



CALL FOR CANDIDATES - STUDY GROUP DEFINITION TEAM

STUDY GROUP ON RPAS-RELATED RESPONSIBILITY, LIABILITY & INSURANCE

An RPAS Community Supportive Action



Consideration:

In accordance with the rulings of the International Civil Aviation Organization (ICAO) (see *ICAO Circular 328*), the European Commission regulation, as well as the Joint Authorities for Regulations on Unmanned Systems (JARUS), Remotely Piloted Aircraft (RPA) - a part of a Remotely Piloted Aircraft System (RPAS) - are considered aircraft, and consequently are submitted to the same aviation rules as those applicable to manned aviation.

Preamble:

- A In view of:
- The continuously increasing number of approved commercial RPAS operators in countries where initial RPAS regulations have been put in place [In Europe: CZ, FR, IE, SE, UK - Outside Europe: AU, CA, IL, JP];
 - The non-harmonization of these initial RPAS regulations;
 - The number of countries where initial regulations for non-State RPAS operations are in preparation [Europe: BE, DK, ES, IT, NL, NO - Other: BR, RU, SA, TR, US];
 - The amount of countries currently lacking RPAS regulations, but where the national and/or regional aviation authorities are facilitating RPAS operations on a limited scale by granting experimental flight authorizations;
 - The growing amount of civil RPAS applications (commercial; non-commercial; corporate) that are being evaluated by current & potential RPAS operators;
- it is anticipated that the quantity of RPAS operators and RPAS operations will increase substantially in the short to medium term.
Therefore, the critical topics of RPAS-related responsibility, liability & insurance should be urgently addressed on a European level.
- B Consequently, UVS International is initiating the described study to:
- Create awareness & improve understanding of RPAS-related responsibility, liability and insurance matters with current & future RPAS operators;
 - Create awareness & improve understanding of the RPAS market & its specificities with:
 - RPAS operators (current & future)
 - Insurance companies & brokers
 - Flight schools (current or future)
 - RPAS manufacturers (systems & sub-systems)
 - Research organizations and universities
- C In addition, the proposed study group will:
- Constitute a forum where representatives of the involved communities can meet, exchange ideas and learn from each other;
 - Initiate closer ties between the RPAS & insurance communities;
 - Complement other ongoing & upcoming RPAS-related studies;
 - Create a focused knowledge base and information dissemination network;
 - Contribute to the implementation of the European RPAS Roadmap;
 - Contribute to the development of a responsible & sustainable RPAS operations sector.

Study Group Objective:

- Analyse the current national & European regulations, structures, procedures and practices pertaining to aerial work with manned aircraft relative to the inter-related topics of responsibility, liability and insurance;
- Analyse the adaptability of these current national & European regulations, structures, procedures and practices to non-military RPAS operations (commercial; non-commercial; corporate; possibly EU public);
- Identify best practices;
- Produce recommendations for regulations that are to be put in place on national and European level for the integration of non-military RPAS into the European airspace system and their safe and legal operation in compliance with acceptable criteria and at affordable prices and stimulate the development of the RPAS aerial work market.
- Analyse the economic impact of the proposed recommendations on RPAS operators and RPAS operations in the context of the single European market.
- Define the necessary priorities and propose recommendations on the way forward.



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Stage 1: The Study Group Definition Team (DT)

- Constitution:** On 3 September 2013, a call for participation in Definition Team is published on www.uvs-info.com and sent out by email to all UVS International members, as well as the wider RPAS community.
- Possible DT Participants:** UVS International Members [corporate, non-corporate, private persons (except journalists)] and non-members from:
- Insurance Companies
 - Law Firms
 - RPAS Operators
 - «Qualified Entities»
 - National aviation authorities
- Participation & contribution is on a voluntary basis & is not remunerated
- Calling Notice Replies:** To be received before 1 October 2013.
- Nr of DT Participants:** 10 (maximum)
- Decision on Participants:** By the Executive Committee of UVS International's Board of Directors and will be notified within 10 working days of calling notice closure date.
- Definition DT's Task:** After review of the SG topics proposed in this document, produce the SG's proposed Terms of Reference.
- Define:**
- Proposed SG management structure;
 - Desired work plan & reporting methodology (minimizing physical meetings);
 - Sequence in which the topics will be dealt with;
 - Intermediate milestones & deliverables + duration & final deliverable(s);
 - Review & comment process (internal & external);
 - Produce a set of documents detailing the aforementioned.
- Language:** All discussions & documents will be in English.
- DT Delivery Deadline:** 1 November 2013
- Approval:** The Definition Team's final deliverable will be submitted to UVS International for review by the Executive Members of its Board of Directors, which will render its decision before 9 November 2013.
- Result publication:** After its approval, the document(s) will be posted on www.uvs-international.org (open access to all) and will form the basis on which the Working Group will be set up.

