

## Appendix 5 — Operations manual for Standard Scenario

Regulation (EU) 2020/639

The operations manual for STS defined in [Appendix 1](#) shall contain at least the following:

- (1) a statement that the operations manual complies with the relevant requirements of this Regulation 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;
    - (iii) the environmental conditions including at least the weather and the electromagnetic environment;
    - (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.;
  - (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;

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- (6) operational procedures, which shall be based on manufacturer's instructions 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 airspace 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 airspace observers are employed, the phraseology to be used;
  - (vi) conflict avoidance procedures 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;
  - (iii) procedures for the emergency recovery of the unmanned aircraft;
- (f) security procedures as referred to in point (1)(a)(ii) and (iii) of point [UAS.SPEC.050](#);
- (g) the procedures for the protection of personal data referred to in point (1)(a)(iv) of point [UAS.SPEC.050](#);
- (h) the guidelines to minimise nuisance and environmental impact referred to in point (1)(a)(v) of point [UAS.SPEC.050](#);
- (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.