



# Explanatory Note to Decision 2019/021/R

## Introduction of a regulatory framework for the operation of unmanned aircraft systems in the ‘open’ and ‘specific’ categories

RELATED OPINION No 01/2018 — RMT.0230

### EXECUTIVE SUMMARY

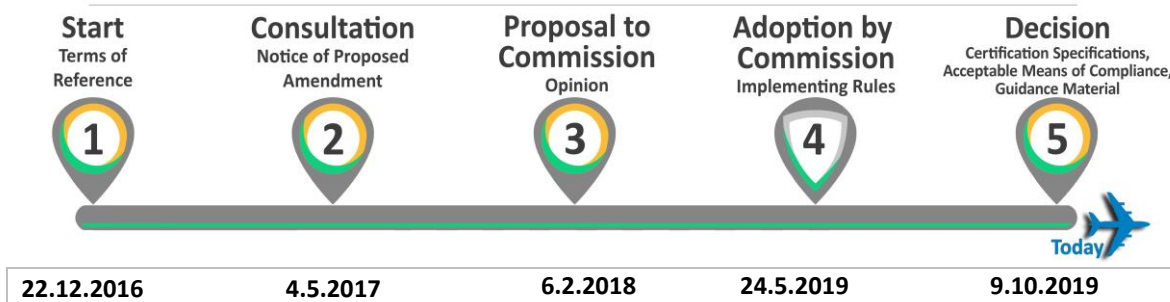
The objective of this Decision is to maintain a high level of safety for unmanned aircraft systems (UAS) operations in the ‘open’ and ‘specific’ categories.

This Decision provides the first issue of AMC and GM related to Commission Implementing Regulation (EU) 2019/947 on the rules and procedures for the operation of unmanned aircraft.

The new AMC and GM are expected to improve the harmonisation of operations with unmanned aircraft within the EU.

<b>Action area:</b>	Unmanned aircraft systems		
<b>Affected rules:</b>	N/A		
<b>Affected stakeholders:</b>	Member States, UAS operators (individuals and organisations), UAS manufacturers, manned aviation community, model aircraft community, ANSPs, ADRs, all airspace users		
<b>Driver:</b>	Efficiency/proportionality	<b>Rulemaking group:</b>	No
<b>Impact assessment:</b>	Full. Further reference in the respective NPA and Opinion	<b>Rulemaking Procedure:</b>	Accelerated/Standard

### ● EASA rulemaking process



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## 1. About this Decision

The European Union Aviation Safety Agency (EASA) developed ED Decision 2019/021/R in line with Regulation (EU) 2018/1139<sup>1</sup> (the ‘Basic Regulation’) and the Rulemaking Procedure<sup>2</sup>.

This rulemaking activity is included in the European Plan for Aviation Safety (EPAS) 2019-2023 under rulemaking task (RMT).0230. The scope and timescales of the task were defined in the related Terms of Reference<sup>3</sup>.

The draft text of this Decision has been developed by EASA, assisted by a UAS expert group, and based on the input provided by Joint Authorities for Rulemaking on Unmanned Systems (JARUS)<sup>4</sup>. All the interested parties were consulted through Notice of Proposed Amendment (NPA) 2017-05<sup>5</sup> and through the JARUS external consultation. More than 3 700 comments on the NPA were received from around 215 stakeholders, including industry, national aviation authorities (NAAs), UAS operators, the manned aircraft community, providers of air traffic management (ATM) services, qualified entities, security agencies, insurance companies, individual model aircraft pilots, model aircraft associations and clubs, and individuals. Figure 1 shows the distribution of the commenters on the NPA.

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<sup>1</sup> Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1535612134845&uri=CELEX:32018R1139>).

<sup>2</sup> EASA is bound to follow a structured rulemaking process as required by Article 115(1) of Regulation (EU) 2018/1139. 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>).

<sup>3</sup> <https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0230>

<sup>4</sup> See also <http://jarus-rpas.org/>.

