MRK together with Appendix I to Part-UAS define the new EU harmonisation legislation that UAS operated in the open category will have to comply with, as well as with other applicable rules, such as Directive 2014/53/EU. Their aim is to ensure that UAS placed on the European market and authorised to operate without further approval comply with the essential technical requirements of Appendices I.1 to I.5 to Part-UAS for UAS Classes C0 to C4. Appendix I.6 contains the essential requirements for functionalities such as geofencing and electronic identification.

Compliance is shown by affixing the CE marking and the UAS class on the UAS.

Article II.1 'Subject matter and scope' of Part-MRK clarifies that this legislation applies only to UAS designed to be operated in the open category (i.e. mass-produced UAS).

The UAS harmonisation legislation included in Part-MRK has been drafted in accordance with the reference requirements of Decision No 768/2008/EC¹⁹ and calls upon the market surveillance activities defined in Regulation (EC) No 765/2008²⁰. It identifies among others the following:

¹⁹ Decision No 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products, and repealing Council Decision 93/465/EEC (OJ L 218, 13.8.2008, p. 82) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1493654386469&uri=CELEX:02008D0768-20080709>).

- the responsibilities of the company making the product available on the market (Section 2);
- the conformity of the product with the applicable requirements (Article II.16 of Section 3), and in particular the conformity assessment procedures (Appendices II.1 to II.3);
- the notification of, and requirements applicable to, assessment bodies that perform the conformity assessment (Section 4); and
- the market surveillance requirements that describe for example how a UAS can be withdrawn from the market (Section 5).

Part-MRK contains elements included in airworthiness regulations, such as technical requirements, a conformity procedure, or market surveillance provisions. However, these regulations have not been applied as this would require compliance with Part-21, which would not be proportionate in the case of UAS.

2.3.3 Specific-category issues

The specific category is applicable to all operations not complying with the limits of the open category. It basically requires the operator to perform a risk assessment that the competent authority confirms through an authorisation.

Chapter 6 of sub-NPA 2017-05 (B) details the options analysed for the specific category, as well as the reasons for selecting the one reflected in the NPA.

These options are presented below for ease of reference:

<i>Option No</i>	<i>Short title</i>	<i>Description</i>
S0	Do nothing	The new Basic Regulation would not extend EASA's competence to UAS of 150 kg or less, or the specific category would still be regulated by MSs' rules. The regulatory framework at EU level would remain fragmented, with some MSs having standard scenarios and/or stricter requirements than others.
S1	Authorisation for all operations	All UAS operations in the specific category would need an authorisation.
S2	Authorisation and standard scenarios	Two types of standard scenarios would be defined, the former requiring the operator to submit a declaration, and the latter requiring the competent authority to issue an authorisation.
S3	Authorisation, standard scenarios, and LUC	In addition to Option S2, the operator would have the possibility to apply for a light UAS operator certificate (LUC) with privileges to authorise its operations.

Option S3 is the one selected in the NPA.

²⁰ Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93 (OJ L 218, 13.8.2008, p. 30) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1493654158057&uri=CELEX:02008R0765-20080813>).

To limit the administrative burden for both operators and competent authorities, a system of standard scenarios has been proposed. A standard scenario is a pre-established risk assessment and includes mitigating measures. It may be followed by a declaration submitted by the operator (in case the implementation of the mitigation measures is considered to be simple), or by an authorisation issued by the competent authority (when the implementation of the mitigation measures is considered to be more complex). Furthermore, an optional LUC has been proposed, which allows the competent authority to issue privileges to the operator. This implies a significant investment from the operator's side, which should yield in the medium/long term. Indeed, the LUC privileges can ultimately allow the operator to approve its own operations.

A methodology for performing the risk assessment and identifying the related mitigation measures is SORA. This JARUS methodology is current under consultation, and its final version should be available towards the end of 2017. SORA is proposed in AMC1 UAS.SPEC.40 'Operational risk assessment'. The SORA mitigation measures become binding for the operator when included in its declaration or in the authorisation issued by the competent authority.

The standard scenarios are a key to the success of the specific category. An additional NPA proposing standard scenarios as AMC to the specific category is expected to be published by the end of 2017. The plan to develop those scenarios may include the following steps:

- identification of the organisations that would be ready to contribute;
- decision on the priorities of the scenarios; and
- call for a kick-off meeting with the organisations that volunteered, during which SORA would be explained, and the organisations would be requested to present their standard scenarios using a specific template; this approach is intended to ensure consistency among the various proposals.

In addition to standard scenarios adopted at EASA level, alternative standard scenarios may be adopted at MS level as AltMoC, defined in Article 11 of Regulation (EU) 201X/XXX.

Mutual recognition of authorisations by authorities is a particular point that needs to be highlighted. The EU general principle is that an authorisation granted in accordance with an EU regulation is recognised by all competent authorities without providing additional documentation. However, it is recognised that an authorisation granted by the competent authority of the operator's principal place of business may need to be adapted to the local conditions that may exist in another MS. An AMC has been developed to that effect, based on the aerial work performed for cross-border operations.

2.4. What are the expected benefits and drawbacks of the proposals

The full IA of alternative options concerning the open and specific category as well as registration is contained in Chapters 4, 6 and 5 of sub-NPA 2017-05 (B), respectively.

3. Proposed draft rules

3.1. Draft regulation (Draft EASA opinion)

3.1.1 Draft cover regulation

DRAFT COMMISSION REGULATION (EU) .../...

of XXX

laying down rules as regards unmanned aircraft operations

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 114 thereof,

Having regard to Regulation (EU) 2017/XXX of the European Parliament and of the Council on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Regulation (EC) No 216/2008⁽²¹⁾, and in particular Articles 45, 46, 47, and 51 thereof,

Having regard to Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007⁽²²⁾,

Having regard to Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC⁽²³⁾,

Whereas:

- (1) Pursuant to Regulation (EU) 2017/XXX, the European Commission, assisted by the European Aviation Safety Agency, is empowered to adopt the necessary implementing rules as regards the design, production, maintenance and operation of unmanned aircraft systems (UAS) as well as their engines, propellers, parts, non-installed equipment and remote-pilot station.
- (2) Measures taken in the framework of this Regulation should be proportionate to the nature, risk and the type of the UAS operation and should in particular take due account of the following:
 - (a) the type of the operation and whether the operation is open to members of the public;

²¹ The OJ reference will be added when the new regulation (the new 'Basic Regulation') repealing Regulation (EC) No 216/2008 is adopted by the European Parliament and the Council. For referencing purposes, Regulation (EU) 2017/XXX is used in the proposed draft Regulation.

²² OJ L 122, 24.4.2014, p. 18.

²³ OJ L 295, 12.11.2010, p. 35.

- (b) the extent to which other air traffic, or persons and property on the ground could be endangered by the operation;
 - (c) the type of airspace used and the territory overflowed;
 - (d) the complexity and performance of the UAS involved; and
 - (e) the type, scale, and complexity of the operation or activity, including, where relevant, the size and type of the traffic handled by the responsible organisation or person.
- (3) The risk of operating a UAS varies as a function of the characteristics of the UAS and the type of operation. Therefore, different rules should apply to different UAS categories, taking into account the principles of proportionality and progressivity. Those rules should be based on risk assessment and performance.
- (4) The higher-risk UAS operations should be regulated by similar rules as for manned aircraft, which include the certification of the aircraft. The introduction of the regulatory framework to accommodate such certified operations should therefore be the subject of a dedicated Agency rulemaking task.
- (5) The lower-risk UAS operations, subject to this Regulation, should be regulated based on the nature and risk of the operation or activity, using an operation-centric concept. For these operations, which are divided into two separate categories (the open and the specific category of UAS operations), proportionate requirements should be applicable and adapted to the level of risks inherent to each category.
- (6) Regulation (EC) No 765/2008⁽²⁴⁾ provides a framework for the market surveillance of products to ensure that those products fulfil requirements providing a high level of protection of public interests, such as health and safety in general, health and safety at the workplace, protection of consumers, as well as protection of the environment, and security. This Regulation also provides a framework for controls on products from third countries and lays down the general principles of the CE marking.
- (7) Decision No 768/2008/EC⁽²⁵⁾ sets out the common framework of general principles and reference provisions for the drawing up of European Union legislation harmonising the conditions for the marketing of products ('Union harmonisation legislation'), including, in particular, general obligations for economic operators, rules on the conformity of the products, as well as a range of conformity assessment procedures from which the legislator can select, as appropriate. Furthermore, reference provisions are laid down as regards the requirements for conformity assessment bodies to be notified to the European Commission as competent to carry out the relevant conformity assessment procedures, and as regards the notification procedures. In addition, this Decision includes reference provisions concerning procedures for dealing with products presenting a risk, in order to ensure the safety of the market place.

²⁴ Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93 (OJ L 218, 13.8.2008, p. 30).

²⁵ Decision No 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products, and repealing Council Decision 93/465/EEC (OJ L 218, 13.8.2008, p. 82).

- (8) In order to ensure a smooth transition as regards the implementation of this Regulation, appropriate transitional measures should be provided. In particular, it is necessary to allow Member States and stakeholders sufficient time to adapt to the new regulatory framework, to allow Member States the time to issue authorisations and certificates introduced by this Regulation, and to recognise under certain conditions the validity of authorisations and certificates issued before this Regulation applies.
- (9) Taking into account the good safety record achieved, dedicated provisions for recreational flight activities conducted in the framework of model clubs and associations should also be laid down.
- (10) Regulation (EU) 2017/XXX includes requirements on accreditation of qualified entities that may be granted a privilege to issue, revoke, and suspend certificates on behalf of the Agency or the competent authority.
- (11) Taking into account the plan of the European Commission to establish a system for unmanned aircraft traffic management (UTM) or U-Space, this Regulation contains requirements for the implementation of three elements required to put in place this U-Space system, namely registration, geofencing and electronic identification.
- (12) The measures provided for in this Regulation are based on Opinion No .../... issued by the European Aviation Safety Agency in accordance with Article XX of Regulation (EU) 2017/XXX.
- (13) The measures provided for in this Regulation are in accordance with the opinion of the European Aviation Safety Agency Committee established by Article XX of Regulation (EU) 2017/XXX,

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

- 1. This Regulation lays down technical requirements and procedure for the operation of UAS in the open and specific category within the airspace over the territory where the treaties of the European Union and the Treaty on the Functioning of the European Union apply.
- 2. This Regulation also provides the applicable conditions for making available on the market UASs intended to be used for operations in the open category. It also lays down requirements for market surveillance relating to the marketing of UAS in the European Union (EU). Those conditions and requirements shall constitute Union harmonisation legislation within the meaning of Regulation (EC) No 765/2008 and Decision No 768/2008/EC.
- 3. This Regulation does not apply to indoor UAS operations.
- 4. This Regulation does not apply to UAS operations in the certified category.

*Article 2***Definitions**

1. For the purpose of this Regulation, the definitions in Article X of Regulation (EU) 2017/XXX, Article 2 of Regulation (EC) No 765/2008, as well as the following definitions apply:
 - (a) ‘acceptable means of compliance (AMC)’ means non-binding standards adopted by the Agency which may be used by persons and organisations to demonstrate compliance with Regulation (EU) 2017/XXX and its implementing rules;
 - (b) ‘alternative means of compliance (AltMoC)’ means non-binding standards proposed to the Agency by an applicant or a competent authority, as an alternative to existing AMC, or as new means to establish compliance with Regulation (EU) 2017/XXX and its implementing rules for which no associated AMC have been adopted by the Agency;
 - (c) ‘automatic operation’ means an operation following preprogrammed instructions that the UAS executes while the remote pilot is able to intervene at any time;
 - (d) ‘autonomous operation’ means an operation during which a UA operates without the possibility for remote-pilot intervention in the management of the flight;
 - (e) ‘certified category’ means a category of UAS operation that, considering the risks involved, requires the certification of the UA and its operator, as well as licensing of the flight crew;
 - (f) ‘competent authorities’ means the authorities responsible for the certification and authorisation of, as well as oversight over UAS operations in the Member State where the UAS operator has its principal place of business, or place of residence if the UAS operator is an individual person;
 - (g) ‘congested area’ means any area in a city, town or settlement, which is substantially used for residential, commercial or recreational purposes;
 - (h) ‘economic operators’ means the manufacturer, the authorised representative of the manufacturer, the importer, and the distributor of the UA;
 - (i) ‘electronic identification’ means the capability to identify a flying UA without direct physical access to that aircraft;
 - (j) ‘first-person-view (FPV) mode’ means a mode of operation of a UAS where the remote pilot navigates the UA through a camera installed on the UA;
 - (k) ‘follow-me mode’ means a mode of operation of a UAS where the UA constantly follows a person or a device within a predetermined radius;
 - (l) ‘geofencing’ means a function primarily used to provide the remote pilot with information on the UA position, as well as on the related airspace requirements and limitations; additionally, this function may limit the access of the UA to certain areas;
 - (m) ‘guidance material (GM)’ means non-binding material developed by the Agency which helps to illustrate the meaning of a requirement and is used to support the interpretation of Regulation (EU) 2017/XXX, its implementing rules and acceptable means of compliance;

- (n) 'hazard' means a condition or an object with the potential to cause injuries, damage, loss of material or a reduction of the ability to perform a prescribed function;
- (o) 'light UAS operator certificate (LUC)' means a certificate issued to a UAS operator by the competent authority as per Subpart C of Annex I to this Regulation;
- (p) 'making available on the market' means any supply of a product for distribution, consumption or use in the EU market in the course of a commercial activity, whether in exchange of payment or free of charge;
- (q) 'model aircraft club or association' means an organisation legally established in a Member State for the purpose of conducting leisure flights, air displays, sport or competition activities with UAS;
- (r) 'open category' means a category of UAS operation that, considering the risks involved, neither requires a prior authorisation by the competent authority, nor a declaration by the UAS operator before the operation takes place;
- (s) 'Part-UAS' means the rules applicable to the operation of a UAS falling into the open or specific category, as laid down in Annex I to this Regulation;
- (t) 'placing on the market' means to make a product for the first time available on the EU market;
- (u) 'remote pilot' means a natural person responsible for safely conducting the flight of a UA by operating its flight controls, either manually or, when the UA flies automatically, by monitoring its course and remaining able to intervene and change the course at any time;
- (v) 'remote-pilot competence' means a combination of skills, knowledge and attitudes required for a remote pilot to perform a task to the prescribed standard;
- (w) 'remote-pilot station (RPS)' means a component of the UAS containing the equipment used to remotely control the UA;
- (x) 'specific category' means a category of UAS operation that considering the risks involved, requires an authorisation by the competent authority before the operation takes place, taking into account the mitigation measures identified in an operational risk assessment, except for certain standard scenarios for which a declaration by the UAS operator is sufficient;
- (y) 'specific-operations risk assessment (SORA)' means the methodology established by Joint Authorities for Rulemaking of Unmanned Systems (JARUS) Working Group 6 (WG-6) to assess the risks of a UAS operation in the 'specific' category, and determine the corresponding mitigations measures;
- (z) 'standard scenario' means a description of a UAS operation in the specific category, for which mitigation measures have been determined based on a risk assessment (e.g. SORA), and introduced by the European Aviation Safety Agency (hereinafter referred to as the 'Agency') in its AMC or in AltMoC provided to the Agency by a competent authority designated by a Member State;

- (aa) 'unmanned aircraft (UA)' means any aircraft operated or designed to be operated without a pilot on board, which has the capacity to operate autonomously or to be piloted remotely;
 - (bb) 'unmanned aircraft (UA) observer' means a natural person who, by unaided visual observation of the UA, assists the remote pilot in safely conducting the flight;
 - (cc) 'unmanned aircraft system (UAS)' means the UA and any equipment, apparatus, appurtenance, software or accessory necessary for the safe operation of the UA;
 - (dd) 'unmanned aircraft system (UAS) operator' means any legal or natural person who operates or intends to operate one or more UAS;
 - (ee) 'Union harmonisation legislation' means any EU legislation harmonising the conditions for placing products on the market;
 - (ff) 'visual line of sight (VLOS)' means a type of operation in which the remote pilot maintains continuous unobstructed and unaided visual contact with the UA, allowing them to monitor the flight path of the UA in relation to other aircraft, persons, and obstacles for the purpose of maintaining separation from them and avoiding collisions.
2. In addition, the definitions relating to product legislation, listed in Annex II to this Regulation, also apply.

[Note: related GM: [GM1 Article 2\(1\)\(d\) Definition of 'autonomous operation'](#).]

Article 3

Principles applicable to all UAS operations

1. The UAS operator is responsible for the safe operation of the UA. The UAS operator shall comply with the requirements laid down in this Regulation and in other relevant EU and national regulations, in particular those related to security, privacy, data protection, liability, insurance and environmental protection.
2. The UAS operator shall register itself and the UA, as required by this Regulation, with the entity designated for that purpose by the Member State where the operator has its principal place of business or place of residence, and shall display the registration information on the UA it operates.
3. The UAS operator shall ensure that the UA is equipped with an electronic identification system, when required by this Regulation.
4. The UAS operator shall ensure that the UA is equipped with a geofencing system, when required by this Regulation.
5. The UAS operator shall report to the competent authority an occurrence and other safety-related information regarding the UAS, in compliance with Regulation (EU) No 376/2014, when required pursuant to Article XX of Regulation (EU) 2017/XXX.
6. The Member State may designate airspace areas or special zones where UAS operations are prohibited or restricted, in accordance with Article 12 of this Regulation.

[Note: related GM: [GM1 Article 3 Responsibility of the UAS operator and remote pilot.](#)]

Article 4

Open-category UAS operations

1. UAS operations conducted in the open category within the airspace over the territory where the treaties of the European Union and the Treaty on the Functioning of the European Union apply shall comply with the requirements of Subpart A of Annex I to this Regulation.
2. Considering the different levels of risk of an operation conducted in the open category, the UAS operation in this category is further divided into subcategories of operation. Each subcategory of UAS operation is characterised by the following criteria:
 - (a) the use of a certain class or classes of a UAS, defined in the technical requirements of the related appendix to Annex I to this Regulation;
 - (b) operational limitations; and
 - (c) the competence of the remote pilot.
3. The requirements in which the classes of a UAS operated or intended to be operated in the open category are defined, together with Annex II to this Regulation, shall constitute a new Union harmonisation legislation within the meaning of Regulation (EC) No 765/2008 and of Decision No 768/2008/EC. The placing on the market of UAS of those classes shall comply with these requirements and the conditions set out in Annex II to this Regulation.

Article 5

Specific-category UAS operations

1. UAS operations conducted in the specific category within the airspace over the territory where the treaties of the European Union and the Treaty on the Functioning of the European Union apply shall comply with the requirements of Subpart B of Annex I to this Regulation.
2. For UAS operations in the specific category, an operational risk assessment shall be performed and associated mitigation measures shall be identified.
3. Before starting a UAS operation in the specific category, the UAS operator shall:
 - (a) have submitted to the competent authority a declaration in accordance with a standard scenario, except when holding a LUC with privileges to authorise its own operations; or
 - (b) hold an authorisation issued by the competent authority, or by itself when holding a LUC with privileges to authorise its own operations; and
 - (c) comply with the conditions and have applied the mitigation measures listed in the declaration or the operational authorisation.

*Article 6***Designation of the competent authority**

1. A Member State shall designate one or more competent authorities with allocated responsibilities for the following:
 - (a) registration of UAS operators;
 - (b) authorisation of and oversight over specific-category UAS operations; and
 - (c) designation of airspace areas or special zones.
2. If a Member State designates more than one entity as competent authority:
 - (a) the areas of competence of each entity shall be clearly defined; and
 - (b) coordination shall be established among those entities to ensure effective implementation of this Regulation.
3. The competent authority shall:
 - (a) have a suitable organisational structure, appropriate documented procedures, and adequate resources; and
 - (b) employ or have access to personnel with sufficient knowledge, professional integrity, as well as experience and training to perform their allocated tasks.
4. Member States shall ensure that the competent authority personnel do not perform activities related to this Regulation when there is evidence that this could result, directly or indirectly, in a conflict of interest, in particular when related to their family or financial interests.

[Note: related GM: [GM1 Article 6 Designation of competent authority.](#)]

*Article 7***Responsibilities of the competent authority**

1. In the framework of the competences allocated by the Member States in accordance with Article 6(2) of this Regulation, the competent authority, or authorities, shall:
 - (a) examine documents, records and reports relevant to UAS operations, remote pilots or UAS operators;
 - (b) develop an annual oversight programme for UAS operators holding a declaration, an authorisation or a certificate for a UA, including audits and inspections, as appropriate and proportionate to the identified risks;
 - (c) take into account the results of past oversight activities and safety priorities when defining the scope of the oversight programme;
 - (d) produce training materials and other guidance for the community of UAS users, aimed at safety promotion of UAS operations, including dissemination of any updated regulations affecting UAS operations;

- (e) inspect, as required, the UAS, remote pilots, and UAS operators to assess their compliance with this Regulation;
- (f) have a system to detect and analyse non-compliance of declared UAS operators or UAS operators it has authorised or certified;
- (g) issue, maintain, amend, suspend, limit or revoke authorisations, and issue, suspend, or revoke certificates required to carry out UAS operations in the open and specific category, or impose other measures or sanctions, as necessary;
- (h) establish and maintain one or more registers of operational declarations, operational authorisations, certificates of remote-pilot competences and LUCs, and when tasked to do so, establish and maintain a register of UAS operators and UA; and
- (i) restrict or prohibit airspace areas or designate special zones, and make this information easily accessible.

[Note: related AMC/GM:

- [AMC1 Article 7 Oversight;](#)
- [AMC2 Article 7 Oversight programme;](#)
- [AMC3 Article 7 Oversight programme — audit and inspection;](#)
- [AMC4 Article 7 Oversight programme – follow-up; and](#)
- [GM Article 7 Oversight programme — audit and inspection.\]](#)

Article 8

Designation and responsibilities of the market surveillance authority

1. Member States shall designate one or more market surveillance authorities responsible for carrying out market surveillance on their territory in accordance with Chapter III of Regulation (EC) No 765/2008.
2. The market surveillance authority or authorities shall ensure that products covered by Annex II to this Regulation comply with the requirements set out in this Regulation and do not endanger health, safety or any other aspect of public-interest protection.

Article 9

Exchange of safety information

Competent authorities and market surveillance authorities shall cooperate on safety matters, and establish procedures for an efficient exchange of safety information.

[Note: related GM: [GM1 Article 9 Exchange of safety information.](#)]

*Article 10***Third-country UAS operators**

1. UAS operators that have their principal place of business, are established, or are resident in a third country shall comply with this Regulation for the purpose of UAS operations within, to, and out of the EU.
2. The competent authority for the UAS operator referred to in paragraph 1 of this Article is the competent authority of the EU Member State where the UAS operator intends to operate.
3. By way of derogation from paragraph 1 of this Article, a certificate of the remote pilot or the UAS operator, or an equivalent document, may be recognised by the competent authority for the purpose of operation within, to, and out of the EU provided that:
 - (a) they are valid documents of the State of issuance either of the remote pilot's or the UAS operator's certificate; and
 - (b) the Agency has ensured that the requirements on the basis of which such certificates have been issued provide the same level of safety as this Regulation.

