



Designation: F2395 – 07

## Standard Terminology for Unmanned Aircraft Systems<sup>1</sup>

This standard is issued under the fixed designation F2395; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope

1.1 This terminology covers important concepts and terms related to unmanned aircraft systems. It is intended to establish the boundaries and characteristics that will guide the development of other standards for the committee.

### 2. Referenced Documents

2.1 *AIAA Standard*:<sup>2</sup>

R-103–2004 *AIAA Recommended Practice—Terminology for Unmanned Aerial Vehicles and Remotely Operated Aircraft*

2.2 *Code of Federal Regulations*:<sup>3</sup>

14 CFR *Aeronautics and Space*

14 CFR Part 91.113 *General Operating and Flight Rules—Right-of-Way Rules: Except Water Operations*

14 CFR Part 1 *Definitions and Abbreviations*

### 3. Significance and Use

3.1 This terminology is written to provide: (1) precise understanding and interpretation of ASTM standards, (2) the characteristics of the UAS classes, requirements, and profiles which must be addressed by standards, (3) standard terminology to use in standards, reports, and other technical writings on the subcommittees, and (4) an explanation of the meanings of technical terms for the benefit of those not conversant with them.

3.2 This terminology is not intended to prevent the use of descriptive terms used to distinguish between aircraft, such as tactical, high-altitude long endurance, or micro.

### 4. Terminology

**automated**, *n*—the automatic performance of scripted actions.

**autonomy**, *n*—the ability of the machine to interpret its environment and make decisions that result in unscripted actions.

**beyond line-of-sight, BLOS**, *n*—transmitter and receiver are not in direct, point-to-point contact. See R-103–2004.

**civil aviation authority, CAA**, *n*—the government regulatory agency that governs aircraft, airmen, and operations. In the United States this is the Federal Aviation Administration (FAA).

**control station**, *n*—a system of computers and other equipment in a designated operating area that the pilot and other crewmembers use to communicate and fly the unmanned aircraft and to operate its sensors (if any).

**fully autonomous**, *adj*—mode of control of a UAS where the UAS is expected to execute its mission, within the pre-programmed scope, with only monitoring from the pilot-in-command. As a descriptor for *mode of control*, this term includes: (1) fully automatic operation, (2) autonomous functions (like takeoff, landing, or collision avoidance), and (3) “intelligent” fully autonomous operation.

**light unmanned aircraft system, light-UAS**, *n*—UAS with a maximum gross takeoff weight of 1320 lb or less.

**line of sight, LOS**, *n*—direct, point-to-point contact between a transmitter and receiver. See R-103–2004.

**lost link**, *n*—a situation where the control station has lost either or both of the uplink and downlink contacts with the unmanned aircraft and the pilot can no longer affect or monitor, or both, the aircraft’s flight.

**miniature unmanned aircraft system, mini-UAS**, *n*—UAS with a maximum gross takeoff weight of 55 lb or less.

**mode of control**, *n*—means the pilot uses to direct the activity of the UAS. There are two modes of control: semi-autonomous and remote control. A UAS may use different modes of control in different phases of flight.

**operator**, *n*—means any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft. Also, the entity responsible for compliance with airworthiness and continuing airworthiness requirements.

<sup>1</sup> This terminology is under the jurisdiction of ASTM Committee F38 on Unmanned Aircraft Systems and is the direct responsibility of Subcommittee F38.02 on Flight Operations.

Current edition approved April 15, 2007. Published May 2007. Originally approved in 2004. Last previous edition approved in 2005 as F2395 – 05. DOI: 10.1520/F2395-07.

<sup>2</sup> Available from American Institute of Aeronautics and Astronautics (AIAA), 1801 Alexander Bell Drive, Suite 500, Reston, VA 20191-4344.

<sup>3</sup> Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401.