

International Abbreviations and Terminology for UAS

1 Statement of Issue

- 1.1 For successful communication it is necessary for there to be a common understanding of terms and the situation and context in which they are used.
- 1.2 To ensure a common understanding of specific terms relating to unmanned aircraft systems (UAS), it is necessary to have a document which lists the terms and explains their meanings.
- 1.3 This is not a new set of formal definitions. It intends to provide the necessary explanation of meaning of words and terms relevant to the UAS Knowledge Resource website. Additional comments are provided to assist understanding. The paper is subject to constant revision to cater for the evolution of language, concepts and technology.
- 1.4 This version is updated to incorporate the Glossary and Explanation of Terms in the ICAO UAS Circular, Cir 328 AN/190.

2 Discussion

- 2.1 Three main classes of terms can be identified:
 - (a) Those which are common language, which require specific explanation when used in the context of unmanned aircraft systems.
 - (b) Those which are aviation-related which require specific explanation when used in the context of unmanned aircraft systems.
 - (c) Those which are specific to unmanned systems and which require explanation.

As a result, any consolidated list of explanations will have a combination of all three classes of terms.

- 2.2 Any list of terms and their explanations will be used by a wide variety of people including:
 - (a) Those from other business sectors that need or wish to become acquainted with the UAS sector (e.g. potential customers, finance, insurance, legal).
 - (b) Those who are in the aviation sector but who are unfamiliar with UAS.
 - (c) Those that are in the unmanned systems sector but are unfamiliar with some aspects of conventional aviation

Attachment

International Abbreviations and Terminology for UAS

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International Abbreviations

AAC	Aeronautical Administrative Communication
AC	Advisory Circular (FAA)
ACAS	Airborne Collision Avoidance System
ACJ	Advisory Circular Joint (JAA)
ADS(B)	Automatic Dependent Surveillance - Broadcast
ADS(C)	Automatic Dependent Surveillance - Contract
AFM	Aircraft Flight Manual
AGL	Above Ground Level
AMC	Acceptable Means of Compliance
AMJ	Advisory Material Joint (JAA)
ANSP	Air Navigation Services Provider
AOC	Aeronautical Operational Control
APU	Auxiliary Power Unit
ARP	Aerospace Recommended Practice
ATC	Air Traffic Control
ATM	Air Traffic Management
ATOL	Automatic Take Off and Landing
ATS	Air Traffic Service
AWO	All Weather Operations
CAA	Civil Aviation Authority
C2	Command & Control
C3	Command, Control & Communications
CEPT	European Conference of Postal and Telecommunications Administrations
CFR	Code of Federal Regulations
CNS	Communications, Navigation and Surveillance
CoA	Certificate of Airworthiness
COA	Certificate of Authorization (FAA)
COTS	Commercial off-the-Shelf
CPDLC	Controller-Pilot Data Link Communications
CPM	Conference Preparatory Meeting (ITU)
CRD	Comment/Response Document
CRI	Certification Review Item
CS	Certification Specification (EASA)
CTR	Control Zone
DAL	Design (or Development) Assurance Level
DDP	Declaration of Design & Performance
DGPS	Differential GPS
DoD	Department of Defense (US)
EAS	Equivalent Airspeed
EASA	European Aviation Safety Agency
EC	European Commission
EDA	European Defence Agency
EMC	Electromagnetic Compatibility

EMI	Electromagnetic Interference
ESF	Equivalent Safety Finding
ETSI	European Telecommunication Standards Institute
EU	European Union
EUROCAE	European Organization for Civil Aircraft Equipment
FAA	Federal Aviation Administration
FCC	Federal Communication Commission
FHA	Functional Hazard Assessment
FINAS	Flight In Non-segregated Airspace (NATO)
FUA	Flexible Use of Airspace
GM	Guidance Material
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
HALE	High Altitude Long Endurance
HF	High Frequency
HIRF	High Intensity Radiated Fields
ICAO	International Civil Aviation Organisation
IEM	Interpretative/Explanatory Material
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMO	International Maritime Organization
IR	Implementing Rule
ITU	International Telecommunications Union
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements (JAA)
JARUS	Joint Authorities for Rulemaking on Unmanned Systems
LRU	Line Replaceable Unit
MALE	Medium Altitude Long Endurance
MAWA	Military Airworthiness Authorities
MB	Management Board (EASA)
MEL	Minimum Equipment List
MMEL	Master Minimum Equipment List
MLS	Microwave Landing System
MUAS	Mini/Micro UAS
NAA	National Aviation Authority
NAS	National Airspace (US)
NATO	North Atlantic Treaty Organisation
(A)NPA	(Advance) Notice of Proposed Amendment
NPA	Notice of Proposed Amendment
OSD	Operational Services and Environment Definition
PANS	Procedures for Air Navigation Services
PIC	Pilot In Command
QOS	Quality of Service
R-CoA	Restricted CoA
RF	Radio Frequency
RPA	Remotely Piloted Aircraft

RPAS	Remotely Piloted Aircraft System
R-TC	Restricted TC
RTCA	RTCA Inc.
SAA	Sense and Avoid
SAR	Search and Rescue
SARPS	Standards and Recommended Practices
SATCOM	Satellite Communication
SC	Special Condition (in RTCA - Special Committee)
SDO	Standards Development Organizations
SESAR	Single European Sky ATM Research
SMS	Safety Management System
SSP	State Safety Programme
SSR	Secondary Surveillance Radar
STANAG	Standardization Agreement (NATO)
sUAS	Small Unmanned Aircraft System
TC	Type Certificate also Transport Canada
TCP	Type Certificate Procedure
TRA	Temporary Reserved Airspace
TSA	Temporary Segregated Airspace
TUAS	Tactical UAS
UA	Unmanned Aircraft
UAS	Unmanned Aircraft System
UAV	Unmanned Aerial Vehicle
UCS	UAS Control Station
UOC	UAS Operator Certificate
USAR	UAV Systems Airworthiness Requirements
UASFM	UAS Flight Manual
UASSG	Unmanned Aircraft Systems Study Group, an ICAO Group
UCAS	Unmanned Combat Aircraft System
VDL	VHF Digital Link
VFR	Visual Flight Rules
VHF	Very High Frequency
VLA	Very Light Aeroplane
VLOS	Visual Line of Sight
VLR	Very Light Rotorcraft
VMC	Visual Meteorological Conditions
VR	Velocity (speed) of Rotation
VTOL	Vertical Take Off and Landing
WG	Working Group