*Article 11***Means of compliance**

1. The Agency shall develop AMC that may be used to comply with Regulation (EU) 2017/XXX and its implementing rules.
2. AltMoC may be used to comply with Regulation (EU) 2017/XXX and its implementing rules.
3. The competent authority shall establish a system to consistently evaluate that all AltMoC used by itself, or by organisations and persons under its oversight, allow for establishing compliance with Regulation (EU) 2017/XXX and its implementing rules.
4. The competent authority shall evaluate all AltMoC proposed by an organisation, by analysing the documentation provided and, if considered necessary, by inspecting the organisation.

When the competent authority finds that the AltMoC are in accordance with Regulation (EU) 2017/XXX and its implementing rules, it shall without undue delay:

- (a) notify the applicant that the AltMoC may be implemented and, as appropriate, amend the operational authorisation or certificate of the applicant accordingly;
 - (b) notify the Agency of the AltMoC content and provide copies of all relevant documentation; and
 - (c) inform all Member States of any AltMoC that were accepted.
5. When the competent authority itself uses AltMoC to comply with Regulation (EU) 2017/XXX and its implementing rules, it shall:
 - (a) make those AltMoC available to all organisations and persons under its oversight; and
 - (b) without undue delay, notify the Agency.

6. The competent authority shall provide the Agency with a full description of the AltMoC, including any revisions to procedures that may be relevant, as well as an assessment demonstrating that the implementing rules are complied with.

Article 12

Airspace areas or special zones for UAS operations

1. If an operational or other risk related to UAS operations requires mitigation measures, the Member State may designate airspace areas or special zones:
 - (a) where certain UAS operations or types of UAS operations are not permitted without prior authorisation or are not permitted at all;
 - (b) where access is allowed only to certain UAS classes;
 - (c) where access is allowed only to UAS equipped with an electronic identification and/or geofencing system;
 - (d) where UAS operations shall comply with specified environmental standards; or
 - (e) where UAS operations are exempted from one or more of the open-category requirements of this Regulation, and where operators are not required to hold an authorisation or submit a declaration.
2. Member States shall publish the information on prohibited or restricted airspace and/or designated special zones for UAS operations, as well as on the required authorisations, in a manner and format established by the Agency.

[Note: related AMC/GM:

- [GM1 Article 12 Airspace areas or special zones for UAS operations; and](#)
- [AMC1 Article 12 Information on airspace areas and special zones for UAS operations.\]](#)

Article 13

Exchange of information and safety measures

1. The Agency and the competent authorities shall collect, analyse and disseminate safety information concerning UAS operations in their territory in accordance with Regulation (EU) 2017/XXX and its implementing rules.
2. Upon receiving the information referred to in paragraph 1 of this Article, the Agency or the competent authority for their respective domain of competence shall take appropriate measures to address any arising or latent safety issues.
3. Measures taken under paragraph 2 of this Article shall immediately be notified to all persons or organisations that need to comply with such measures under Regulation (EU) 2017/XXX and its implementing rules. Competent authorities shall also notify those measures to the Agency, if not informed, and when combined action is required, to the other Member States concerned.

*Article 14***UAS operations conducted in the framework of model clubs and associations**

For UAS operations conducted in the framework of model clubs or associations, the following applies:

1. the competent authority may issue an operational authorisation to a model club or association without further demonstration of compliance, on the basis of the model club's or association's established procedures, organisational structure, and management system; and
2. operational authorisations granted under this Article shall include the conditions and limitations of, as well as the deviations from, the requirements of Annex I to this Regulation.

[Note: related GM: [GM1 Article 14 Hobbyist flights.](#)]

*Article 15***Applicability**

1. As from two years after entry into force of this Regulation [estimate 2020], economic operators and UAS placed on the market shall comply with this Regulation.
2. As from three years after entry into force of this Regulation [estimate 2021], all UAS shall be operated in accordance with this Regulation.
3. UAS made available on the market within three years after entry into force of this Regulation [estimate 2021], not complying with Appendix I.1 to Annex I to this Regulation and having a maximum take-off mass (MTOM) of less than 250 g, including payload, may continue to be operated for three years after entry into force of this Regulation [estimate 2021] in accordance with the operational Subcategory A1, as defined in UAS.OPEN.40.
4. UAS not complying with Appendices I.2 and I.5 to Annex I to this Regulation and having an MTOM between 250 g and 25 kg, including payload, may continue to be operated after three years after entry into force of this Regulation [estimate 2021] in accordance either with the operational Subcategory A3, as defined in UAS.OPEN.60, or with the conditions of Subpart B of Annex I to this Regulation.
5. By three years after entry into force of this Regulation [estimate 2021], all UAS operators shall have converted their existing authorisations into authorisations or declarations as required by this Regulation.
6. By three years after entry into force of this Regulation [estimate 2021], Member States that choose to create airspace areas or special zones in accordance with Article 12 of this Regulation, shall have published this information.
7. For three years after entry into force of this Regulation [estimate 2021], model clubs and associations are not required to comply with this Regulation. By three years after entry into force of this Regulation, [estimate 2021] model clubs and associations shall receive an operational authorisation issued by the competent authority in compliance with Article 14 of this Regulation unless the Member State has chosen to create airspace areas or special zones where

UAS operations are exempted from one or more of the open-category requirements of this Regulation in accordance with Article 12 of this Regulation.

8. By two years after entry into force of this Regulation [estimate 2020], Member States shall have established a system to convert their existing proof of competence of the remote-pilot and their authorisations for UAS operators into those required by this Regulation.

[Note: related GM: [GM1 Article 15 Recognition of competences demonstrated before the applicability date.](#)]

Article 16

Entry into force and application

This Regulation shall enter into force on the day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.



3.1.2. Part-UAS

ANNEX I

UAS operations in the open and specific category

[PART-UAS]



SUBPART A

OPEN CATEGORY**UAS.OPEN.10 Responsibilities of the UAS operator**

The UAS operator shall:

- (a) develop the policy and procedures adapted to its operation and size, and designate a remote pilot for each operation;
- (b) ensure that before conducting an operation, remote pilots and all other personnel directly involved in the operations are competent to perform their tasks, are familiar with the UAS operator's policy and procedures, and are in a physical and mental condition that would not endanger the safe operation of the UAS; and
- (c) ensure that before conducting an operation with a UA of one of the classes defined in this Regulation, the EU declaration of conformity, supplied by the manufacturer or his authorised representative, includes a reference to the appropriate class and that the related class identification label is affixed on the UA.

[Note: related AMC/GM:

- [AMC1 UAS.OPEN.10\(a\) Policy and procedures;](#)
- [AMC1 UAS.OPEN.10\(b\) and UAS.SPEC.10\(b\) Physical and mental condition; and](#)
- [GM1 UAS.OPEN.10\(c\) EU declaration of conformity.\]](#)

UAS.OPEN.20 Registration

- (a) Except when already registered in accordance with the specific-category requirements, UAS operators shall register themselves and the UA, pursuant to Article 3 of this Regulation, in a manner and format established by the Agency.
- (b) By way of derogation from point (a), UAS operators shall not register themselves and the UA when that UA has an MTOM, including payload, of less than 250 g.
- (c) By way of derogation from point (a), the UA may not be registered if:
 - (1) the MTOM, including payload, is less than 900 g; or
 - (2) it is a UA Class C1, as defined in Appendix I.2 to this Annex.
- (d) UAS operators shall update their registration every time data is changed.
- (e) UAS operators shall display the registration information on the UA and, when required by the zone of operation, shall ensure that this information is inserted into the electronic identification system.
- (f) The registration shall remain valid for three years and shall be renewable.

[Note: related AMC/GM:

- [AMC1 UAS.OPEN.20\(a\) and UAS.SPEC.20\(a\)\(1\) Registration form;](#)

- [GM1 UAS.OPEN.20\(b\) and \(c\) Registration;](#)
- [AMC1 UAS.OPEN.20\(e\) and UAS.SPEC.20\(a\)\(3\) Display of registration information; and](#)
- [AMC1 UAS.OPEN.20\(f\) Renewal of registration.\]](#)

UAS.OPEN.30 Requirements applicable to all UAS operations in the open category

- (a) The remote pilot shall:
 - (1) have the ability to take control of the UA, except in case of a lost link;
 - (2) have the appropriate competence for the subcategory of UAS operations (A1, A2, or A3); and
 - (3) comply with UAS.OPEN.10 and UAS.OPEN.20 if the remote pilot is also the UAS operator.
- (b) Except when operating a UAS Class C0, before starting a UAS operation, the remote pilot shall:
 - (1) obtain updated information, relevant to the intended operation, about any flight restrictions or conditions published by the Member State;
 - (2) familiarise themselves with the operating environment; and
 - (3) ensure that the UAS is in a safe condition to complete the intended flight.
- (c) During flight, the remote pilot shall:
 - (1) comply with the requirements applicable to the subcategory of UAS operations;
 - (2) ensure the safe operation of the UA with respect to third-party activities on the ground or in the air;
 - (3) give way to manned aircraft;
 - (4) comply with the limitations on the area, zone or airspace, defined by the Member State;
 - (5) operate the UAS within the performance limitations defined in the instructions provided by the manufacturer;
 - (6) keep the UA in VLOS or within a range such that the remote pilot, or a UA observer situated within the line of sight of the remote pilot, maintains VLOS; clear and effective communication shall be established between the remote pilot and the UA observer;
 - (7) not use the UA to transport dangerous goods;
 - (8) not fly close or inside areas where an emergency response effort is ongoing unless they have a permission from the local authority; and
 - (9) respect other people's fundamental rights and operate the UAS in a considerate way to minimise nuisance to other people due to noise emissions.

[Note: related AMC/GM:

- [AMC1 UAS.OPEN.30\(a\)\(1\) Ability to take control of the UA;](#)
- [AMC1 UAS.OPEN.30\(b\)\(1\) Obtaining updated information about any flight restrictions or conditions published by the Member State;](#)

- [AMC1 UAS.OPEN.30\(b\)\(2\) Operating environment;](#)
- [AMC1 UAS.OPEN.30\(b\)\(3\) Ensuring that the UAS is in a safe condition to complete the intended flight;](#)
- [AMC1 UAS.OPEN.30\(c\)\(2\) Ensuring the safe operation of the UA;](#)
- [AMC1 UAS.OPEN.30\(c\)\(6\) Operations in first-person view \(FPV\)](#)
- [GM1 UAS.OPEN.30\(c\)\(7\) Dangerous goods;](#)
- [AMC1 UAS.OPEN.30\(c\)\(8\) Emergency response effort; and](#)
- [GM1 UAS.OPEN.30\(c\)\(9\) Respect of other people's fundamental rights.\]](#)

UAS.OPEN.35 Maximum height of UAS operations in the open category

- (a) A UAS operation in the open category shall not exceed the height of 120 m above ground level.
- (b) By way of derogation from point (a), when the operation involves flying over a fixed obstacle that is higher than 120 m, the maximum height of the UAS operation may be increased up to 50 m above the height of the obstacle at the request of the owner of the object.

UAS.OPEN.40 Requirements applicable to UAS operations in Subcategory A1

UAS operations in Subcategory A1 shall be:

- (a) performed with a UA:
 - (1) privately built, having an MTOM, including payload, of less than 250 g; or
 - (2) Class C0, as defined in Appendix I.1 to this Annex; or
 - (3) Class C1, as defined in Appendix I.2 to this Annex; and
- (b) conducted:
 - (1) not over open assemblies of people;
 - (2) in follow-me mode, up to a height of 50 m above ground level, by way of derogation from UAS.OPEN.30(c)(5);
 - (3) with an active electronic identification system, when using a UA Class C1 fitted with a camera of more than 5 megapixels (MP) and a real-time video transmission link or any other type of sensor able to record personal data;
 - (4) in case of a UA with an MTOM, including payload, of less than 250 g:
 - (i) up to a height of 50 m above ground level; and
 - (ii) by a remote pilot having familiarised themselves with the UAS to be operated; and
 - (5) in case of a UA Class C1:
 - (i) up to the maximum height for UAS operations in the open category; and
 - (ii) by a remote pilot having demonstrated the basic competence to fly the UAS, by successfully completing an online training as well as an online test in a manner and format established by the Agency.

[Note: related AMC:

- [AMC1 UAS.OPEN.40\(a\)\(2\)&\(3\) and UAS.OPEN.50\(b\) Modification of a UAS with a CE Class mark;](#)
- [AMC1 UAS.OPEN.40\(b\)\(1\) Operational limitations;](#) and
- [AMC1 UAS.OPEN.40\(b\)\(5\)\(i\) and UAS.OPEN.60\(e\)\(1\) Basic competence of the remote pilot to operate in Subcategory A1 and A3.\]](#)

UAS.OPEN.50 Requirements applicable to UAS operations in Subcategory A2

UAS operations in Subcategory A2 shall be performed:

- (a) with a UA Class C2, as defined in Appendix I.3 to this Annex;
- (b) in proximity to but at a safe distance from uninvolved persons;
- (c) up to the maximum height for UAS operations in the open category;
- (d) with an active electronic identification system and a geofencing systems; and
- (e) by a remote pilot:
 - (1) being at least 16 years old, and holding a certificate of competence after successfully completing a theoretical test in a manner and format established by the Agency; or
 - (2) of any age supervised by a person complying with point (e)(1).

[Note: related AMC/GM:

- [AMC1 UAS.OPEN.40\(a\)\(2\)&\(3\) and UAS.OPEN.50\(b\) Modification of a UAS with a CE Class mark;](#)
- [AMC1 UAS.OPEN.50\(e\)\(1\) Competences required for the remote pilot to obtain the certificate of competence;](#)
- [GM1 UAS.OPEN.50\(e\)\(1\) Competences required for the remote pilot to obtain the certificate of competence;](#)
- [GM1 UAS.OPEN.50\(b\) and UAS.OPEN.60\(b\) Uninvolved persons; and](#)
- [AMC1 UAS.OPEN.50\(b\) Safe distance from uninvolved persons.\]](#)

UAS.OPEN.60 Requirements applicable to UAS operations in Subcategory A3

UAS operations in Subcategory A3 shall be performed:

- (a) with a UA:
 - (1) privately built, having an MTOM, including payload, of less than 25 kg; or
 - (2) Class C3, as defined in Appendix I.4 to this Annex; or
 - (3) Class C4, as defined in Appendix I.5 to this Annex;
- (b) in an area where the remote pilot reasonably expects that no uninvolved person will be present within the range where the UA will be flown, during the entire time of the operation;
- (c) keeping a safety distance from the boundaries of congested areas or aerodromes when operating a privately built UAS or UAS Class C4;

- (d) up to the maximum height for UAS operations in the open category; and
- (e) by a remote pilot:
 - (1) being at least 16 years old and having demonstrated the basic competence by successfully completing an online training as well as an online test in a manner and format established by the Agency; or
 - (2) of any age supervised by a person complying with point (e)(1).

[Note: related AMC/GM:

- [AMC1 UAS.OPEN.60\(b\) Operations in Subcategory A3;](#)
- [AMC1 UAS.OPEN.40\(b\)\(5\)\(i\) and UAS.OPEN.60\(e\)\(1\) Basic competence of the remote pilot to operate in Subcategory A1 and A3; and](#)
- [GM1 UAS.OPEN.50\(b\) and UAS.OPEN.60\(b\) Uninvolved persons.\]](#)

UAS.OPEN.70 Duration and validity of remote pilot competence

- (a) The remote pilot basic competence, required by UAS.OPEN.40(b)(5)(i) and UAS.OPEN.60(b)(3)(i), shall be valid for three years and shall be renewable in a manner and format established by the Agency.
- (b) The certificate of competence, required by UAS.OPEN.50(e)(1), shall be valid for five years and shall be renewable in a manner and format established by the Agency.

[Note: related AMC:

- [AMC1 UAS.OPEN.70\(a\) Renewal of basic competence; and](#)
- [AMC1 UAS.OPEN.70\(b\) Renewal of certificate of competence.\]](#)

SUBPART B

SPECIFIC CATEGORY**UAS.SPEC.10 Responsibilities of the UAS operator**

The UAS operator shall:

- (a) develop the policy and procedures adapted to its operation and size, and designate a remote pilot for each operation or, in case of autonomous operations, ensure that during any phases of the operation, responsibilities and functions are properly defined in accordance with the policy and procedures;
- (b) ensure that before conducting operations, remote pilots and all other personnel directly involved in the operations are competent to perform their tasks, are familiar with the UAS operator's policies and procedures, and are in a physical and mental condition that would not endanger the safe operation of the UAS;
- (c) carry out an operation within the limitations, conditions, and mitigation measures defined in the standard scenario or specified in the operational authorisation;
- (d) keep a record of the UAS operation information as required by the standard scenario or operational authorisation;
- (e) comply with the local conditions notified to the UAS operator by the competent authority of the place of operations; and
- (f) maintain the UAS in a safe condition and comply with UAS.SPEC.110, if required.

[Note: related AMC:

- [AMC1 UAS.SPEC.10\(a\) Policy and procedures;](#)
- [AMC1 UAS.OPEN.10\(b\) and UAS.SPEC.10\(b\) Physical and mental condition; and](#)
- [AMC1 UAS.SPEC.10\(d\) Logging of flight activities and record-keeping.\]](#)

UAS.SPEC.15 Responsibilities of model clubs and associations

Model clubs and associations holding an operational authorisation as defined in Article 14 of this Regulation shall:

- (a) make available to their registered members appropriate procedures to comply with the conditions and limitations defined in the operational authorisation issued by the competent authority;
- (b) ensure that all members have the minimum competence required to operate the UAS safely in accordance with the procedures defined in point (a);
- (c) if an operation or flight exceeds the conditions and limitations defined in the operational authorisation, take action and, if necessary, inform the competent authority; and
- (d) provide upon request of the competent authority required documentation for oversight and monitoring purposes.

[Note: related AMC: [AMC1 UAS.SPEC.15\(c\) Action in case of operations/flights exceeding the conditions and limitations defined in the operational authorisation.](#)]

UAS.SPEC.20 Registration

- (a) Except when already registered in the open category, UAS operators shall:
- (1) register themselves and their UA, pursuant to Article 3 of this Regulation, in a manner and format established by the Agency;
 - (2) update the registration every time data is changed;
 - (3) display the registration information on the UA; and
 - (4) ensure that this information is inserted into the electronic identification system unless required differently by the operational authorisation or by the standard scenario involving a declaration, as applicable.
- (b) The registration shall remain valid for three years and shall be renewable.

[Note: related AMC:

- [AMC1 UAS.SPEC.20 Registration of model aircraft;](#)
- [AMC1 UAS.OPEN.20\(a\) and UAS.SPEC.20\(a\)\(1\) Registration form;](#)
- [AMC1 UAS.SPEC.20\(a\)\(3\) Display of registration information; and](#)
- [AMC1 UAS.OPEN.20\(f\) and UAS.SPEC.20\(b\) Renewal of registration.\]](#)

UAS.SPEC.30 Requirements applicable to all UAS operations in the specific category

- (a) The remote pilot shall:
- (1) have the appropriate competence defined in the corresponding declaration or operational authorisation; and
 - (2) comply with UAS.SPEC.10 and UAS.SPEC.20 if the remote pilot is also the UAS operator.
- (b) Before starting a UAS operation, the remote pilot or, in case of autonomous operation, the UAS operator shall:
- (1) obtain updated information, relevant to the intended operation, about any flight restrictions or conditions published by the Member State;
 - (2) ensure that the operating environment is compatible with the authorised or declared limitations and conditions or with the model clubs' and associations' procedures; and
 - (3) ensure that the UAS is in a safe condition to complete the intended flight.
- (c) During flight, the remote pilot or, in case of autonomous operation, the UAS operator shall:
- (1) comply with the authorised or declared limitations and conditions or with the model clubs' and associations' procedures;
 - (2) ensure the safe operation of the UAS with respect to third-party activities on the ground or in the air;

- (3) comply with the limitations defined by the Member State for the area, zone or airspace;
- (4) operate the UAS within the performance limitations defined in the instructions provided by the manufacturer unless the conditions defined by the operational authorisation or by the standard scenario involving a declaration, as applicable, are more restrictive;
- (5) not fly close or inside areas where an emergency response effort is ongoing unless they have a permission from the local authority; and
- (6) respect other people's fundamental rights and operate the UAS in a considerate way to minimise nuisance to other people due to noise emissions.

[Note: related AMC/GM:

- [AMC1 UAS.SPEC.30\(b\)\(1\) Obtaining updated information about any flight restrictions or conditions published by the Member State;](#)
- [AMC1 UAS.SPEC.30\(b\)\(2\) Operating environment;](#)
- [AMC1 UAS.OPEN.30\(b\)\(3\) and AMC1 UAS.SPEC.30\(b\)\(3\) Ensuring that the UAS is in a safe condition to complete the intended flight;](#)
- [AMC1 UAS.SPEC.30\(c\)\(2\) Ensuring the safe operation of the UA;](#)
- [AMC1 UAS.SPEC.30\(c\)\(5\) Emergency response effort;](#)
- [GM1 UAS.SPEC.30 Level of autonomy and guidelines for human-autonomy interaction; and](#)
- [GM1 UAS.OPEN.30\(c\)\(9\) and UAS.SPEC.30\(c\)\(6\) Respect of other people's fundamental rights.\]](#)

UAS.SPEC.40 Operational risk assessment

- (a) The Agency shall issue standard scenarios and the associated ranges of their mitigation measures for each type of operation.
- (b) The standard scenario shall define if the UAS operator shall submit an operational declaration or apply for an operational authorisation before conducting the corresponding operation.
- (c) If the intended operation is not fully addressed by a standard scenario issued by the Agency, the UAS operator, except when holding a LUC as per Subpart C of this Annex, shall provide the competent authority with a risk assessment of the proposed operation, and identify mitigation measures to be put in place in order to limit the risk of operation to an acceptable level. The UAS operator shall consider as a minimum the following:
 - (1) the operational area and conditions;
 - (2) the class of airspace and the effects on other air traffic and air traffic management (ATM) in cooperation with the relevant air navigation service provider (ANSP);
 - (3) the design features and performance of the UAS;
 - (4) the type of operation;
 - (5) the level of competence of the remote pilot;
 - (6) organisational factors; and

- (7) effects on the environment.

[Note: related AMC/GM:

- [AMC1 UAS.SPEC.40 Operational risk assessment; and](#)
- [GM1 UAS.SPEC.40 Standard scenarios.\]](#)

UAS.SPEC.50 Operational declaration

- (a) If required by the corresponding standard scenario, a UAS operator shall submit an operational declaration to the competent authority in a manner and format established by the Agency. This does not apply if the UAS operator holds a LUC with the appropriate privileges, as per Subpart C of this Annex.
- (b) Upon receipt of the declaration, the competent authority shall verify that the declaration contains all required information and documents, and shall intervene in case of a safety issue.
- (c) If the operation is conducted in a Member State other than the Member State of registration of the UAS operator, the UAS operator shall submit the operational declaration, as defined in point (a), also to the competent authority of this Member State.
- (d) After submission of the operational declaration, the UAS operator shall be entitled to start the operation if all conditions and mitigations identified in the corresponding standard scenario are met.
- (e) The UAS operator shall notify the competent authority, as well as the competent authority of the Member State of operation, if different, without delay, of any significant change to the statements and information submitted in the operational declaration.