Stage 2: The Study Group (SG)

- Constitution:** A call for participation in the study group will be published on www.uvs-international.org and sent out by email within 15 days of the approval of the Definition Team's final deliverable by the Executive Members of UVS International's Board of Directors. This call will include a call for candidates for the SG management team.
- Possible Participants:** UVS International Members (corporate, non-corporate, private person) from all countries in the following classes:
- Insurance Companies
 - Law Firms
 - RPAS Operators
 - «Qualified Entities»
 - RPAS Manufacturers
 - Relevant Experts
 - National aviation authorities
 - JARUS
- Calling Notice Replies:** To be received within 30 days of the publishing date of the call for participation
- Nr of SG Participants:** A maximum amount of participants may be determined.
- Decision on Participants:** By the Executive Committee of UVS International's Board of Directors, in coordination with the Definition Team; will be notified within 10 working days of calling notice closure date.
- Participation:** Participation & contribution is on a voluntary basis & is not remunerated
- Management Team:** Going out from the candidacies received, a proposal for the SG Management Team (MT) will be prepared by UVS International and presented for approval at the SG's kick-off meeting. The members of the approved WG MT will be notified by email to all SG participants within 1 week of the kick-off meeting.



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- Kick-off Meeting:** The participants in the SG's kick-off meeting will accept the Terms of Reference. They may decide by majority vote to modify the work plan, the sequence within which the SG's topics are dealt with, and the timelines.
- Language:** All discussions & documents will be in English.
- SG Duration:** Undefined
- Consultation Process:** The final drafts of intermediate documents and/or intermediate survey study results (if judged useful by the MT), as well as the final recommendation document(s) produced will be supplied for review and comments to:
- European Coordination Council (ECC) members ⁰¹
 - International Coordination Council (ICC) members ⁰²
 - UVS International members (individual corporate & non-corporate)
 - EUROCAE WG73 on UAS (for comments by WG, as a group)
 - EUROCAE WG93 on Light RPAS (for comments by WG, as a group)
 - European & international insurance companies & brokers
 - National aviation authorities
 - JARUS
 - Eurocontrol
 - European Aviation Safety Agency (EASA)
 - European Commission DG Enterprise & Industry (ENTR)
 - European Commission DG Mobility & Transport (MOVE)
- Comment Integration:** Comments will be supplied online in a format designated by the SG Management Team. Evaluation of the comments received and their incorporation into final document will be undertaken by the SG Management Team, and/or persons designated by it.
- Final Deliverable:** Will be freely available to all interested parties.
Will be posted on www.uvs-international.org with access for all web site visitors.
- Recipients of Final Deliverable:**
- European Commission DG Enterprise & Industry (ENTR)
 - European Commission DG Mobility & Transport (MOVE)
 - European Aviation Safety Agency (EASA)
 - Eurocontrol
 - SESAR Joint Undertaking
 - ECAC
 - JARUS
 - ICAO UAS Study Group
 - National aviation authorities
 - National RPAS-related associations & Working Groups
 - EUROCAE WG73 on UAS
 - EUROCAE WG93 on Light RPAS
 - European & international insurance companies

Note:

⁰¹ European RPAS-related national associations (BE, CA, CZ, DE, ES, FR, IT, NL, NO, SE, UK) & working groups (DK, BR)

⁰² All ECC members + Non-European RPAS-related national RPAS associations (AU, CA, CZ, JP, RU) & working groups (BR) federating the national RPAS communities.



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RESPONSIBILITY

Information Collection

- Identify & constitute an electronic library of the relevant documents currently applicable to manned aircraft (highlighting national particularities);
- Analyse the applicability to RPAS;
- Identify what is missing relative to RPAS.