International Terminology

The asterisk * indicates a term included in ICAO Cir 328 AN/190

Term	Meaning	Comment
(Air Traffic Services) Airspace	Airspaces of defined dimensions, alphabetically designated, within which specific types of flights may operate and air traffic services rules of operation are specified. (ICAO Doc 9713)	
ACAS	Airborne Collision Avoidance System. An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders. See also TCAS. Derived from PANS-ATM (Nov 2007).	
ADS-B (Automatic Dependent Surveillance - Broadcast)	A service using aircraft information provided by means of automatic dependent surveillance. (PANS-ATM)	ADS-B is an enabling technology that allows the periodic transmission of parameters, such as identification, position and position integrity, via a broadcast-mode data link. Any user, either airborne or ground-based, within range of this broadcast may choose to receive, process and display this information. ADS-B information is broadcast without any knowledge of which users may be receiving it and without the expectation of an acknowledgement or reply. ADS-B is automatic in the sense that no flight crew or controller action is required for the information to be transmitted (apart from pilot procedures for turning on the transmitter). It is dependent surveillance in the sense that the surveillance-type information so obtained depends on the suitable position source and broadcast capability.
Advisory Airspace	An airspace of defined dimensions, or designated route, within which air traffic advisory service is available. (PANS-ATM)	
Air Navigation System	The aggregate of organizations, people, infrastructure, equipment, procedures, rules, and information used to ensure the safety, regularity, and efficiency of air navigation and to provide air navigation services to airspace users.	
Air Traffic	All aircraft in flight or operating on the recognized area of an aerodrome (PANS-ATM)	
Air Traffic Control (ATC)	A service provided for the purpose of: a) preventing collisions: 1) between aircraft, and 2) on the manoeuvring area between aircraft and obstructions; and b) expediting and maintaining an orderly flow of air traffic.	
Air Traffic Control Clearance	Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.	Clearance is authorization to proceed under specified conditions Instruction is a directive issued for the purpose of requiring a pilot to take specific action.

Air Traffic Management (ATM)	The aggregation of the airborne functions and ground-based functions (air traffic services, airspace management and air traffic flow management) required to ensure the safe and efficient movement of aircraft during all phases of operations. (PANS-ATM)	
Air Traffic Services (ATS)	A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service). (PANS-ATM)	
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. (PANS-ATM)	A generic term for an airplane, airship, balloon, lighter-than-air aircraft, powered-lift, rotorcraft, gyrodyne, gyroplane, or helicopter.
Aircraft Category*	Classification of aircraft according to specified basic characteristic, eg aeroplane, helicopter, glider, free balloon (PANS-ATM)	
Airframe	The fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces (including rotors but excluding propellers and rotating airfoils of engines), and landing gear of an aircraft and their accessories and controls	Source FAA Doc No 1150
Airplane Also: Aeroplane	A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight. (ICAO Doc 9713)	
Airworthiness Also: System Airworthiness	The condition in which the UAS conforms to its type certificate and is in condition for safe operation.	The aircraft, its pilot station, and all associated support equipment (the whole UAS including flight control communications), must be in a condition for safe operation. An aircraft is deemed airworthy within the EU if it meets or exceeds the essential requirements as defined in the EASA basic requirement EC216/2008 Annex 1
Appliance	Any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight, is installed in or attached to the aircraft, and is not part of an airframe, engine, or propeller.	Source FAA Doc No 1150
ATC relay	The retransmission by an unmanned aircraft to its pilot station of ATC messages and any responses sent from the	The link between the unmanned aircraft and its pilot station may be direct i.e. LOS control or indirect via VHF air or SATCOM platform as in

	unmanned aircraft pilot station to the unmanned aircraft for subsequent reception by ATC and other traffic.	BRLOS control. A key issue is the latency of such relay, whether direct or not and the need to guarantee that the unmanned aircraft broadcast does not 'talk over' transmissions from other traffic. It is a requirement that other traffic is aware of the ATC communication with the unmanned aircraft and that the unmanned aircraft pilot station has access to all radio transmissions on the ATC control frequency for the area of operation
ATM Operational Concept for integration of UAS	A high level description of ATM services necessary to integrate unmanned aircraft into the airspace by a given time horizon.	Highly specific explanation for use only in ATM/UAS context.
Automatic	The execution of a predefined process without human intervention.	
Automatic Take Off and Landing System	The airborne and ground-based equipment which provides automatic control of the aircraft during the take off, approach and landing. It includes all of the sensors, computers, actuators and power supplies necessary to control the aircraft. It also includes provisions to control the aircraft on the ground. In addition, it includes the indications and control necessary for its management and supervision by the pilot.	
Autonomous Aircraft*	An unmanned aircraft that does not allow pilot intervention in the management of the flight. (ICAO RPAS Panel)	Interpretation selected by ICAO RPAS Panel for purposes of legal clarity
Autonomous Operation*	An operation during which a remotely-piloted aircraft is operating without pilot intervention in the management of the flight. (ICAO RPAS Panel)	
Autonomy	The ability to execute processes or missions without any possibility of human intervention (based on ICAO RPAS Panel)	Based on interpretation selected by ICAO RPAS Panel for purposes of legal clarity
Beyond Visual Line Of Sight (BVLOS) also: Beyond Visual Range (BVR) Beyond Radio Line of Sight (BRLOS)	Beyond visibility.	<p>Visibility for aeronautical purposes is the greater of:</p> <p>(a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background</p> <p>(b) the greatest distance at which lights in the vicinity of 1000 candelas can be seen and identified against an unlit background (ICAO Doc 9713)</p> <p>BRLOS applies to a condition where direct wireless communication is not possible because of signal attenuation or other factors. See also Radio Line of Sight (RLOS)</p>