[Note: related AMC/GM:

- [AMC1 UAS.SPEC.50\(a\) Operational-declaration form;](#)
- [AMC2 UAS.SPEC.50\(a\) Standard scenario requiring an operational declaration;](#)
- [GM1 UAS.SPEC.50\(c\) Operations conducted in a Member State other than the Member State of registration; and](#)
- [GM1 UAS.SPEC.50\(e\) Significant changes to the operational declaration.\]](#)

UAS.SPEC.60 Application for an operational authorisation

- (a) Except when holding a LUC with the appropriate privileges, as per Subpart C of this Annex, the UAS operator shall submit an application for operational authorisation to the competent authority in a manner and format established by the Agency, before starting an operation that:
 - (1) corresponds to a standard scenario requiring an operational authorisation; or
 - (2) does not correspond to a standard scenario.
- (b) The UAS operator shall only start the operation after having received the operational authorisation issued by the competent authority in a manner and format established by the Agency.

- (c) Any significant change to the operation not covered by the received authorisation shall require the submission of a new application for an updated operational authorisation.

[Note: related AMC/GM:

- [AMC1 UAS.SPEC.60\(a\) Operational-authorisation application form;](#)
- [GM1 UAS.SPEC.60\(a\) Application for an operational authorisation;](#)
- [AMC1 UAS.SPEC.60\(a\)\(1\) Standard scenario requiring an operational authorisation; and](#)
- [AMC1 UAS.SPEC.60\(c\) Significant changes to the operational authorisation.\]](#)

UAS.SPEC.70 Operations manual

If the operation does not correspond to any of the standard scenarios issued by the Agency, or if required by the relevant standard scenario, the UAS operator shall compile an operations manual adapted to the type of operation.

[Note: related AMC: [AMC1 UAS.SPEC.70 Operations manual — minimum information.](#)]

UAS.SPEC.80 Issuing an operational authorisation

- (a) Upon receipt of an application from a UAS operator for the issue of an operational authorisation, the competent authority shall verify that the application contains all the information and documentation required by UAS.SPEC.60.
- (b) The competent authority shall issue an authorisation to a UAS operator to conduct an operation in the specific category:
- (1) when it concludes that the operation corresponds to a standard scenario issued by the Agency and requiring an authorisation, and that the following conditions are met:
 - (i) the mitigation measures required by the standard scenario have been established by the UAS operator; and
 - (ii) an operations manual has been compiled, when required pursuant to UAS.SPEC.70; or
 - (2) when it concludes that the type of operation does not correspond to a standard scenario, and that the following conditions are met:
 - (i) an operational risk assessment provided by the UAS operator pursuant to UAS.SPEC.50 has been performed;
 - (ii) the mitigation measures established by the UAS operator limit the risk of operation to an acceptable level; and
 - (iii) an operations manual has been compiled, when required pursuant to UAS.SPEC.70.
- (c) The conditions under which a UAS operator is authorised to conduct the intended operation shall be specified in the authorisation.
- (d) If an operation is conducted partially or totally in the airspace of a Member State other than the Member State of registration of the UAS operator, the competent authority shall assess the impact of local conditions on the operation, in coordination with the competent authority of the

Member State of operation. When both competent authorities are satisfied with the risk assessment, the competent authority of the Member State of registration shall issue the authorisation.

- (e) The authorisation shall be issued in a manner and format established by the Agency.

[Note: related AMC/GM:

- [AMC1 UAS.SPEC.80 Operational-authorisation form; and](#)
- [GM1 UAS.SPEC.80 Recognition of an operational authorisation between EU Member States.\]](#)

UAS.SPEC.90 Duration and validity of the operational authorisation

- (a) An operational authorisation shall be issued for a limited or unlimited duration. It shall be valid subject to:
- (1) the UAS operator remaining in compliance with the relevant requirements of this Regulation and with the operational authorisation issued by the competent authority; and
 - (2) it not being surrendered or revoked.
- (b) Upon revocation or surrender, the operational authorisation shall be returned to the competent authority without delay.

UAS.SPEC.100 Access

For the purpose of demonstrating compliance with this Regulation, a UAS operator shall grant access to any person authorised by the competent authority at any time to any facility, document, records, data, procedures or any other material relevant to its activity subject to authorisation or declaration, whether this person is contracted to do so or not.

UAS.SPEC.110 Use of certified equipment and certified UA

- (a) If the UAS operation is required to be conducted with a certified UA or using certified equipment, the UAS operator shall record the operation or service time in accordance either with the instructions and procedures applicable to the certified equipment, or with the organisational approval or authorisation.
- (b) The UAS operator shall follow the instructions referred to in the UA certificate or equipment certificate, as well as comply with mandatory directives issued by the Agency.

SUBPART C

LIGHT UAS OPERATOR CERTIFICATE (LUC)**UAS.LUC.10 Responsibility of a LUC holder**

In addition to the responsibilities defined in UAS.SPEC.10, a LUC holder shall:

- (a) ensure that the requirements of UAS.SPEC.30 are met;
- (b) comply with the scope and privileges defined in their terms of approval; and
- (c) establish and maintain a system for exercising operational control over any operation conducted under the terms of their LUC.

UAS.LUC.20 Application for a LUC

- (a) Any legal person shall be eligible as an applicant for an approval under this Subpart.
- (b) An application for a LUC or for an amendment to an existing LUC shall be submitted to the competent authority in a manner and format established by the Agency. It shall contain the information required by UAS.LUC.30 and UAS.LUC.40, as well as a statement that all the documentation submitted to the competent authority has been verified by the applicant and found to comply with the applicable requirements.

[Note: related AMC: [AMC1 UAS.LUC.20 Application for a LUC.](#)]

UAS.LUC.30 Management system

- (a) A LUC holder shall establish, implement and maintain a management system corresponding to the size of the UAS operator as well as the nature and complexity of its activities.
- (b) The management system shall include:
 - (1) a safety policy and clearly defined lines of responsibility and accountability throughout the organisation, including the direct accountability for safety of the responsible personnel;
 - (2) an identification of safety hazards entailed by the activities of the UAS operator, the evaluation of those hazards, as well as the management of the associated risks, including taking action to mitigate those risks and verify the effectiveness of the action;
 - (3) documentation of all management system key processes, including a process for making personnel aware of their responsibilities and of the procedure for amending this documentation;
 - (4) an independent function to monitor compliance of the UAS operator with the relevant requirements of this Regulation, including a system to provide feedback to the accountable manager to ensure effective implementation of corrective measures; and
 - (5) a function to ensure that a service or product conforms to the requirements of this Regulation whenever the UAS operator uses services or products delivered through subcontractors.
- (c) The LUC holder shall appoint at least:

- (1) the accountable manager responsible for establishing, implementing and maintaining an effective management system;
- (2) a safety manager responsible for coordinating the safety management system; and
- (3) one or more persons charged with the responsibility of ensuring that the LUC holder remains in compliance with the requirements of this Regulation.

[Note: related AMC/GM:

- [AMC1 UAS.LUC.30\(a\) Management system;](#)
- [AMC1 UAS.LUC.30\(b\)\(1\) Management system;](#)
- [GM1 UAS.LUC.30\(b\)\(1\) Management system;](#)
- [AMC1 UAS.LUC.30\(b\)\(2\) Management system;](#)
- [AMC2 UAS.LUC.30\(b\)\(2\) Management system;](#)
- [AMC1 UAS.LUC.30\(b\)\(3\) Management system;](#)
- [GM1 UAS.LUC.30\(b\)\(3\) Management system;](#)
- [AMC1 UAS.LUC.30\(b\)\(4\) Management system;](#)
- [GM1 UAS.LUC.30\(b\)\(4\) Management system;](#)
- [AMC1 UAS.LUC.30\(b\)\(5\) Use of subcontractors;](#)
- [AMC1 UAS.LUC.30\(c\) Management system;](#)
- [AMC2 UAS.LUC.30\(c\) Management system;](#)
- [AMC3 UAS.LUC.30\(c\) Management system; and](#)
- [GM1 UAS.LUC.30\(c\) Management system.\]](#)

UAS.LUC.40 LUC manual

- (a) A LUC holder shall provide a LUC manual to the competent authority describing directly or by cross reference its organisation, the relevant procedures and the activities carried out.
- (b) If any activity is carried out by partner organisations or subcontractors, the manual shall include a relevant statement as well as written procedures on how the LUC holder shall manage the relationship with those partner organisations or subcontractors.
- (c) The manual shall be amended as necessary to retain an up-to-date description of the LUC holder's organisation, and copies of amendments shall be provided to the competent authority.

[Note: related AMC:

- [AMC1 UAS.LUC.40 LUC Manual; and](#)
- [AMC2 UAS.LUC.40 Procedures for subcontractors.\]](#)

UAS.LUC.50 Terms of approval of a LUC holder

- (a) The competent authority shall issue a LUC in a manner and format established by the Agency after it is satisfied that the UAS operator complies with UAS.LUC.20, UAS.LUC.30 and UAS.LUC.40.
- (b) The terms of approval shall include the UAS operator's privileges, authorised activities and operational limitations, as appropriate.

[Note: related AMC: [AMC1 UAS.LUC.50 LUC approval form.](#)]

UAS.LUC.60 Privileges of a LUC holder

A UAS operator holding a LUC shall be entitled to authorise its own operations, within its terms of approval.

[Note: related GM: [GM1 UAS.LUC.60 Privileges.](#)]

UAS.LUC.70 Changes in the LUC management system

After the issue of a LUC:

- (a) any change affecting the terms of approval of the UAS operator; or
- (b) any significant change to the elements of the LUC holder management system as required by UAS.LUC.30;

shall require prior approval by the competent authority.

[Note: related AMC: [AMC1 UAS.LUC.70\(b\) Significant changes in the LUC management system.](#)]

UAS.LUC.80 Transferability

Except in the case of a change of ownership of the organisation, which is deemed significant for the purposes of UAS.LUC.70, a LUC is not transferable.

UAS.LUC.90 Duration and validity of a LUC

- (a) A LUC shall be issued for an unlimited duration. It shall be valid subject to:
 - (1) the UAS operator remaining in compliance with the relevant requirements of this Regulation; and
 - (2) it not being surrendered or revoked.
- (b) Upon revocation or surrender, the LUC shall be returned to the competent authority without delay.

UAS.LUC.100 Access

For the purpose of demonstrating compliance with this Regulation, the LUC holder shall grant access to any person authorised by the competent authority at any time to any facility, document, records, data, procedures or any other material relevant to its activity subject to certification, authorisation or declaration, whether this person is contracted to do so or not.

APPENDICES

Appendix I.1

Product requirements for UAS Class C0

A UAS Class C0 shall:

- (a) have an MTOM, including payload, of 250 g;
- (b) be safely controllable by a remote pilot following the manufacturer's instructions;
- (c) be placed on the market with clear operational instructions and warnings highlighting the risks related to UAS operations, which shall be adapted to the age of the user;
- (d) if equipped with a follow-me mode, when this function is on, keep a distance not exceeding 50 m from the remote pilot, and allow the remote pilot to regain control of the UA or to activate an emergency procedure that terminates the flight;
- (e) include an awareness leaflet with all the information required to use the UAS in accordance with the applicable regulations on aviation safety, security, privacy and data protection, liability and insurance;
- (f) bear the following label on the UA in a visible manner:



- (g) comply with Directive 2009/48/EC on the safety of toys, or:
 - (1) be designed and manufactured to fly safely;
 - (2) be designed to be operated below 50 m or have an active system limiting the attainable height of the UA to a maximum of 50 m above take-off level;
 - (3) be designed without sharp edges that may constitute a danger to people on the ground;
 - (4) if equipped with propellers, be designed in a way to limit any injury that may be inflicted by blades;
 - (5) be powered by electricity of a nominal voltage not exceeding 24 V direct current (DC) or the equivalent alternating current (AC) voltage; its accessible parts shall not exceed 24 V DC or the equivalent AC voltage; internal voltages shall not exceed 24 V DC or the equivalent AC voltage unless it is ensured that the voltage and current combination

generated does not lead to any risk or harmful electric shock even when the UAS is damaged.



Appendix I.2**Product requirements for UAS Class C1**

A UAS Class C1 shall:

- (a) be designed and manufactured to fly safely;
- (b) be made of materials and have performance and physical characteristics such as to ensure that in the event of an impact with a human body, the energy transmitted to the human body is less than 80 J, or, as an alternative, have an MTOM, including payload, of less than 900 g and a maximum cruising speed of 18 m/s;
- (c) have a maximum altitude performance limited to 120 m or be equipped with a system limiting the height above the ground or above the take-off point to a value selectable by the remote pilot; in the latter case, clear information about the UA height from the ground during flight shall be provided to the remote pilot;
- (d) be equipped with an electronic identification system as per Appendix I.6.b to this Annex when fitted with a camera of more than 5 megapixels (MP) and a real-time video transmission link or any other type of sensor able to record personal data;
- (e) be safely controllable by a pilot following the manufacturer's instructions;
- (f) be designed without sharp edges that may constitute a danger to people on the ground;
- (g) if equipped with propellers, be designed in a way to limit any injury that may be inflicted by blades;
- (h) have a sound power level not exceeding 80 dB (measured at 3 m distance from the UA);
- (i) be powered by electricity of a nominal voltage not exceeding 24 V DC or the equivalent AC voltage; its accessible parts shall not exceed 24 V DC or the equivalent AC voltage; internal voltages shall not exceed 24 V DC or the equivalent AC voltage unless it is ensured that the voltage and current combination generated does not lead to any risk or harmful electric shock even when the UAS is damaged;
- (j) if equipped with a follow-me mode, when this function is on, keep a distance not exceeding 50 m from the remote pilot, and allow the remote pilot to regain control of the UA or to activate an emergency procedure that terminates the flight;
- (k) if fitted with an audio sensor or optical camera of more than 5 MP or any other type of sensor able to record personal data, as well as a real-time video transmission link, be equipped with an electronic identification system as per Appendix I.6.b to this Annex;
- (l) provide to the remote pilot clear information about the battery status of the UA and its control station;
- (m) have the requisite mechanical strength and, where appropriate, stability to withstand any stress to which it is subjected during use without breakage or deformation, which may interfere with its safe flight;
- (n) be equipped with lights, as required for its controllability;

- (o) be placed on the market with clear operational instructions and operational limitations (including but not limited to meteorological conditions and day/night operations) highlighting the risks related to UAS operations;
- (p) include an awareness leaflet with all the information required to use the UAS in accordance with the applicable regulations on aviation safety, security, privacy and data protection, liability and insurance; and
- (q) bear the following label on the UA in a visible manner:



Appendix I.3**Product requirements for UAS Class C2**

A UAS Class C2 shall:

- (a) be designed and manufactured to fly safely;
- (b) have an MTOM, including payload, of less than 4 kg;
- (c) have a maximum altitude performance limited to 120 m or be equipped with a system limiting the height above the ground or above the take-off point to a value selectable by the remote pilot; in the latter case, clear information about the UA height from the ground during flight shall be provided to the remote pilot;
- (d) be equipped with an advisory geofencing system as per Appendix I.6.a to this Annex;
- (e) be equipped with an electronic identification system as per Appendix I.6.b to this Annex;
- (f) be safely controllable by a pilot following the manufacturer's instructions;
- (g) provide to the pilot clear information about the battery status of the UA and its control station;
- (h) have a sound power level not exceeding 80 dB (measured at a 3-m distance from the UA);
- (i) be powered by electricity of a nominal voltage not exceeding 48 V DC or the equivalent AC voltage; its accessible parts shall not exceed 48 V DC or the equivalent AC voltage; internal voltages shall not exceed 48 V DC or the equivalent AC voltage unless it is ensured that the voltage and current combination generated does not lead to any risk or harmful electric shock even when the UAS is damaged;
- (j) have the requisite mechanical strength and, where appropriate, stability to withstand any stress to which it is subjected during use without breakage or deformation, which may interfere with its safe flight;
- (k) in case of loss of data link, have a reliable and predictable method for the UA to recover or terminate the flight in a way that reduces the effect on third parties in the air or on the ground;
- (l) be equipped with lights, as required for the operating conditions;
- (m) be placed on the market with clear operational instructions, troubleshooting procedures, and operational limitations (including but not limited to meteorological conditions and, day/night operations) as well as an appropriate description of all the risks related to UAS operations;
- (n) include an awareness leaflet with all the information required to use the UAS in accordance with the applicable regulations on aviation safety, security, privacy and data protection, liability and insurance; and
- (o) bear the following label on the UA in a visible manner:



Appendix I.4**Product requirements for UAS Class C3**

A UAS Class C3 shall:

- (a) have an MTOM, including payload, of less than 25 kg;
- (b) be designed and manufactured to fly safely;
- (c) have a maximum altitude performance limited to 120 m or be equipped with a system limiting the height above the ground or above the take-off point to a value selectable by the remote pilot; in the latter case, clear information about the UA height from the ground during flight shall be provided to the remote pilot;
- (d) be safely controllable by a pilot following the manufacturer's instructions;
- (e) provide to the pilot clear information about the battery status of the UA and its control station;
- (f) in case of loss of data link, have a reliable and predictable method for the UA to recover or terminate the flight in a way that reduces the effect on third parties in the air or on the ground;
- (g) be powered by electricity of a nominal voltage not exceeding 48 V DC or the equivalent AC voltage; its accessible parts shall not exceed 48 V DC or the equivalent AC voltage; internal voltages shall not exceed 48 V DC or the equivalent AC voltage unless it is ensured that the voltage and current combination generated does not lead to any risk or harmful electric shock even when the UAS is damaged;
- (h) be placed on the market with clear operational instructions, troubleshooting procedures, and operational limitations (including but not limited to meteorological conditions and, day/night operations) as well as an appropriate description of all the risks related to UAS operations;
- (i) be equipped with lights, as required for the operating conditions;
- (j) include an awareness leaflet with all the information required to use the UAS in accordance with the applicable regulations on aviation safety, security, privacy and data protection, liability and insurance; and
- (k) bear the following label on the UA in a visible manner:

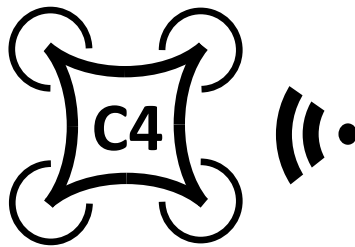


Appendix I.5

Product requirements for UAS Class C4

A UAS Class C4 shall:

- (a) have an MTOM, including payload, of less than 25 kg;
- (b) be designed and manufactured to fly safely;
- (c) be placed on the market with clear operational instructions;
- (d) include an awareness leaflet with all the information required to use the UAS in accordance with the applicable regulations on aviation safety, security, privacy and data protection, liability and insurance; and
- (e) bear the following label on the UA in a visible manner:



Appendix I.6

Product requirements for UAS components

This Appendix contains the product requirements for UAS systems being an integral part of a UA or placed on the market as an independent add-on component.

I.6.a — Geofencing system

A geofencing system should include the following functionalities and performance characteristics so as to provide:

- (a) an interface to update data containing information on airspace limitations and requirements, as well as to ensure the integrity and validity of this data;
- (b) information about the airspace limitations and requirements where the UA operates, as well as the position and movement of the UA relative to those limitations; and
- (c) information on the status of the system as well as on the validity of its position or navigation data.

If the UA has a functionality that limits its access to certain airspace areas or volumes, this functionality shall be used in a manner that it interacts smoothly with the flight control without adversely affecting flight safety. In addition, sufficient information shall be provided to the remote pilot when the UA approaches areas with airspace limitations or when the geofencing system engages with the UA flight control system.

I.6.b — Electronic identification system

An electronic identification system shall provide in real time the following information through electronic data, which is compliant with standards acceptable to the Agency:

- (a) the UAS operator and UA registration;
- (b) the UAS class;
- (c) the type of the UAS operation;
- (d) the status of the UAS geofencing function; and
- (e) the geographical position of the UA and its altitude above ground level.

3.1.3 Part-MRK

ANNEX II

Making available on the market

[PART-MRK]

SECTION 1 — GENERAL PROVISIONSArticle II.1. *Subject matter and scope*

1. This Annex establishes a regulatory framework for the making available on the Union market of UAS intended to be used in the open category, as well as UAS components defined in Appendix I.6.a and I.6.b. The technical requirements defined in these Appendixes together with this Annex constitute the Union Harmonization Legislation for those products.
2. At the exception of UAS falling within the scope of Appendices I.1 to I.5 and placed on the market by the manufacturer in kit ready-to-assemble, privately-built UAS do not fall within the scope of this Annex.

Article II.2. *Definition*

1. For the purpose of this Annex, product mean UAS or UAS component falling within the scope of Article II.1.
2. For the purposes of this Annex definitions provided in Article 2 and the following ones apply:
 - a. 'manufacturer' means any natural or legal person who manufactures a product or has a product designed or manufactured, and markets that product under his name or trademark;
 - b. 'authorised representative' means any natural or legal person established within the Community who has received a written mandate from a manufacturer to act on his behalf in relation to specified tasks with regard to the latter's obligations under the relevant Community legislation;
 - c. 'importer' means any natural or legal person established within the Community who places a product from a third country on the Community market;
 - d. 'distributor' means any natural or legal person in the supply chain, other than the manufacturer or the importer, who makes a product available on the market;
 - e. 'technical specification' means a document that prescribes technical requirements to be fulfilled by a product, process or service;
 - f. 'harmonised standard' means a standard adopted by one of the European standardisation bodies listed in Annex I to Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services

(10) on the basis of a request made by the Commission in accordance with Article 6 of that Directive;

- g. 'accreditation' means an attestation by a national accreditation body that a conformity assessment body meets the requirements set by harmonised standards and, where applicable, any additional requirements including those set out in relevant sectoral schemes, to carry out a specific conformity assessment activity;
- h. 'national accreditation body' means the sole body in a Member State that performs accreditation with authority derived from the State;
- i. 'conformity assessment' means the process demonstrating whether specified requirements relating to a product, process, service, system, person or body have been fulfilled;
- j. 'conformity assessment body' means a body that performs conformity assessment activities including calibration, testing, certification and inspection;
- k. 'recall' means any measure aimed at achieving the return of a product that has already been made available to the end user;
- l. 'withdrawal' means any measure aimed at preventing a product in the supply chain from being made available on the market;
- m. 'peer evaluation' means a process for the assessment of a national accreditation body by other national accreditation bodies, carried out in accordance with the requirements of this Regulation, and, where applicable, additional sectoral technical specifications;
- n. 'market surveillance' means the activities carried out and measures taken by public authorities to ensure that products comply with the requirements set out in the relevant Union harmonisation legislation and do not endanger health, safety or any other aspect of public interest protection;
- o. 'market surveillance authority' means an authority of a Member State responsible for carrying out market surveillance on its territory;
- p. 'release for free circulation' means the procedure laid down in Article 79 of Council Regulation (EEC) No 2913/92 of 12 October 1992 establishing the Union Customs Code (11);
- q. 'CE marking' means a marking by which the manufacturer indicates that the product is in conformity with the applicable requirements set out in Union harmonisation legislation providing for its affixing.

