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Unmanned aircraft systems —

Part 4: Vocabulary

Aéronefs ~~sans pilote —~~ télépilotés —

Partie 4: Vocabulaire

FDIS stage

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Contents

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Foreword

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This document was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 16, ~~*Unmanned*~~*Uncrewed aircraft systems*.

This second edition cancels and replaces the first edition (ISO 21384-4:2020), which has been technically revised.

The main changes are as follows:

— ~~—~~several new terms, related to UAS, have been introduced.

A list of all parts in the ISO 21384 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Unmanned aircraft systems —

Part 4: Vocabulary

1 Scope

This document defines terms ~~and definitions~~ relating to ~~unmanned~~uncrewed aircraft systems that are widely used in science and technology.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ~~—~~ISO Online browsing platform: available at https://www.iso.org/obp

— ~~—~~IEC Electropedia: available at https://www.electropedia.org/

3.1 ~~3.1~~
aerodrome
defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft

3.2 ~~3.2~~
aerodrome pilot
remote pilot familiar with a defined *aerodrome* (3.1~~(3.1)~~) or landing site, which transfers responsibility to another pilot a few minutes after take-off or accepts responsibility for approach, landing and possibly taxing and parking

3.3 ~~3.3~~
airspace management
ASM
planning function with the primary objective of maximizing the utilization of available airspace by dynamic time-sharing and, at times, the segregation of airspace among various categories of users based on short-term needs, while securing aviation safety

3.4 ~~3.4~~
ATS communication link
air traffic service communication link
digital or analogue communication link to transfer voice or data between *remote crew members* (3.55~~(3.55),~~), air traffic service, airspace users and other airspace users

Note 1 to entry: It includes air-ground, air-to-air and ground-ground links.

3.5 ~~3.5~~
beyond visual line-of-sight
BVLOS
operation of a *UAS* (3.83~~(3.83)~~) other than ~~Visual~~visual line-of-sight operation in which neither the remote pilot nor any observer use visual reference to the *uncrewedaircraft* (3.80~~*unmanned aircraft* (3.80)~~) in the conduct of flight

3.6 ~~3.6~~
CNS
communications, navigation, and surveillance system
system employing digital technologies, including satellite systems together with various levels of automation

3.7 ~~3.7~~
collision boundary
closest point of approach or minimum distance to be achieved between two aircrafts to ensure that a collision is avoided taking account of any inaccuracies in the system

3.8 ~~3.8~~
collision volume
cylindrical volume of airspace centred on the ~~*unmanned*~~*uncrewed* *aircraft* (3.80~~(3.80)~~) with a horizontal radius and vertical height within which a collision is most likely and avoidance of a collision can only be considered a matter of chance

3.9 ~~3.9~~
constituent
tangible objects such as hardware and intangible objects such as software upon which the provision of *UAS* (3.83~~UTM~~) traffic management (UTM) services depends

3.10 ~~3.10~~
crew resource management
CRM
utilisation of all resources available to the *remote crew members* (3.55~~(3.55)~~) to manage human error

3.11 ~~3.11~~
down-link
direct or indirect data link from the ~~*unmanned*~~*uncrewed* *aircraft* (3.80~~(3.80)~~) to one or more peers

3.12 ~~3.12~~
drone
~~unmanned~~uncrewed system which is remotely or autonomously operated and does not carry passengers

3.13 ~~3.13~~
droneport
aerodrome (3.1~~(3.1),~~), including *vertiports* (3.88~~(3.88),~~), exclusively dedicated to landing, ground-handling and take-off of ~~*unmanned*~~*uncrewed* *aircrafts* (3.80~~(3.80)~~)

~~NOTE:~~ Note 1 to entry: The droneport does not serve ~~manned~~crewed fixed wings aeroplanes.

3.14 ~~3.14~~
dual instruction time
time during which a person is receiving instruction from a properly authorized remote pilot at the controls of the remote pilot station

3.15 ~~3.15~~
elevation
vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level

3.16 ~~3.16~~
eVTOL aircraft
electric vertical take-off landing aircraft
aircraft which is ~~manned~~crewed or ~~unmanned~~uncrewed (remotely or autonomously) operated and carries cargo or passengers or is used for aerial work

3.17 ~~3.17~~
extended visual line-of-sight
EVLOS
operation beyond the unaided visual range of the remote pilot, but where the remote pilot is supported by one or more *visual observers* (3.89~~(3.89)~~)

3.18 ~~3.18~~
external service
service and related provider, necessary for the safety of the *UAS* (3.83~~(3.83)~~) flight, encompassing:

a) ~~a)~~ command and control link communication service provider (C2CSP);

b) ~~b)~~ other *operation support services* (3.43~~(3.43),~~), whose purpose is to support a single flight but not to manage traffic;

c) ~~c)~~ UAS traffic management (UTM) services

3.19 ~~3.19~~
flight duty period
period which commences when the first *remote crew member* (3.55~~(3.55)~~) reports for duty that includes a flight or a series of flights and which finishes when the last remote crew member's duty ends

3.20 ~~3.20~~
flight manual
manual, acceptable by the local aviation authority, containing the order of actions in normal, abnormal and emergency procedures, checklists, limitations, performance information, details of the aircraft systems

3.21 ~~3.21~~
flight plan
specified information provided to air traffic service (ATS) units, relative to an intended flight or portion of a flight of an aircraft

3.22 ~~3.22~~
flight route
specified route designed for channelling the flow of traffic as necessary for the provision of *UAS* (3.83~~UTM~~) traffic management (UTM)

