Issue/rationale

Reports on safety occurrences with civil drones are increasing across all Member States (MSs). At the same time, there are currently no harmonised rules at European Union (EU) level, and unmanned aircraft systems (UAS) operations still depend on individual authorisations issued by every MS, which is a burdensome administrative process that stifles business development and innovation.

Action area: Civil drones (unmanned aircraft systems (UAS))

Affected rules:
- Certification Specifications, Acceptable Means of Compliance and Guidance Material for Aircraft Noise (CS-36);
- Certification Specifications for European Technical Standard Orders (CS-ETSO);
- Certification Specifications and Acceptable Means of Compliance for Airborne Communications, Navigation and Surveillance (CS-ACNS)

Affected stakeholders: Operators (private and commercial); competent authorities; flight crews; remote pilots; maintenance staff; UAS manufacturers; other airspace users (manned aircraft); service providers of air traffic management/air navigation services (ATM/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

Rulemaking Procedure: Standard/accelerated procedure

EASA rulemaking process milestones

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019/Q2</td>
<td>2020/Q2</td>
<td>2021/Q2</td>
<td>2021/Q3</td>
</tr>
<tr>
<td></td>
<td>2022/Q1</td>
<td>2023/Q2</td>
<td>2024/Q2</td>
<td>2024/Q3</td>
</tr>
</tbody>
</table>
1. Issue and reasoning for regulatory change

The scope of EU regulations, and in particular of Regulation (EU) No 216/2008\(^1\) (hereinafter referred to as the ‘Basic Regulation’) as regards unmanned aircraft systems (UAS) is currently limited to those with a maximum take-off mass (MTOM) above 150 kg that are not used for military, customs, police, firefighting, search and rescue, or experimental operations. The vast majority of UAS developed and operated today are not within the scope of the Basic Regulation and, consequently, are regulated by national regulations. Although safety is in principle addressed by these national regulations, the level of safety provided therein might not be harmonised among MSs. Furthermore, in the absence of common EU rules, there is no mutual recognition of certificates or authorisations issued for those UAS. This means that an UAS operator authorised in one MS must obtain another authorisation in another MS if they wish to operate there.

The proposals for the revision of the Basic Regulation (ref.: (h)) include the introduction of new rules for UAS (principles and essential requirements) as well as a definition of ‘unmanned aircraft’. The proposals foresee the establishment of common EU rules for all UAS (except those used for military, customs, police, firefighting, search and rescue, or experimental operations), irrespective of their MTOM, using an operation-centric and risk-based approach. In line with the general principles of EU law, these rules would be implemented locally by the MSs. The European Aviation Safety Agency (EASA) is foreseen to be the competent authority for the approval of UAS designs involving high-risk operations only, and shall issue type certificates and design organisation approvals for those UAS as it currently does for manned aircraft. MSs will remain the competent authorities for the other domains (e.g. UAS operations, remote pilot licences).

The Technical Opinion ‘Introduction of a regulatory framework for the operation of unmanned aircraft’ (ref.: (a)), which is based on Advance Notice of Proposed Amendment (A-NPA) 2015-10 (ref.: (b)) and on the EASA ‘ATM concept of operations (CONOPs)’ (ref.: (e)), will serve as the starting point and will provide the guidelines for this rulemaking task (RMT).

The proposed regulatory framework is operation-centric, proportionate, risk- and performance-based, and establishes three categories of unmanned aircraft (UA) operations as follows:

- ‘open’ (low risk) is a UAS operation category that, considering the risks involved, does not require a prior authorisation by the competent authority before the operation takes place;
- ‘specific’ (medium risk) is a UAS operation category that, considering the risks involved, requires an authorisation by the competent authority before the operation takes place and takes into account the mitigation measures identified in an operational risk assessment, except for certain standard scenarios where a declaration by the operator is sufficient;
- ‘certified’ (high risk) is a UAS operation category that, considering the risks involved, requires the certification of the UAS, a licensed remote pilot and an operator approved by the competent authority, in order to ensure an appropriate level of safety.


This prototype Commission regulation is not the result of a rulemaking task, and has been developed to provide clarity on EASA’s intentions with regard to the regulation of UAS. It does not replace a notice of proposed amendment (NPA) — it should be considered though as advance information to assist the negotiations between the Council of the European Union, the European Parliament and the European Commission on the draft, revised Basic Regulation.

Comments and reactions on the prototype Commission regulation have been collected via a dedicated mailbox and during focused workshops. They will be considered for the preparation of the related NPA on UAS operations in ‘open’ and ‘specific’ category. The preliminary work performed on the prototype regulation will facilitate the public consultation process of the related NPA.

2. Objectives

The general objectives of the EU in the field of civil aviation are defined in Article 2 of the Basic Regulation, and this RMT will contribute to their achievement.