<sup>5</sup> In accordance with Article 115 of Regulation (EU) 2018/1139 and Articles 6(3) and 7 of the Rulemaking Procedure.

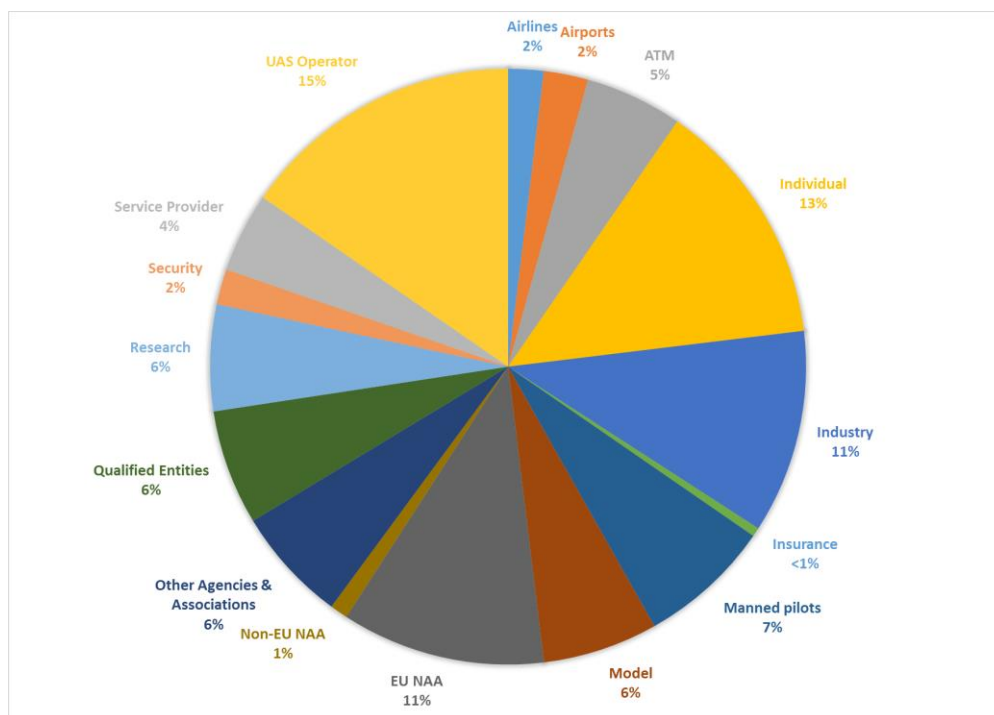


Figure 1 — Distribution of comments received according to the type of commenter

EASA has addressed and analysed all the comments received on the NPA. Due to the large number of comments, individual answers could not be provided. However, all the comments have been addressed. The documents developed by JARUS (i.e. the specific operations risk assessment (SORA) and the predefined risk assessment) underwent consultation through the JARUS consultation process, including an internal (JARUS members only) phase and an external phase. The external consultation was accessible to any stakeholder, and it was widely promoted through JARUS members (e.g. NAAs, EASA and Eurocontrol), the Stakeholder Consultation Body (SCB) and social media (e.g. LinkedIn) to reach the widest audience possible. The responsible working group in JARUS evaluated all the comments, produced a comment-response document (CRD) and communicated it to the stakeholders who had commented on the deliverable.

Based on the comments received, EASA published Opinion No 01/2018 on 6 February 2018, which was addressed to the European Commission. The related EU Commission Implementing Regulation (EU) 2019/947<sup>6</sup> and Commission Delegated Regulation (EU) 2019/945<sup>7</sup> were adopted on 24 May 2019 and on 12 March respectively.

The final text of this Decision, with the acceptable means of compliance (AMC) and guidance material (GM), has been developed by EASA.

The major milestones of this rulemaking activity are presented on the title page.

<sup>6</sup> Commission Implementing Regulation (EU) 2019/947 of 24 May 2019 on the rules and procedures for the operation of unmanned aircraft (OJ L 152, 11.6.2019, p. 45) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1564481129313&uri=CELEX:32019R0947>).