Article II.3. *Making available on the market*

Products falling within the scope of this Annex shall only be made available on the Union market or put into service if:

1. they have been designed and constructed in accordance with good engineering practice in safety matters in force in the Union,

2. they meet the applicable requirements set out in Annex I to this Regulation and the other applicable Union harmonisation legislation;
3. they do not endanger the safety of persons and property or the environment when maintained according to the instructions provided and used in accordance with the rules defined in this Regulation.

Article II.4. Free movement of UAS and UAS components

Member States shall not prohibit, restrict or impede, for the aspects covered by this Regulation, the making available on the market of product falling within the scope of this Annex and which complies with this Regulation.

SECTION 2 — OBLIGATIONS OF ECONOMIC OPERATORS*Article II.5. Obligations of manufacturers*

1. When placing their product on the market, manufacturers shall ensure that it has been designed and manufactured in accordance with the requirements set out in Article II.3.
2. Manufacturers shall draw up the technical documentation referred to in Article II.16 and carry out the relevant conformity assessment procedure referred to in Article II.12 or have it carried out.

Where compliance of the product with the requirements in the relevant Appendices I.1 to I.6 has been demonstrated by that conformity assessment procedure, manufacturers shall draw up an EU declaration of conformity and affix the CE marking.

3. Manufacturers shall keep the technical documentation and the EU declaration of conformity for 5 years after the product has been placed on the market.
4. Manufacturers shall ensure that procedures are in place for series production to ensure that changes in product design, characteristics or software do not alter the compliance of the product or that relevant conformity assessment procedure is undertaken. Changes in the harmonised standards or in technical specifications by reference to which conformity of a product is declared shall be adequately taken into account.

When deemed appropriate with regard to the risks presented by a product, manufacturers shall, to protect the health and safety of consumers, carry out sample testing of marketed products, investigate, and, if necessary, keep a register of complaints, of non-conforming products and product recalls, and shall keep distributors informed of any such monitoring.

5. Manufacturers shall ensure that procedures are in place to ensure that software upgrades taking place after the placing on the market do not alter the compliance of the product.
6. Manufacturers shall ensure that products they have placed on the market bear a type, batch or serial number or other element allowing their identification, or, where the size or nature of the product does not allow it, that the required information is provided on the packaging, or in a document accompanying it.
7. Manufacturers shall indicate their name, registered trade name or registered trade mark and the postal address at which they can be contacted on the product or, where that is not possible, on its packaging, or in a document accompanying it. The address shall indicate a single point at which the manufacturer can be contacted. The contact details shall be indicated in a language easily understood by end-users and market surveillance authorities.
8. Manufacturers shall ensure that the product they have placed on the market bears the UA class identification label defined in the related Appendices I.1 to I.5.
9. Manufacturers shall ensure that products placed on the market are accompanied by the instructions and information required by Appendices I.1 to I.6 in a language which can be easily understood by consumers and other end-users, as determined by the Member State concerned. Such instructions and information, as well as any labelling, shall be clear, understandable and intelligible.

10. Manufacturers shall ensure that each product is accompanied by a copy of the EU declaration of conformity or by a simplified EU declaration of conformity. Where a simplified EU declaration of conformity is provided, it shall contain the exact internet address where the full text of the EU declaration of conformity can be obtained.
11. Manufacturers who consider or have reason to believe that products which they have placed on the market are not in conformity with the applicable Union harmonisation legislation shall immediately take the corrective measures necessary to bring that product into conformity, to withdraw it or recall it, if appropriate. Furthermore, where the product presents a safety risk, manufacturers shall immediately inform the market surveillance authorities of the Member States in which they made the product available on the market to that effect, giving details, in particular, of the non-compliance, of any corrective measures taken and of the results thereof.
12. Manufacturers shall, further to a reasoned request from a market surveillance or border control authority, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of the product with this Regulation, in a language which can be easily understood by that authority. They shall cooperate with that authority, at its request, on any action taken to eliminate the risks posed by the product which they have placed on the market.

Article II.6. *Authorised representatives*

1. A manufacturer may, by a written mandate, appoint an authorised representative.
2. The obligations laid down in Article II.5(1) and the obligation to draw up technical documentation laid down in Article II.5(2) shall not form part of the authorised representative's mandate.
3. An authorised representative shall perform the tasks specified in the mandate received from the manufacturer. The mandate shall allow the authorised representative to do at least the following:
 - a. keep the EU declaration of conformity and the technical documentation at the disposal of national market surveillance authorities for 5 years after the product has been placed on the market;
 - b. further to a reasoned request from a market surveillance or border control authority, provide that authority with all the information and documentation necessary to demonstrate the conformity of the product;
 - c. cooperate with the market surveillance or border control authorities, at their request, on any action taken to eliminate the non-conformity of the products covered by the authorised representative's mandate or the safety risks posed by it.

Article II.7. *Obligations of importers*

1. Importers shall only place on the Union market products compliant with the requirements set out in Article II.3.
2. Before placing a product on the market importers shall ensure that:



- a. the appropriate conformity assessment procedure referred to in Article II.12 has been carried out by the manufacturer;
- b. the product is in conformity with the requirements set out in Appendices I.1 to I.6;
- c. the manufacturer has drawn up the technical documentation referred to in Article II.16;
- d. the product bears the CE marking and, when relevant, the UA class identification label;
- e. the product is accompanied by the documents referred to in Article II.5(9) and (10);
- f. the manufacturer has complied with the requirements set out in Article II.5(6) and (7).

Where an importer considers or has reason to believe that a product is not in conformity with the requirements set out in Article II.3, he shall not place the product on the market until it has been brought into conformity. Furthermore, where product presents a safety risk, the importer shall inform the manufacturer and the competent market surveillance authorities to that effect.

3. Importers shall indicate on the product their name, registered trade name or registered trade mark and the postal address at which they can be contacted or, where that is not possible, on its packaging or in a document accompanying the product. This includes cases where the size of the product does not allow it, or where importers would have to open the packaging in order to indicate their name and address on product. The contact details shall be in a language easily understood by end-users and market surveillance authorities.
4. Importers shall ensure that the product is accompanied by the instructions and information required by Appendices I.1 to I.6 in a language which can be easily understood by consumers and other end-users, as determined by the Member State concerned. Such instructions and information, as well as any labelling, shall be clear, understandable and intelligible.
5. Importers shall ensure that, while product is under their responsibility, its storage or transport conditions do not jeopardise its compliance with the requirements set out in Article II.3 (b) and (c).
6. When deemed appropriate with regard to the risks presented by a product, importers shall, to protect the health and safety of end-users and third-parties, carry out sample testing of products made available on the market, investigate, and, if necessary, keep a register of complaints, of non-conforming of products and product system recalls, and shall keep distributors informed of any such monitoring.
7. Importers who consider or have reason to believe that products which they have placed on the market is not in conformity with the applicable Union harmonisation legislation shall immediately take the corrective measures necessary to bring that product into conformity, to withdraw it or recall it, if appropriate. Furthermore, where the product presents a safety risk, importers shall immediately inform the market surveillance authorities of the Member States in which they made the product available on the market to that effect, giving details, in particular, of the non-compliance and of any corrective measures taken.
8. Importers shall, for 5 years after the product has been placed on the market, keep a copy of the EU declaration of conformity at the disposal of the market surveillance authorities and ensure that the technical documentation can be made available to those authorities, upon request.

9. Importers shall, further to a reasoned request from a market surveillance or border control authority, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of the product in a language which can be easily understood by that authority. They shall cooperate with that authority, at its request, on any action taken to eliminate the risks posed by the product which they have placed on the market.

Article II.8. *Obligations of distributors*

1. When making a product available on the market distributors shall act with due care in relation to the requirements of this Regulation.
2. Before making a product available on the market distributors shall verify that the product bears the CE marking and, when relevant, the class identification label, and is accompanied by the documents referred to in Article II.5(9) and (10), and that the manufacturer and the importer have complied with the requirements set out in Article II.5(6) and (7).

Distributors shall ensure that the product is accompanied by the instructions and information required by Appendices I.1 to I.6 in a language which can be easily understood by consumers and other end-users, as determined by the Member State concerned. Such instructions and information, as well as any labelling, shall be clear, understandable and intelligible.

Where a distributor considers or has reason to believe that a product is not in conformity with the requirements set out in Article II.3, he shall not make the product available on the market until it has been brought into conformity. Furthermore, where the product presents a safety risk, the distributor shall inform the manufacturer or the importer to that effect as well as the competent market surveillance authorities.

3. Distributors shall ensure that, while a product is under their responsibility, its storage or transport conditions do not jeopardise its compliance with the requirements set out in Article II.3 (b) and (c).
4. Distributors who consider or have reason to believe that a product which they have made available on the market is not in conformity with the applicable Union harmonisation legislation shall make sure that the corrective measures necessary to bring that product into conformity, to withdraw it or recall it, if appropriate, are taken. Furthermore, where the product presents a safety risk, distributors shall immediately inform the market surveillance authorities of the Member States in which they made the product available on the market to that effect, giving details, in particular, of the non-compliance and of any corrective measures taken.
5. Distributors shall, further to a reasoned request from a market surveillance or border control authority, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of the product. They shall cooperate with that authority, at its request, on any action taken to eliminate the risks posed by the product which they have made available on the market.

Article II.9. Cases in which obligations of manufacturers apply to importers and distributors

An importer or distributor shall be considered a manufacturer for the purposes of this Regulation and he shall be subject to the obligations of the manufacturer under Article II.6, where he places a product on the market under his name or trade mark or modifies the product already placed on the market in such a way that compliance with this Regulation may be affected.

Article II.10. Identification of economic operators

Economic operators shall, on request, identify the following to the market surveillance authorities:

1. any economic operator who has supplied them with a product;
2. any economic operator to whom they have supplied a product.

Economic operators shall be able to present the information referred to in the first paragraph for 5 years after they have been supplied with the product and for 5 years after they have supplied the product.

SECTION 3 — CONFORMITY OF THE PRODUCT**Article II.11. *Presumption of conformity***

Product which is in conformity with harmonised standards or parts thereof the references of which have been published in the *Official Journal of the European Union* shall be presumed to be in conformity with the relevant product's requirements set out in Appendices I.1 to I.6 covered by those standards or parts thereof.

Article II.12. *Conformity assessment procedures*

1. The manufacturer shall perform a conformity assessment of the product with a view to establish its compliance with the relevant requirements set out in Appendices I.1 to I.6. The conformity assessment shall take into account all intended and foreseeable operating conditions.
2. For products compliant with Directive 2009/48/EC on the safety of toys, manufacturers shall demonstrate compliance with the requirements set out in Appendix I.1, using the internal production control procedure set out in see Appendix II.1.
3. Manufacturers shall demonstrate compliance of products with the requirements set out in Appendix I.5 using the internal production control procedure set out in Appendix II.1.
4. Where, in assessing the compliance of the product with the applicable requirements set out in Appendices I.1, I.2, I.3, I.4 or I.6, the manufacturer has applied harmonised standards, the references of which have been published in the *Official Journal of the European Union*, covering all requirements for the product he shall use the internal production control set out in Appendix II.1.
5. Where, in assessing the compliance of the product with the applicable requirements set out in Appendices I.1 to I.6, the manufacturer has not applied or has applied only in part harmonised standards the references of which have been published in the *Official Journal of the European Union*, or where such harmonised standards do not exist, the product shall be submitted with regard to those essential requirements to either of the following procedures:
 - a. EU-type examination that is followed by the conformity to type based on internal production control set out in Appendix II.2;
 - b. conformity based on full quality assurance set out in Appendix II.3.

Article II.13. *EU declaration of conformity*

1. The EU declaration of conformity referred to in Article II.5(10) shall, when relevant, identify the class of UA and state that the fulfilment of the corresponding requirements set out in Appendices 1.1 to 1.5 has been demonstrated.
2. The EU declaration of conformity shall have the model structure set out in Appendix II.5, shall contain the elements set out in that Appendix and shall be continuously updated. It shall be translated into the language or languages required by the Member State in which market the product is placed or made available.

3. The simplified EU declaration of conformity referred to in Article II.5 (10) shall contain the elements set out in Appendix II.6 and shall be continuously updated. It shall be translated into the language or languages required by the Member State in which the product is placed or made available on the market. The full text of the EU declaration of conformity shall be available at the internet address referred to in the simplified EU declaration of conformity, in a language or languages required by the Member State in which the product is placed or made available on the market.
4. Where a product is subject to more than one Union act requiring an EU declaration of conformity, a single EU declaration of conformity shall be drawn up in respect of all such Union acts. That declaration shall contain the identification of the Union acts concerned including their publication references.
5. By drawing up the EU declaration of conformity, the manufacturer shall assume responsibility for the compliance of the product with the requirements laid down in this Regulation.

Article II.14. General principles of the CE marking

1. The CE marking shall be subject to the general principles set out in Article 30 of Regulation (EC) No 765/2008.
2. Member States shall presume that products bearing the CE marking and, when relevant, the UA class identification label, comply with this Regulation.

Article II.15. Rules and conditions for affixing the CE marking, the UAS class identification label and the identification number of the notified body

1. The CE marking and, when relevant, the UA class identification label shall be affixed visibly, legibly and indelibly to the product, unless that is not possible or not warranted on account of the nature of the product. The CE marking and the UA class identification label shall also be affixed visibly and legibly to the packaging.

On account of the nature of the product, the height of the CE marking and UA class identification label affixed to the product may be lower than 5 mm, provided that it remains visible and legible.

The class identification label will be affixed on the right of the CE marking and have a similar size.

2. The CE marking and the UA class identification label shall be affixed before the product is placed on the market.
3. The CE marking and the UA class identification label shall be followed by the identification number of the notified body where the conformity assessment procedure set out in Appendix II.2 is applied. It shall have the same height as the CE marking.

The identification number of the notified body shall be affixed by the notified body itself or, under its instructions, by the manufacturer or his authorised representative.

4. Member States shall build upon existing mechanisms to ensure correct application of the regime governing the CE marking and shall take appropriate action in the event of improper use of that marking.

Article II.16. *Technical documentation*

1. The technical documentation shall contain all relevant data or details of the means used by the manufacturer to ensure that the product complies with the related requirements set out in Appendices I.1 to I.6. It shall, at least, contain the elements set out in Appendix II.4.
2. The technical documentation shall be drawn up before the product is placed on the market and shall be continuously updated.
3. The technical documentation and correspondence relating to any EU-type examination procedure shall be drawn up in an official language of the Member State in which the notified body is established or in a language acceptable to that body.
4. Where the technical documentation does not comply with paragraphs 1, 2 or 3 of this Article, and in so doing fails to present sufficient relevant data or means used to ensure compliance of the product with the related requirements set out in Appendices I.1 to I.6, the market surveillance authority may ask the manufacturer or the importer to have a test performed by a body acceptable to the market surveillance authority at the expense of the manufacturer or the importer within a specified period in order to verify compliance with the related requirements set out in Appendices I.1 to I.6.

SECTION 4 — NOTIFICATION OF CONFORMITY ASSESSMENT BODIES*Article II.17. Notification*

Member States shall notify the Commission and the other Member States of bodies authorised to carry out third-party conformity assessment tasks under this Regulation.

Article II.18. Notifying authorities

1. Member States shall designate a notifying authority that shall be responsible for setting up and carrying out the necessary procedures for the assessment and notification of conformity assessment bodies and the monitoring of notified bodies, including compliance with the provisions of Article II.23.
2. Member States may decide that the assessment and monitoring referred to in paragraph 1 shall be carried out by a national accreditation body within the meaning of and in accordance with Regulation (EC) No 765/2008.
3. Where the notifying authority delegates or otherwise entrusts the assessment, notification or monitoring referred to in paragraph 1 to a body which is not a governmental entity, that body shall be a legal entity and shall comply *mutatis mutandis* with the requirements laid down in Article II.19. In addition it shall have arrangements to cover liabilities arising out of its activities.
4. The notifying authority shall take full responsibility for the tasks performed by the body referred to in paragraph 3.

Article II.19. Requirements relating to notifying authorities

1. A notifying authority shall be established in such a way that no conflict of interest with conformity assessment bodies occurs.
2. A notifying authority shall be organised and operated so as to safeguard the objectivity and impartiality of its activities.
3. A notifying authority shall be organised in such a way that each decision relating to notification of a conformity assessment body is taken by competent persons different from those who carried out the assessment.
4. A notifying authority shall not offer or provide any activities that conformity assessment bodies perform or consultancy services on a commercial or competitive basis.
5. A notifying authority shall safeguard the confidentiality of the information it obtains.
6. A notifying authority shall have a sufficient number of competent personnel at its disposal for the proper performance of its tasks.

Article II.20. Information obligation on notifying authorities

Member States shall inform the Commission of their procedures for the assessment and notification of conformity assessment bodies and the monitoring of notified bodies, and of any changes thereto.



The Commission shall make that information publicly available.

Article II.21. *Requirements relating to notified bodies*

1. For the purposes of notification, a conformity assessment body shall meet the requirements laid down in paragraphs 2 to 11.
2. A conformity assessment body shall be established under national law of a Member State and have legal personality.
3. A conformity assessment body shall be a third-party body independent of the organisation it assesses.

A body belonging to a business association or professional federation representing undertakings involved in the design, manufacturing, provision, assembly, use or maintenance of the product which it assesses may, on condition that its independence and the absence of any conflict of interest are demonstrated, be considered such a body.

4. A conformity assessment body, its top level management and the personnel responsible for carrying out the conformity assessment tasks shall not be the designer, manufacturer, supplier, installer, purchaser, owner, user or maintainer of the product which they assess, nor the representative of any of those parties. This shall not preclude the use of assessed product that is necessary for the operations of the conformity assessment body or the use of such product for personal purposes.

A conformity assessment body, its top level management and the personnel responsible for carrying out the conformity assessment tasks shall not be directly involved in the design, manufacture or construction, the marketing, installation, use or maintenance of that product, or represent the parties engaged in those activities. They shall not engage in any activity that may conflict with their independence of judgement or integrity in relation to conformity assessment activities for which they are notified. This shall in particular apply to consultancy services.

Conformity assessment bodies shall ensure that the activities of their subsidiaries or subcontractors do not affect the confidentiality, objectivity or impartiality of their conformity assessment activities.

5. Conformity assessment bodies and their personnel shall carry out the conformity assessment activities with the highest degree of professional integrity and the requisite technical competence in the specific field and shall be free from all pressures and inducements, particularly financial, which might influence their judgement or the results of their conformity assessment activities, especially as regards persons or groups of persons with an interest in the results of those activities.
6. A conformity assessment body shall be capable of carrying out all the conformity assessment tasks assigned to it by Appendix II.2 or II.3 in relation to which it has been notified, whether those tasks are carried out by the conformity assessment body itself or on its behalf and under its responsibility.

At all times and for each conformity assessment procedure and each kind or category of product in relation to which it has been notified, a conformity assessment body shall have at its disposal the necessary:

- a. personnel with technical knowledge and sufficient and appropriate experience to perform the conformity assessment tasks;
- b. descriptions of procedures in accordance with which conformity assessment is carried out, ensuring the transparency and the ability of reproduction of those procedures. It shall have appropriate policies and procedures in place that distinguish between tasks it carries out as a notified body and other activities;
- c. procedures for the performance of activities which take due account of the size of an undertaking, the sector in which it operates, its structure, the degree of complexity of the product in question and the mass or serial nature of the production process.

A conformity assessment body shall have the means necessary to perform the technical and administrative tasks connected with the conformity assessment activities in an appropriate manner and shall have access to all necessary equipment or facilities.

7. The personnel responsible for carrying out conformity assessment tasks shall have the following:
 - a. sound technical and vocational training covering all the conformity assessment activities in relation to which the conformity assessment body has been notified;
 - b. satisfactory knowledge of the requirements of the assessments they carry out and adequate authority to carry out those assessments;
 - c. appropriate knowledge and understanding of the essential requirements set out in Article 3, of the applicable harmonised standards and of the relevant provisions of Union harmonisation legislation and of national legislation;
 - d. the ability to draw up EU-type examination certificates or quality system approvals, records and reports demonstrating that assessments have been carried out.
8. The impartiality of the conformity assessment bodies, their top level management and of the personnel responsible for carrying out the conformity assessment tasks shall be guaranteed.

The remuneration of the top level management and personnel responsible for carrying out the conformity assessment tasks of a conformity assessment body shall not depend on the number of assessments carried out or on the results of those assessments.
9. Conformity assessment bodies shall take out liability insurance unless liability is assumed by the State in accordance with national law, or the Member State itself is directly responsible for the conformity assessment.
10. The personnel of a conformity assessment body shall observe professional secrecy with regard to all information obtained in carrying out their tasks under Appendixes II.2 and 3 or any provision of national law giving effect to them, except in relation to the competent authorities of the Member State in which its activities are carried out. Proprietary rights shall be protected.
11. Conformity assessment bodies shall participate in, or ensure that their personnel responsible for carrying out the conformity assessment tasks are informed of, the relevant standardisation

activities, the regulatory activities in the area of UAS and frequency planning, and the activities of the notified body coordination group established under the relevant Union harmonisation legislation and shall apply as general guidance the administrative decisions and documents produced as a result of the work of that group.

Article II.22. *Presumption of conformity of notified bodies*

Where a conformity assessment body demonstrates its conformity with the criteria laid down in the relevant harmonised standards or parts thereof the references of which have been published in the *Official Journal of the European Union* it shall be presumed to comply with the requirements set out in Article II.21 in so far as the applicable harmonised standards cover those requirements.

Article II.23. *Subsidiaries of and subcontracting by notified bodies*

1. Where a notified body subcontracts specific tasks connected with conformity assessment or has recourse to a subsidiary, it shall ensure that the subcontractor or the subsidiary meets the requirements set out in Article II.21 and shall inform the notifying authority accordingly.
2. Notified bodies shall take full responsibility for the tasks performed by subcontractors or subsidiaries wherever these are established.
3. Activities may be subcontracted or carried out by a subsidiary only with the agreement of the client.
4. Notified bodies shall keep at the disposal of the notifying authority the relevant documents concerning the assessment of the qualifications of the subcontractor or the subsidiary and the work carried out by them under Appendixes II.2 and 3.

Article II.24. *Application for notification*

1. A conformity assessment body shall submit an application for notification to the notifying authority of the Member State in which it is established.
2. The application for notification shall be accompanied by a description of the conformity assessment activities, the conformity assessment module or modules and the product for which that body claims to be competent, as well as by an accreditation certificate, where one exists, issued by a national accreditation body attesting that the conformity assessment body fulfils the requirements laid down in Article II.21.
3. Where the conformity assessment body concerned cannot provide an accreditation certificate, it shall provide the notifying authority with all the documentary evidence necessary for the verification, recognition and regular monitoring of its compliance with the requirements laid down in Article II.21.

Article II.25. *Notification procedure*

1. Notifying authorities may notify only conformity assessment bodies which have satisfied the requirements laid down in Article II.21.

2. They shall notify conformity assessment bodies to the Commission and the other Member States using the electronic notification tool developed and managed by the Commission.
3. The notification shall include full details of the conformity assessment activities, the conformity assessment module or modules and the product concerned and the relevant attestation of competence.
4. Where a notification is not based on an accreditation certificate as referred to in Article II.24(2), the notifying authority shall provide the Commission and the other Member States with documentary evidence which attests to the conformity assessment body's competence and the arrangements in place to ensure that that body will be monitored regularly and will continue to satisfy the requirements laid down in Article II.21.
5. The body concerned may perform the activities of a notified body only where no objections are raised by the Commission or the other Member States within two weeks of a notification where an accreditation certificate is used or within two months of a notification where accreditation is not used.