The specific objectives of the present RMT are:

— to ensure a high and uniform level of safety for UAS, thus enabling operators to safely operate UAS in the single European sky, especially for higher risk operations;

— to foster innovation and development of in the field of UAS;

— to harmonise the regulatory framework in all MSs in order to enhance clarity, fill gaps and address the inconsistencies a fragmented system has (e.g. cross-border operation of UA);

— to foster an operation-centric, proportionate, risk- and performance-based regulatory framework taking into account various important aspects such as privacy, personal data protection, security and safety.

A key issue is striking a balance between establishing a proportionate regulatory framework and fostering innovation and growth — indeed, not well-designed and burdensome rules for UAS could hinder market development.

3. Activities

Taking into consideration the above-mentioned general and specific objectives, EASA will develop a proposal for a new Commission regulation addressing the ‘open’ and ‘specific’ categories of UAS operations. The new regulation shall contain annexes covering all aspects of UAS operations for these categories including airworthiness aspects, environmental compatibility, operational and organisational requirements, and related processes. Due consideration must be given to the European airspace regulations, including SERA, communication, navigation and surveillance regulations. It shall also include the necessary requirements for authorities. The applicable technical standards, meeting the requirements laid down in the regulation, should be developed by industry.

The regulation on operations in ‘open’ and ‘specific’ category should be adopted shortly after the publication of the revised Basic Regulation. Since it is expected that a high number of companies with limited aviation experience will enter into the UAS market, in order to facilitate the application of the different rules, the regulation should cover in a single document all the necessary aspects to allow UAS operations in terms of airworthiness, aircrew competence, operations, Rules of the Air (SERA), and airspace usage requirements.
To simplify the authorisation process for operations in the ‘specific’ category, some standard scenarios will be developed and adopted in the form of AMC to the regulation on UAS operations in ‘open’ and ‘specific’ category. In most cases the ‘accelerated procedure’ and a focused consultation with affected stakeholders will be used.

Operation of large UAS (MTOM above 150 kg) is already within the scope of the Basic Regulation, and today UAS can be granted a type certificate (TC), a restricted type certificate (RTC), or a permit to fly (PtF).

For UAS operations in ‘certified’ category, EASA will develop amendments to the existing regulations applicable to manned aviation. Peculiar elements of high-risk UAS operations are:

- the certification and continuing airworthiness of UAS and related products, parts and appliances;
- the approval of design, production and maintenance organisations;
- air operator certificates;
- operation of UA; and
- licences of personnel.

The future rules shall provide all the requirements to allow UAS operations with comparable procedures applied today to manned aircraft without increasing the level of risk to third parties on the ground and in the air.

The certification specification and an accepted risk assessment methodology will be based on the input provided by JARUS, resulting in the new CS-UAS and the Specific Operation Risk Assessment (SORA). Following JARUS procedures, these documents will be subject to JARUS internal and external consultation, therefore EASA will adopt CS UAS and SORA using the direct publication procedure.

The integration of UAS operations in non-segregated airspace may take some more time as essential technologies are not yet fully mature for implementation. Therefore, there will be a progressive update of SERA in this regard:

- in a 1st phase, SERA will be reviewed to identify potential issues that could hamper the development of UAS and could propose limited rule changes or guidelines to resolve these issues. Comprehensive rule changes are envisaged only in the 2nd phase;
- in a 2nd phase, more detailed rules of the air will be developed, including (whenever available) requirements for the safe integration of UAS into the airspace.

Based on the first deliverables from the JARUS, consultations can be launched on dedicated subjects, e.g. airworthiness specifications for UAS and safety risk assessment process for the ‘specific’ category of UAS operations. Further proposals for new or amendments to existing regulations for the ‘certified’ category need to be aligned with the revision of the Basic Regulation, as well as with the progress in technical development and international activities (JARUS, ICAO).

Finally, there is a need to consider how to ensure safe UAS operations in aerodromes’ airspace for the purpose of performing aerodrome-related operational activities. Regulations applicable to aerodromes will have to be reviewed and amended as necessary.

---

2 According to Article 16 of Management Board Decision N° 18-2015 of 15 December 2015
3 According to Article 15(1) of Management Board Decision N° 18-2015 of 15 December 2015
The objectives of Chapter 2 will be considered while developing the requirements that are design-independent and applicable to the entire range of UAS categories, limiting as much as possible the prescriptive requirements.

4. Deliverables

Opinions and decisions setting up the regulatory framework which will allow to meet the objectives of Chapter 2 under the activities identified in Chapter 3.

4.1. Tasks (General)

- Development of opinions for regulations applicable to the operation and certification of UAS, and to organisations and personnel involved in these operations.
- Development of decisions with the corresponding acceptable means of compliance (AMC) and guidance material (GM), as necessary.
- Development of certification specifications (CSs) detailing the objectives to comply with the essential requirements for UAS in the ‘certified’ category.

