

	(G) demonstrate the recovery method following a deliberate (simulated) loss of the command and control link.
(c) Post-flight actions	<ul style="list-style-type: none"> (i) Shut down and secure the UAS. (ii) Post-flight inspection and recording of any relevant data relating to the general condition of the UAS (its systems, components and power sources) and crew fatigue. (iii) Conduct a debriefing about the operation. (iv) Identify situations when an occurrence report was necessary and complete the required occurrence report.

CHAPTER II — STS-02 – BVLOS WITH AIRSPACE OBSERVERS OVER A CONTROLLED GROUND AREA IN A SPARSELY POPULATED ENVIRONMENT

UAS.STS-02.010 General provisions

Regulation (EU) 2020/639

- (1) During flight, the unmanned aircraft shall be maintained within 120 m from the closest point of the surface of the earth. The measurement of distances shall be adapted according to the geographical characteristics of the terrain, such as plains, hills, mountains.
- (2) When flying an unmanned aircraft within a horizontal distance of 50 m from an artificial obstacle taller than 105 m, the maximum height of the UAS operation may be increased up to 15 m above the height of the obstacle at the request of the entity responsible for the obstacle.
- (3) The maximum height of the operational volume shall not exceed 30 m above the maximum height allowed in points (1) and (2).
- (4) During flight, the unmanned aircraft shall not carry dangerous goods.

UAS.STS-02.020 UAS operations in STS-02

Regulation (EU) 2020/639

UAS operations in STS-02 shall be conducted:

- (1) in accordance with the operations manual referred to in point (1) of point [UAS.STS-02.030](#);
- (2) over a controlled ground area entirely located in a sparsely populated environment including:
 - (a) the flight geography area,
 - (b) the contingency, which its external limit(s) shall be located at least 10 m beyond the limit(s) of the flight geography area,
 - (c) a ground risk buffer covering a distance that is at least equal to the distance most likely to be travelled by the UA after activation of the means to terminate the flight specified by the UAS manufacturer in manufacturer's instructions, considering the operational conditions within the limitations specified by the UAS manufacturer;
- (3) in an area where the minimum flight visibility is more than 5 km;

- (4) with the unmanned aircraft in sight of the remote pilot during the launch and recovery of the unmanned aircraft, unless the latter is the result of an emergency flight termination;
- (5) if no airspace observer is used in the operation, with the unmanned aircraft flying no further than 1 km from the remote pilot, with the unmanned aircraft following a pre-programmed trajectory when the unmanned aircraft is not in VLOS of the remote pilot;
- (6) if one or more airspace observers are used in the operation, it shall comply with all of the following conditions:
 - (a) the airspace observer(s) are positioned in a manner allowing for an adequate coverage of the operational volume and the surrounding airspace with the minimum flight visibility indicated in point (3);
 - (b) the unmanned aircraft is operated no further than 2 km from the remote pilot;
 - (c) the unmanned aircraft is operated no further than 1 km from the airspace observer who is nearest to the unmanned aircraft;
 - (d) the distance between any airspace observer and the remote pilot is not more than 1 km;
 - (e) robust and effective communication means are available for the communication between the remote pilot and the airspace observer(s);
- (7) by a remote pilot who holds:
 - (a) a certificate of remote pilot theoretical knowledge for operations in standard scenarios, issued by the competent authority or by an entity designated by the competent authority of a Member State;
 - (b) an accreditation of completion of the STS-02 practical skill training, in accordance with [Attachment A](#) to this Chapter and issued by:
 - (A) an entity that has declared compliance with the requirements in [Appendix 3](#) and is recognised by the competent authority of a Member State; or
 - (B) by an UAS operator that has declared to the competent authority of the Member State of registration, compliance with STS-02 and that has declared compliance with the requirements in [Appendix 3](#);
- (8) with an unmanned aircraft which complies with all of the following conditions:
 - (a) is marked as class C6 and complies with the requirements of that class, as defined in [Part 17](#) of the Annex to Delegated Regulation (EU) 2019/945;
 - (b) is operated with an active system to prevent the unmanned aircraft from breaching the flight geography;
 - (c) is operated with active and updated direct remote identification system.
- (9) The remote pilot shall obtain the certificate of theoretical knowledge for operations in the standard scenarios after:
 - (a) having completed an online training course and passed the online theoretical knowledge examination as referred to in point (4)(b) of point [UAS.OPEN.020](#); and
 - (b) having passed an additional theoretical knowledge examination provided by the competent authority or by an entity designated by the competent authority of a Member State in accordance with [Attachment A](#) to this Chapter.

