Draft Annex to draft Commission Implementing Regulation (EU) .../... amending Commission Implementing Regulation (EU) 2019/947 as regards the adoption of standard scenarios

(1) Appendix 1 to the Annex is replaced by the following:

Appendix 1 for standard scenarios supporting a declaration

Chapter I — STS-01 – VLOS over a controlled ground area in a populated environment

UAS.STS-01.010 General provisions

(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 metres, 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-01.020 UAS operations in STS-01

UAS operations in STS-01 shall be conducted:

(1) keeping the unmanned aircraft in VLOS at all times;

(2) in accordance with the operations manual referred to in point (1) of point UAS.STS-01.030;

(3) over a controlled ground area comprising:

(a) for the operation of an untethered unmanned aircraft, the:

(i) flight geography area,

(ii) contingency area, with its external limit(s) at least 10 m beyond the limit(s) of the flight geography area, and

(iii) ground risk buffer, which shall cover a distance beyond the external limit(s) of the contingency area that is at least as defined below:

	Minimum distance to be covered by the ground risk buffer for untethered unmanned aircraft

Maximum height above ground	with an MTOM up to 10 kg	with an MTOM above 10 kg
30 m	10 m	20 m
60 m	15 m	30 m
90 m	20 m	45 m
120 m	25 m	60 m

(b) for operation of a tethered unmanned aircraft, a radius equal to the tether length plus 5 m and centred on the point where the tether is fixed over the surface of the earth.

(4) at a ground speed of less than 5 m/s in the case of untethered unmanned aircraft;

(5) by a remote pilot who:

(a) holds a certificate of remote pilot theoretical knowledge for operations in the standard scenarios issued by the competent authority or by an entity recognised by the competent authority of a Member State.

(i) This certificate shall be obtained 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 recognised by the competent authority of a Member State in accordance with Attachment A to this Chapter.

(ii) This certificate shall be valid for five years. The renewal is subject to the demonstration of competencies in accordance with point (i); and

(b) holds an accreditation of completion of the STS-01 practical skill training, in accordance with Attachment A to this Chapter and issued by an entity recognised by the competent authority of a Member State or by a UAS operator that has declared compliance with STS-01 and that has declared compliance with the requirements in Appendix 3; and

(6) with an unmanned aircraft which is marked as class C5 and complies with the requirements of that class, as defined in Part 16 of the Annex to Delegated Regulation (EU) 2019/945, and is operated with active and updated direct remote identification.

UAS.STS-01.030 Responsibilities of the UAS operator

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 within both the volume and the buffer;

(3) ensure the adequacy of the contingency and emergency procedures through:

(a) dedicated flight tests; or

(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 any escalating effects of the emergency situation;

(b) the conditions to alert the relevant authorities and organisations, if needed;

(c) the criteria to identify an emergency situation; and

(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 function, if the system is installed on the UAS, when required by the UAS geographical zone for the intended location of operation;

(8) ensure that, before starting the operation, the controlled ground area is in place, effective and compliant with the minimum distance defined in UAS.STS-01.020(3) 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 or trained, as appropriate, on the safety precautions and measures established by the UAS operator for their protection; and

(c) have explicitly agreed to participate in the operation; and

(10) ensure that the:

(a) UAS is accompanied by the corresponding EU declaration of conformity, including the reference to class C5; and

(b) class C5 identification label is affixed to the unmanned aircraft.

UAS.STS-01.040 Responsibilities of the remote pilot

In addition to the responsibilities defined in UAS.SPEC.060, the remote pilot:

(1) before starting a UAS operation, shall verify that the means to terminate the flight of the unmanned aircraft and the direct remote identification system are operational;

(2) during the flight:

(a) shall keep the unmanned aircraft in VLOS and maintain a thorough visual 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) for the purposes of point (a), may be assisted by an unmanned aircraft observer. Clear and effective communication shall be established between the remote pilot and the unmanned aircraft observer;

(c) shall have the ability to maintain control of the unmanned aircraft, except in the case of a lost command and control link;

(d) shall operate only one unmanned aircraft at a time;

(e) shall not operate the unmanned aircraft while operating a moving vehicle;

(f) shall not hand over the control of the unmanned aircraft to an other control unit;

(g) shall perform the contingency procedures defined by the UAS operator for abnormal situations, including when the remote pilot has an indication that the unmanned aircraft may exceed the limits of the flight geography; and

(h) shall 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. The means to terminate the flight shall be triggered at least 10 m before the unmanned aircraft reaches the limits of the operational volume.