Only such a body shall be considered a notified body for the purposes of this Regulation.

6. The notifying authority shall notify the Commission and the other Member States of any subsequent relevant changes to the notification.

Article II.26. *Identification numbers and lists of notified bodies*

1. The Commission shall assign an identification number to a notified body.
It shall assign a single such number even where the body is notified under several Union acts.
2. The Commission shall make publicly available the list of the bodies notified under this Regulation, including the identification numbers that have been assigned to them and the activities for which they have been notified.

The Commission shall ensure that the list is kept up to date.

Article II.27. *Changes to notifications*

1. Where a notifying authority has ascertained or has been informed that a notified body no longer meets the requirements laid down in Article II.21, or that it is failing to fulfil its obligations, the notifying authority shall restrict, suspend or withdraw notification as appropriate, depending on the seriousness of the failure to meet those requirements or fulfil those obligations. It shall immediately inform the Commission and the other Member States accordingly.
2. In the event of restriction, suspension or withdrawal of notification, or where the notified body has ceased its activity, the notifying Member State shall take appropriate steps to ensure that the files of that body are either processed by another notified body or kept available for the responsible notifying and market surveillance authorities at their request.

Article II.28. Challenge of the competence of notified bodies

1. The Commission shall investigate all cases where it doubts, or doubt is brought to its attention regarding, the competence of a notified body or the continued fulfilment by a notified body of the requirements and responsibilities to which it is subject.
2. The notifying Member State shall provide the Commission, on request, with all information relating to the basis for the notification or the maintenance of the competence of the notified body concerned.
3. The Commission shall ensure that all sensitive information obtained in the course of its investigations is treated confidentially.
4. Where the Commission ascertains that a notified body does not meet or no longer meets the requirements for notification, it shall inform the notifying Member State accordingly and request it to take the necessary corrective measures, including de-notification if necessary.

Article II.29. Operational obligations of notified bodies

1. Notified bodies shall carry out conformity assessments in accordance with the conformity assessment procedures provided for in Appendixes II.2 and 3.
2. Conformity assessments shall be carried out in a proportionate manner, avoiding unnecessary burdens for economic operators. Conformity assessment bodies shall perform their activities taking due account of the size of an undertaking, the sector in which it operates, its structure, the degree of complexity of the UA or UAS technology in question and the mass or serial nature of the production process.

In so doing they shall nevertheless respect the degree of rigour and the level of protection required for the compliance of the UA or UAS with this Regulation.

3. Where a notified body finds that the relevant product's requirements set out in Appendixes I.1 to I.6 or corresponding harmonised standards or other technical specifications have not been met by a manufacturer, it shall require that manufacturer to take appropriate corrective measures and shall not issue an EU-type examination certificate or a quality system approval.
4. Where, in the course of the monitoring of conformity following the issue of an EU-type examination certificate or a quality system approval, a notified body finds that UA or UAS no longer complies, it shall require the manufacturer to take appropriate corrective measures and shall suspend or withdraw the EU-type examination certificate or the quality system approval if necessary.
5. Where corrective measures are not taken or do not have the required effect, the notified body shall restrict, suspend or withdraw any EU-type examination certificates or quality system approvals, as appropriate.

Article II.30. Appeal against decisions of notified bodies

Member States shall ensure that an appeal procedure against decisions of the notified bodies is available.

Article II.31. Information obligation on notified bodies

1. Notified bodies shall inform the notifying authority of the following:
 - a. any refusal, restriction, suspension or withdrawal of an EU-type examination certificate or a quality system approval in accordance with the requirements of Appendixes II.2 and 3;
 - b. any circumstances affecting the scope of or conditions for notification;
 - c. any request for information which they have received from market surveillance authorities regarding conformity assessment activities;
 - d. on request, conformity assessment activities performed within the scope of their notification and any other activity performed, including cross-border activities and subcontracting.
2. Notified bodies shall, in accordance with the requirements of Appendixes II.2 and 3, provide the other bodies notified under this Regulation carrying out similar conformity assessment activities covering the same categories of UA or UAS with relevant information on issues relating to negative and, on request, positive conformity assessment results.
3. Notified bodies shall fulfil information obligations under Appendixes II.2 and 3.

Article II.32. Exchange of experience

The Commission shall provide for the organisation of exchange of experience between the Member States' national authorities responsible for notification policy.

Article II.33. Coordination of notified bodies

The Commission shall ensure that appropriate coordination and cooperation between bodies notified under this Regulation are put in place and properly operated in the form of a sectoral group of notified bodies.

Member States shall ensure that the bodies notified by them participate in the work of that group, directly or by means of designated representatives.

SECTION 5 — UNION MARKET SURVEILLANCE, CONTROL OF ELECTRICAL EQUIPMENT ENTERING THE UNION MARKET AND UNION SAFEGUARD PROCEDURE*Article II.34. Precautionary principle*

When authorities of the Member States take measures as provided for in this Annex, and in particular those referred to in Article II.36, they shall take due account of the precautionary principle.

Article II.35. General obligation to organise market surveillance and control of products entering the Union market

1. Member States shall organise and perform surveillance of the products falling within the scope of this Annex and placed on the Union market in accordance with Articles 15(3) and Articles 16 to 26 of Regulation (EC) No 765/2008.
2. Member States shall organise and perform control of the products falling within the scope of this Annex and entering the Union market in accordance with Articles 15(5) and Articles 27 to 29 of Regulation (EC) No 765/2008.
3. Special attention shall be paid to the surveillance of e-commerce and the development of cooperation between market surveillance authorities and actors in the supply chain, such as intermediaries and online market places.
4. Member States shall establish appropriate communication and coordination mechanisms between their market surveillance and border control authorities and the authorities designated under Article 7, making the best use of the information contained in the occurrence reporting system defined under Regulation (EU) No 376/2014 and the information systems defined in Article 22 and 23 of Regulation (EC) 765/2008.

Article II.36. Instructions to the notified body

1. Market surveillance authorities may request a notified body to provide information relating to any EC-type examination certificate which that body has issued or withdrawn, or which relates to any refusal to issue such a certificate, including the test reports and technical documentation.
2. If a market surveillance authority finds that a product is not in conformity with the related requirements set out in Appendices I.1 to I.6, it shall, where appropriate, instruct the notified body to withdraw the EC-type examination certificate in respect of that product.

Article II.37. Procedure for dealing with products presenting a risk at national level

1. Where the market surveillance authorities of one Member State have sufficient reason to believe that a product presents a risk to the health or safety of persons or to other aspects of public interest protection covered by this Annex, they shall carry out an evaluation in relation to product concerned covering all applicable requirements laid down in this Regulation. The relevant economic operators shall cooperate as necessary with the market surveillance authorities for that purpose.

Where, in the course of the evaluation referred to in the first subparagraph, the market surveillance authorities find that the product does not comply with the requirements laid down in this Regulation, they shall without delay require the relevant economic operator to take all appropriate corrective actions to bring the product into compliance with those requirements, to withdraw the product from the market, or to recall it within a reasonable period, commensurate with the nature of the risk, as they may prescribe.

The market surveillance authorities shall inform the relevant notified body accordingly.

Article 21 of Regulation (EC) No 765/2008 shall apply to the measures referred to in the second subparagraph of this paragraph.

2. Where the market surveillance authorities consider that non-compliance is not restricted to their national territory, they shall inform the Commission and the other Member States of the results of the evaluation and of the actions which they have required the economic operator to take.
3. The economic operator shall ensure that all appropriate corrective action is taken in respect of all products concerned that it has made available on the market throughout the Union.
4. Where the relevant economic operator does not take adequate corrective action within the period referred to in the second subparagraph of paragraph 1, the market surveillance authorities shall take all appropriate provisional measures to prohibit or restrict the product being made available on their national market, to withdraw the product from that market or to recall it.

The market surveillance authorities shall inform the Commission and the other Member States, without delay, of those measures.

5. The information referred to in paragraph 4 shall include all available details, in particular the data necessary for the identification of the non-compliant product, the origin of the product, the nature of the non-compliance alleged and the risk involved, the nature and duration of the national measures taken and the arguments put forward by the relevant economic operator. In particular, the market surveillance authorities shall indicate whether the non-compliance is due to either of the following:
 - a. failure of the product to meet the requirements set out in Article II.3; or
 - b. shortcomings in the harmonised standards referred to in Article II.11 conferring a presumption of conformity.
6. Member States other than the Member State initiating the procedure under this Article shall without delay inform the Commission and the other Member States of any measures adopted and of any additional information at their disposal relating to the non-compliance of the product concerned, and, in the event of disagreement with the adopted national measure, of their objections.
7. Where, within three months of receipt of the information referred to in paragraph 5, no objection has been raised by either a Member State or the Commission in respect of a provisional measure taken by a Member State, that measure shall be deemed justified.
8. Member States shall ensure that appropriate restrictive measures, such as withdrawal of the product from the market, are taken in respect of the product concerned without delay.

Article II.38. *Union safeguard procedure*

1. Where, on completion of the procedure set out in Article II.37(3) and (4), objections are raised against a measure taken by a Member State, or where the Commission considers a national measure to be contrary to Union legislation, the Commission shall without delay enter into consultation with the Member States and the relevant economic operator or operators and shall evaluate the national measure. On the basis of the results of that evaluation, the Commission shall decide whether the national measure is justified or not.

The Commission shall address its decision to all Member States and shall immediately communicate it to them and the relevant economic operator or operators.

2. If the national measure is considered justified, all Member States shall take the necessary measures to ensure that the non-compliant product is withdrawn or recalled from their market, and shall inform the Commission accordingly. If the national measure is considered unjustified, the Member State concerned shall withdraw that measure.
3. Where the national measure is considered justified and the non-compliance of the product is attributed to shortcomings in the harmonised standards referred to in point (b) of Article II.37(5) of this Regulation, the Commission shall apply the procedure provided for in Article 11 of Regulation (EU) No 1025/2012.

Article II.39. *Compliant product which presents a risk*

1. Where, having carried out an evaluation under Article II.37(1), a Member State finds that although product is in compliance with this Regulation, it presents a risk to the health or safety of persons or to other aspects of public interest protection covered by this Regulation, it shall require the relevant economic operator to take all appropriate measures to ensure that the product concerned, when placed on the market, no longer presents that risk, to withdraw the product from the market or to recall it within a reasonable period, commensurate with the nature of the risk, as it may prescribe.
2. The economic operator shall ensure that corrective action is taken in respect of all the products concerned that he has made available on the market throughout the Union.
3. The Member State shall immediately inform the Commission and the other Member States. That information shall include all available details, in particular the data necessary for the identification of the product concerned, the origin and the supply chain of product, the nature of the risk involved and the nature and duration of the national measures taken.
4. The Commission shall without delay enter into consultation with the Member States and the relevant economic operator or operators and shall evaluate the national measures taken. On the basis of the results of that evaluation, the Commission shall decide whether the national measure is justified or not and, where necessary, propose appropriate measures.
5. The Commission shall address its decision to all Member States and shall immediately communicate it to them and the relevant economic operator or operators.

Article II.40. *Formal non-compliance*

1. Without prejudice to Article II.38, where a Member State makes one of the following findings, it shall require the relevant economic operator to put an end to the non-compliance concerned:
 - a. the CE marking has been affixed in violation of Article 30 of Regulation (EC) No 765/2008 or of Article II.14 or II.15 of this Regulation;
 - b. the CE marking has not been affixed;
 - c. the identification number of the notified body, where the conformity assessment procedure set out in Appendixes II.2 or II.3 is applied, has been affixed in violation of Article II.15 or has not been affixed;
 - d. the EU declaration of conformity has not been drawn up;
 - e. the EU declaration of conformity has not been drawn up correctly;
 - f. technical documentation is either not available or not complete;
2. Where the non-compliance referred to in paragraph 1 persists, the Member State concerned shall take all appropriate measures to restrict or prohibit corresponding product system being made available on the market or ensure that it is withdrawn or recalled from the market.

SECTION 6 — FINAL AND TRANSITIONAL PROVISIONS*Article II.41. Penalties*

Member States shall provide for penalties applicable to infringements by economic operators of the provisions of this Annex and shall take all measures necessary to ensure that they are enforced.

The penalties provided for shall be effective, proportionate and dissuasive. They may include criminal penalties for serious infringements.

Article II.42. Transitional provisions

Member States shall not impede, for the aspects covered by this Annex, the making available on the market or putting into service of products covered by this Annex which was placed on the market before the date of entry into force of this Regulation.



Appendix II.1 — CONFORMITY ASSESSMENT MODULE A — INTERNAL PRODUCTION CONTROL
as per Annex II to Decision No 768/2008/EC

1. Internal production control is the conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in points 2, 3 and 4 of this Appendix, and ensures and declares on his sole responsibility that the products concerned satisfies the applicable requirements set out in Appendices I.1 to I.6.
2. **Technical documentation**

The manufacturer shall establish the technical documentation in accordance with Article II.16 of this Annex.
3. **Manufacturing**

The manufacturer shall take all measures necessary so that the manufacturing process and its monitoring ensure compliance of the manufactured product with the technical documentation referred to in point 2 of this Appendix and with the requirements set out in the relevant Appendices I.1 to I.6.
4. **CE marking and EU declaration of conformity**
 - 4.1. The manufacturer shall affix the CE marking and, when relevant, the UA class identification label in accordance with Articles II.14 and 15 of this Annex to each product that satisfies the applicable requirements set out in Appendices I.1 to I.6.
 - 4.2. The manufacturer shall draw up a written EU declaration of conformity for each product and keep it together with the technical documentation at the disposal of the national authorities for 10 years after the product has been placed on the market. The EU declaration of conformity shall identify the product for which it has been drawn up.

A copy of the EU declaration of conformity shall be made available to the relevant authorities upon request.
5. **Authorised representative**

The manufacturer's obligations set out in point 4 may be fulfilled by his authorised representative, on his behalf and under his responsibility, provided that they are specified in the mandate.

**Appendix II.2 — CONFORMITY ASSESSMENT MODULES B AND C —EU-TYPE EXAMINATION AND
CONFORMITY TO TYPE BASED ON INTERNAL PRODUCTION CONTROL
as per Annex II to Decision No 768/2008/EC**

When reference is made to this Appendix, the conformity assessment procedure shall follow Modules B (EU-type examination) and C (Conformity to type based on internal production control) of this Appendix.

Module B

EU-type examination

1. EU-type examination is the part of a conformity assessment procedure in which a notified body examines the technical design of the product and verifies and attests that the technical design of the product meets the applicable requirements set out in Appendices I.1 to I.6.
2. EU-type examination shall be carried out by - assessment of the adequacy of the technical design of the product through examination of the technical documentation and supporting evidence referred to in point 3, plus examination of specimens, representative of the production envisaged, of one or more critical parts of the product (combination of production type and design type).
3. The manufacturer shall lodge an application for EU-type examination with a single notified body of his choice.

The application shall include:

- a. the name and address of the manufacturer and, if the application is lodged by the authorised representative, his name and address as well;
 - b. a written declaration that the same application has not been lodged with any other notified body;
 - c. the technical documentation. The technical documentation shall make it possible to assess the product's conformity with the applicable requirements of this Regulation and shall include an adequate analysis and assessment of the risk(s). The technical documentation shall specify the applicable requirements and cover, as far as relevant for the assessment, the design, manufacture and operation of the product. The technical documentation shall contain, wherever applicable, the elements set out in Article II.16 of this Annex;
 - d. the supporting evidence for the adequacy of the technical design solution. That supporting evidence shall mention any documents that have been used, in particular where the relevant harmonised standards have not been applied or have not been fully applied. The supporting evidence shall include, where necessary, the results of tests carried out in accordance with other relevant technical specifications by the appropriate laboratory of the manufacturer, or by another testing laboratory on his behalf and under his responsibility.
4. The notified body shall examine the technical documentation and supporting evidence to assess the adequacy of the technical design of the product.

5. The notified body shall draw up an evaluation report that records the activities undertaken in accordance with point 4 and their outcomes. Without prejudice to its obligations as provided in point 8, the notified body shall release the content of that report, in full or in part, only with the agreement of the manufacturer.
6. Where the type meets the requirements of this Regulation that apply to the product concerned, the notified body shall issue an EU-type examination certificate to the manufacturer. That certificate shall contain the name and address of the manufacturer, the conclusions of the examination, the product call if relevant, the aspects of the requirements covered by the examination, the conditions (if any) for its validity and the necessary data for identification of the assessed type. The EU-type examination certificate may have one or more annexes attached.

The EU-type examination certificate and its annexes shall contain all relevant information to allow the conformity of the product with the examined type to be evaluated and to allow for in-service control.

Where the type does not satisfy the applicable requirements of this Regulation, the notified body shall refuse to issue an EU-type examination certificate and shall inform the applicant accordingly, giving detailed reasons for its refusal.

7. The notified body shall keep itself apprised of any changes in the generally acknowledged state of the art which indicate that the approved type may no longer comply with the applicable requirements of this Regulation, and shall determine whether such changes require further investigation. If so, the notified body shall inform the manufacturer accordingly.

The manufacturer shall inform the notified body that holds the technical documentation relating to the EU-type examination certificate of all modifications to the approved type that may affect the conformity of the product with the essential requirements of this Regulation or the conditions for validity of that certificate. Such modifications shall require additional approval in the form of an addition to the original EU-type examination certificate.

8. Each notified body shall inform its notifying authority concerning the EU-type examination certificates and/or any additions thereto which it has issued or withdrawn, and shall, periodically or upon request, make available to its notifying authority the list of such certificates and/or any additions thereto refused, suspended or otherwise restricted.

Each notified body shall inform the other notified bodies concerning the EU-type examination certificates and/or any additions thereto which it has refused, withdrawn, suspended or otherwise restricted, and, upon request, concerning such certificates and/or additions thereto which it has issued.

Each notified body shall inform the Member States of EU-type examination certificates it has issued and/or additions thereto in those cases where harmonised standards the references of which have been published in the *Official Journal of the European Union* have not been applied or not been fully applied. The Member States, the Commission and the other notified bodies may, on request, obtain a copy of the EU-type examination certificates and/or additions thereto. On request, the Member States and the Commission may obtain a copy of the technical documentation and the results of the examinations carried out by the notified body. The notified body shall keep a copy of the EU-type examination certificate, its annexes and additions, as well

as the technical file including the documentation submitted by the manufacturer for 10 years after the product has been assessed or until the expiry of the validity of that certificate.

9. The manufacturer shall keep a copy of the EU-type examination certificate, its annexes and additions together with the technical documentation at the disposal of the national authorities for 10 years after the product has been placed on the market.
10. The manufacturer's authorised representative may lodge the application referred to in point 3 and fulfil the obligations set out in points 7 and 9, provided that they are specified in the mandate.

Module C

Conformity to type based on internal production control

1. Conformity to type based on internal production control is the part of a conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in points 2 and 3, and ensures and declares that the product concerned is in conformity with the type described in the EU-type examination certificate and satisfies the requirements of this Regulation that apply to it.

2. Manufacturing

The manufacturer shall take all measures necessary so that the manufacturing process and its monitoring ensure conformity of the manufactured product with the approved type described in the EU-type examination certificate and with the applicable requirements set out in Appendices I.1 to I.6.

3. CE marking and EU declaration of conformity

- 3.1. The manufacturer shall affix the CE marking and, when relevant, the UA class identification label in accordance with Articles II.14 and 15 of this Annex to each product that is in conformity with the type described in the EU-type examination certificate and satisfies the applicable requirements set out in Appendices I.1 to I.6.
- 3.2. The manufacturer shall draw up a written EU declaration of conformity for each product type and keep it at the disposal of the national authorities for 10 years after the product has been placed on the market. The EU declaration of conformity shall identify the product type for which it has been drawn up.

A copy of the EU declaration of conformity shall be made available to the relevant authorities upon request.

4. Authorised representative

The manufacturer's obligations set out in point 3 may be fulfilled by his authorised representative, on his behalf and under his responsibility, provided that they are specified in the mandate.

Appendix II.3 — CONFORMITY ASSESSMENT MODULE H — CONFORMITY BASED ON FULL QUALITY ASSURANCE
as per Annex II to Decision No 768/2008/EC

1. Conformity based on full quality assurance is the conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in points 2 and 5, and ensures and declares on his sole responsibility that the product concerned satisfies the applicable requirements set out in Appendices I.1 to I.6.

2. **Manufacturing**

The manufacturer shall operate an approved quality system for design, manufacture, final inspection and testing of the product concerned as specified in point 3 and shall be subject to surveillance as specified in point 4.

3. **Quality system**

- 3.1. The manufacturer shall lodge an application for assessment of his quality system with the notified body of his choice, for the product concerned.

The application shall include:

- a. the name and address of the manufacturer and, if the application is lodged by the authorised representative, his name and address as well;
 - b. the technical documentation for each type of product intended to be manufactured. The technical documentation shall contain, wherever applicable, the elements set out in Appendix II.4;
 - c. the documentation concerning the quality system; and
 - d. a written declaration that the same application has not been lodged with any other notified body.
- 3.2. The quality system shall ensure compliance of the product with the requirements of this Regulation.

All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic and orderly manner in the form of written policies, procedures and instructions. That quality system documentation shall permit a consistent interpretation of the quality programmes, plans, manuals and records.

It shall, in particular, contain an adequate description of:

- a. the quality objectives and the organisational structure, responsibilities and powers of the management with regard to design and product quality;
- b. the technical design specifications, including standards, that will be applied and, where the relevant harmonised standards will not be applied in full, the means that will be used to ensure that the requirements of this Regulation will be met;
- c. the design control and design verification techniques, processes and systematic actions that will be used when designing a product pertaining to the product type covered;

- d. the corresponding manufacturing, quality control and quality assurance techniques, processes and systematic actions that will be used;
 - e. the examinations and tests that will be carried out before, during and after manufacture, and the frequency with which they will be carried out;
 - f. the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications of the personnel, etc.;
 - g. the means of monitoring the achievement of the required design and product quality and the effective operation of the quality system.
- 3.3. The notified body shall assess the quality system to determine whether it satisfies the requirements referred to in point 3.2.

It shall presume conformity with those requirements in respect of the elements of the quality system that comply with the corresponding specifications of the relevant harmonised standard.

In addition to experience in quality management systems, the auditing team shall have at least one member experienced as an assessor in the relevant product field and product technology concerned, and knowledge of the applicable requirements of this Regulation. The audit shall include an assessment visit to the manufacturer's premises. The auditing team shall review the technical documentation referred to in point 3.1(b) to verify the manufacturer's ability to identify the applicable requirements of this Regulation and to carry out the necessary examinations with a view to ensuring compliance of the product with those requirements.

The manufacturer or his authorised representative shall be notified of the decision.

The notification shall contain the conclusions of the audit and the reasoned assessment decision.

- 3.4. The manufacturer shall undertake to fulfil the obligations arising out of the quality system as approved and to maintain it so that it remains adequate and efficient.
- 3.5. The manufacturer shall keep the notified body that has approved the quality system informed of any intended change to the quality system.