Address the Following Points

Aircraft Design & Manufacturing

- Design Organisation Approval (DOA): To promote quality & record keeping at the organisation level
- Design and Construction Certificate: To ensure quality at RPAS type level
- RPAS Airworthiness Certificate: To ensure quality of the individual RPAS

Pilot Training & Qualification

- Compilation of the flight manual is the responsibility of
 - * RPAS manufacturer, or
 - * Other
- Training & Qualification is the responsibility of:
 - * RPAS manufacturer, or
 - * A Qualified Entity, or
 - * Approved flight training school (approved by the national aviation authority)
- Flight training manual is the responsibility of:
 - * RPAS manufacturer, or
 - * Qualified Entity, or
 - * Approved flight school (approved by the national aviation authority)
 - * Other
- Production of flight training curriculum is the responsibility of:
 - * RPAS manufacturer, or
 - * Qualified Entity
- Flight training manual to be approved by:
 - * RPAS manufacturer, or
 - * Qualified Entity
- Approval of the flight training curriculum is the responsibility of:
 - * The national aviation authority
- Issuance of an initial Remote Pilot Certificate
- Extension for specific operations
- Periodic checks to ensure that proficiency remains current to be performed by:
 - * RPAS manufacturer, or
 - * Qualified Entity, or
 - * Approved flight training school (approved by the national aviation authority)
- Periodic checks to be controlled by:
 - * National aviation authorities, or
 - * Qualified Entity, or
 - * RPAS operator

RPAS Utilisation

- Operator (RPAS owner) qualification is the responsibility of:
 - * National aviation authorities, or
 - * RPAS manufacturer, or
 - * Qualified Entity
- Actual operations under the responsibility of:
 - * Qualified operator, or
 - * Other
- Operations Manual (including the Aircraft Operating Manual)
 - * Compilation is the responsibility of the RPAS operator, or
 - * Approval by the national aviation authority is required, or
 - * Other
 - * Other

RPAS Maintenance

- Compilation of the maintenance programme and associated documents is the responsibility of:
 - * RPAS manufacturer, or
 - * Other
- Qualification of the MRO under the responsibility of:
 - * RPAS manufacturer, or
 - * Qualified Entity
- Maintenance of the RPAS under the responsibility of:
 - * Qualified operator, or
 - * Other

Control & Enforcement

- Control & enforcement of the aforementioned is the responsibility of:
 - * National aviation authorities (random checks + after incident/accident), or
 - * Other



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LIABILITY

Information Collection

- Identify & constitute an electronic library of the currently applicable liability regimes (highlighting national particularities);
- Analyse the disparities between these regimes;
- Evaluate the adequacy of these regimes;
- Identify what is missing (relative to RPAS).

Address the Following Points

Manufacturer

- If RPAS is sold to a qualified operator: Liability limited to defective product and/or gross negligence
- If RPAS is sold to a non-qualified operator: Full joint liability + sanction

Operator

- Liable for all operations
- Increased liability / sanction if not qualified (qualification lost), or in case of use of a non certified RPAS, or if RPAS is used by a non certified pilot, or maintained by a non qualified MRO
- Liability cannot be transferred contractually or otherwise to a client
- Liability + sanction in case of a second hand sale to a non-qualified operator (specific treatment / reporting in case of sale outside of the EU)

Pilot

- Fly the RPAS under the responsibility of a qualified operator (employee or servant)
- Personal liability if the operator is not qualified

Service Suppliers

- SatCom communication suppliers
- Other possible service providers

RPAS Maintenance

- Sanction if not qualified

Governance

- All liability issues set by European regulation(s)



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INSURANCE

Information Collection

- Identify & constitute an electronic library of the currently existing RPAS-related insurance policies;
- Analyse the disparities between these policies;
- Evaluate the adequacy of these policies;
- Identify what is missing;
- Comparison of existing insurance fees & related coverage;
- Obtain feedback from current RPAS operators on current insurance policies & practices.

Address the following points

Insurance premiums in function of RPA mass? Pros & cons, or irrelevant.