- (10) This certificate shall be valid for five years. The revalidation, within its validity period is subject to any of the following:
- (a) the demonstration of competencies in accordance with point (9);
 - (b) the completion of a refresher training addressing the theoretical knowledge subjects as defined in point (9) provided by the competent authority or by an entity designated by the competent authority;
- (11) In order to revalidate the certificate upon its expiration, the remote pilot shall comply with point (9).

GM1 UAS.STS-02.020(3) UAS operations in STS-02

ED Decision 2022/002/R

FLIGHT VISIBILITY

Point [UAS.STS-02.020\(3\)](#) requires a minimum flight visibility of 5 km to ensure that the remote pilot and/or the AO(s) can adequately visually scan the operational volume and surrounding airspace to detect well in advance any incoming manned aircraft and identify any risk of collision with that aircraft.

'Flight visibility' should be understood as the shortest distance from the remote pilot's position, or from the position of each of the AOs (if employed), at which unlighted objects may be seen and identified at day and prominently lighted objects may be seen and identified at night. It should be considered in all directions.

Before starting the intended UAS operation, the UAS operator should gather all relevant information that may affect the UAS flight visibility.

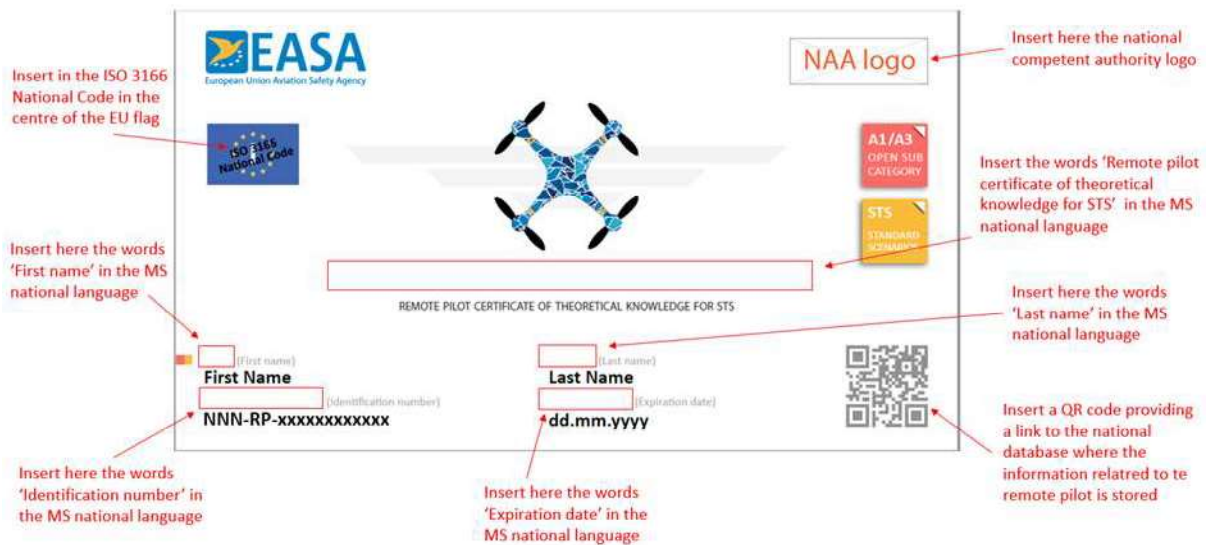
Other aspects that should be considered are, for example, the light conditions (including the sun or other intense lights that may blind the remote pilot and/or the AO(s)), the presence of natural or artificial obstacles, the cloud ceiling level, the presence of smoke, etc.

AMC1 UAS.STS-01.020(1)(e)(i) UAS operations in STS-01 and UAS.STS-02.020(7)(a) UAS operations in STS-02

ED Decision 2022/002/R

CERTIFICATE OF REMOTE PILOT THEORETICAL KNOWLEDGE

Upon receipt of proof that the remote pilot has successfully completed the theoretical knowledge examination, the competent authority or the entity that is designated by the competent authority should provide the remote pilot with a certificate of remote pilot theoretical knowledge in the format that is depicted in the figure below. The certificate may be provided in electronic form.