ATTACHMENT A: REMOTE PILOT THEORETICAL KNOWLEDGE AND PRACTICAL SKILL FOR STS-01

1. Theoretical knowledge examination

(a) The examination referred in point (5) of point UAS.STS-01.020 shall comprise at least 40 multiple-choice questions aimed at assessing the remote pilot's knowledge of the technical and operational mitigations, distributed appropriately across the following subjects:

(i) aviation regulations;

(ii) human performance limitations;

(iii) operational procedures;

(iv) technical and operational mitigations for ground risk;

(v) UAS general knowledge;

(vi) meteorology;

(vii) the flight performance of the UAS; and

(viii) technical and operational mitigations for air risks.

(b) If the student remote pilot already holds a certificate of remote pilot competency as referred to in point (2) of point UAS.OPEN.030, the examination shall comprise at least 30 multiple-choice questions distributed appropriately across the subjects in points (1)(a)(i) to (1)(a)(v).

(c) To pass the theoretical knowledge examination, the remote pilot student shall achieve at least 75 % of the overall marks.

2. Practical skill training and assessment

The training and assessment of the practical skill for operations under any standard scenarios shall cover at least the subjects and areas identified in Table 1 below:

Table 1: Subjects and areas to be covered for practical skill training and assessment

Subject	Areas to be covered
(a) Pre-flight actions	(i) Operation planning, airspace considerations and site risk assessment. The following points are to be included: (A) identify the objectives of the intended operation; (B) make sure that the defined operational volume and relevant buffers (e.g. ground risk buffer) are suitable for the intended operation; (C) spot the obstacles in the operational volume that could hinder the intended operation;

Subject	Areas to be covered
	(D) identify whether the wind speed and/or direction may be affected by topography or by obstacles in the operational volume; (E) select relevant data on airspace information (including on UAS geographical zones) that can have an impact on the intended operation; (F) make sure the UAS is suitable for the intended operation; (G) make sure that the selected payload is compatible with the UAS used for the operation; (H) implement the necessary measures to comply with the limitations and conditions applicable to the operational volume and ground risk buffer for the intended operation in accordance with the operations manual procedures for the relevant scenario; (I) implement the necessary procedures to operate in controlled airspace, including a protocol to communicate with ATC and obtain clearance and instructions, if necessary; (J) confirm that all the necessary documents for the intended operation are on site; and (K) brief all participants about the planned operation. (ii) UAS pre-flight inspection and set-up (including flight modes and power-source hazards). The following points are to be included: (A) assess the general condition of the UAS; (B) ensure that all the removable components of the UAS are properly secured; (C) make sure that the UAS software configurations are compatible; (D) calibrate the instruments in the UAS; (E) identify any flaw that may jeopardise the intended operation; (F) make sure that the energy level of the battery is sufficient for the intended operation;

Subject	Areas to be covered
	(G) make sure that the flight termination system of the UAS and its triggering system are operational; (H) check the correct functioning of the command and control link; (I) activate the geo-awareness function and upload the information to it (if geo-awareness function is available); and (J) set the height and speed limitation systems (if available). (iii) Knowledge of the basic actions to be taken in the event of an emergency situation, including issues with the UAS, or if a mid-air collision hazard arises during the flight.
(b) In-flight procedures	(i) Maintain an effective look-out and keep the unmanned aircraft within visual line of sight (VLOS) at all times to include: situational awareness of the location in relation to the operational volume and other airspace users, obstacles, terrain and persons who are not involved at all times. (ii) Perform accurate and controlled flight manoeuvres at different heights and distances representative of the corresponding STS (including flight in manual/non-GNSS assisted mode or the equivalent, where fitted). At least the following manoeuvres shall be performed: (A) hover in position (only for rotorcraft); (B) transition from hover into forward flight (only for rotorcraft); (C) climb and descent from level flight; (D) turns in level flight; (E) speed control in level flight; (F) actions after a failure of a motor/ propulsion system; and (G) evasive action (manoeuvres) to avoid collisions.