		In the context of UAS, BRLOS may be linked to distance but relates to the non-availability of direct radio communication given the specific equipment being used (frequency power, antennas etc), and terrain /ground features present. What is less clear is the implication of environmental effects –weather sunspots etc. For safe /certifiable operation using LOS communication the BRLOS boundary must be defined with an appropriate margin for safety
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Category Also: Class	<p>(1) As used with respect to the certification, ratings, privileges, and limitations of airmen, means a broad classification of aircraft. Examples include: airplane, rotorcraft, glider, and lighter-than-air.</p> <p>(2) As used with respect to the certification of aircraft, means a grouping of aircraft based upon intended use or operating limitations. Examples include: transport, normal, utility, acrobatic, limited, restricted, and provisional.</p> <p>(3) As used with respect to the operation of aircraft., means a precision approach in low visibility conditions with various qualifiers (e.g. Category 1, II, III, IIIa, IIIb, and IIIc) using a system as defined in Annex 10 Chicago Convention, i.e. an Instrument Landing System (ILS), or a Microwave Landing System (MLS) which has outputs indicating the magnitude and sense of deviation from a preset azimuth and elevation angle giving equivalent operational characteristics to that of a conventional ILS</p>	Source – FAA Doc No 1150. It is accepted that a new classifications for UAS are required
Certification	Legal recognition by the certification authority that a product, service, organization or person complies with the requirements. Source – EUROCAE ED-12B	Such certification comprises the activity of technically checking the product, service, organisation or person and the formal recognition of compliance with the applicable requirements by issue of a certificate, license, approval or other documents as required by national laws and procedures. In particular, certification of a product involves: (a) the process of assessing the design of a product to ensure that it complies with a set of standards applicable to that type of product so as to demonstrate an acceptable level of safety; (b) the process of assessing an individual product to ensure that it conforms with the certified type design; (c) the issuance of a certificate required by national laws to declare that compliance or conformity has been found with standards in

		accordance with items (a) or (b) above.
Chase Aircraft	A manned aircraft flying in close proximity to unmanned aircraft that carries a qualified observer and/or someone qualified to fly the unmanned aircraft.	
Civil Aviation	<p>All flying activity by civil aircraft, therefore excluding public/state aircraft, including:</p> <p>1 – Commercial Aviation. Transportation by aircraft of passengers or cargo for hire and the ferrying of aircrafts as a commercial venture.</p> <p>2 – General Aviation. All types of civilian aviation other than commercial aviation defined above.</p> <p>Source – derived from FAA Doc No 1150</p>	<p>Note also:</p> <p>General Air Traffic (GAT) refers to all traffic operating as civil traffic i.e. conforming to civil rules for the given airspace regardless of who owns or operates the aircraft e.g. civil, state non military, or military.</p> <p>Operational Air Traffic (OAT) is military or State non military (police, fire services, air ambulance) air traffic operating with national approval but not necessarily conforming to international civil rules</p> <p>The key point is that UAS can be operated as any of these: OAT, GAT, Commercial and GA.</p>
Collision Avoidance	Averting physical contact between an aircraft and any other airborne object. Source – derived from RTCA SC 203 to exclude 'or terrain'.	Not to be confused with avoiding obstacles and other traffic while the aircraft is on the ground.
Collision Avoidance (Ground Movement)	Averting physical contact between an aircraft moving on the ground and any other terrestrial object.	
Command and Control Link*	The data link between the remotely-piloted aircraft and the remote pilot station for the purposes of managing the flight. (ICAO RPAS Panel)	Typically used to described the 'uplink' from a pilot station to an unmanned aircraft
Commercial Operation*	An aircraft operation conducted for business purposes (eg mapping, security, surveillance, wildlife survey, aerial application, etc) other than commercial air transport, for remuneration of hire. (ICAO RPAS Panel)	
Communication Link	Analogue, digital or optical channel though which information is sent and received.	
Concept of Operations (Con Ops)	An idea or construct describing how to achieve a goal.	Frequently used in a generic context, thereby avoiding specificity unique to any one particular situation.
Conflict Resolution	The resolution of a potential loss of separation minima to ensure air traffic separation standards are met.	
Control Link	The combination of the command link (uplink) and the status link (downlink). Source – RTCA SC203	These links are typically wireless and are also expected to be used for the relay of ATC clearances and instructions and the flyer's/pilot's responses
Control Link Failure	Loss of utility of a control link	Typically, if a control link interruption is not restored by the end of a

		specified period, a “link failure” is declared, leading to link failure contingency procedures.
Control Station	See Pilot Station.	The term <i>pilot station</i> , as used by ICAO, is preferred.
Controlled Airspace	A volume of air of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification. (ICAO Doc 9713 and Annex II)	This applies to IFR flights and to VFR flights in accordance with the airspace classification. Controlled airspace is a generic term that covers ATS airspace Classes A, B, C, D and E.
Cooperative Traffic	Traffic that broadcasts position or other information which assists in recognized use of airspace and in detecting and assessing conflict potential. (Source – Access 5 Concept of Ops)	Aircraft and vehicles which carry either a transponder or a position reporting system are considered to be cooperative. Transponders (e.g. Mode A/C and Mode-S) provide information when interrogated that can be used to determine their relative position. Position reporting systems include ADS-B transceivers (ie 1090ES, VDL4, UAT) as well as general aviation solutions (EG FLARM)
Crew Member*	A person assigned by an operator to duty on an aircraft, during a flight duty period.	
Data Link	A digital wireless communication channel through which structured digital data is sent and received	Source – Original definition
Data Terminal	Independent or integrated transmitter/receiver facility capable of sending and receiving structured digital data through a data link	Typically used to up-link aircraft and payload control data to the UA, receive and display telemetry and payload data originating from the UA, and communicate with external facilities, including ATC.
Detect and Avoid*	The capability to see, sense or detect, conflicting traffic or other hazards and take the appropriate action to comply with the applicable rules of flight. (ICAO RPAS Panel)	Detect and Avoid appears to be currently preferred by the ICAO RPAS Panel. Others use Sense and Avoid. Both usages refer to the capability for a UAS to meet the Sense and Avoid principle, which is well understood for manned aviation. <i>Former explanation:</i> The principle of the capability of an unmanned aircraft or UAS to: a Sense hazards, including traffic, terrain, obstacles and atmospheric, which may be a conflict or lead to unsafe flight conditions for which the UAS would not comply with the flight rules under which it is being operated. b Evaluate flight path options based on rules of the air and separation minima.

