SAE INTERNATIONAL

BRIEF OVERVIEW OF SAE INTERNATIONAL UAS ACTIVITIES

Presented to ANSI UAS Collaboration

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SAE published its first international aerospace standard in 1917. Today, >8900 active and >20600 historical SAE aerospace standards exist.

Over 250 SAE aerospace technical committees & subcommittees have developed many existing standards that can be applied to UAS.

- New and revised standards are including provisions for UAS.

Currently, two committees develop standards exclusively for UAS:

- AS-4 Unmanned Systems Steering Committee
  - AS-4JAUS Joint Architecture for Unmanned Systems Committee
  - AS-4UCS Unmanned Systems Control Segment Architecture
- E-39 Unmanned Aircraft Propulsion Committee

Published SAE International UAS standards address the following topics:

- Wiring
- Flight control design
- Actuators
- Pilot training recommendations
- Safe operation and release of weapons
- Auxiliary power sources
- Message and data formats
- Interoperability
- Software architecture
- Control segment architecture

SAE International UAS Works In Progress include:

Document	Committee
ARP6336 Lighting Applications for Unmanned Aircraft Systems (UAS)	A-20B Exterior Lighting Committee
AIR6388 Remote Identification and Interrogation of Unmanned Aerial Systems	AS-4UCS Unmanned Systems Control Segment Architecture
AS6523 Data Dictionary for Quantities Used in Unmanned Systems	AS-4UCS Unmanned Systems Control Segment Architecture
AS6009A JAUS Mobility Service Set	AS-4JAUS Joint Architecture for Unmanned Systems Committee
AS6111 JAUS Unmanned Maritime Vehicle Service Set	AS-4JAUS Joint Architecture for Unmanned Systems Committee
AS6386 JAUS Automated Behaviors and Diagnostics Service Set	AS-4JAUS Joint Architecture for Unmanned Systems Committee
ARP6856 Improving Unmanned Vehicle Navigation Solutions Using Raw Measurements from Global Navigation Satellite System (GNSS) Receivers	AS-5 Position, Navigation and Timing
ARP6857 Requirements for a Terrestrial Based Position, Navigation, and Timing (PNT) System to Improve Unmanned Vehicle Navigation Solutions and Ensure Critical Infrastructure Security	AS-5 Position, Navigation and Timing

SAE AIR6388 Remote Identification and Interrogation of Unmanned Aerial Systems

This SAE Aerospace Information Report (AIR) discusses practical considerations for remotely identifying lightweight unmanned aerial systems (UAS), less than 55 lbs. Identification standards shall address all phases of unmanned systems operations (e.g. vehicle in flight and vehicle powered-off on the ground). There are multiple ways to achieve positive identification—passively, actively, visually, and electromagnetically. This AIR introduces multiple UAS identification methods and reviews existing identification standards and technologies.

SAE AIR6388 Remote Identification and Interrogation of Unmanned Aerial Systems will address the following topics:

1. Scope
2. Applicable Documents
3. Introduction to Identification Methods and Technologies
4. The Need for Remote Identification of UAS
5. Remote Identification of UAS – Requirements
6. Remote Identification of UAS – Methods and Technologies