Subject	Areas to be covered
	(iii) Real-time monitoring of the UAS status and endurance limitations. Flight under abnormal conditions: (A) manage a partial or complete power shortage of the unmanned aircraft propulsion system while ensuring the safety of third parties on the ground; (B) manage the path of the unmanned aircraft in abnormal situations; (C) manage a situation in which the unmanned aircraft positioning equipment is impaired; (D) manage a situation of an incursion by a person not involved into the operational volume or the controlled ground area, and take appropriate measures to maintain safety; (E) manage the exit of the unmanned aircraft from the flight geography (contingency procedures) and from the operational volume (emergency procedures) as defined during the flight preparation; (F) manage the situation when an aircraft approaches the operational volume; and (G) demonstrate the recovery method following a deliberate (simulated) loss of the command and control link.
(c) Post-flight actions	(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 VOs over a controlled ground area in a sparsely populated environment

UAS.STS-02.010 General provisions

(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

UAS operations in STS-02 shall:

(1) be conducted in accordance with the operations manual referred to in point (1) of point UAS.STS-02.030;

(2) be conducted over a controlled ground area entirely located in a sparsely populated area. Such a controlled ground area shall include a ground risk buffer covering a distance that is at least equal to the distance specified by the UAS manufacturer in the user's manual, considering the operational conditions within the limitations specified by the UAS manufacturer;

(3) be conducted in an area where the minimum flight visibility is more than 5 km;

(4) be conducted with the UA in sight of the remote pilot during the launch and recovery of the UA, unless the latter is the result of an emergency flight termination;

(5) if no visual observer is used in the operation, be conducted 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 visual observers are used in the operation, comply with the following conditions:

  (a) the visual observer(s) shall be positioned so as to provide 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 visual observer who is nearest to the unmanned aircraft;

(d) the distance between any visual observer and the remote pilot is not more than 1 km; and

(e) robust and effective communication means are available for the communication between the remote pilot and the visual observer(s);

(7) be conducted by a remote pilot who:

(a) holds a certificate of remote pilot theoretical knowledge for operations in standard scenarios, issued by the competent authority or by an entity recognised by the competent authority of a Member State.

(i) This certificate shall be obtained 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 recognised by the competent authority of a Member State in accordance with Attachment A to this Chapter;

(ii) This certificate shall be valid for five years. The renewal is subject to the demonstration of competencies in accordance with point (i);

(b) holds an accreditation of the STS-02 practical skill training, in accordance with Attachment A to this Chapter and issued by a an entity recognised by the competent authority of a Member State or by a UAS operator that has declared compliance with STS-02 and that has declared compliance with the requirements in Appendix 3; and

(8) be conducted with an unmanned aircraft which is:

(a) marked as class C6 and complies with the requirements of that class, as defined in Part 17 of the Annex to Regulation (EU) 2019/945;

(b) operated with an active system to prevent the unmanned aircraft from breaching the flight geography; and

(c) operated with active and updated direct remote identification.