4.2. Deliverables

4.2.1 RMT.0230(A) — ‘UAS operations in “open” and “specific” category’

RMT.0230(A) will deliver an opinion for a new regulation, and a decision with the related AMC/GM, for low- and medium-risk UAS operations identifying when a specific authorisation is needed and including requirements for manufacturers, operators and authorities. This subtask will also deliver AMC including ‘standard scenarios’.

4.2.2 RMT.0230(B) — ‘UAS operations in “Certified” category’

RMT.0230(B) will deliver an opinion to amend Commission Regulation (EU) No 965/2012\(^4\) and a decision with the related AMC/GM. In addition, this subtask will deliver an opinion for new regulations, or for amendments to existing regulations, related to the remote operator certificate (ROC) and a decision with the related AMC/GM.

4.2.3 RMT.0230(C) — ‘Aircrew regulations for the UAS operations in “certified” category’

RMT.0230(C) will deliver an opinion to amend Commission Regulation (EU) No 1178/2011\(^5\) and a decision with the related AMC/GM. In addition, it will deliver an opinion for a new regulation, or for amendments to an existing regulation, to regulate the ‘remote pilot licence’ (Part-RPL), and a decision with the related AMC/GM.


4.2.4 RMT.0230(D) — ‘Initial and continued airworthiness of UAS operated in “certified” category’

RMT.0230(D) will deliver an opinion to amend Commission Regulations (EU) Nos 748/2012\(^6\) and 1321/2014\(^7\), and decisions with the related AMC/GM, including, if considered necessary, a new part to Commission Regulation (EU) 1321/2014.

4.2.5 RMT.0230(E) — ‘Airspace integration of UA’

RMT.0230(E) will deliver an opinion to amend Commission Regulations (EU) No 1332/2011\(^8\), (EU) 2017/373\(^9\), (EU) 2015/340\(^10\) and (EU) No 923/2012\(^11\), as well as decisions with the related AMC/GM. In addition, the need for a decision to amend CS-ACNS will be considered as well.

4.2.6 RMT.0230(F) — ‘Certification specifications for Unmanned Aircraft Systems (CS-UAS)’

RMT.0230(F) will deliver a decision on the certification specifications for UAS (CS-UAS), including the Safety Objectives (the so-called 1309) for the airworthiness of civil UAS, at the level of AMC (in Book 2 of CS-UAS).

It will also deliver a decision to amend CS-ETSO for equipment installed on UAS or used to operate UAS.

4.2.7 RMT.0230(G) — ‘Environmental protection’

RMT.0230(G) will deliver a decision on the environmental aspects of the operation of UAS and the related CS-36 ‘Certification Specifications for Aircraft Noise’.

4.2.8 RMT.0230(H) — ‘Aerodromes’

RMT.0230(H) will deliver an opinion to amend Commission Regulation (EU) No 139/2014\(^12\), as well as a decision with the related AMC/GM.

4.3. Working method

The working method to be used for this RMT shall be ‘Agency’. However, a dedicated group of experts will support the execution of this RMT. Refer to Chapter 7 for more details.

---


The RMT.0230 Project Team will coordinate the several subtasks to ensure consistent and synchronised deliverables.

The table in Annex II contains the initial planning of the deliverables, the input used, and the type of consultation envisaged.

5. **Interface issues**

The main interface issues are the following:

- the revision of the Basic Regulation;
- the implementation of product legislation as foreseen especially for the ‘open’ category (for more details, please refer to Section 2.3.4 ‘Use of product legislation’ of the Technical Opinion (ref.: (a)));
- existing and future ICAO provisions;
- the deliverables produced so far, or those being developed, by JARUS;
- the deliverables produced by EUROCAE and other standardisation bodies.

6. **Focused consultation**

Several workshops with stakeholders and national aviation authorities (NAAs) are envisaged where the draft regulations and the draft CSs, AMC and GM will be discussed. Furthermore, the group of experts mentioned in Section 4.3 will be consulted as necessary.

7. **Profile and contribution of rulemaking groups**

Despite the fact that many aspects of this RMT are discussed with, or prepared by, JARUS, no formal rulemaking group will be established. However, a dedicated group of experts will be set up to support the drafting phase of the NPAs, and eventually the review of comments received, as necessary.