		c Manoeuvre safely to avoid the hazard.
Direct Visual Control	The means by which the unmanned aircraft is controlled using direct vision of the unmanned aircraft pilot's unaided eye and see and avoid responsibilities fulfilled.	Source – based on FAA recommended definition
Down Link	Direct or indirect communication link from the unmanned aircraft to a pilot station or other receiver.	Source – Original definition
Emergency Recovery Procedures	Procedures implemented through unmanned aircraft Pilot command or through automatic design means in order to mitigate the effects of certain failures with the intent of minimizing risk to third parties. (Based on EASA)	This may include automatic, pre-programmed courses of action to reach safe landing or crash areas. (EASA)
Equivalent Level of Safety (ELOS)	An evaluation, often subjective, of a UAS and/or operation to achieve an equivalent level of UAS risk to people and property to that posed by manned aviation.	Source – based on Access 5 HALE Concept of Ops
Event	An occurrence whose origin is distinct from the UAS, which includes at least the unmanned aircraft, its pilot station and communications links.	Source – Based on DO-264
Failure	A loss of function, or malfunction, of a system or part thereof resulting in the inability of an item to perform its intended function.	Source – DO-264
Failure Condition	A condition having either a direct or consequential effect, which is caused, or contributed to, by one or more failures or errors.	A Failure Condition has an effect on the airworthiness of the UAS or its functional abilities. A failure condition is caused by one or more failures, taking account of the operational and environmental conditions in which they occur. Sources – DGA-CEV TI-CEV 202001 & RTCA SC203

Flight Crew Member*	A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period. (PANS-ATM)	
Flight Management Control System	An operable system that is contained onboard an unmanned aircraft that performs the flight control actions from input received from the pilot via the command and control communication link or that operates the unmanned aircraft from data previously inserted. This system does not require any additional human intervention. Source RTCA SC203	Traditionally, what distinguishes the FMCS is the “ <i>management function</i> ” that assists the pilot is obtaining the required flight path and speed. Other systems are also included for the “ <i>flight control actions</i> ”, such as the autopilot, auto-throttle, autostabilisation, and these connect to the “ <i>primary and secondary flight control systems</i> ” that move the control surfaces. A part of the FMCS could conceivably be in the pilot station. The meaning offered seems too broad and inconsistent with common usage. A possible way forward is to separate the functions into Flight Management (navigation and guidance) and Aircraft or Systems Management (which would include the flight control autopilot and the

		like). Central issues are the control rates required for the different functions and flexibility of the functions required to meet different missions. One could think of the autopilot as being a fixed functionality system with a high control rate, while the FMS needs to be 'reprogrammed' for each mission and has a much lower control rate and generally is of lower system criticality Any human intervention can be at any level but normally the higher control rate function are the most automated to ensure safe operation. Automation of the lower rate mission specific functions becomes more difficult as the 'programming' has to respond to changing external circumstances e.g. to meet an alternative mission objective or more interestingly to 'manage' a failure condition.
Flight Plan	Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft. (ICAO Doc 9713)	
Flight Recorder*	Any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation. In the case of remotely-piloted aircraft, it also includes any type of recorder installed in a remote pilot station for the purpose of complementing accident/incident investigation.	
Flight Scenario	A descriptive unfolding of all the relevant features and activities connected with a particular type of flight	Original definition
Flight Termination	Flight termination is a system, procedure or function which aims to immediately end the flight. (EASA)	"Flight" includes taxiing, takeoff and recovery/landing. (EASA)
Flight Termination System	Any means and/or procedure triggered manually or automatically to initiate a pre-programmed action or a set of actions designed to terminate the flight in a safe manner.	
Flight Time - Aeroplanes*	The total time from the moment an aircraft first moves for the purpose of taking off until the moment it comes to rest at the end of the flight. (ICAO RPAS Panel)	Flight time normally includes taxiing, which involves the ground operation to and from the runway, as long as taxiing is carried out with the intention of flying the aircraft. Source – based on FAA Doc No 1150 Not all unmanned aircraft taxi, take off and land in the conventional way. There are many different launch and recovery systems. The 'meaning' of this term includes all movement.
Flight Time - Helicopters*	The total time from the moment a helicopter's rotor blades	

	start turning until the moment it comes to rest at the end of the flight and the rotor blades are stopped. (ICAO RPAS Panel)	
Flying Pilot*	A person, who operates the flying controls of an aircraft, and is responsible for the flight trajectory of the aircraft. (ICAO RPAS Panel)	
Forced Landing	Any impact on the ground by the aircraft resulting from triggering of a flight termination procedure or system failure. Source – DGA-CEV TI-CEV 202001	The safety assessment distinguishes between: - forced landing above a prepared and uninhabited area, and - forced landing “in the open country”.
Global Navigation Satellite System (GNSS)	The standard generic term for satellite navigation systems that provide geo-spatial positioning with global coverage.	
GPS Landing System	A landing system which uses GPS as the navigation sensor	
Handover*	The act of passing piloting control from one remote pilot station to another. (ICAO RPAS Panel)	
Hazard	A situation which has the potential to lead to harm.	Source – DO264
Human Robotic Interaction (HRI) Also: Human Machine Interface (HMI)	The activity through which human operators engage with unmanned/robotic systems to achieve aims.	HRI is further used to reference the physical realization of the method of HRI or intervention. Original definition.
Instantaneous Field of View (IFOV)	The solid angle through which a detector is sensitive to radiation.	
Instrument Flight Rules (IFR)	A set of rules governing the conduct of flight under instrument meteorological conditions. (PANS-ATM)	Also a term used by pilots and controllers to indicate type of flight plan. Source – FAA Order 7110.65
Instrument Flight Time*	Time during which a pilot is piloting an aircraft solely by reference to instruments and without external reference points. (ICAO RPAS Panel)	
Instrument Meteorological Conditions (IMC)	Meteorological weather conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions. (ICAO Doc 9713)	
Interface	The performance, functional, and physical attributes existing at a common boundary.	
International Civil Aviation Organization	A specialized agency of the United Nations whose objective is to develop the principles and techniques of international air navigation and to foster planning and development of international civil air transport.	
Interoperability	The ability to exchange data, services, sub-systems and	Can also mean ability to work together within a mutually recognized