UAS.STS-02.030 Responsibilities of the UAS operator

In addition to the responsibilities defined in UAS.SPEC.060, 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:

(a) dedicated flight tests; or

(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) a plan to limit the escalating effects of the emergency situation;

(b) the conditions to alert the relevant authorities;

(c) the criteria to identify an emergency situation; and

(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, the controlled ground area is in place, effective and compliant with the minimum distance defined in UAS.STS-02.020(2) 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 visual observers are used:

(a) ensure the correct placement and number of visual observers along the intended flight path;

(b) verify:

(i) that the visibility and the planned distance of the visual observer are within acceptable limits as defined in the operations manual;

(ii) the absence of potential terrain obstructions for each visual observer;

(iii) that there are no gaps between the zones covered by each of the visual observers;

(iv) that the communication with each visual observer is established and effective; and

(v) that if means are used by the visual observers to determine the position of the unmanned aircraft, those means are functioning and effective; and

(c) ensure that the visual observers have been briefed on the intended path of the unmanned aircraft and the associated timing; and

(11) ensure that the:

(a) UAS is accompanied by the corresponding EU declaration of conformity, including the reference to class C6; and

(b) class C6 identification label is affixed to the unmanned aircraft.

UAS.STS-02.040 Responsibilities of the remote pilot

In addition to the responsibilities defined in UAS.SPEC.060, the remote pilot shall:

(1) before starting a UAS operation:

(a) set the programmable flight volume of the unmanned aircraft to keep it within the flight geography; and

(b) verify that the means to terminate the flight and the programmable flight volume functionality on the unmanned aircraft are operational;

(2) during flight:

(a) unless supported by visual observers, maintain a thorough visual 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 link;

(c) operate only one unmanned aircraft at a time;

(d) not operate from a moving vehicle;

(e) not hand over the control of the unmanned aircraft to an other control unit;

(f) inform the visual 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; and

(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 visual observer

A visual observer shall:

(1) maintain a thorough visual 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 visual observation or through assistance provided by an electronic means; and

(3) alert the remote pilot when a hazard is detected and assist in avoiding or minimising the potential negative effects.

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

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; and (B) operations with visual observers (VOs): adequate placement of VOs, and a deconfliction scheme that includes phraseology, coordination and communications means; and (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.

(2) The following new Appendices, 2, 3, 4 and 5, are added to the Annex:

Appendix 2: Operational declaration

STS-x **Operational declaration**

Data protection: Personal data included in this declaration is processed by the competent authority pursuant to 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). It will be processed for the purposes of the performance, management and follow-up of the oversight activities according to Regulation (EU) 2019/947. If you require further information concerning the processing of your personal data or you wish to exercise your rights (e.g. to access or rectify any inaccurate or incomplete data), please refer to the contact point of the competent authority. The applicant has the right to make a complaint regarding the processing of the personal data at any time to the national Data Protection Supervisory Authority.			
UAS operator registration number			
UAS operator name			
I hereby declare that: – **I comply with all the applicable provisions of Regulation (EU) 2019/947 and with STS.x; and** – **appropriate insurance cover will be in place for every flight made under the declaration, if required by Union or national law.**			
Date		**Signature or other verification**	

Appendix 3: Additional requirements for operators that conduct practical skill training and assessment of remote pilots for operations covered by STS

A UAS operator that intends to conduct practical skill training and assessment of remote pilots for an STS, in addition to submitting the operational declaration for that STS, shall declare to the competent authority compliance with the following requirements using the declaration form in Appendix 4. If the UAS operator intends to conduct a training activity in a Member State other than the Member State of registration, a copy of the declaration form in Appendix 4 shall be submitted to the competent authority of the Member State where the training is conducted.

(1) There shall be a clear separation between the training activities and any other operational activity such that the objectivity of the UAS operator is not called into question.

(2) The UAS operator shall have the capability to adequately perform the technical and administrative activities linked with the entire task process, including the adequacy of personnel and the use of facilities and equipment appropriate to the task.

(3) The UAS operator shall have an accountable manager, with the responsibility for ensuring that all tasks are performed in compliance with the information and procedures identified in point (8).

(4) The personnel responsible for the practical skill training and practical skill assessment tasks shall:

(a) have the competence to conduct these tasks;

(b) be impartial and shall not participate in assessments if they feel that their objectivity may be affected;

(c) have a sound theoretical knowledge and practical skill training experience, and satisfactory knowledge of the requirements for the practical skill assessment tasks they carry out as well as adequate experience of such processes;

(d) have the ability to administer the declarations, records and reports that demonstrate that the relevant practical skill assessments have been carried out and the conclusions of those practical skill assessments; and

(e) not disclose any information supplied by the operator or remote pilot to any person other than the competent authority upon their request.