3.23 ~~3.23~~
flight termination system
means and/or procedure triggered manually or automatically to initiate a pre-programmed action or a set of actions designed to terminate *UA* (3.80~~(3.80)~~) flight, minimising risks to third parties

3.24 ~~3.24~~
flight time
total time from the moment the on-board systems are activated with the intent to perform a flight, until the moment the on-board systems are de-activated

3.25 ~~3.25~~
geo-limitation
entity that represents area surrounded by virtual boundary lines in the real world

3.26 ~~3.26~~
geoid undulation
height of the geoid relative to a given ellipsoid of reference

3.27 ~~3.27~~
height above ellipsoid
vertical distance of a point or a level, on or affixed to the surface of the earth, measured from World Geodetic System 1984 (WGS 84) ellipsoid

3.28 ~~3.28~~
heliport
aerodrome (3.1~~(3.1)~~) or defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters of unlimited mass and performance [i.e. class C *vertiport* (3.88)]

Note 1 to entry: Vertiport is ~~defined in ISO 21384-4 as~~ an infrastructure or system with supporting services and equipment intended for landing, ground-handling and take-off of ~~manned~~crewed or ~~unmanned~~uncrewed vertical take-off and landing (VTOL) aircraft. Helicopters belong to the VTOL family.

Note 2 to entry: EASA Special Condition SC-VTOL-01 defines a vertiport as an area of land, water, or structure used or intended to be used for the landing and take-off of VTOL aircraft.

3.29 ~~3.29~~
instrument approach
approach and landing operation using instruments for navigation guidance based on airborne, ground-based or satellite-based equipment or combination thereof

3.30 ~~3.30~~
instrument flight time
time during which a pilot is *piloting* (3.51~~(3.51)~~) an aircraft (solely by reference to instruments and without external reference points

3.31 ~~3.31~~
international vertiport
vertiport (3.88~~(3.88)~~) designated by a state in whose territory it is situated, as a vertiport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out

3.32 ~~**3.32**~~
in-time system-wide safety assurance
ISSA
safety net utilising system-wide information to provide alerting and to trigger mitigation strategies in time to address emerging risks. It is part of proactive safety management

3.33 ~~**3.33**~~
intruder
aircraft within the *surveillance volume* (3.71(~~3.71~~)) but outside the self-separation threshold

3.34 ~~**3.34**~~
launch and recovery system
system from which or by means of which an ~~*unmanned*~~*uncrewed aircraft* (3.80(~~3.80~~)) is launched or by which it is recovered

3.35 ~~**3.35**~~
lost link
loss of command and control link contact with the ~~*unmanned*~~*uncrewed aircraft* (3.80(~~3.80~~)) such that the *remote pilot* can no longer manage the flight of the *UA* (3.80)

3.36 ~~**3.36**~~
magnetic declination
angle on the horizontal plane between magnetic north and true north

~~**3.37**~~
3.37 ~~**manned**~~
crewed aircraft
aircraft which is intended or designed to be operated with at least one human pilot on board

~~**3.37**~~**3.38** ~~**3.38**~~
model aircraft
UA (3.80(~~3.80~~)) that is capable of sustained flight in the atmosphere and that is used exclusively for leisure flights, air displays, sport or competition activities

~~**3.38**~~**3.39** ~~**3.39**~~
monitoring
process of observing on a regular basis over a period of time

~~**3.39**~~**3.40** ~~**3.40**~~
national aviation authority
government statutory authority in each country that oversees the approval and regulation of civil aviation

~~**3.40**~~**3.41** ~~**3.41**~~
non-cooperative aircraft
aircraft that do not have an electronic means of conspicuity (i.e. a transponder) aboard or not operating such equipment due to malfunction or deliberate action

~~**3.41**~~**3.42** ~~**3.42**~~
operation plan
specified information provided *UAS* (3.83) traffic management (UTM) service providers, relative to an intended flight or portion of a flight of a *UA* (3.80(~~3.80~~))

3.423.43 3.43
operation support service
web-based tools and information provided by a service provider (SP) to ana *UAS* (3.83(3.83)) operator or its staff, to support safe and efficient planning and execution of a flight mission, as well as and post-flight activities

Note 1 to entry: Operation support services cover a time span much wider than UAS traffic management (UTM) services. Although they support UAS operations, they are neither Traffic Managementtraffic management nor Air Navigationair navigation services.

3.433.44 3.44
operational volume
volume of airspace in which the aircraft is proposed to operate, defined by points on the ground and altitudes

3.443.45 3.45
operating manual
publication issued by the manufacturer which contains detailed data and instructions related to the design, installation, operation and maintenance of equipment

[SOURCE: ISO 10432:2004, 3.18]

3.453.46 3.46
operations manual
publication issued by the operator under its responsibility, containing procedures, instructions and guidance for use by operational personnel in the execution of their duties

3.463.47 3.47
optionally piloted aircraft
OPA
aircraft that may be operated by an on-board pilot or by a remote pilot

3.473.48 3.48
operational risk management
ORM
continual cyclic process which includes risk assessment, risk decision making and implementation of risk controls, which results in acceptance, mitigation, or avoidance of risk

3.483.49 3.49
payload
all elements of an *unmanneduncrewed aircraft* (3.80(3.80)) that are not necessary for flight but are carried for the purpose of fulfilling specific mission objectives

3.493.50 3.50
payload link
data link for up-linking command instructions to the *unmanneduncrewed aircraft* (3.80(3.80))*payload* (3.49(3.49)) and down-linking (3.29) payload data, which is not critical to the safe operation of the *unmanneduncrewed aircraft system* (3.83(3.83))

3.503.51 3.51
pilot,verb
manipulate the flight controls of an aircraft during *flight time* (3.24(3.24))

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