The notified body shall evaluate any proposed changes and decide whether the modified quality system will continue to satisfy the requirements referred to in point 3.2 or whether a reassessment is necessary.

It shall notify the manufacturer of its decision. The notification shall contain the conclusions of the examination and the reasoned assessment decision.

4. Surveillance under the responsibility of the notified body

- 4.1. The purpose of surveillance is to make sure that the manufacturer duly fulfils the obligations arising out of the approved quality system.
- 4.2. The manufacturer shall, for assessment purposes, allow the notified body access to the design, manufacture, inspection, testing and storage sites, and shall provide it with all necessary information, in particular:
- a. the quality system documentation;

- b. the quality records as provided for by the design part of the quality system, such as results of analyses, calculations, tests, etc.;
 - c. the quality records as provided for by the manufacturing part of the quality system, such as inspection reports and test data, calibration data, reports concerning the qualifications of the personnel, etc.
- 4.3 The notified body shall carry out periodic audits to make sure that the manufacturer maintains and applies the quality system and shall provide the manufacturer with an audit report.
- 4.4. In addition, the notified body may pay unexpected visits to the manufacturer. During such visits, the notified body may, if necessary, carry out UA or UA system tests, or have them carried out, in order to check the proper functioning of the quality system. It shall provide the manufacturer with a visit report and, if tests have been carried out, with a test report.

5. CE marking and EU declaration of conformity

- 5.1. The manufacturer shall affix the CE marking and, when relevant, the UAS class identification label in accordance with Articles II.14 and 15 of this Annex and, under the responsibility of the notified body referred to in point 3.1 of this Appendix, the latter's identification number to each product that satisfies the applicable requirements of this Regulation.
- 5.2. The manufacturer shall draw up a written EU declaration of conformity for each product type and keep it at the disposal of the national authorities for 5 years after the product has been placed on the market. The EU declaration of conformity shall identify the product type for which it has been drawn up.

A copy of the EU declaration of conformity shall be made available to the relevant authorities upon request.

6. The manufacturer shall, for a period ending 5 years after the product has been placed on the market, keep at the disposal of the national authorities:
- a. the technical documentation referred to in point 3.1;
 - b. the documentation concerning the quality system referred to in point 3.1;
 - c. the change referred to in point 3.5, as approved;
 - d. the decisions and reports of the notified body referred to in points 3.5, 4.3 and 4.4.
7. Each notified body shall inform its notifying authority of quality system approvals issued or withdrawn, and shall, periodically or upon request, make available to its notifying authority the list of quality system approvals refused, suspended or otherwise restricted.

Each notified body shall inform the other notified bodies of quality system approvals which it has refused, suspended or withdrawn, and, upon request, of quality system approvals which it has issued.

8. Authorised representative

The manufacturer's obligations set out in points 3.1, 3.5, 5 and 6 may be fulfilled by his authorised representative, on his behalf and under his responsibility, provided that they are specified in the mandate.



Appendix II.4 — CONTENTS OF TECHNICAL DOCUMENTATION

The technical documentation shall, wherever applicable, contain at least the following elements:

1. a general description of the product including:
 - a. photographs or illustrations showing external features, marking and internal layout;
 - b. versions of software or firmware affecting compliance with essential requirements;
 - c. user information and installation instructions;
2. conceptual design and manufacturing drawings and schemes of components, sub-assemblies, circuits and other relevant similar elements;
3. descriptions and explanations necessary for the understanding of those drawings and schemes and the operation of the product;
4. a list of the harmonised standards applied in full or in part the references of which have been published in the Official Journal of the European Union, and, where those harmonised standards have not been applied, descriptions of the solutions adopted to meet the essential requirements set out in Article 3, including a list of other relevant technical specifications applied. In the event of partly applied harmonised standards, the technical documentation shall specify the parts which have been applied;
5. copy of the EU declaration of conformity;
6. where the conformity assessment module in Annex III has been applied, copy of the EU-type examination certificate and its annexes as delivered by the notified body involved;
7. results of design calculations made, examinations carried out, and other relevant similar elements;
8. test reports;
- (i) the supporting evidence for the adequacy of the technical design solution. This supporting evidence shall mention any documents that have been used, in particular where the relevant harmonised standards and/or technical specifications have not been applied in full. The supporting evidence shall include, where necessary, the results of tests carried out by the appropriate laboratory of the manufacturer, or by another testing laboratory on his behalf and under his responsibility.

Appendix II.5 — EU DECLARATION OF CONFORMITY

1. Product (type, batch or serial number):
 2. Name and address of the manufacturer or his authorised representative:
 3. This declaration of conformity is issued under the sole responsibility of the manufacturer.
 4. Object of the declaration [*identification of the UA or UAS allowing traceability; it may include a colour image of sufficient clarity where necessary for the identification of the unmanned aircraft or unmanned aircraft system*].
 5. The object of the declaration described above is of Class [*include the class number of the product as defined by Annexes I.1 to I.5 to this Regulation*]
 6. The object of the declaration described above is in conformity with the relevant Union harmonisation legislation Regulation:
 - [*include the reference to this Regulation and the Annex relevant to the class of the Product*].
 - Or other Union harmonisation legislation where applicable
 7. References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared. References must be listed with their identification number and version and, where applicable, date of issue:
 8. Where applicable, the notified body ... [*name, number*] ... performed ... [*description of intervention*] ... and issued the EU-type examination certificate: ...
 9. Where applicable, description of accessories and components, including software, which allow the unmanned aircraft or unmanned aircraft system to operate as intended and covered by the EU declaration of conformity:
 10. Additional information:
- Signed for and on behalf of: ...
- [*place and date of issue*]:
- [*name, function*] [*signature*]:

Appendix II.6 — SIMPLIFIED EU DECLARATION OF CONFORMITY

The simplified EU declaration of conformity referred to in Article 10(9) shall be provided as follows:

Hereby, *[Name of manufacturer]* declares that the UA *[system]* type *[designation of type of UA or UA system]* is:

- of Class *[include the class number of the product as defined by the Annexes I.1 to I.4 of this Regulation]*
- and in compliance with Regulations ...*[list all the Regulations the product is complying with]*.



3.2. Draft acceptable means of compliance and guidance material (Draft EASA decision)

3.2.1 AMC/GM to the draft cover regulation

GM1 Article 2(1)(d) Definition of ‘autonomous operation’

The definition of ‘autonomous operation’ does not include flight phases during which the remote pilot loses their ability to intervene in the course of the aircraft either following the implementation of emergency procedures or due to loss of the command-and-control connection.

GM1 Article 3 Responsibilities of the unmanned aircraft system (UAS) operator and remote pilot

The respective responsibilities of the UAS operator and its remote pilots are defined in UAS.OPEN.10, UAS.OPEN.30, UAS.SPEC.10, and UAS.SPEC.30.

GM1 Article 6 Designation of the competent authority

Member States may designate an entity as a competent authority for specific tasks only.

AMC1 Article 7 Oversight

- (a) The competent authority should verify continued compliance with the requirements of Regulation (EU) 201X/XXX²⁶ by organisations it has authorised or certified, as well as by organisations from which it has received a declaration.
- (b) This verification should include scheduled audits and inspections in accordance with an established and approved oversight programme. In addition, the verification should include unscheduled inspections of specific operators where the competent authority, on the basis of an occurrence-reporting scheme or schemes, or information received from other competent authorities, considers that conducting such inspection is necessary to restore compliance with Regulation (EU) 201X/XXX.
- (c) When exercising oversight, the competent authority of a Member State should take into account the activity conducted by any UAS operator in its territory, as well as the activity conducted in other Member States by UAS operators who have their principal place of business or are residing in its territory. In the latter case, the competent authority should coordinate the audit and inspection schedule with all the other competent authorities involved.
- (d) The competent authority should collect and process any information deemed useful for oversight.
- (e) The competent authority should provide its inspecting personnel with all legislative acts, standards, rules, technical publications, and related documents in order to allow them to perform their tasks and to discharge their responsibilities.

²⁶ This and all subsequent occurrences in this Section 3.2, refer to a new Commission Regulation amending Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1).

AMC2 Article 7 Oversight programme

- (a) The oversight programme should be developed on a yearly basis. Any operator should be included into the programme not later than 12 months after the date on which the competent authority has received the operator's first declaration or has issued an authorisation or a LUC. At least one inspection should be performed within a further 24-month period.
- (b) When establishing the oversight programme, the competent authority should select the operators to be inspected or audited based on:
 - (1) for declared organisations, the results of past audits and inspections, including unscheduled inspections, as well as the assessment of risks identified during the UAS operations conducted in the Member State of the competent authority, or identified by other authorities involved;
 - (2) for organisations holding an operational authorisation, the results and validity of past authorisation processes, the results of past audits and inspections, including unscheduled inspections, as well as the assessment of risks identified during the UAS operations conducted in the Member State of the competent authority, or identified by other authorities involved; and
 - (3) for organisations holding a LUC, the results of past certification processes, the results of past audits and inspections, including unscheduled inspections, as well as the assessment of risks identified during the UAS operations conducted in the Member State of the competent authority, or identified by other authorities involved.
- (c) The oversight programme should include a schedule of the dates when audits and inspections are due, as well as records of the dates when such audits and inspections have been carried out.

AMC3 Article 7 Oversight programme — audit and inspection

- (a) Audits and inspections may be conducted separately or in combination.
- (b) For each selected operator, an inspection is a sample inspection in accordance with the predefined inspection criteria on the basis of key risk elements and relevant requirements.
- (c) At the conclusion of the audit or inspection, the inspector should complete a report where each non-compliance should be recorded. The competent authority should provide the persons and organisations concerned with the results of its safety oversight.
- (d) The number or magnitude of cases of non-compliance identified by the competent authority may either support that authority's continuing confidence in the organisation's competence, or lead to an erosion of that confidence, and subsequently to an increase of the scale and frequency of oversight over specific operators.

AMC4 Article 7 Oversight programme — follow-up

- (a) Following an audit or inspection, the competent authority should be satisfied that the UAS operator has identified the root cause(s) of the non-compliance and has taken the appropriate corrective action to correct the non-compliance and to prevent reoccurrence.

- (b) The competent authority should prohibit or limit activities of the UAS operator, and, where relevant, take action to suspend, amend or revoke an operational authorisation or a LUC certificate, or impose other lawful measures or sanctions, where the UAS operator has failed to implement a corrective action appropriate to the nature of the non-compliance within a specified time frame.
- (c) The time frame for the UAS operator's implementation of a corrective action should be no longer than three months unless this period has been extended by the competent authority based on a corrective action plan developed by the UAS operator concerned.

GM Article 7 Oversight programme — audit and inspection

- (a) 'Audit' means a systematic, independent and documented process performed by the competent authority of the Member State of registration of the UAS operator for obtaining evidence and evaluating it objectively to determine the extent to which the UAS operator complies with the applicable requirements.
- (b) 'Inspection' means an independent and documented conformity evaluation performed by the competent authority by observation and judgement, accompanied, as appropriate, by measurement, testing or gauging to verify compliance with the applicable requirements. It may be performed either by the competent authority of the Member State of registration of the UAS operator or by the competent authority of the Member State where the operation takes place.
- (c) Competent authorities may perform unscheduled inspections of all UAS operators conducting operations in their Member State. In case the inspected UAS operator is registered in a different Member State, the competent authority performing the inspection should inform the competent authority of the Member State of registration of the outcome of the inspection.

GM1 Article 9 Exchange of safety information

Cooperation between competent authorities should be organised pursuant to Article 61 of Regulation (EU) 2017/XXX. Cooperation between market surveillance authorities and the exchange of safety-related and non-compliance information should be organised pursuant to Regulation (EC) No 765/2008. Article 9 of Regulation 201X/XXX intends to help organise the information flow and cooperation between competent authorities on the one hand and between market surveillance authorities on the other.

Cooperation should be organised primarily at Member State level. All competent authorities concerned should make best use of the information systems defined in Articles 22 'Exchange of information — Community Rapid Information System' and 23 'General information support system' of Regulation (EC) No 765/2008, as well as of the occurrence-reporting system of Regulation (EU) No 376/2014.

GM1 Article 12 Airspace areas or special zones for UAS operations

Article 12 of Regulation (EU) 201X/XXX should be considered as a tool for Member States to allow them flexibility to define zones over their territory where only certain categories of UAS operation may be conducted. This includes defined areas where UAS operations are limited to commercial or leisure ones or where some equipment, such as geofencing or electronic identification systems, is mandatory. Moreover, Member States may define zones where:

- (a) UAS only are admitted; or
- (b) UAS, remote pilot or operator may be exempted from certain requirements; or
- (c) operational limitations are extended.

When defining those zones, their extent should be considered in 3D (horizontal and vertical).

It should be considered that a UAS operator may not be familiar with the aviation regulations and procedures. Therefore, the information on zones should be made available to all UAS operators in a manner simple to access and understand; the information on the zones of a Member State in particular should be made all available in a single source.

Member States should ensure that aeronautical information provided through the aeronautical information service (AIS) is consistent with the airspace areas or special zones for UAS operations.

AMC1 Article 12 Information on airspace areas and special zones for UAS operations

[To be developed.]

GM1 Article 14 Hobbyist flights

Hobbyists have the following options to conduct their operations:

- They operate as members of a model club or association that has received from the competent authority an operational authorisation, as defined in Article 14 of Regulation (EU) 201X/XXX. In this case, they should comply with the procedures of the model club or association in accordance with the operational authorisation. The operational authorisation should define all deviations from the aforementioned Regulation allowed to the model club's or association's members, including the requirement to register individual unmanned aircraft (UA).
- In accordance with Article 12 of said Regulation, Member States may define zones where UAS are exempted from certain requirements, and/or where the operational limitations are extended. They may also define a different height limitation for those zones.
- Operations may be conducted in Subcategory A3 where UA with no technical requirements are allowed. In this case, hobbyists are required to comply with the limitations of, and demonstrate the competence defined in, UAS.OPEN.60.

GM1 Article 15 Recognition of competences demonstrated before the applicability date

UAS operations are already conducted by many remote pilots (including military) in different Member States following their national rules. Member States should define a system to accept already demonstrated remote-pilot competence within the requirements of Regulation (EU) 201X/XXX.

3.2.2 AMC to Part-UAS

SUBPART A — Open category

AMC1 UAS.OPEN.10(a) Policy and procedures

If a UAS operator employs more than one pilot, the UAS operator should:

- develop a safety policy and procedures for UAS operation; and
- compile and maintain a list of personnel with assigned duties.

AMC1 UAS.OPEN.10(b) Physical and mental condition

Remote pilots and all other personnel should not operate when under the influence of psychoactive substances or alcohol or when unfit to perform their task(s) due to injury, fatigue, medication, sickness or other similar causes.

GM1 UAS.OPEN.10(c) EU declaration of conformity

When purchasing a UAS also through online distributors, the UAS operator should verify the conformity of the UAS with the requirements of Regulation (EU) 201X/XXX. The verification should be accomplished by checking that the UAS is accompanied by the EU certificate of conformity, defined in Appendix II.5 to Annex II to said Regulation, which should contain the same CE Class mark as the one labelled on the UA (i.e. Class C0, Class C1, or Class C2).

AMC1 UAS.OPEN.20(a) Registration form

The UAS operator should complete the registration process online and provide at least the following:

- (a) its name or the business name, if a company, and mailing address;
- (b) if it is an organisation, the statement: 'All personnel directly involved in the operations are competent to perform their tasks, and the UAS will be operated only by remote pilots with the appropriate level of competence'; and
- (c) when the UAS has to be registered:
 - (1) if the UAS is made available on the market:
 - (i) the name of the UAS manufacturer;
 - (ii) the UAS type; and
 - (iii) the UAS serial number, if available; and
 - (2) if a privately built UAS:
 - (i) the UA mass (maximum take-off mass (MTOM));
 - (ii) its main dimensions;
 - (iii) the frequency bandwidth and emitting power of the data link system;
 - (iv) the type of propulsion;
 - (v) the type and capacity of the battery or type and maximum quantity of fuel;

- (vi) the type of guidance, navigation, and control system (GNCS) and its main functions (manual, semi-automatic, automatic); and
- (vii) a list of other dangerous material on board.

GM1 UAS.OPEN.20(b)&(c) Registration

Registration of the UAS operator is not required when operating a UAS with an MTOM, including payload, of less than 250 g, including:

- UA put on the market and bearing a Class C0 mark; and
- other UAS privately built or not bearing a UAS Class mark.

However, the operator has to register the UA when it operates:

- a UAS bearing a Class C2 mark; or
- other UAS privately built or not bearing a UAS Class mark, with an MTOM, including payload, of more than 900 g.

AMC1 UAS.OPEN.20(e) Display of registration information

- (a) If the UAS operator owns the UAS, it should display on the UA the registration information received at the end of the registration process in a way that this information is readable at least when the UA is on the ground without the need of any devices other than eyeglasses or corrective lenses.
- (b) If the UA size does not allow displaying the mark in a visible way on the fuselage, the marking inside the battery compartment is acceptable if the compartment is accessible. Any method to affix the number which ensures that it remains visible may be used, including a permanent marker, a label, or an engraving.
- (c) If a company owns UAS to be rented, the owner should register each UA in accordance with UAS.OPEN.20. The owner of the UAS should keep a record of the renter's data at least for a period of two years and make it available to the competent authority, if requested.
- (d) If a UAS operator uses a UAS owned by a third party, the UAS operator operating the UAS:
 - (1) in case of a short-term lease (less than 30 days), may conduct the operation using the owner's registration; and
 - (2) in case of a long-term lease (30 days or more), should display its registration information on the UA.

AMC1 UAS.OPEN.20(f) Renewal of registration

The renewal of the registration is subject to the confirmation by the UAS operator of the registration's data.

AMC1 UAS.OPEN.30(a)(1) Ability to take control of the UA

- (a) Except in case of lost-link conditions, the remote pilot should be at any time able to take control of the UA. Autonomous operation is not allowed in the open category.

- (b) The remote pilot should:
 - (1) be focused on the operation of the UA, as appropriate;
 - (2) not operate a UAS while they are operating a moving vehicle; and
 - (3) operate only one UA at a time.

AMC1 UAS.OPEN.30(b)(1) Obtaining updated information about any flight restrictions or conditions published by the Member State

The remote pilot should check any condition that may affect the UAS operation, such as airspace structure and limitations.

Information on airspace structure and limitations may be obtained from the relevant aeronautical information publication (AIP) (usually available online), or through dedicated service providers (e.g. by using an application or any other electronic means). Flight restrictions include limited zones for UA or no-UA zones, as defined in Article 12 of Regulation (EU) 201X/XXX.

AMC1 UAS.OPEN.30(b)(2) Operating environment

- (a) The remote pilot should check any condition that might affect the UAS operation, such as locations of people, property, vehicles, public roads, obstacles, critical infrastructures, and any other element that may pose a risk to the safety of the UAS operation.
- (b) Familiarisation with the environment and obstacles should be conducted through a survey of the area where the operation is intended to be performed.
- (c) It should be verified that the weather conditions at the time when the operation starts and expected for the entire period of the operation are compatible with those defined in the manufacturer's manual.

AMC1 UAS.OPEN.30(b)(3) Ensuring that the UAS is in a safe condition to complete the intended flight

- (a) The remote pilot should:
 - (1) when required by the zone of operation, update the UAS with geofencing data;
 - (2) check that the UAS complies with the instructions provided by the manufacturer;
 - (3) check that the UA has enough power or fuel for the intended operation based on:
 - (i) the level of charge of the battery/batteries, or the quantity of usable fuel, as applicable;
 - (ii) the planned operation; and
 - (iii) the need for extra energy in case of unpredictable events; and
 - (4) for UAS equipped with a loss-of-data-link recovery function, ensure that the recovery function allows a safe recovery of the UAS for the envisaged operation; for programmable loss-of-data-link recovery functions, the remote pilot may have to set up the parameters of this function to adapt it to the envisaged operation.

- (b) When the remote pilot familiarises themselves with the operating environment, they should consider the weather conditions (including forecast), the light conditions, and eventual sources of electromagnetic energy, which may cause undesirable effects, such as electromagnetic interference (EMI) or physical damage to the UAS operational equipment.

AMC1 UAS.OPEN.30(c)(2) Ensuring the safe operation of the UA

A safe operation of the UA should be ensured by:

- (a) maintaining a safe distance of the UA from uninvolved people, property, vehicles, and other airspace users such that they are not endangered by the UAS operation;
- (b) avoiding manoeuvres that endanger the safe operation of the UAS; and
- (c) discontinuing a flight when continuing the flight may pose a hazard to other aircraft, people or properties.

AMC1 UAS.OPEN.30(c)(6) Operations in first-person view (FPV)

Operations in FPV can be conducted only in case the remote pilot is assisted by a UA observer positioned in their proximity, able to provide effective directions to the remote pilot in order to keep separation between the UA and any obstacles, including other air traffic. During FPV operations, the remote pilot is still responsible for the safety of the flight.

GM1 UAS.OPEN.30(c)(7) Dangerous goods

‘Dangerous goods’ means articles or substances capable of posing a risk to health, safety, property or the environment, included in the list of dangerous goods of the ‘Technical Instructions’, or classified as such in accordance with said document. ‘Technical Instructions’ means the latest effective edition of International Civil Aviation Organization (ICAO) Doc 9284 ‘Technical Instructions for the Safe Transport of Dangerous Goods by Air’, including its Supplement and any Addenda/Corrigenda thereto.

AMC1 UAS.OPEN.30(c)(8) Emergency response effort

- (a) ‘Emergency response’ is an action taken in response to an unexpected and dangerous occurrence in an attempt to mitigate its impact on people, property or the environment.
- (b) A UA flight in the vicinity of a site where there is an emergency response should be immediately discontinued unless explicitly authorised or requested by the responsible emergency response services. Otherwise, a safe distance must be maintained between the UA and the emergency response site such that the UA does not interfere with, or endanger, the activities of the emergency response services. Particular care must be taken to protect the privacy rights of casualties.

GM1 UAS.OPEN.30(c)(9) Respect of other people’s fundamental rights

In order to respect other people's right to privacy, UA should not be flown at an altitude of less than 20 m over private property without the owner’s consent.

When the UA is equipped with a camera, the remote pilot should not continuously and/or intentionally film a person without the person’s explicit permission.

AMC1 UAS.OPEN.40(a)(2)&(3) and UAS.OPEN.50(b) Modification of a UAS with a CE Class mark

UAS operators should not make modifications to a UAS Class C0, C1 or C2 such that breach compliance with the product requirements. In case of modification, the UAS is considered to be without a CE Class mark and it may only be operated in Subcategory A3, or in the specific category in accordance with Subpart B of Annex I to Regulation (EU) 201X/XXX.

AMC1 UAS.OPEN.40(b)(1) Operational limitations

The remote pilot should reduce as much as possible the time of the UA overflying persons, and when flying close to or over people, the UA should not fly below 3 m from ground level.