	components between systems.	context. Source – Several, including RTCS SC203
Interoperability Requirements (INTEROP) Standard	Used to provide sufficient information to enable different stakeholders to develop system elements that are compatible for an operational implementation.	Source – ED78A/DO-264. It is developed using an interoperability assessment (IA) of selected functions and technologies needed to support the ATS identified in the OSED. An INTEROP standard identifies the technical, interface, and related functional requirements for a specific technology or a mix of technologies. The INTEROP provides traceability from each requirement to the functions it supports, the services, and the operating environments in the OSED. Similar to an SPR standard, an INTEROP standard can be tailored to meet the needs of a particular operational implementation.
In-the-loop	The role of a participant and/or contributor within a defined process and whose performance is integral to the process.	Original definition
Latency	The time incurred (or delay) between the time of an event and the time it is detected at a remote location (the latter minus the former). Source – based on DO-289	This includes the amount of time it takes a packet of data to move across a network. When a packet is sent, there is a delay until it is received by a third party and a further delay while the computer that sent the packet waits for confirmation that the packet has been received by the third party.
Launch and Recovery Element	A facility or device(s) from which an unmanned aircraft is controlled during launch and/or recovery.	There may be more than one launch and recovery element as part of a UAS. Source – EASA
Launcher	A mechanical facility used to launch an unmanned aircraft that is not capable of conventional take off.	Original definition
Level of Autonomy	The relative extent or level of the ability to execute processes or missions using on-board/local system decision capabilities.	Original definition
Light UA	An unmanned aircraft with a maximum take off mass of less than 150 kg.	Source – EU/EASA
Line Of Sight (LOS)	1 – A straight line between two points. 2 – The straight line range an unaided human eye (corrected if needed) can see effectively. This is taken as 3 miles (5km).	Sources – several, including ICAO. See also Visual Range, Visual Line of Sight, Radio Line of Sight
Lost Link* Also: Loss of Link Loss of data link Link Failure	The loss of command and control link contact with the remotely-piloted aircraft such that the remote pilot can no longer manage the aircraft's flight. (ICAO RPAS Panel)	It is assumed that most UAS will be designed that when a link failure occurs, the unmanned aircraft executes automatic procedures to terminate the flight as safely as possible.
Link Interruption	The temporary loss of function of a communications link. (Original definition)	Link Interruption becomes Link Failure if the loss of link lasts longer than a predefined interval.
Local Area Augmentation System (LAAS)	Used in conjunction with GNSS navigation to enhance the accuracy of the signal for an instrument procedure.	USA term. In Europe the same thing is usually referred to as GBAS (Ground Based Augmentation System).

Loiter	To remain within a given volume of airspace.	Source – RTCA SC203
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Method of Control	The means or manner in which a human user interacts, influences, or directs a UAS.	A function of three non-exclusive system attributes: mode of control, level of authority, and level of control. (Explanation of these attributes to follow)
Minimum Aviation System Performance Standards (MASPS)	The specification of characteristics useful to designers, installers, manufacturers, service providers, operators and users of systems intended for operational use within a defined airspace.	MASPS describe the system (subsystems / functions) and provide information needed to understand the rationale for system characteristics, operational goals, requirements and typical applications.
Minimum Operational Performance Standards (MOPS)	The specification of the minimum required performance of specific equipment under standard operating and environmental conditions that ensure that the equipment will perform its intended function under all conditions normally encountered in routine aeronautical operations. Recommended bench test procedures will be included as a means of demonstrating compliance.	MOPS may be adopted by the responsible authorities as a basis for a Technical Standard Order (TSO or ETSO in Europe) and for which an approval can be granted.
Mission Scenario	A descriptive unfolding of all the relevant features and activities connected with a particular type of mission	Original definition
Mitigation	The means by which risk can be lowered to an acceptable level as determined by the safety objective.	Source DO-264
Model Aircraft	A non-human-carrying device capable of sustained flight in the atmosphere and intended to be used exclusively for recreational or competition activity	Any aircraft without a pilot in it and which is not defined as a Model Aircraft, is <i>de facto</i> an unmanned aircraft.
Modes of Flight	The various states of activity, performance and control of the system	For example landing mode, cruise, manual, autonomous. Source – based on RTCA SC20

Modes of Operation	The various ways in which unmanned aircraft systems are configured to achieve mission objectives.	<p>The following are recognized modes of operation:</p> <p>1 Fully automatic – The system is expected to accomplish its mission, without human intervention during task execution. Note that this term does not detail any levels of autonomy. In the context of this paper, it is assumed that the system’s mission is tasked by a human and that the human may be involved in mission planning and in placing pre-planned limitations on mission conduct.</p> <p>2 Semi-automatic – A mode of operation of an unmanned system wherein the human operator and/or the system plan(s) and conduct(s)</p>
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		<p>a mission and requires various levels of HRI.</p> <p>3 Tele-operation – A mode of operation of an unmanned system wherein the human operator, using video feedback and/or other sensory feedback, either directly controls the actuators or assigns incremental goals, waypoints in mobility situations, on a continuous basis, from off the vehicle and via a tethered or radio linked control device. In this mode, the system may take limited initiative in reaching the assigned incremental goals.</p> <p>4 Remote Control – A mode of operation of an unmanned system wherein the human operator, without benefit of video or other sensory feedback, directly controls the actuators of the system on a continuous basis, from off the vehicle and via a tethered or radio linked control device using visual line-of-sight cues. In this mode, the system takes no initiative and relies on continuous or nearly continuous input from the user.</p> <p>Current assumption is that UAS will be designed to provide the unmanned aircraft pilot/remore pilot the capability to command and control the unmanned aircraft in all phases of flight.</p> <p>Sources – developed from several sources</p>
Navigate	The directing of the aircraft to a desired location.	The ability to navigate infers the UAS is capable of maintaining navigational control, which involves maintaining knowledge of the current position, the destination, and the four dimensional path (latitude, longitude, altitude, time) to the destination.
Non Line Of Sight (NLOS)	Where the straight line path between two points is obstructed.	<p>LOS is described earlier in this table. It normally refers to:</p> <p>1 – A straight line between two points.</p> <p>2 – The straight line range an unaided human eye (corrected if needed) can see effectively see. This is taken as 3 miles (5km).</p> <p>NLOS can also apply to a condition where direct wireless communication is not possible because the signals cannot propagate through or around (by reflection or refraction) the obstruction. See also Radio Line of Sight (RLOS)</p> <p>Sources – developed from several</p>