(5) The training and assessment shall cover the practical skills corresponding to the STS for which the declaration is made, included in Attachment A to the relevant Chapter.

(6) The practical skill training and assessment location(s) shall be conducted in an environment representative of the conditions of the STS.

(7) The practical skill assessment shall consist of a continuous evaluation of the student remote pilot.

(8) The UAS operator shall produce an assessment report after completing the practical skill assessment, which shall:

(a) include at least:

(i) the student remote pilot's identification details;

(ii) the identity of the person responsible for the practical skill assessment;

(iii) the identification of the STS for which the practical skill assessment has been performed;

(iv) performance marks for each action performed by the student remote pilot;

(v) an overall practical skill assessment of the student remote pilot's competencies; and

(vi) practical skill assessment feedback providing guidance on areas for improvement where applicable;

(b) be appropriately signed and dated by the person responsible for the practical skill assessment once complete; and

(c) be recorded and made available for inspection by the competent authority upon request.

(9) An accreditation of completion of the practical skill training for the STS shall be delivered to the student remote pilot by the UAS operator if the assessment report concludes that the student remote pilot has achieved a satisfactory level of practical skill.

(10) The issuance of the accreditation of completion of point (9) shall be notified to the competent authority including the student remote pilot's identification details, the STS covered, the date of issuance and the identification details of the UAS operator issuing it.

(11) The UAS operator shall include in the operations manual, developed in accordance with Appendix 5, a separate section covering the training elements, including the following:

(a) the nominated personnel conducting practical skill training and assessment, including:

(i) descriptions of the respective personnel's competence;

(ii) the personnel's duties and responsibilities; and

(iii) a chart of the organisation showing the associated chains of responsibility;

(b) the procedures and processes used for practical skill training and assessment, including the training syllabus covering the practical skill corresponding to the STS for which the declaration is made, defined in Attachment A to the relevant Chapter;

(c) a description of the UAS and any other equipment and tools used for the practical skill training and assessment;

(d) a description of the facilities for practical skill training and assessment, including the physical location; and

(e) a template for the assessment report.

Appendix 4: Declaration of UAS operators that intend to provide practical skill training and assessment of remote pilots in STS-x

STS-x

Declaration of UAS operators that intend to provide practical skill training and assessment of remote pilots

Data protection: Personal data included in this declaration is processed by the competent authority pursuant to 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). It will be processed for the purposes of the performance, management and follow up of the oversight activities according to Regulation (EU) 2019/947.

If you require further information concerning the processing of your personal data or you wish to exercise your rights (e.g. to access or rectify any inaccurate or incomplete data), please refer to the contact point of the competent authority.

The applicant has the right to make a complaint regarding the processing of the personal data at any time to the national Data Protection Supervisory Authority.

UAS operator registration number	
UAS operator name	

I hereby declare that:

- **I have submitted the operational declaration for STS-x;**
- **I comply with the requirements defined in Appendix 3 to the Annex to Regulation (EU) 2019/947; and**
- **when operating a UAS in the context of training activities for STS.x, I comply with all the applicable provisions of Regulation (EU) 2019/947, including requirements for operations under STS.x**

Date		**Signature or other verification**	

Appendix 5: Operations manual

The operations manual shall contain at least the following:

(1) a statement that the operations manual complies with the relevant requirements of Regulation (EU) 2019/947 and with the declaration, and contains instructions that are to be complied with by the personnel involved in flight operations;

(2) an approval signature by the accountable manager or the UAS operator in the case of a natural person;

(3) an overall description of the UAS operator's organisation;

(4) a description of the concept of the operation, including at least:

  (a) the nature and description of the activities performed in the UAS operations, and the identified associated risks;

  (b) the operational environment and geographical area for the intended operations, including:

    (i) the characteristics of the area to be overflown in terms of the population density, topography, obstacles, etc.;

