

The **SAE AS-4** committees address all facets of unmanned systems—design, maintenance, and inservice experience. The primary goal of AS-4 is to publish standards that enable interoperability of unmanned systems for military, civil and commercial use through the use of open systems standards and architecture development. The group is comprised of four subcommittees and an executive board dedicated to creating, preparing and maintaining all relevant specifications, standards, and requirements for unmanned systems. The committees and their primary focus areas include:

## **AS-4JAUS Joint Architecture for Unmanned Systems**

- Establish the capability requirements for unmanned systems.
- Define the transport mechanisms for use with JAUS based systems; establish 'on-the-wire' message formats.
- Specify individual message formats and utilization rules; define service interfaces the formalize protocols for message transactions and describe message details.

## **AS-4ALFUS Unmanned Systems Performance Measures**

- Specify terms and definitions for the performance of unmanned systems; establish measures for the performance and characterization of unmanned systems, their components, and their interactions.

**AS-4** was formed as a result of the Joint Architecture for Unmanned Systems Working Group (JAUS WG) migration to SAE. The JAUS WG was chartered by the Deputy Director, Office of the Undersecretary of Defense, Acquisition, Technology, and Logistics, Strategic & Tactical Systems/Land Warfare. The objective is to define and sustain a joint architecture for the domain of unmanned systems. JAUS is a message-based architecture that defines data formats and methods of communication among computing nodes. The architecture defines messages and component behaviors that are independent of technology, computer hardware, operator use, communications equipment, and vehicle platforms. The JAUS documents serve as the basis for SAE Aerospace Standards. The recent addition of the Performance Measures subcommittee, previously the NIST led Autonomy Levels for Unmanned Systems (ALFUS) Working Group, adds a critical dimension to unmanned systems standards. Participation in the SAE AS-4 Unmanned System Technical Committee includes OEMs, suppliers, robotics and unmanned systems integration companies, consulting firms, government, academic institutions and others across the unmanned systems industry.

## Standards development/revision activities

Join an SAE Aerospace Technical Standards committee.

For more information or to participate on an AS-4 Committee contact: Dorothy Lloyd 1-724 -772-8663 dlloyd@sae.org http://works.sae.org To purchase SAE Technical Standards 1-877-606-7323 (USA & Canada) 1-724-776-4970 store.sae.org

- AS6132 JAUS Payload Interface Service Set
- AS6111 JAUS Unmanned Underwater Vehicle Service Set
- AS6009A JAUS Mobility Service Set

## **Recently published documents**

- AIR5665B Architecture Framework for Unmanned Systems
- ARP6227 JAUS Messaging over the OMG Data Distribution Service (DDS)
- ARP6128 Unmanned Systems Terminology Based on the ALFUS Framework

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