AMC1 UAS.OPEN.40(b)(5)(i) and UAS.OPEN.60(e)(1) Basic competence of the remote pilot to operate in Subcategory A1 and A3

The acquisition of the basic competence of the remote pilot, required for UAS operation in Subcategory A1 and A3, should be supported by an online training tool covering the following elements:

- (a) Regulation (EU) 201X/XXX and other relevant EU regulations on privacy and security with regard to:
 - (1) non-reckless behaviour, important safety precautions for UAS operations, and basics on dangerous goods.
 - (2) visual line of sight (VLOS), which entails:
 - (i) keeping a safe distance from people, property, vehicles, and other airspace users;
 - (ii) a specific code of conduct in case of encountering other traffic;
 - (iii) respecting the height limitation(s); and
 - (iv) using a UA observer;
 - (3) obtaining updated information about any flight restrictions or conditions published by the Member State, such as:
 - (i) an overview of the low-level airspace structure affecting UAS operations; and
 - (ii) no-UA zones or limited zones for UA;
 - (4) familiarising themselves with the operating environment;
 - (5) emergency procedures (e.g. lost-data-link connection) and what to do in case of an event causing fatal or serious injury to a person, or when an aircraft other than a UA is involved (occurrence reporting); and
 - (6) weather information sources and the effect of this information on the performance of small UA;
- (b) an understanding of the privacy risks;
- (c) an understanding of the security risks;
- (d) an understanding of the UAS categories and their operational limitations;

- (e) familiarisation with the instructions provided by the manufacturer for the operation of a UAS, and in particular with regard to:
 - (1) an overview of the main UAS parts;
 - (2) getting to know the remote control or transmitter;
 - (3) controlling the UAS;
 - (4) features affecting the safety of flight;
 - (5) the preflight checklist to verify that the UA is in a safe condition;
 - (6) getting the UA off the ground;
 - (7) hovering in mid-air, when applicable, and landing the UA;
 - (8) flying basic patterns with the UA; and
- (f) finding a suitable area to conduct the familiarisation flights and learn how to fly the particular UAS.

AMC1 UAS.OPEN.50(e)(1) Competences required for the remote pilot to obtain the certificate of competence

- (a) Before starting an operation in Subcategory A2, a remote pilot should hold a certificate of competence (CoC) issued by the competent authority after they demonstrate this competence by successfully completing a theoretical test in an entity approved by the competent authority. In addition to the basic competence defined in AMC1 UAS.OPEN.40(b)(5)(i) and UAS.OPEN.60(d)(1), and demonstrated through an online test, the remote pilot should demonstrate the following:
 - (1) perform as the remote pilot of a UA with a degree of competence appropriate to the UAS;
 - (2) understand the increased safety risk linked with a UAS operation;
 - (3) assess the ground risk related to the environment where the operation takes place as well as to flying in proximity to people; and
 - (4) understand how weather conditions may affect the UA performance, thus:
 - (i) operating the UA within its limitations;
 - (ii) completing all manoeuvres with smoothness and accuracy; and
 - (iii) maintaining control of the UA at all times in a manner to ensure the successful outcome of a procedure or manoeuvre.
- (b) An applicant for a CoC may receive competence-based training at a declared training organisation (DTO) or train themselves.

GM1 UAS.OPEN.50(e)(1) Competences required for the remote pilot to obtain the certificate of competence

The remote pilot may obtain the CoC in the following two ways:

Competence-based training

The competence-based training covers aspects related to non-technical skills in an integrated manner, taking into account the particular risks associated with the UAS operations.

The competence-based training should be developed using the analysis, design, development, implementation, evaluation (ADDIE) principles.

Self-study

The remote pilot may undertake self-study in many ways for obtaining the certificate of competence. The purpose of this self-study is to acquire some basic competence and familiarise themselves with the UA as well as with the UA operations they want to conduct.

Examples of self-study:

- (a) reading the manual or leaflet provided by the UA manufacturer;
- (b) reading related information or watching instruction films; and
- (c) getting information from others that have already experience in flying a UA.

The remote pilot may also undertake this study as a classroom training, e-learning or similar training at a training organisation, including DTOs or approved training organisations (ATOs). Since this training is not mandated by the Member States, the national aviation authorities (NAAs) are not required to approve the training syllabus even if this training is provided by ATOs.

GM1 UAS.OPEN.50(b) and UAS.OPEN.60(b) Uninvolved persons

‘Uninvolved persons’ means anyone not directly taking part to a UAS operation. Due to the huge variety of possible circumstances, this GM provides only general guidelines. An involved person is someone who can reasonably be expected to follow directions and safety precautions given by the person controlling the operation, in order to avoid unplanned interactions with the UA.

Spectators or any other people gathered for sport activities or other mass public events that do not occur for the purpose of the UAS operation are generally considered to be ‘uninvolved persons’.

In principle, in order to be considered an ‘involved person’, one should:

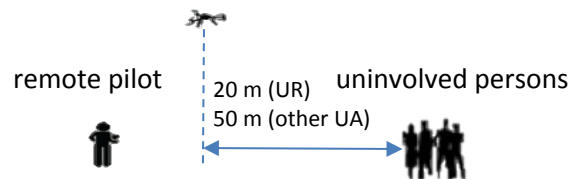
- be able to decide to participate or not to participate in the UAS operation;
- broadly understand the risks involved;
- have reasonable safeguards during the UAS operations, introduced by the site manager and aircraft operator; and
- not be restricted from taking part in the event or activity if they decide not to participate in the UAS operation.

An example: if filming with a UAS at a large music festival or public event, it is not sufficient for the audience or anyone present to be informed of the UAS filming via a public address system, or via a statement on the ticket, or in advance by email or text message. Those types of communication channels do not satisfy the points above. In order to be considered an involved person, each person should be asked for their permission and made aware of the possible risk(s).

AMC1 UAS.OPEN.50(b) Safe distance from uninvolved persons

The minimum horizontal distance of the UA from uninvolved persons should be defined as the distance between the point where the UA would hit the ground in case of vertical fall and the position of the uninvolved persons. The safe distance of the UA from uninvolved person is variable and heavily dependent on the type of UAS operation and the UAS involved. The remote pilot is ultimately responsible for the determination of this distance.

An rotary-wing UAS should be kept at least 20 m away from uninvolved persons, and all other UA should be kept at least 50 m away from uninvolved persons.

**AMC1 UAS.OPEN.60(b) Operations in Subcategory A3**

- (a) Operations in Subcategory A3 may be conducted with UAS:
- (1) bearing a Class C0 marking, required to comply with the technical requirements of Appendix I.1 to Annex I to Regulation (EU) 201X/XXX;
 - (2) bearing a Class C1 marking, required to comply with the technical requirements of Appendix I.2 to Annex I to Regulation (EU) 201X/XXX;
 - (3) bearing a Class C2 marking, required to comply with the technical requirements of Appendix I.3 to Annex I to Regulation (EU) 201X/XXX;
 - (4) bearing a Class C3 marking, required to comply with the technical requirements of Appendix I.4 to Annex I to Regulation (EU) 201X/XXX;
 - (5) bearing a Class C4 marking, required to comply with the technical requirements of Appendix I.5 to Annex I to Regulation (EU) 201X/XXX; and
 - (6) privately built.
- (b) UAS in this Subcategory are not intended to be operated in congested areas or close to aerodromes or over uninvolved persons.
- (c) The remote pilot should assess that reasonably, no uninvolved person will be present in the area and airspace where the UA is intended to be flown, during the entire time of the UAS operation.
- (d) When the operation is conducted with a privately built UAS or UAS Class C4, the remote pilot should keep the UA at a safe distance from the boundaries of congested areas or aerodromes such that no third party is endangered in case of UA malfunction or loss of control. The safe distance should be determined based on the actual performance of the UA.
- (e) Should a person incidentally enter the visual range of the remote pilot, the remote pilot should avoid overflying the person, and discontinue the operation when the safety of the UAS operation is not ensured.

AMC1 UAS.OPEN.70(a) Renewal of basic competence

[To be developed.]

AMC1 UAS.OPEN.70(b) Renewal of certificate of competence

[To be developed.]



SUBPART B — Specific category**AMC1 UAS.SPEC.10(a) Policy and procedures**

If a UAS operator employs more than one pilot, the UAS operator should:

- develop a safety policy and procedures for UAS operation; and
- compile and maintain a list of personnel with assigned duties.

The UAS operator should allocate functions and responsibilities in accordance with the level of autonomy of the UAS during the operation.

AMC1 UAS.SPEC.10(b) Physical and mental condition

See AMC1 UAS.OPEN.10(b).

AMC1 UAS.SPEC.10(d) Logging of flight activities and record-keeping

The logbook may be electronic.

The information to be recorded should be indicated in the standard scenario or the operational authorisation, which may include the following:

- the identification of the UAS;
- the date, time, and location of the take-off and landing;
- the total number of flight hours/cycles;
- in case of remotely-piloted operations, the name of the remote pilot responsible for the flight;
- any significant incident or accident that occurred during the operation;
- a completed preflight inspection;
- any defects and rectifications;
- any repairs and changes to the UAS configuration; and
- the information required by UAS.SPEC.110.

Records shall be stored for two years in a manner that ensures protection from unauthorised access, damage, alteration, and theft.

AMC1 UAS.SPEC.15(c) Action in case of operations/flights exceeding the conditions and limitations defined in the operational authorisation

When the model club and/or association is informed that a member exceeded the conditions and limitations defined in the operational authorisation, appropriate measures should be taken, proportionate to the risk posed, to make sure that a similar event will not happen again. Considering the level of risk, the model club and/or association should decide if the competent authority should be informed. In any case, occurrences that caused an injury to any person or damage to any property, vehicle, or aircraft involved other than UA, as defined in Article 125 of Regulation (EU) 2017/XXX, should be reported.

AMC1 UAS.SPEC.20 Registration of model aircraft

Model club and/or associations may fulfil the UAS registration requirement on behalf of their members, and provide the related data to the entity designated for that purpose by the Member State. The UAS operational authorisation issued by the competent authority in accordance with Article 14 of Regulation (EU) 201X/XXX may include deviations from UAS.OPEN.20.

AMC1 UAS.SPEC.20(a)(1) Registration form

See AMC1 UAS.OPEN.20(a).

AMC1 UAS.SPEC.20(a)(3) Display of registration information

See AMC1 UAS.OPEN.20(e).

AMC1 UAS.SPEC.20(b) Renewal of registration

See AMC1 UAS.OPEN.20(f).

AMC1 UAS.SPEC.30(b)(1) Obtaining updated information about any flight restrictions or conditions published by the Member State

The remote pilot, or the operator in case of autonomous operations, should check any condition that may affect the UAS operation, such as airspace structure and limitations.

Information on airspace structure and limitations may be obtained from the relevant AIP (usually available online), or through dedicated service providers (e.g. by using an application or any other electronic means). Flight restrictions include limited zones for UA or no-UA zones, as defined in Article 12 of Regulation (EU) 201X/XXX.

AMC1 UAS.SPEC.30(b)(2) Operating environment

- (a) The remote pilot, or the operator in case of autonomous operations, should check any condition that might affect the UAS operation, such as locations of people, property, vehicles, public roads, obstacles, critical infrastructures, and any other element that may pose a risk to the safety of the UAS operation.
- (b) Familiarisation with the environment and obstacles should be conducted through a survey of the area where the operation is intended to be performed.
- (c) It should be verified that the weather conditions at the time when the operation starts and expected for the entire period of the operation are compatible with those defined in the manufacturer manual as well as with the operational authorisation or declaration, as applicable.

AMC1 UAS.SPEC.30(b)(3) Ensuring that the UAS is in a safe condition to complete the intended flight

- (a) The remote pilot, or the operator in case of autonomous operations, should:
 - (1) when required by the zone of operation, update the UAS with geofencing data;
 - (2) ensure that the UAS complies with the instructions provided by the manufacturer;
 - (3) ensure that the UA has enough power or fuel for the intended operation based on:

- (i) the level of charge of the battery/batteries, or the quantity of usable fuel, as applicable;
 - (ii) the planned operation; and
 - (iii) the need for extra energy in case of unpredictable events; and
- (4) for UAS equipped with a loss-of-data-link recovery function, ensure that the recovery function allows a safe recovery of the UAS for the envisaged operation; for programmable loss-of-data-link recovery functions, the remote pilot may have to set up the parameters of this function to adapt it to the envisaged operation.
- (b) When the remote pilot familiarises themselves with the operating environment, they should consider the weather conditions (including forecast), the light conditions, and eventual sources of electromagnetic energy, which may cause undesirable effects, such as electromagnetic interference (EMI) or physical damage to the UAS operational equipment.

AMC1 UAS.SPEC.30(c)(2) Ensuring the safe operation of the UA

A safe operation of the UAS should be ensured by:

- (a) maintaining a safe distance of the UA from uninvolved people, property, vehicles, and from other airspace users;
- (b) avoiding manoeuvres that endanger the safe operation of the UAS; and
- (c) discontinuing a flight when continuing the flight may pose a hazard to other aircraft, people or properties.

AMC1 UAS.SPEC.30(c)(5) Emergency response effort

- (a) 'Emergency response' is an action taken in response to an unexpected and dangerous occurrence in an attempt to mitigate its impact on people, property or the environment.
- (b) A UA flight in the vicinity of a site where there is an emergency response should be immediately discontinued unless explicitly authorised or requested by the responsible emergency response services. Otherwise, a safe distance must be maintained between the UA and the emergency response site such that the UA does not interfere with, or endanger, the activities of the emergency response services. Particular care must be taken to protect the privacy rights of casualties.
- (c) For autonomous operations, as soon as the UAS operator is informed of any emergency response effort, active in the path that the UA is planned to follow, the UAS operator should take appropriate action to modify the path of the UA in a way that the emergency response activity or any other third party is not endangered.

GM1 UAS.SPEC.30 Level of autonomy and guidelines for human-autonomy interaction

[To be developed.]

GM1 UAS.SPEC.30(c)(6) Respect of other people's fundamental rights

See GM1 UAS.OPEN.30(c)(9).

AMC1 UAS.SPEC.40 Operational risk assessment

The operational risk assessment should be performed following the specific operations risk assessment (SORA) methodology. See also the related JARUS Working Group 6 (WG-6) document under development.

The UAS operator shall define the usage spectrum of the operational risk assessment, assess the risk, and identify appropriate mitigation measures including but not limited to technical requirements, operational requirements, and operational limitations, as well as remote-pilot competence requirements and medical requirements.

GM1 UAS.SPEC.40 Standard scenarios

Standard scenarios may be proposed to the Agency by competent authorities, by UAS operators, by manufacturers or by standardisation bodies. The operational risk should be assessed using the SORA or an equivalent methodology. After the Agency has evaluated the standard scenario, it may issue this standard scenario as a separate AMC to Regulation (EU) 201X/XXX.

AMC1 UAS.SPEC.50(a) Operational-declaration form

The standard scenario should include the operational-declaration form that the UAS operator is required to submit to the competent authority.

The form should include the following information:

- (a) the identification of the UAS operator and of the UA (registration information);
- (b) the name of the accountable manager or the owner in the case of a private UAS operation;
- (c) a description of the UAS including its performance relevant for the operation;
- (d) a reference to the standard scenario under which the declaration is submitted;
- (e) a description of the intended use of the UAS (i.e. the concept of the operation or the type of locations with reference to the ground and air risk);
- (f) the list of mitigation measures put in place by the UAS operator, as required by the standard scenario; and
- (g) reference(s) to any document required by the standard scenario.

The standard scenario should define if the location may be generically described (e.g. dependent on the characteristics of the area overflown, the type of airspace, etc.) based on the concept of the operation.

The UAS operator should submit the document(s) indicated in point (f) together with the declaration form.

The operational declaration should include the following:

- all information relevant to the intended UAS operation(s);
- a statement of compliance with the limitations and conditions applicable to the relevant standard scenario; and
- a signed acknowledgement of the UAS operator's responsibility under Regulation (EU) 201X/XXX.

AMC2 UAS.SPEC.50(a) Standard scenario involving an operational declaration

[To be developed.]

GM1 UAS.SPEC.50(c) Operations conducted in a Member State other than the Member State of registration

When the UAS operation subject to an operational declaration takes place in a Member State other than the Member State of registration of the UAS operator, the UAS operator should take into account the applicable local conditions and regulations.

The operator should submit the declaration to both the competent authority of the Member State of registration and the competent authority of the Member State where the operation takes place.

The competent authority of the Member State of registration has the responsibility to verify that the declaration contains all required information and documents.

GM1 UAS.SPEC.50(e) Significant changes to the operational declaration

[To be developed.]

AMC1 UAS.SPEC.60(a) Operational-authorisation application form

The standard scenario should include the operational-authorisation application form that the UAS operator is required to submit to the competent authority.

The form should include the following information:

- (a) the identification of the UAS operator and of the UA (registration information);
- (b) the name of the accountable manager or the owner in the case of a private UAS operation;
- (c) a description of the UAS including its performance relevant for the operation;
- (d) a reference to the standard scenario under which the application is submitted, if applicable;
- (e) a description of the proposed operation of the UAS (i.e. the concept of the operation);
- (f) if the operation is included in a standard scenario, all the documentation required by the standard scenario;
- (g) if the operation is not included in a standard scenario, an operational risk assessment as per UAS.SPEC.40;
- (h) the list of mitigation measures put in place by the UAS operator, as required by the standard scenario or proposed by the UAS operator if no standard scenario is available; and
- (i) the location(s) where the operation is intended to be conducted.

The standard scenario should define if the location may be generically described (e.g. dependent on the characteristics of the area overflown, the type of airspace, etc.) based on the concept of the operation.

The application should include all information relevant to the operation, such as:

- the name of the Member State where the operation is intended to be conducted if it is different from the UAS operator's Member State of registration;

- a statement of compliance with the limitations and conditions applicable to the relevant standard scenario, if applicable; and
- a signed acknowledgement of the operator's responsibility under Regulation (EU) 201X/XXX.

GM1 UAS.SPEC.60(a) Application for an operational authorisation

The UAS operator may submit an application for an operational authorisation of a single flight, a series of flights or for a specific period of time.

When the operation subject to the authorisation takes place in a Member State other than the UAS operator's Member State of registration, before starting an operation, the operator should take into account the applicable local conditions and regulations. Liaising with the competent authority of the Member State of operation may be required.

AMC1 UAS.SPEC.60(a)(1) Standard scenario requiring an operational authorisation

[To be developed.]

AMC1 UAS.SPEC.60(c) Significant changes to the operational authorisation

[To be developed.]

AMC1 UAS.SPEC.70 Operations manual — minimum information

[To be developed.]

AMC1 UAS.SPEC.80 Operational-authorisation form

The operational-authorisation form should include the following information:

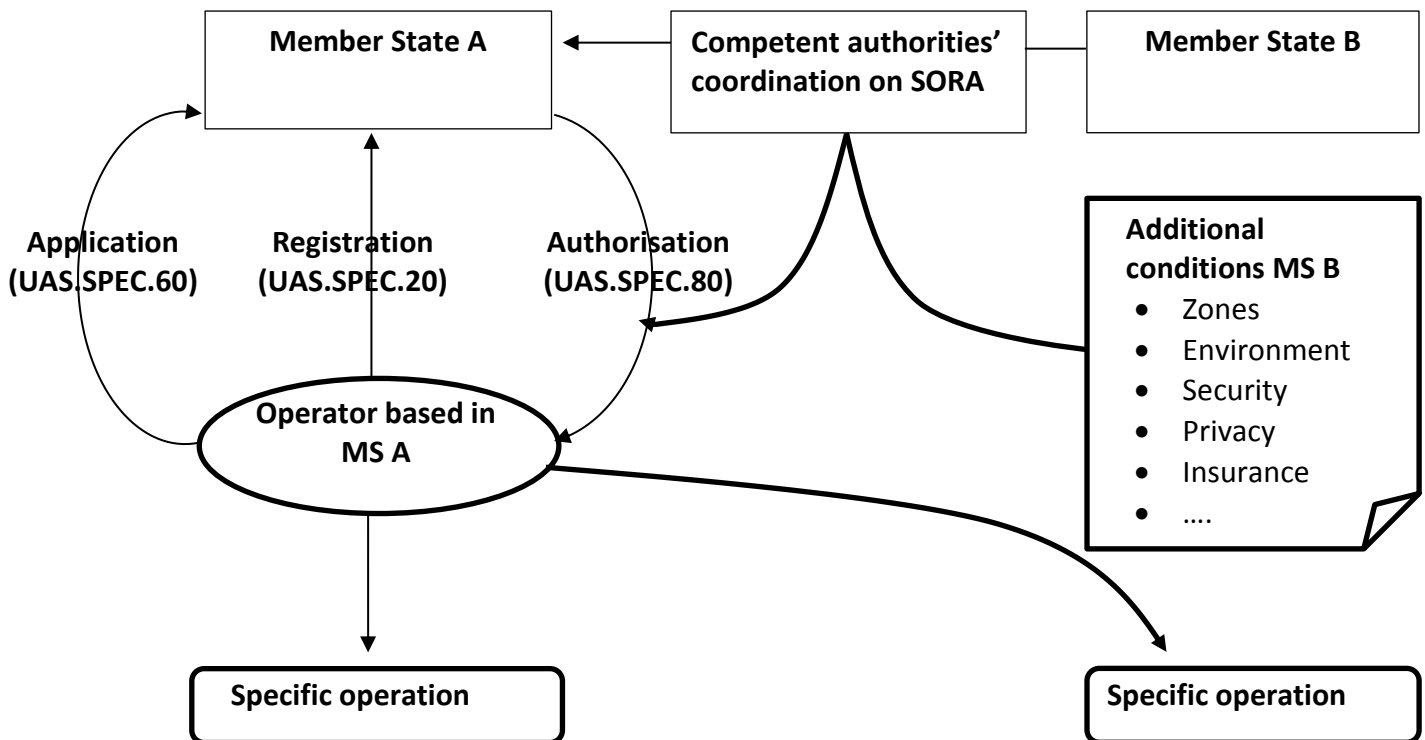
- (a) the identification of the UAS operator and of the UA (registration information);
- (b) the operational limitations and conditions of the Member State of operation;
- (c) the mitigation measures that the UAS operator has to take;
- (d) the location(s) where the operation is authorised;
- (e) records necessary for the type of operation; and
- (f) the type of events that should be reported in addition to those defined in Article 125 of Regulation (EU) 2017/XXX.

GM1 UAS.SPEC.80 Recognition of an operational authorisation between EU Member States

When a UAS operation takes place in a Member State other than the UAS operator's Member State of registration, the UAS operator should gather information about local conditions in the area of its operation and submit the application for the authorisation to the competent authority of its Member State of registration.

The competent authority of the Member State of registration should evaluate the application and coordinate with the competent authority of the Member State of operation. The UAS operator should satisfy the mitigation requirements related to the local conditions.

When both competent authorities are satisfied, the competent authority of the Member State of registration should issue the authorisation to the UAS operator.



SUBPART C — LIGHT UAS OPERATOR CERTIFICATE (LUC)**AMC1 UAS.LUC.20 Application for a LUC**

The application for a LUC should include the following information:

- (a) a description of the UAS operator's management system including its organisational structure and safety management system;
- (b) the name(s) of the responsible UAS operator personnel including the person responsible for authorising operations with UASs; and
- (c) a statement that all documentation submitted to the competent authority has been verified by the applicant and found to comply with the applicable requirements.