<sup>7</sup> Commission Delegated Regulation (EU) 2019/945 of 12 March 2019 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems (OJ L 152, 11.6.2019, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1564486609885&uri=CELEX:32019R0945>).

## 2. In summary — why and what

### 2.1. Why we need to develop new AMC & GM

Commission Implementing Regulation (EU) 2019/947 and Commission Delegated Regulation (EU) 2019/945 provide harmonised provisions for UAS operations in the ‘open’ and ‘specific’ categories across the EU in order to foster a European market. EU Member States (MSs) will be responsible for enforcing the regulation and for issuing authorisations for operations in the ‘specific’ category. This EASA Decision proposes possible means of compliance for the application of Commission Implementing Regulation (EU) 2019/947, facilitating the harmonisation between MSs. It also summarises in the GM the clarifications given to the stakeholders by the EU Commission and EASA during the discussion on the draft regulation in the EASA Committee and in the expert group meetings. Means of compliance and guidance material for Commission Delegated Regulation (EU) 2019/945 cannot be proposed since this act follows the market regulation framework, in which those tools are not envisaged.

The main element for authorising an operation in the ‘specific’ category is the risk assessment to be performed by the UAS operator in accordance with Article 11 of Regulation (EU) 2019/947. That article details the elements to be considered when carrying out the risk assessment. JARUS developed a methodology called SORA for conducting a risk assessment, and this is proposed in the EASA Decision as AMC. The SORA was developed with the contributions of experts from worldwide NAAs. It went through several iterations to validate the concept, leading to the publication of version 2.0 on 6 March 2019<sup>8</sup>. EASA and other EU NAAs significantly contributed to the development of the methodology. SORA V.2.0 has therefore been introduced into the EASA Decision with only minor changes to adapt the language to the terminology peculiar to the EU framework, and to update the references to regulations applicable in the EU.

In a similar way, JARUS developed a predefined risk assessment (PDRA)<sup>6</sup> and published it on 28 July 2019 as a means to facilitate the activities of the UAS operator when applying for an operational authorisation in the ‘specific’ category. The PDRA is a pre-application of the SORA methodology for a defined UAS operation, supporting the UAS operator when preparing the package in support of the application for the authorisation. The PDRA published by JARUS has also been included in the EASA Decision; in this case, with only minor changes to adapt the language to the EU framework. EASA plans to develop additional PDRAs in the next few years in order to cover the most common operations conducted in the EU.

### 2.2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 1 of the Basic Regulation. This Decision will contribute to the achievement of the overall objectives by addressing the issues outlined in Section 2.1.

The specific objectives of this Decision are, therefore, to:

- (a) implement an operation-centric, proportionate, risk- and performance-based regulatory framework for all UAS operations conducted in the ‘open’ and ‘specific’ categories;

<sup>8</sup> <http://jarus-rpas.org/content/jar-doc-06-sora-package>

- (b) ensure a high and uniform level of safety for UAS;
- (c) foster the development of the UAS market; and
- (d) contribute to addressing citizens' concerns regarding security, privacy, data protection, and environmental protection.

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

During the discussion between the EU Commission and the stakeholders leading to the adoption of Regulation (EU) 2019/947 (the UAS Regulation), the text that was initially proposed in the EASA Opinion was changed. The overall concept was not modified; however, it was decided to introduce into the text of the regulation some elements that were initially included in the AMC and GM published for information on the EASA website<sup>9</sup>. This decision was taken considering that new users who are not very familiar with the aviation regulation will apply the UAS Regulation. Moreover, especially in the 'open' category, the range of potential users is very large, from model flyers to leisure remote pilots to professional remote pilots. A more detailed regulation, leaving less room for interpretation, was considered more appropriate.

Based on this approach, the AMC and GM published for information on the EASA website were amended to remove all the elements that had been moved to the text of the regulation.