The remote pilot identification number that is provided by the competent authority, or the entity that is designated by the competent authority, which issues the certificate of remote pilot theoretical knowledge should have the following format:

NNN-RP-xxxxxxxxxxxx

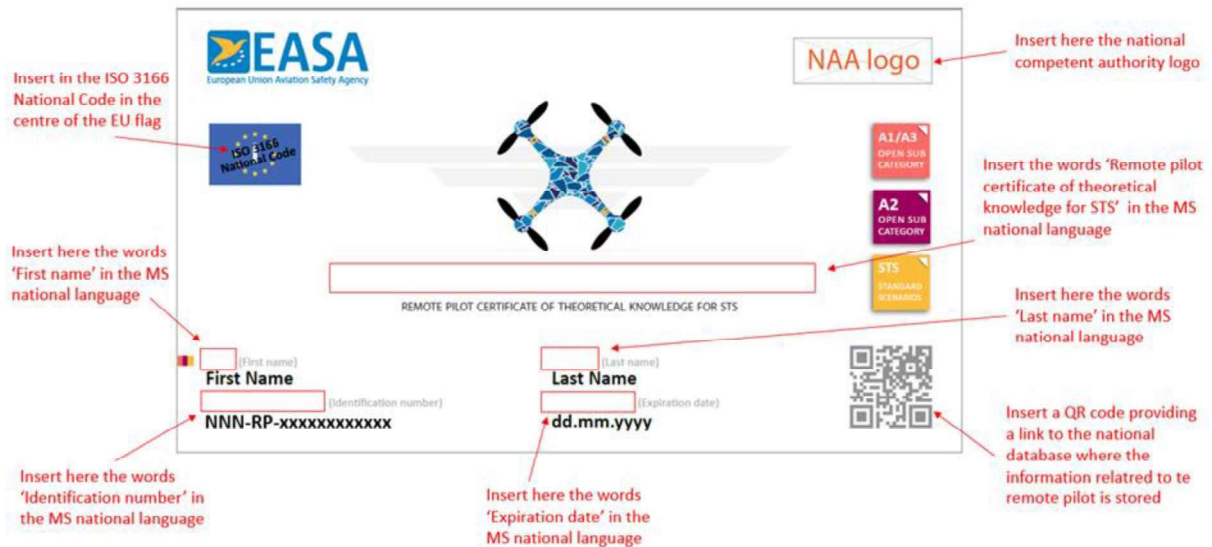
Where:

- 'NNN' is the ISO 3166 Alpha-3 code of the competent authority that issues the proof of completion;
- 'RP' is a fixed field meaning 'remote pilot'; and
- 'xxxxxxxxxxxx' are 12 alphanumeric characters (lower-case only) defined by the competent authority that issues the proof of completion.

Example: (FIN-RP-123456789abc)

The QR code provides a link to the national database where the information related to the remote pilot is stored. Through the 'remote pilot identification number', all information related to the training of the remote pilot can be retrieved by authorised bodies (e.g. competent authorities, law enforcement authorities, etc.) and authorised personnel.

If the remote pilot provides the declaration of the practical-skills self-training as defined in point [UAS.OPEN.030\(2\)\(c\)](#), before passing the theoretical knowledge examination, the competent authority may include in the certificate also 'subcategory A2'.



AMC1 UAS.STS-01.020(1)(e)(ii) UAS operations in STS-01 and UAS.STS-02.020(7)(b) UAS operations in STS-02

ED Decision 2022/002/R

REMOTE PILOT PRACTICAL TRAINING FOR STSs

The instructor should gradually compile a 'progress booklet' to allow the monitoring of the training and the continuous evaluation of the practical skills of the student remote pilot.

The progress booklet should be signed by the student remote pilot at the end of each practical training cycle. A record of the booklet should be kept for 5 years.

When the student remote pilot reaches the desired level of competence, the organisation that provides the practical training issues an attestation of practical training.