It will be composed of selected experts who will be invited on an ad hoc basis to work on specific issues. The following stakeholders should be considered:

- competent authorities of MSs,
- operators (private and commercial),
- manufacturers,
- manned aviation flight crews,
- remote pilots,
- other airspace users (manned aircraft),
- air navigation service providers (ANSPs),
- air traffic controllers and ATS personnel,
- model aircraft associations, and
- other affected stakeholders.
8. Reference documents

8.1. Affected regulations


8.2. Affected decisions

- Certification Specifications, Acceptable Means of Compliance and Guidance Material for Aircraft Noise (CS-36)
- Certification Specifications for European Technical Standard Orders (CS-ETSO)
- Certification Specifications and Acceptable Means of Compliance for Airborne Communications, Navigation and Surveillance (CS-ACNS)
8.3. Reference documents

(a) EASA Technical Opinion ‘Introduction of a regulatory framework for the operation of unmanned aircraft’ of 18 December 2015

(https://www.easa.europa.eu/system/files/dfu/Introduction%20of%20a%20regulatory%20framework%20for%20the%20operation%20of%20unmanned%20aircraft.pdf)

(b) EASA Advance Notice of Proposed Amendment (A-NPA) 2015-10 ‘Introduction of a regulatory framework for the operation of drones’ of 31 July 2015


(d) RIGA DECLARATION ON REMOTELY PILOTED AIRCRAFT (drones) — ‘FRAMING THE FUTURE OF AVIATION’ — Riga, 6 March 2015


(e) EASA ‘Concept of Operations for Drones — A risk based approach to regulation of unmanned aircraft’


(f) COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL ‘A new era for aviation — Opening the aviation market to the civil use of remotely piloted aircraft systems in a safe and sustainable manner’, COM(2014) 207 final, dated 8 April 2014


(g) European Parliament report of 25 September 2015 on safe use of remotely piloted aircraft systems (RPAS), commonly known as unmanned aerial vehicles (UAVs), in the field of civil aviation (2014/2243(INI))


(http://eur-lex.europa.eu/resource.html?uri=cellar:da8dfec1-9ce9-11e5-8781-01aa75ed71a1.0001.02/DOC_1&format=PDF)
Annex I: Provisional structure of UAS rules
### Annex II: Provisional process map

<table>
<thead>
<tr>
<th>RMT.0230 subtask</th>
<th>Subject</th>
<th>Proposal</th>
<th>Input</th>
<th>NPA publication planned for</th>
<th>Opinion/Decision publication planned for</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>IR Open Category and Specific Category</td>
<td>New</td>
<td>EASA CONOPs</td>
<td>2017/Q2</td>
<td>2018/Q1</td>
</tr>
<tr>
<td>A</td>
<td>AMC-Standard Scenarios for Operation Authorisation</td>
<td>New</td>
<td>JARUS-SORA + Stakeholders</td>
<td>-</td>
<td>2018/Q4</td>
</tr>
<tr>
<td>B</td>
<td>Part-ROC ‘Remote operator certificate’ Part-CAT Part-ARO Part-ORO</td>
<td>New or amend</td>
<td>JARUS-ORG</td>
<td>2019/Q2</td>
<td>2020/Q2</td>
</tr>
<tr>
<td>E</td>
<td>SERA</td>
<td>Amend</td>
<td>Basic Implementation UAS</td>
<td>1st phase 2019/Q2 2nd phase 2022/Q1</td>
<td>1st phase 2020/Q2 2nd phase 2023/Q1</td>
</tr>
<tr>
<td>E</td>
<td>ATCO Licensing ATM/ANS oversight</td>
<td>Amend</td>
<td></td>
<td>2022/Q1</td>
<td>2023/Q1</td>
</tr>
<tr>
<td>E</td>
<td>Rules for UA low-level traffic management</td>
<td>Amend</td>
<td>JARUS-ATM</td>
<td>tbd</td>
<td>tbd</td>
</tr>
<tr>
<td>E</td>
<td>Part-ACAS</td>
<td>Amend</td>
<td>ICAO/JARUS-D&amp;A</td>
<td>2022/Q1</td>
<td>2023/Q1</td>
</tr>
<tr>
<td>E</td>
<td>CS-ACNS</td>
<td>Amend</td>
<td></td>
<td>2022/Q1</td>
<td>2023/Q1</td>
</tr>
<tr>
<td>F</td>
<td>CS-UAS</td>
<td>New</td>
<td>JARUS CS-LURS, JARUS CS LUAS, JARUS CS-UAS, JARUS 1309, EUROCAE</td>
<td>-</td>
<td>2019/Q2</td>
</tr>
<tr>
<td>F</td>
<td>CS-ETSO</td>
<td>Amend</td>
<td>Industry MOPS</td>
<td>2019/Q3</td>
<td>2020/Q2</td>
</tr>
<tr>
<td>G</td>
<td>CS-36</td>
<td>Amend</td>
<td></td>
<td>2019/Q3</td>
<td>2020/Q1</td>
</tr>
<tr>
<td>H</td>
<td>Aerodromes</td>
<td>Amend</td>
<td></td>
<td>2022/Q1</td>
<td>2023/Q2</td>
</tr>
</tbody>
</table>