AMC1 UAS.LUC.30(a) Management system**COMPLEXITY OF THE ACTIVITY**

A UAS operator should be considered as complex in case it operates either of the following UA:

- (a) operated over congested areas of cities, towns or settlements, or over an open-air assembly of persons;
- (b) beyond visual line of sight (BVLOS) at a long distance from the operator;
- (c) used for the carriage of dangerous goods; and
- (d) used for cargo delivery in urban areas.

The competent authority may assess the nature and complexity of an operator on a case-by-case basis.

AMC1 UAS.LUC.30(b)(1) Management system**SAFETY POLICY**

- (a) The safety policy should state as a minimum the following:
 - (1) the management of safety is a primary responsibility of all managers and employees;
 - (2) the UAS operator is committed to comply with the relevant regulatory requirements, as well as maintain and constantly improve its safety objectives and performance standards; and
 - (3) safety reporting and internal investigations are to improve safety, not to apportion blame to individuals.
- (b) The senior management of the operator should:
 - (1) continually promote the operator's safety policy to all personnel, and demonstrate their commitment to it;
 - (2) provide the necessary human and financial resources for the implementation of the safety policy; and
 - (3) establish safety objectives and performance standards.

GM1 UAS.LUC.30(b)(1) Management system**SAFETY REPORTING AND INTERNAL INVESTIGATIONS**

- (a) The purpose of safety reporting and internal investigations is to use reported information to improve the level of safety performance of the UAS operator and not to attribute blame.
- (b) The specific objectives of safety reporting and internal investigations are to:
 - (1) enable assessments of the safety implications of each relevant incident and accident, including previous similar occurrences, so that any necessary action can be initiated; and
 - (2) ensure that knowledge of relevant incidents and accidents is disseminated so that other persons and operators may learn from them.
- (c) All occurrence reports considered to be reportable by the person submitting the report should be retained as the significance of such reports may only become obvious at a later date.

AMC1 UAS.LUC.30(b)(2) Management system**NON-COMPLEX UAS OPERATORS**

A non-complex UAS operator should have a management system able to perform at least the following:

- (a) identify hazards through reactive and proactive methodologies, using various data sources including safety reporting and internal investigations;
- (b) collect, record, analyse, act on and generate feedback about hazards and the associated risks that affect the safety of the operational activities of the operator;
- (c) develop an operational risk assessment as required by UAS.SPEC.40;
- (d) manage safety risks related to a change, using a documented process to identify any external and internal change that may have an adverse effect on safety; the management of change should make use of the operator's existing hazard identification, risk assessment, and mitigation processes; and
- (e) manage the safety risks stemming from products or services delivered through subcontractors, by using its existing hazard identification, risk assessment, and mitigation processes, or by requiring that the subcontractors have an equivalent process for hazard identification and risk management.

AMC2 UAS.LUC.30(b)(2) Management system**COMPLEX UAS OPERATORS**

A complex UAS operator should have a management system able to perform at least the following:

- (a) identify hazards through reactive, proactive, and predictive methodologies, using various data sources including safety reporting and internal investigations;
- (b) collect, record, analyse, act on and generate feedback about hazards and the associated risks that affect the safety of the operational activities of the operator;
- (c) develop an operational risk assessment as required by UAS.SPEC.40;

- (d) carry out internal safety investigations that go beyond the scope of occurrences required to be reported to the competent authority;
- (e) monitor and measure safety performance through safety reports, safety reviews, in particular during introduction and deployment of new technologies, safety audits, including periodically assessing the status of safety risk controls, and safety surveys;
- (f) manage safety risks related to a change, using a documented process to identify any external and internal change that may have an adverse effect on safety; the management of change should make use of the operator's existing hazard identification, risk assessment, and mitigation processes;
- (g) manage the safety risks stemming from products or services delivered through subcontractors, by using its existing hazard identification, risk assessment, and mitigation processes, or by requiring that the subcontractors have an equivalent process for hazard identification and risk management; and
- (h) respond to emergencies using an emergency response plan (ERP) that:
 - (1) contains the action to be taken by the operator or specified individuals in an emergency;
 - (2) provides for a safe transition from normal to emergency operations and vice versa; and
 - (3) ensures coordination with the ERPs of other organisations, where appropriate.

**AMC1 UAS.LUC.30(b)(3) Management system
DOCUMENTATION**

- (a) The management system documentation of the LUC holder should be included in a safety management manual (SMM) or in the operations manual (OM). The documentation may be contained in more than one operator's manual. In such case, if the documentation is not duplicated, cross references should be provided.
- (b) The SMM should include the following:
 - (1) scope of the activities under the UAS operator's safety management system;
 - (2) safety policy and objectives;
 - (3) the titles and names of persons referred to in UAS.LUC.30(c) as well as a chart showing the lines of responsibility between those persons;
 - (4) procedures specifying how the LUC holder ensures compliance with the requirements of Regulation (EU) 201X/XXX;
 - (5) safety accountability of the accountable manager;
 - (6) safety responsibilities of key safety personnel;
 - (7) documentation control procedures;
 - (8) hazard identification and risk management methodologies;
 - (9) safety action planning;
 - (10) safety performance monitoring;

- (11) incident investigation and reporting;
- (12) emergency response planning;
- (13) management of change; and
- (14) procedures for record-keeping.

**GM1 UAS.LUC.30(b)(3) Management system
DOCUMENTATION**

- (a) It is not required to duplicate information in several manuals. The information may be contained in any of the LUC holder manuals (e.g. OM or training manual) that may also be combined.
- (b) The LUC holder may also choose to document some of the information required to be documented in separate documents (e.g. procedures). In this case, they should ensure that manuals contain appropriate references to any document kept separately. Any such documents are then to be considered as an integral part of the management system documentation of the LUC holder.

**AMC1 UAS.LUC.30(b)(4) Management system
COMPLIANCE MONITORING**

- (a) The accountable manager should designate a manager to monitor compliance of the UAS operator with:
 - (1) the privileges of the LUC holder, the risk assessment, and the effectiveness of the related mitigation measures;
 - (2) OMs, logbooks, and records;
 - (3) training standards; and
 - (4) management system procedures and manuals.
- (b) The compliance-monitoring manager should:
 - (1) have knowledge of, and experience in, compliance monitoring;
 - (2) have direct access to the accountable manager to ensure that findings are addressed, as necessary; and
 - (3) not be one of the other persons referred to in UAS.LUC.30(c)(3).
- (c) If the LUC holder is a non-complex one, the tasks of the compliance-monitoring manager may be performed by the safety manager provided that the latter has knowledge of, and experience in, compliance monitoring.
- (d) The compliance-monitoring function should include audits and inspections of the LUC holder. The audits and inspections should be carried out by personnel not responsible for the function, procedure or products being audited.
- (e) The LUC holder should be responsible for the effectiveness of the compliance-monitoring function, in particular for the effective implementation and follow-up of all corrective measures.

GM1 UAS.LUC.30(b)(4) Management system
COMPLIANCE MONITORING

- (a) The compliance monitoring manager may perform all audits and inspections themselves, or appoint one or more auditors by choosing either internal personnel with experience in compliance monitoring or externals.
- (b) If external personnel are used to perform compliance audits or inspections, any of those audits or inspections should be performed under the responsibility of the compliance-monitoring manager.

AMC1 UAS.LUC.30(b)(5) Use of subcontractors

- (a) When a LUC holder uses products or services delivered through a subcontractor that is not itself certified in accordance with this Subpart, the subcontractor should work under the LUC of the LUC holder.
- (b) Regardless of the certification status of the subcontractor, the LUC holder is responsible for ensuring that all subcontracted products or services are subject to the hazard identification, risk management, and compliance monitoring of the LUC holder.

AMC1 UAS.LUC.30(c) Management system
PERSONNEL REQUIREMENTS — GENERAL

- (a) The accountable manager should have the authority to ensure that all activities are financed and carried out in accordance with the requirements of Regulation (EU) 201X/XXX.
- (b) The safety manager should:
 - (1) facilitate hazard identification, risk analysis, and risk management;
 - (2) monitor the implementation of risk mitigation measures;
 - (3) provide periodic reports on safety performance;
 - (4) ensure maintenance of the safety management documentation;
 - (5) ensure that there is safety management training available and that it meets acceptable standards;
 - (6) provide all personnel involved with advice on safety matters; and
 - (7) ensure initiation and follow-up of internal occurrence investigations.
- (c) Management and other personnel of the LUC holder should be qualified for the planned operations in order to meet the relevant requirements of Regulation (EU) 201X/XXX.
- (d) The LUC holder should ensure that its personnel receive appropriate training to remain in compliance with the relevant requirements of Regulation (EU) 201X/XXX.

AMC2 UAS.LUC.30(c) Management system**PERSONNEL REQUIREMENTS — NON-COMPLEX OPERATORS**

The functions of the safety manager may be fulfilled by the accountable manager or another person charged by the UAS operator with the responsibility of ensuring that the operator remains in compliance with the requirements of Regulation (EU) 201X/XXX.

Where the safety manager already fulfils the functions of the compliance-monitoring manager, the accountable manager cannot be the safety manager.

AMC3 UAS.LUC.30(c) Management system**PERSONNEL REQUIREMENTS — COMPLEX OPERATORS**

(a) A complex UAS operator should include in the organisational structure of its safety management system a safety committee and one or more safety action groups.

(b) Safety committee

A safety committee should be established to support the accountable manager in their safety responsibilities. The safety committee should monitor:

- (1) the operator's performance against safety objectives and performance standards;
- (2) if safety action is taken in a timely manner; and
- (3) the effectiveness of the operator's safety management processes.

(c) Safety action group

- (1) One or more safety action groups should be established to assist the safety manager in their functions.
- (2) The safety action group should be comprised of managers, supervisors and personnel from operational areas, depending on the scope of the task and the specific expertise required.
- (3) The safety action group should at least perform the following:
 - (i) monitor operational safety and assess the impact of operational changes on safety; and
 - (ii) ensure that safety measures are implemented within agreed timescales.

GM1 UAS.LUC.30(c) Management system**TRAINING**

The LUC holder should perform the following:

- (a) ensure that all personnel are aware of the safety management activities, as appropriate for their safety responsibilities;
- (b) communicate safety-critical information, especially relating to assessed risks and analysed hazards;
- (c) explain why particular measures are taken;
- (d) explain why safety procedures are introduced or changed; and

- (e) hold regular meetings with personnel where information, measures and procedures are discussed, and safety matters are communicated.

Appropriate records of all safety training provided should be kept.

AMC1 UAS.LUC.40 LUC Manual

The UAS operator should distribute a copy of the LUC manual to all its personnel.

AMC2 UAS.LUC.40 Procedures for subcontractors

If any activity is carried out by partner organisations or subcontractors, the LUC manual should include a relevant statement of how the LUC holder is able to ensure compliance with UAS.LUC.30(b)(4), and should contain, directly or by cross reference, descriptions of, and information on, the activities of those organisations or subcontractors, as necessary to substantiate this statement.

AMC1 UAS.LUC.50 LUC approval form

[To be developed.]

GM1 UAS.LUC.60 Privileges

The competent authority may grant the following privileges to the LUC holder:

- it may conduct its operation included in a standard scenario requiring a declaration, without submitting a declaration to the competent authority;
- it may issue the operational approval for its operation included in a standard scenario requiring an operational authorisation, without submitting the operational authorisation to the competent authority; and
- it may issue the operational authorisation for its operation not included in a standard scenario, without submitting the operational authorisation to the competent authority.

AMC1 UAS.LUC.70(b) Significant changes in the LUC management system

[To be developed.]

Appendix I.1 — Product requirements for UAS Class C0

AMC1 to Appendix I.1(e) Awareness leaflet

EASA
European Aviation Safety Agency

Flying a Drone

Check the label on your drone if it has this mark

Have fun | Be responsible for safety

DO	DO NOT
Make sure you are adequately insured	Do not fly higher than 50 m from the ground
Check your drone before each flight	Do not fly over large crowds or groups of people
Always keep the drone in sighting distance	Do not fly near aircraft
Keep your drone as far away as possible from other people, properties, vehicles and other aircraft	Do not fly in the proximity of airports, helipads, areas affecting public safety or where an emergency response effort is ongoing
Comply with the limitations of the area, zone or airspace, defined by your National Authority	Do not interfere with the privacy of other people and use your drone responsibly
Operate your drone within the performance limitations defined in the instructions provided by the manufacturer	Do not take photographs, videos or sound recordings of people without their permission
	Do not fly over sensitive or protected sites (prisons, military bases, power plants, etc.)
	Do not make changes to the drone

FOR MORE INFORMATION ABOUT YOUR OBLIGATIONS, VISIT THE DRONERULES.EU WEBSITE

WWW.EASA.EUROPA.EU/EASA-AND-YOU/CIVIL-DRONES-RPAS

Appendix I.2 — Product requirements for UAS Class C1

AMC1 to Appendix I.2(p) Awareness leaflet




Flying a Drone

Check the label on your drone if it has this mark

Have fun | Be responsible for safety

- You need to be at least 14 years old or supervised by a person older than 14 years old
- You or your supervisor needs to be registered and pass an online test
- Display the registration mark on the drone and if equipped with e-identification, upload the registration information

DO	DO NOT
 Make sure you are adequately insured	 Do not fly higher than 120 m from the ground
 Plan your flight	 Do not fly over large crowds or groups of people
 Check your drone before each flight	 Do not fly near aircraft
 Make sure your drone is equipped with up-to-date electronic identification and geofencing systems if mandated in the area you want to operate	 Do not fly in the proximity of airports, helipads, areas affecting public safety or where an emergency response effort is ongoing
 Check the weather conditions	 Do not use the drone to transport dangerous goods
 Familiarise yourself with the area where you will operate your drone and look at the location of people, property, vehicles, public roads, obstacles, critical infrastructures, and any other element that may pose a risk to fly your drone safely	 When flying over other people's property, do not fly below 20 m without their permission
 Always keep the drone in sighting distance	 Do not fly over sensitive or protected sites (prisons, military bases, power plants, etc.)
 Keep your drone as far away as possible from other people, properties, vehicles and other aircraft	 Do not interfere with the privacy of other people and use your drone responsibly
 Comply with the limitations of the area, zone or airspace, defined by your national authority	 Do not take photographs, videos or sound recordings of people without their permission
 Operate your drone within the performance limitations defined in the instructions provided by the manufacturer	 Do not make changes to the drone

FOR MORE INFORMATION ABOUT YOUR OBLIGATIONS, VISIT THE DRONERULES.EU WEBSITE

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Appendix I.3 — Product requirements for UAS Class C2

AMC1 to Appendix I.3(n) Awareness leaflet





Check the label on your drone if it has this mark

Flying a Drone

Have fun | Be responsible for safety

- You need to be at least 16 years old or supervised by a person older than 16 years old
- You or your supervisor have to
 - register,
 - register the drone and
 - pass a theoretical test in an approved entity
- Display the registration mark on the drone and upload the registration information on the e-identification

DO	DO NOT
 Make sure you are adequately insured	 Do not fly higher than 120 m from the ground
 Plan your flight	 Do not fly closer than 20 m from people if your drone is a rotorcraft or to 50 m from people if your drone is an aeroplane, unless you have explicit permission from them
 Check your drone before each flight	 Do not fly near aircraft
 Make sure the geofencing system is up-to-date	 Do not fly in the proximity of airports, helipads, areas affecting public safety or where an emergency response effort is ongoing
 Check the weather conditions	 Do not use the drone to transport dangerous goods
 Familiarise yourself with the area where you will operate your drone and look at the location of people, property, vehicles, public roads, obstacles, critical infrastructures, and any other element that may pose a risk to fly your drone safely	 When flying over other people's property, do not fly below 20 m without their permission
 Always keep the drone in sighting distance	 Do not interfere with the privacy of other people and use your drone responsibly
 Keep your drone as far away as possible from other people, properties, vehicles and other aircraft	 Do not take photographs, videos or sound recordings of people without their permission
 Comply with the limitations of the area, zone or airspace, defined by your National Authority	 Do not fly over sensitive or protected sites (prisons, military bases, power plants, etc.)
 Operate your drone within the performance limitations defined in the instructions provided by the manufacturer	 Do not make changes to the drone

FOR MORE INFORMATION ABOUT YOUR OBLIGATIONS, VISIT THE DRONERULES.EU WEBSITE

WWW.EASA.EUROPA.EU/EASA-AND-YOU/CIVIL-DRONES-RPAS



Appendix I.4 — Product requirements for UAS Class C3

AMC1 to Appendix I.4(j) Awareness leaflet




Flying a Drone

Check the label on your drone if it has this mark

Have fun | Be responsible for safety

- You need to be at least 16 years old or supervised by a person older than 16 years old
- You or your supervisor have to
 - register,
 - register the drone and
 - pass an online test
- Display the registration mark on the drone and if equipped with e-identification, upload the registration information

DO	DO NOT
 Make sure you are adequately insured	 Do not fly higher than 120 m from the ground
 Plan your flight	 Do not fly in areas where persons could be present within the range where the drone may fly, during the entire time of the operation
 Check your drone before each flight	 Do not fly near aircraft
 Make sure your drone is equipped with up-to-date electronic identification and geofencing systems if mandated in the area you want to operate	 Do not fly in the proximity of airports, helipads, areas affecting public safety or where an emergency response effort is ongoing
 Check the weather conditions	 Do not use the drone to transport dangerous goods
 Familiarise yourself with the area where you will operate your drone and look at the location of people, property, vehicles, public roads, obstacles, critical infrastructures, and any other element that may pose a risk to fly your drone safely	 When flying over other people's property, do not fly below 20 m without their permission
 Always keep the drone in sighting distance	 Do not interfere with the privacy of other people and use your drone responsibly
 Keep your drone as far away as possible from other people, properties, vehicles and other aircraft	 Do not take photographs, videos or sound recordings of people without their permission
 Comply with the limitations of the area, zone or airspace, defined by your National Authority	 Do not fly over sensitive or protected sites (prisons, military bases, power plants, etc.)
 Operate your drone within the performance limitations defined in the instructions provided by the manufacturer	 Do not make changes to the drone

FOR MORE INFORMATION ABOUT YOUR OBLIGATIONS, VISIT THE DRONERULES.EU WEBSITE



WWW.EASA.EUROPA.EU/EASA-AND-YOU/CIVIL-DRONES-RPAS

Appendix I.5 — Product requirements for UAS Class C4

AMC1 to Appendix I.5(d) Awareness leaflet




Flying a Drone

Check the label on your drone if it has this mark

Have fun | Be responsible for safety

- You need to be at least 16 years old or supervised by a person older than 16 years old
- You or your supervisor have to
 - register,
 - register the drone and
 - pass an online test
- Display the registration mark on the drone and if equipped with e-identification, upload the registration information

DO	DO NOT
 Make sure you are adequately insured	 Do not fly higher than 120 m from the ground
 Plan your flight	 Do not fly in areas where persons could be present within the range where the drone may fly during the entire time of the operation and keep a safety distance from the limit of towns and from buildings, roads and vehicles
 Check your drone before each flight	 Do not fly near aircraft
 Make sure your drone is equipped with up-to-date electronic identification and geofencing systems if mandated in the area you want to operate	 Do not fly in the proximity of airports, helipads, areas affecting public safety or where an emergency response effort is ongoing
 Check the weather conditions	 Do not use the drone to transport dangerous goods
 Familiarise yourself with the area where you will operate your drone and look at the location of people, property, vehicles, public roads, obstacles, critical infrastructures, and any other element that may pose a risk to fly your drone safely	 When flying over other people's property, do not fly below 20 m without their permission
 Always keep the drone in sighting distance	 Do not interfere with the privacy of other people and use your drone responsibly
 Keep your drone as far away as possible from other people, properties, vehicles and other aircraft	 Do not take photographs, videos or sound recordings of people without their permission
 Comply with the limitations of the area, zone or airspace, defined by your National Authority	 Do not fly over sensitive or protected sites (prisons, military bases, power plants, etc.)
 Operate your drone within the performance limitations defined in the instructions provided by the manufacturer	 Do not make changes to the drone

FOR MORE INFORMATION ABOUT YOUR OBLIGATIONS, VISIT THE DRONERULES.EU WEBSITE



WWW.EASA.EUROPA.EU/EASA-AND-YOU/CIVIL-DRONES-RPAS

4. Impact assessment (IA)

The full IA for this NPA will be published as a separate document on 12 May 2017 (see sub-NPA 2017-05 (B)).



5. Proposed action to support implementation

A workshop on the implementation of the proposed draft Regulation (Regulation (EU) 201X/XXX) and related AMC/GM will be held on 5 July 2017 on the EASA premises.



6. References

6.1. Affected regulations

Not applicable.

6.2. Affected decisions

Not applicable.

6.3. Other reference documents

Not applicable.



7. Appendix

7.1. Differences between the U-Space blueprint and the NPA

U-Space service providers

Strictly speaking, a service provider gap between the NPA and U-Space blueprint would be present at the first implementation step (U1) only if geofencing would be immediately introduced in dynamic mode. It can be reasonably assumed that there will be a gradual introduction of geofencing, starting with a static geofencing requirement at U1. In this case, the gap would not be present at U1 as static geofencing is included in the NPA. It would begin only at the second implementation step (U2) as the U-Space blueprint mentions 'airspace dynamic information' for U2.

Operation of multiple UAS under the supervision of fleet operators

The NPA excludes that one remote pilot controls more than one UA at a time in the open category. This is likely to be the case at U2 and/or U3.

Tracking information

Even if positioning information is included in the electronic-identification function of this NPA, requirements such as latency and accuracy might be applied very differently in the U-Space. Therefore, the tracking information is considered to be missing from the NPA, but is contained in U2.

Detect and avoid (DAA) function

The NPA does not assume availability of either cooperative or non-cooperative DAA. The blueprint seems to refer to a non-cooperative DAA system. Due to UAS weight limitations and cost in the open category, a DAA would be hardly feasible in the NPA context. Different is the case in which both manned and unmanned aircraft are equipped with a cooperative DAA system allowing electronic conspicuity and traffic avoidance (this would probably be an important constituent of the U-Space). As DAA is only envisaged at U3, there would be a gap only there.

Dynamic geofencing

As explained under 'U-Space service providers' above, no gap is envisaged at U1.

Other differences

BVLOS operation

- The NPA explicitly excludes BVLOS in the open category. When U-Space services will be available, EASA and national aviation authorities (NAAs) may consider that even UAS in the open category ('buy and fly') could be operated BVLOS if the operators use the U-Space services.
- In accordance with the NPA, the UAS operation BVLOS in the specific category is subject to an operational authorisation issued by the competent authority, based on a risk assessment and the implementation of related mitigation measures. As from 2019, the U-Space service providers might be responsible for taking some of those mitigation measures.

Model aircraft

By nature, model aircraft do not have geofencing, electronic-identification and tracking functions. The NPA covers also model aircraft operation, allowing some distinction of operations under certain conditions/options. U-Space seems to potentially include all UAS categories, without any distinction for model aircraft.

Operation of UAS in urban areas

The U-Space blueprint mentions: 'ensuring smooth operation of drones in urban areas'. The possibility to operate in urban areas is already included in the NPA.

Conclusions

No difference between this NPA and the U-Space blueprint is envisaged at U1 in terms of operational assumptions or services/functionalities needed.

As the blueprint does not yet explain how the U-Space services will be implemented, this aspect is not reflected in this Appendix.