Non-Cooperative Traffic	Traffic that does not broadcast position or other information that assists in detecting and assessing conflict potential. Source – Access 5 HALE Concept of Ops	Aircraft and vehicles which do not carry either a transponder or a position reporting system are considered to be non-cooperative. Transponders (e.g. Mode A/C and Mode-S) provide information when interrogated that can be used to determine their relative position. Position reporting systems include ADS-B transceivers (ie 1090ES, VDL4, UAT) as well as general aviation solutions (e.g. FLARM)
Non-Segregated Airspace	Airspace available for use by all qualified aircraft.	Source – RTCA SC203
Operate	With respect to aircraft, means use, or cause to use aircraft, for the purpose of air navigation including the piloting of aircraft, with or without the right of legal control (as owner, lessee, or otherwise).	Source – FAA Doc No 1150
Operational Approval	The act or instance of expressing a favourable opinion or giving formal or official sanction to an operator permitting specified operations	
Operational Capability	Defines the needs of operators and ATS providers, usually according to cost/benefit, schedule, technological feasibility, and safety.	Its scope is such that the requirements to attain the operational capability can be analyzed.
Operational Concept	Describes the services necessary to support an Operational Scenario	
Operational Control*	The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight. (PANS-ATM)	
Operational Scenario	A descriptive unfolding of all the relevant features connected with a particular type of operation	
Operational Services and Environment Definition (OSED)	The OSED is used as the basis for assessing and establishing operational, safety, performance, and interoperability requirements for the related CNS/ATM system.	DO-264/ED78A term. It is developed based on an operational services and environment information capture process (OSEIC) that coordinates the information among stakeholders. The OSED identifies the ATS supported by data communications and their intended operational environments and includes the operational performance expectations, functions, and selected technologies of the related CNS/ATM system. The OSED facilitates the formulation of technical and procedural requirements based on operational expectations and needs. It is updated as necessary throughout the coordinated requirements determination process. The OSED captures requirements that have been derived and/or validated as being necessary for a particular operational service.

Operational Services and Environment Information Capture (OSEIC)	A process to coordinate information among stakeholders.	D)-264/ED78A term. The OSEIC captures elements related to a defined CNS/ATM system, including aircraft equipage, ATS provider technical system, communication service provider systems, and procedural requirements.
Operational, Safety, and Performance Requirements (SPR) Standard	Used to coordinate the operational, safety, and performance objectives and allocate requirements for the different approval types.	D)-264/ED78A term. It is developed using an operational safety assessment (OSA) and an operational performance assessment (OPA) of the functions, performance expectations, and characteristics of operational environments needed to support the ATS identified in the OSED. The SPR standard identifies the objectives and allocated requirements, including the substantiation, for a specific operation. The SPR provides traceability from each requirement to its source, the services, and operating environments described in the OSED, and captures the results of the OSA and OPA. An SPR standard can be tailored to meet the needs of a particular operational implementation.
Operator*	A person, organisation or enterprise engaged in or offering to engage in an aircraft operation. (ICAO Doc 9713)	Also – The organization or individual who uses, causes to use or authorizes to use aircraft, for the purpose of air navigation including the piloting of aircraft, with or without the right of legal control (as owner, lessee, or otherwise). The legal entity operating a UAS. (Source – EASA)
Optionally Piloted Aircraft	Aircraft that may be flown with or without an onboard pilot	Source – Access 5 Policy IPT
Payload	All elements of the aircraft which are not necessary for flight but are carried for the purpose of fulfilling specific mission objectives.	Source – DefStan 00-970/1-Part 9
Performance Requirements	Set of requirements that define a function's performance, and expressed by a set of characteristics/attributes associated to all or part of a system.	Those include transaction and expiration times, continuity, availability, and integrity characteristics. Source – DO264.
Phase of Flight	A distinct stage of flight.	Includes: taxiing, take-off, climb, en route, mission operations, descent, approach, landing. Source – RTCA SC203
Phases of Operation	A distinct stage of operation.	Includes: preflight ground operations, all flight phases, and post flight ground operations. Source – RTCA SC203
Pilot (to)*	To manipulate the flight controls of an aircraft during flight time. (ICAO RPAS Panel)	
Pilot in Command (PIC)*	The person designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight. (ICAO RPAS Panel)	It is understood that for UAS to successfully integrate with manned aviation, they will be required to conform to a legal regulatory framework (existing and as it evolves) which, as regards <i>international</i> civil aviation, is defined by the Standards and Recommended Practices (SARPs) of ICAO. Indeed such provisions also provide, to a very large extent, the basis for <i>national</i> legal regulatory frameworks for civil aviation of most States. In that regard, it is considered that the existing

		ICAO definitions of “pilot-in-command” and “flight crew member” (see <i>terms and definitions</i>) will be pertinent to supporting the legal basis for regulating the personnel operating civil UAS. Such legal designation and regulation of personnel operating civil UAS will ensure sustained transparency with manned aviation to the extent that all civil airspace users will continue to be framed by a unified regulatory framework ensuring sustained system safety, security and efficiencies. Therefore, it is considered that UAS will be operated by personnel legally qualified as “UAS flight crew” in association with a designated “UAS pilot-in-command”. It is understood that ICAO could provide in due course those additional SARPs, legal interpretations and/or guidance material which would support, re-enforce and enable such legal designations for personnel operating civil UAS (e.g.: ICAO Annex 1 UAS flight crew licensing SARPs). This is especially relevant in the context of the particular and unique nature/characteristics of many UAS applications (from both a technical and flight operations perspective, e.g. VLOS UAS) where ICAO provisions/SARPs will need to be developed which address those UAS technical, operational specificities. In that context it is submitted that qualifications for certain categories of UAS flight crew (e.g.: VLOS UAS) may be significantly different than those pertaining to the classical qualifications pertaining to manned aviation.
Pilot Station also: Remote Pilot Station*	The station at which the remote pilot manages the flight of an unmanned aircraft. (ICAO RPAS Panel)	
Radio Line of Sight* (RLOS)	A direct electronic point-to-point contact between a transmitter and a receiver. (ICAO RPAS Panel)	WG73 SG1 agreed definition: Unobstructed signal path (C2, S&A, Communications link) between the radio signal transmitter and the receiver. The round trip communication time is instantaneous
Reduced Vertical Separation Minimum	The decrease in vertical separation distance between aircraft from 2,000 feet to 1,000 when flying between FL 290 and FL 410.	Source – RTCA SC203
Remote Crew Member*	A licensed crew member charged with duties essential to the operation of a remotely-piloted aircraft, during flight time. (ICAO RPAS Panel)	
Remote Pilot (RP)*	The person who manipulates the flight controls of a remotely-piloted aircraft, during flight time. (ICAO RPAS Panel)	
Remotely-Piloted*	Control of an aircraft from a pilot station which is not on-board the aircraft. (ICAO RPAS Panel)	
Remotely-Piloted Aircraft (RPA)*	An aircraft where the flying pilot is not on board the aircraft. (ICAO RPAS Panel)	ICAO RPAS Panel usage proposes that Unmanned Aircraft (UA) fall into two general categories, Autonomous Aircraft, which are incapable