- Large RPA (MTOM > 500 kg)
- Light RPA (MTOM < 150 & > 25 kg)
- Micro RPA (MTOM < 5 kg > 1 kg)
- Medium RPAS (MTOM < 500 & > 150 kg)
- Very Light RPA (MTOM < 25 & > 5 kg)
- Nano RPA (MTOM < 1 kg)

Insurance premiums in function of RPAS operations [segregated/non-segregated airspace; visual line-of-sight (VLOS)/extended visual line-of-sight (EVLOS)/beyond visual line-of-sight (BVLOS); operation by Visual Flight Rules (VFR)/Instrument Flight Rules (IFR); national/international operations; flight altitude; flight envelope; operational zone; population density of over-terrain overflown, etc]?

Identification of the parameters with an influence on risk evaluation.

Identification of the operational data required for a proper risk (re)assessment.

Necessity to keep track of RPAs fleets (RPA & associated remote pilot stations) + Necessity to establish Accident/incident Reporting Scheme

- On a national & European level
- Centralised databases at EU level
- General information publicly available

RPAS Fleets

- All first RPAS sales to be reported by the manufacturer
- All second hand RPAS sales to be reported by the operator (small tax to be paid to encourage reporting!!)
- Non EU users to declare their RPAS before any use in the EU

Incidents / Accidents

- Open site to report incidents / accidents
- Obligation to report born by the operator
- Explanation to be given in case of reporting only by a third party
- Sanction in case of abusive reporting

Manufacturer

- Standard product liability insurance (required by regulation to cope with joint liability)

Operator

- Mandatory third party liability insurance (required by regulation) for:
 - * Aerial Work – Commercial
 - * Aerial Work – Non-Commercial
 - * Aerial Work - Corporate
 - * EU Public (commercial operators supplying flight services for EU agency)
- Available to third parties in case of second hand sale to a non-qualified operator with possibility of recourse by the insurer
- Specific third party liability insurance (required by regulation) for:
 - * Test & experimental flights performed by the RPAS manufacturer
 - * Flight training schools
 - * Flights at public demonstrations

Remote Pilot

- No specific insurance required (unless remote pilot is also an operator)

RPAS Maintenance

- Standard product liability insurance (required by regulation)



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Definitions of Terms Used in this Document

Accident:	An occurrence associated with the operation of an RPAS which takes place between the start of flight time until such time flight time has ended, in which: a) A person is fatally or seriously injured as a result of: - Direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or - direct exposure to jet blast, Except when the injuries are from natural causes, self-inflicted or inflicted by other persons; or b) The aircraft sustains damage or structural failure which: - Adversely affects the structural strength, performance or flight characteristics of the aircraft, and - Would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or c) The aircraft is missing or is completely inaccessible.
Aircraft:	Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface. <i>Note: Aircraft is invariant - The plural of aircraft is aircraft.</i>
Aircraft Operations Manual:	A manual, acceptable to the State of the Operator, containing normal, abnormal and emergency procedures, checklists, limitations, performance information, details of the aircraft systems and other material relevant to the operation of the aircraft. <i>Note: The aircraft operating manual is part of the operations manual.</i>
Flight Manual:	A manual, associated with the certificate of airworthiness, containing limitations within which the aircraft is to be considered airworthy, and instructions and information necessary to the flight crew members for the safe operation of the aircraft.
Incident:	An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.
Maintenance:	The performance of tasks required to ensure the continuing airworthiness of an aircraft, including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or repair.
Maintenance Manual:	A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.
Operations Manual:	A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.
Operator:	A person, organization or enterprise engaged in or offering to engage in an aircraft operation.
Pilot:	The person in direct control of the aircraft.
Qualified Entity:	An entity to which a national aviation authority has allocated a specific certification task.
Remote Pilot:	RP - The person who manipulates the flight controls of a remotely piloted aircraft during flight time.
Remote Pilot Station:	RPS - The station at which the remote pilot manages the flight of an unmanned aircraft.
Remotely Piloted Aircraft	RPA - An aircraft where the flying pilot is not on board the aircraft. <i>Note: RPA & Remotely Piloted Aircraft are invariant - The plural of RPA is «RPA», and the plural of remotely piloted aircraft is «remotely piloted aircraft».</i>
Remotely Piloted Aircraft System	RPAS - A set of configurable elements consisting of a remotely-piloted aircraft, its associated remote pilot station(s), the required command and control links and any other system elements as may be required, at any point during flight operation. <i>Note: RPAS is invariant - The plural of RPAS is «RPAS».</i>
Remotely Piloted Aircraft System Operator:	A person, organization or enterprise engaged in or offering to engage in an RPAS operation