GM1 UAS.STS-01.020(1)(e)(ii) UAS operations in STS-01 and UAS.STS-02.020(7)(b) UAS operations in STS-02

ED Decision 2022/002/R

REMOTE PILOT PRACTICAL TRAINING FOR STSs

Practical training for STSs is provided as a 'continuous evaluation' of the student remote pilot by:

- (1) either a UAS operator that has declared compliance with:
 - (a) the relevant STS(s) (the one(s) for which training and assessment are provided); and
 - (b) the requirements of [Appendix 3](#) to the Annex to the UAS Regulation; or
- (2) an entity that has declared compliance with the requirements of [Appendix 3](#) to the Annex to the UAS Regulation.

UAS.STS-02.030 Responsibilities of the UAS operator

Regulation (EU) 2020/639

In addition to the responsibilities defined in [UAS.SPEC.050](#), the UAS operator shall:

- (1) develop an operations manual including the elements defined in [Appendix 5](#);
- (2) define the operational volume and ground risk buffer for the intended operations, including the controlled ground area covering the projections on the surface of the earth of both the volume and the buffer;
- (3) ensure the adequacy of the contingency and emergency procedures through any of the following:
 - (a) dedicated flight tests;
 - (b) simulations, provided that the representativeness of the simulation means is appropriate for the intended purpose;
- (4) develop an effective emergency response plan (ERP) suitable for the operation that includes at least:
 - (a) the plan to limit the escalating effects of the emergency situation;
 - (b) the conditions to alert the relevant authorities and organisations;
 - (c) the criteria to identify an emergency situation;
 - (d) clear delineation of the duties of the remote pilot(s) and any other personnel in charge of duties essential to the UAS operation;
- (5) ensure that the level of performance for any externally provided service necessary for the safety of the flight is adequate for the intended operation;
- (6) define the allocation of the roles and responsibilities between the operator and the external service provider(s), if applicable;
- (7) upload updated information into the geo-awareness, if the function is installed on the UAS, when required by the UAS geographical zone for the intended location of the operation;
- (8) ensure that, before starting the operation, all appropriate measures to reduce the risk of intrusion of uninvolved persons in the controlled ground area compliant with the minimum distance defined in point [UAS.STS-02.020](#)(2) have been taken and, when required, coordination with the appropriate authorities has been conducted;
- (9) ensure that, before starting the operation, all persons present in the controlled ground area:
 - (a) have been informed of the risks of the operation;
 - (b) have been briefed and, if applicable, trained on the safety precautions and measures established by the UAS operator for their protection; and
 - (c) have explicitly agreed to participate in the operation;

- (10) before starting the operation, if airspace observers are used:
- (a) ensure the correct placement and number of airspace observers along the intended flight path;
 - (b) verify:
 - (i) that the visibility and the planned distance of the airspace observer are within acceptable limits as defined in the operations manual;
 - (ii) the absence of potential terrain obstructions for each airspace observer;
 - (iii) that there are no gaps between the zones covered by each of the airspace observers;
 - (iv) that the communication with each airspace observer is established and effective;
 - (v) that if means are used by the airspace observers to determine the position of the unmanned aircraft, those means are functioning and effective;
 - (c) ensure that the airspace observers have been briefed on the intended path of the unmanned aircraft and the associated timing;
- (11) ensure that:
- (a) the UAS is accompanied by the corresponding EU declaration of conformity, including the reference to class C6;
 - (b) the class C6 identification label is affixed to the unmanned aircraft.

AMC1 UAS.STS-01.030(1)&(3) and UAS.STS-02.030(1)&(3) Responsibilities of the UAS operator

ED Decision 2022/002/R

OPERATIONAL PROCEDURES

The UAS operator should comply with the conditions for a 'medium' level of robustness of [AMC2 UAS.SPEC.030\(3\)\(e\)](#) as regards:

- the operational procedures contained in the OM, indicated in [UAS.STS-01.030\(1\)](#) and [UAS.STS-02.030\(1\)](#); and
- the contingency and emergency procedures, indicated in [UAS.STS-01.030\(3\)](#) and [UAS.STS-02.030\(3\)](#).

The flight test to verify the adequacy of the contingency and emergency procedures may be conducted in subcategory A3 of the 'open' category. In that case, the UAS operator should ensure that the UAS operation complies with the 'open' category requirements.