Also: Remotely Operated Aircraft (ROA) Remotely Operated Vehicle (ROV) Remotely Piloted Vehicle (RPV)	An unmanned aircraft which is continuously under direct control of a pilot. (EASA)	of human intervention, and Remotely Piloted Aircraft, which are capable of human intervention so that the responsibilities of a pilot can be properly exercised at all times. Remotely-piloted aircraft are a subset of unmanned aircraft.
Remotely-Piloted Aircraft Observer*	A remote crew member who, by visual observation of the remotely-piloted aircraft, assists the remote pilot in the safe conduct of the flight. (ICAO RPAS Panel)	
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. (ICAO RPAS Panel)	
Requirement	An identifiable statement of a specification which can be validated and against which an implementation can be verified.	Source – DO264
Resolution	The fineness of detail that can be distinguished; the smallest distance apart two entities can be without appearing as one.	Angular resolution is the smallest angle that must be subtended by an object for a sensor to detect it. Original definition developed from several sources.
Risk	The combination of the probability, or frequency of occurrence of a defined hazard and the severity/magnitude of the consequences of its occurrence	Source – DO264
Robot	An electro-mechanical system that can react to sensory input and carry out predetermined missions.	A robot is typically equipped with one or more tools or certain capabilities, including information so that it can perform desired functions and/or react to different situations that it may encounter.
Safety Case	Central justification for aircraft airworthiness and record of safety analysis activities.	It is typically a suite of documents providing a written demonstration that safety risks have been reduced as low as reasonably practicable, forming a living dossier that underpins every safety-related decision made during the design and operation of aircraft. It includes a Safety Case Report with the safety justification. Source – derived from DefStan 00-970/1-Part 9.
Safety Critical System	A system (or a collection of systems) in which a disturbance or combination of disturbances could result in a direct hazard.	Source – DefStan 00-970/1-Part 9
Safety Management Plan Safety Plan	A plan describing the strategy, resources, organisation, management processes, procedures and technical tasks to be employed to ensure satisfactory levels of safety.	Source – DefStan 00-970/1-Part 9
Safety Targets	Baseline criteria for the safety and airworthiness of aircraft,	These are normally set in numerical terms (e.g. the number of

	equipment and other systems.	accidents due to equipment failure per flight hour). Source – DefStan 00-970/1-Part 9
Scenario	A descriptive unfolding of all the relevant features and activities connected with a particular course of action, event or situation.	The descriptive unfolding, when appropriate, can have a great deal of mathematical content. Original definition, consistent with Wikipedia.
Schema	In ontology (computer science) and systems engineering, a data model which represents the relationships of a set of concepts within a domain. Source – Wikipedia.	A schema can also be a way of defining structure, content and, to some extent, semantics. A schema is frequently portrayed as a diagram representing the elements of a system using abstract graphics.
See & Avoid	The principle of the capability of a pilot of an aircraft to see traffic which may be a conflict, evaluate flight paths, determine traffic right-of-way, and manoeuvre to avoid the traffic.	Source – based on RTCA SC203
Segregated Airspace*	Airspace of specified dimensions allocated for exclusive use to (a) specific user(s). (ICAO RPAS Panel)	
Sense & Avoid also Detect and Avoid	The principle of the capability of an unmanned aircraft or UAS to: a Sense hazards, including traffic, terrain, obstacles and atmospheric, which may be a conflict or lead to unsafe flight conditions for which the UAS would not comply with the flight rules under which it is being operated. b Evaluate flight path options based on rules of the air and separation minima. c Manoeuvre safely to avoid the hazard.	Based on several sources.
Separation Provision Also Self-Separation	Provision of the minimum distance between aircraft allowed by regulations	Source – based on DO289. Self-Separation refers to the situation when there are no air traffic management services and the pilot/remote pilot is solely responsible for maintaining proper separation. In all cases, the pilot is ultimately responsible for safe separation.
Situational Awareness (SA)	The perception of elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the future.	In generic terms the three levels of situational awareness are Level 1 – Perception, Level 2 – Comprehension, and Level 3 – Projection. There is both individual and group or team situational awareness. The set of terms used to delineate the general considerations necessary to characterize adequate SA for UAS, are Information, Intelligence, and Mode of Control Source – based on several, particularly DefStan 00-970/1-Part 9
State of Design	The State having jurisdiction over the organization responsible for the type design. (ICAO)	.
State of Manufacture	The State having jurisdiction over the organization responsible	For UAS this should be interpreted as ‘final assembly of the unmanned

	for the final assembly of the aircraft. (ICAO Annex II Definitions)	aircraft system (UAS)'
State of Occurrence	The State in the territory of which an accident or incident occurs. (ICAO Doc 9713)	
State of Registry	The State on whose register the aircraft is entered. (ICAO Annex II Definitions)	
State of the Operator	The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence. (ICAO Doc 9713)	
Status Link	Communication link through which status information is passed	Typically used to refer to the 'downlink' from an unmanned aircraft to a pilot station. Original definition.
Support Equipment	All equipment required to ensure the correct functioning of the UAS.	This includes all elements of the pilot station, data links, telemetry, navigation and communications equipment, etc. Source – derived from DefStan 00-970/1-Part 9
Surrogate unmanned aircraft	An optionally piloted aircraft flown as an unmanned aircraft but with a safety pilot on board.	
System Integrity	Completeness of the system, unimpaired, uncorrupted, complying with system requirements.	
TCAS – Traffic Alert and Collision Avoidance System	The ARINC term used in place of the ICAO term ACAS.	TCAS I – A TCAS which utilizes interrogations of and replies from airborne radar beacon transponders and provides traffic advisories to the pilot TCAS II – A TCAS which utilizes interrogations of and replies from airborne radar beacon transponders and provides traffic advisories and resolution advisories in the vertical plane to the pilot TCAS III – A TCAS which utilizes interrogations of and replies from airborne radar beacon transponders and provides traffic advisories and resolution advisories in the vertical and horizontal planes to the pilot Source – FAA Doc No 1150
Telecommand Link	The means used to transfer the flyer's intent to the unmanned aircraft. The uplink portion of the control link between the pilot and an unmanned aircraft.	
Telemetry Link	The means used to transfer the unmanned aircraft's health and status to the pilot. It is the downlink portion of the control link between the pilot and an unmanned aircraft.	Source – derived from DefStan 00-970/1-Part 9
Terrain Avoidance	Avoiding unintended contact with terrain.	
Traffic	All aircraft/vehicles that are within the operational vicinity of own-ship	Source – DO289
Unmanned Aircraft (UA)*	1 An aircraft which is designed to operate with no human pilot onboard. (EASA)	ICAO RPAS Panel usage proposes that Unmanned Aircraft (UA) fall into two general categories, Autonomous Aircraft (AA), which are incapable of human intervention, and Remotely Piloted Aircraft (RPA),