    (ii) the characteristics of the airspace to be used; and

    (iii) the environmental conditions (i.e. the weather and electromagnetic environment); and

    (iv) the definition of the operational volume and risk buffers to address the ground and air risks;

  (c) the technical means used and their main characteristics, performance and limitations, including the UAS, external systems supporting the UAS operation, facilities, etc.; and

  (d) the required personnel for conducting operations, including the composition of the team, their roles and responsibilities, selection criteria, initial training and recent experience requirements and/or recurrent training;

(5) the maintenance instructions required to keep the UAS in a safe condition, covering the UAS manufacturer's maintenance instructions and requirements if applicable;

(6) operational procedures, which shall be based on the user's manual provided by the UAS manufacturer, and shall include:

  (a) consideration of the following to minimise human errors:

    (i) a clear distribution and assignment of tasks; and

    (ii) an internal checklist to check that staff are performing their assigned tasks adequately;

  (b) consideration of the deterioration of external systems supporting the UAS operation;

(c) normal procedures, including at least:

(i) pre-flight preparations and checklists, covering:

(A) the assessment of the operational volume and related buffers (the ground risk buffer, and air risk buffer when applicable), including the terrain and potential obstacles and obstructions that may reduce the ability to keep the unmanned aircraft in visual line of sight or to scan the airspace, the potential overflight of persons who are not involved and potential overflight of critical infrastructure;

(B) the assessment of the surrounding environment and airspace, including the proximity of UAS geographical zones and potential activities by other airspace users;

(C) the environmental conditions suitable for conducting the UAS operation;

(D) the minimum number of personnel in charge of duties essential to the UAS operation who are required to perform the operation, and their responsibilities;

(E) the required communication procedures between the remote pilot(s) and any other personnel in charge of duties essential to the UAS operation and with any external parties, when needed;

(F) compliance with any specific requirements from the relevant authorities in the intended area of operations, including those related to security, privacy, data and environmental protection, and the use of the RF spectrum;

(G) the required risk mitigations in place to ensure the safe conduct of the operation; in particular, for the controlled ground area:

(a) determination of the controlled ground area; and

(b) securing the controlled ground area to prevent third parties from entering the area during the operation, and ensuring coordination with the local authorities, when needed;

(H) the procedures to verify that the UAS is in a suitable condition to safely conduct the intended operation;

(ii) launch and recovery procedures;

(iii) in-flight procedures, including those to ensure that the unmanned aircraft remains within the flight geography;

(iv) post-flight procedures, including the inspections to verify the condition of the UAS;

(v) procedures for the detection of potentially conflicting aircraft by the remote pilot and, when required by the UAS operator, by visual observer(s) or unmanned aircraft observer(s), as applicable;

(d) contingency procedures, including at least:

(i) procedures to cope with the unmanned aircraft leaving the designated 'flight geography';

(ii) procedures to cope with persons who are not involved entering the controlled ground area;

(iii) procedures to cope with adverse operating conditions;

(iv) procedures to cope with the deterioration of external systems supporting the operation;

(v) if visual observers are employed, the phraseology to be used; and

(vi) avoidance procedures to avoid any conflict with other airspace users;

(e) emergency procedures to cope with emergency situations, including at least:

(i) procedures to avoid, or at least minimise, harm to third parties in the air or on the ground;

(ii) procedures to cope with the unmanned aircraft leaving the 'operational' volume; and

(iii) procedures for the emergency recovery of the unmanned aircraft;

(f) security procedures as referred to in UAS.SPEC.050(1)(a)(ii) and (iii);

(g) the procedures for the protection of personal data referred to in UAS.SPEC.050(1)(a)(iv);

(h) the guidelines to minimise nuisance and environmental impact referred to in UAS.SPEC.050(1)(a)(v);

(i) occurrence reporting procedures;

(j) record-keeping procedures; and

(k) the policy defining how the remote pilot(s) and any other personnel in charge of duties essential to the UAS operation can declare themselves fit to operate before conducting any operation.