AMC1 UAS.STS-01.030(4) and UAS.STS-02.030(4) Responsibilities of the UAS operator

ED Decision 2022/002/R

EMERGENCY RESPONSE PLAN (ERP)

The UAS operator should develop an ERP in compliance with the conditions for a 'medium' level of robustness as per [AMC3 UAS.SPEC.030\(3\)\(e\)](#).

GM1 UAS.STS-01.030(5)&(6) and UAS.STS-02.030(5)&(6) Responsibilities of the UAS operator

ED Decision 2022/002/R

EXTERNALLY PROVIDED SERVICES

'External service' should be understood as any service that is provided by an external service provider to the UAS operator and which is:

- necessary to ensure the safety of a UAS operation; and
- provided by a service provider other than the UAS operator.

UAS.STS-02.040 Responsibilities of the remote pilot

Regulation (EU) 2020/639

In addition to the responsibilities defined in [UAS.SPEC.060](#), the remote pilot shall:

- (1) before starting an UAS operation:
 - (a) set the programmable flight volume of the unmanned aircraft to keep it within the flight geography;
 - (b) verify that the means to terminate the flight and the programmable operational volume functionality of the unmanned aircraft are operational; and, check if the direct remote identification is active and up-to-date.
- (2) during flight:
 - (a) unless supported by airspace observers, maintain a thorough airspace scan of the airspace surrounding the unmanned aircraft in order to avoid any risk of a collision with any manned aircraft. The remote pilot shall discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment or property;
 - (b) have the ability to maintain control of the unmanned aircraft, except in the case of a lost command and control (C2) link;
 - (c) operate only one unmanned aircraft at a time;
 - (d) not operate the unmanned aircraft from a moving vehicle;
 - (e) not hand over the control of the unmanned aircraft to another command unit;
 - (f) inform the airspace observer(s), when employed, in a timely manner of any deviations of the unmanned aircraft from the intended path, and the associated timing;
 - (g) perform the contingency procedures defined by the UAS operator for abnormal situations, including when the remote pilot has indication that the unmanned aircraft may exceed the limits of the flight geography;
 - (h) perform the emergency procedures defined by the UAS operator for emergency situations, including triggering the means to terminate the flight when the remote pilot has an indication that the unmanned aircraft may exceed the limits of the operational volume.

UAS.STS-02.050 Responsibilities of the airspace observer

Regulation (EU) 2020/639

An airspace observer shall:

- (1) maintain a thorough airspace scan of the airspace surrounding the unmanned aircraft in order to identify any risk of a collision with any manned aircraft;
- (2) maintain awareness of the position of the unmanned aircraft through direct airspace observation or through assistance provided by electronic means;
- (3) alert the remote pilot when a hazard is detected and assist in avoiding or minimising the potential negative effects.

AMC1 UAS.STS-02.050(2) Responsibilities of the airspace observer

ED Decision 2022/002/R

MAINTAINING AWARENESS OF THE UA

The airspace observer should be provided with clear and concise information on the geographical position of the UA, its speed, and its height above the surface or take-off point.

The airspace observer may use the same system provided to the remote pilot to comply with the requirement in [Part 17 point \(3\)](#) of the UAS Regulation.

ATTACHMENT A: REMOTE PILOT THEORETICAL KNOWLEDGE AND PRACTICAL SKILL FOR STS-02

Regulation (EU) 2020/639

(1) Theoretical knowledge examination

The examination shall be defined in accordance with point 1 of [Attachment A](#) to Chapter I.

(2) Practical skill training and assessment

In addition to the areas defined in point A.2 of [Attachment A](#) to Chapter I, the following areas shall be covered:

Table 1

Additional subjects and areas to be covered for practical skill training and assessment for STS-02

Subject	Areas to be covered
(a) BVLOS operations conducted under STS-02	(i) Pre-flight actions — operation planning, airspace considerations and site risk-assessment. The following points are to be included: (A) airspace scanning; (B) operations with airspace observers (AOs): adequate placement of AOs, and a deconfliction scheme that includes phraseology, coordination and communications means; (ii) The in-flight procedures, defined in point 2.(b)(ii) of Attachment A to Chapter I, shall be performed in both VLOS and BVLOS.