	2 An aircraft which is intended to operate with no pilot on-board. (ICAO RPAS Panel)	which are capable of human intervention so that the responsibilities of a pilot can be properly exercised at all times.
Unmanned Aircraft Pilot UAS Pilot see also Remote Pilot (RP)	The individual directly in control of the flight of the unmanned aircraft. Source – EASA	ICAO RPAS Panel seems to prefer Remote Pilot for this term. The Pilot may have direct control of more than one unmanned aircraft. See Comment for Pilot in Command.

Unmanned Aircraft System (UAS)*	<p>1 An aircraft and its associated elements which is operated with no pilot on-board. (ICAO RPAS Panel)</p> <p>2 An unmanned aircraft system (UAS) comprises individual systems elements consisting of an “unmanned aircraft”. The “pilot station” and any other system elements to enable flight, i.e. “command and control link” and “launch and recovery elements”. There may be multiple pilot stations, command and control links and launch and recovery elements within a UAS. EASA</p>	<p>The system elements typically include:</p> <ul style="list-style-type: none"> - unmanned aircraft, - pilot stations; - software; - health monitoring; - communication, control & data links; - data terminals; - payload (s); - launch & recovery elements; - flight termination systems; - support & maintenance equipment; - power generation, distribution & supply; - air traffic control communications equipment; - handling, storage & transport equipment; - all required documentation related to aforementioned. - the operating personnel
Unmanned Aircraft System (UAS) Crew also UAS Flight Crew	Any person assigned to perform duties during the operation and maintenance of the UAS.	Source – Derived from DefStan 00-970/1-Part 9. This term is directly relevant to the concept of Flight Crew Licensing of relevant UAS personnel.
Unmanned Aircraft System Element	An unmanned aircraft system element may be a specified function that can be verified, e.g. an information or data transmission function, a Pilot Station which may be certified in its own right as a product.	
Unmanned Aircraft System (UAS) Operator	<p>1 The legal entity operating a UAS.</p> <p>2 The legal entity approved for the operation of a UAS.</p>	Source – based on ICAO
Unmanned Aircraft System (UAS) Payload Controller	The individual in direct control of the payload.	Original definition

Unmanned Aircraft System (UAS) System Integrator	The applicant for an Air System Certificate for a UAS.	The System Integrator should be in control of the design aspects of the system airworthiness and be the organization developing the air system design for a complete UAS.
Unmanned Aerial Vehicle (UAV) UAV System (UAWS)	Obsolete in most countries – see Unmanned Aircraft, Remotely Piloted Aircraft and Unmanned Aircraft System	ICAO requires the use of the legally recognized word 'aircraft' for international regulatory purposes.
Unmanned Aircraft Observer	Trained person assigned duties associated with safe flight of an unmanned aircraft, including collision avoidance.	
Unmanned Combat Aircraft (UCA) <i>also UCAV – unmanned combat air vehicle</i>	An aircraft used for military combat purposes, which is designed to operate with no human pilot on board.	Based on EASA term for unmanned aircraft. UCA typically refer to UA which have been specifically designed for combat. There are UA, designed for surveillance and other non-lethal missions, which have been 'weaponised' and are being used for air to ground attack (notably not air to air combat).
Unmanned Combat Aircraft System (UCAS)	An unmanned combat aircraft system (UCAS) comprises individual systems elements consisting of an "unmanned combat aircraft". The "pilot station" and any other system elements to enable flight, ie "command and control link" and "launch and recovery elements". There may be multiple pilot stations, command and control links and launch and recovery elements within a UCAS. Based on EASA	The system elements typically include: <ul style="list-style-type: none"> - unmanned combat aircraft, - pilot stations; - software; - health monitoring; - communication, control & data links; - data terminals; - payload (including sensors, weapons and ammunition); - launch & recovery elements; - flight termination systems; - support & maintenance equipment; - power generation, distribution & supply; - air traffic control communications equipment; - handling, storage & transport equipment; - all required documentation related to aforementioned. - the operating personnel
Up-Link	Direct or indirect communication link to an unmanned aircraft	
Use Case	In software and systems engineering, a description of a system's behaviour as it responds to a request which originates from outside that system.	The use case technique is used to capture a system's behavioural requirements by detailing scenario0driven threads through the functional requirements. Source – Wikipedia
Visual Control	Method of control and collision avoidance that refers to the flyer or observer having an uninterrupted view with human eyesight of the unmanned aircraft and the airspace around it in order to avoid collision.	Corrective lenses (spectacles or contact lenses) may be used by the flier or visual observer.
Visual Flight Rules	Rules that govern the procedures for conducting flight under	The term VFR is also used unofficially in the United States to indicate

	visual meteorological conditions. Source – FAA Order 7110.65	weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.
Visual Line of Sight (VLOS) Visual Range Visibility	<p>Visibility for aeronautical purposes is the greater of:</p> <p>a the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background</p> <p>b the greatest distance at which lights in the vicinity of 1000 candelas can be seen and identified against an unlit background (ICAO Doc 9713)</p>	Generally 3 statute miles (5km) for the use of ground based, unaided (except for normal prescription eyewear) human vision to provide situation awareness and de-confliction during a UAS operation. Under certain conditions in some countries below 1200ft minimum visual range for operations can be 1 statute mile (Source – derived from FAA Part 91.155 – Basic VFR weather minimums)
Visual Line Of Sight Operation*	An operation in which the remote crew maintains direct visual contact with the aircraft to manage its flight and meet separation and collision avoidance responsibilities. (ICAO RPAS Panel)	
Visual Meteorological Conditions	Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima. (PANS-ATM)	
Weather Avoidance	Avoiding weather which might pose a hazard.	<p>Weather and atmospheric hazards which might have an impact on UAS including:</p> <ul style="list-style-type: none"> -Cumulonimbus -Hail -Lightning -Ice -Clear air turbulence -Wake vortex -Wind Shear -Fog -Smoke -Volcanic ash