In addition, some new GM was added to capture the clarifications given to the MSs and to the other stakeholders during the discussions within the EASA Committee and the expert group, in particular related to:

- (a) the definitions listed in Article 2;
- (b) the boundaries between the 'open', 'specific' and 'certified' categories;
- (c) the definition of the 'certified' category, linking Article 6 of Regulation (EU) 2019/947 and Article 40 of Regulation (EU) 2019/945;
- (d) the role of the supervisor when the remote pilot does not meet the minimum age requirements;
- (e) explanation of the concept of the standard scenarios (STSs) and the PDRA, including tables that will list the published STSs and the PDRA with their main characteristics in order to assist the UAS operator in identifying which best fits his or her intended operation;
- (f) the process to authorise cross-border operations or to perform an operation covered by an STS in an MS different from the state of registration;
- (g) the process to be applied by model clubs and associations to apply for an authorisation by an NAA;
- (h) the enforcement of the UAS Regulation;
- (i) the derogation on height limitation provided for unmanned sailplanes when used in a hilly environment;
- (j) the differences between subcategories A2 and A3;

<sup>9</sup> <https://www.easa.europa.eu/sites/default/files/dfu/Draft%20AMC%20%20GM%20to%20draft%20Regulation%20...-%20and%20the%20draft%20Annex%20%28Part-U....pdf>

- (k) the responsibility of the remote pilot to avoid causing a risk to other aircraft; and
- (l) guidance to the UAS operator to help him or her to identify and describe the procedures to ensure that the UAS operations are in compliance with Regulation (EU) 2016/679<sup>10</sup> on the protection of natural persons regarding the processing of personal data, and on the free movement of such data.

Moreover, the following AMC were added:

- (a) documents, records and reports to be kept by the NAA;
- (b) operational limitations to be respected when operating in subcategory A1;
- (c) a form for the proof of completion of the online training for the UAS operations in the ‘open’ category, subcategories A1 and A3, and for the remote pilot certificate of competency. This form has been introduced to facilitate the recognition by the enforcement authority of a remote pilot trained in another MS;
- (d) how to evaluate the maximum distance at which an unmanned aircraft may be operated such that it remains in the visual line of sight (VLOS) of the remote pilot;
- (e) a form for the application for the operational authorisation in the ‘specific’ category; and
- (f) a form for the operational authorisation in the ‘specific’ category provided by the NAA. Also, in this case, this form has been introduced to facilitate the recognition by the enforcement authority of a UAS operator authorised by the competent authority of another MS.

The UAS Regulation defines the competencies required for remote pilots in order to operate in the ‘open’ and ‘specific’ categories. The AMC and GM published for information on the EASA website already included some details on the elements to be covered by the training and the examination. That content has been expanded to provide a minimum list of topics in order to allow the MSs to develop the training material for the theoretical online training and assessment to operate in subcategories A1 and A3, and for the theoretical examination to operate in subcategory A2 of the ‘open’ category. This will facilitate recognition across the EU of the training performed in one MS. In addition, the UAS Regulation mandates practical self-training to be conducted before taking the theoretical examination to operate in subcategory A2. Also, in this case, an AMC details the practical competencies the remote pilot should acquire.

Regarding the training required to operate in the ‘specific’ category, a full comprehensive list of competencies cannot be defined due to the large variety of operations possible in this category. Using the risk assessment methodology, the UAS operator will be required to identify the competencies that are most suitable for its operation. In any case, GM has been added identifying a list of topics to be considered.

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<sup>10</sup> Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4.5.2016, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1564487663922&uri=CELEX:32016R0679>).

### 3. References

#### 3.1. Related regulations

- Commission Implementing Regulation (EU) 2019/947 of 24 May 2019 on the rules and procedures for the operation of unmanned aircraft (OJ L 152, 11.6.2019, p. 45).

#### 3.2. Affected decisions

Not applicable.

#### 3.3. Other reference documents

Not applicable.

