SAE International

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Fact Sheet

SAE Technical Committee AS-4
Unmanned Systems

Chairperson: **Woody English, DeVivo AST, Inc.**
Vice Chairperson: **Jeff Kotora, DeVivo AST, Inc.**
Secretary: **Open**

The **SAE AS-4** committee addresses all facets of unmanned systems—design, maintenance, and in-service 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 subcommittees and their primary focus areas include:

AS-4A Architecture Framework
- Establish the capability requirements for unmanned systems.

AS-4B Network Environment
- Define the transport mechanisms for use with JAUS based systems; establish 'on-the-wire' message formats.

AS-4C Information Modeling and Definition
- Specify individual message formats and utilization rules; define service interfaces the formalize protocols for message transactions and describe message details.

AS-4D 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.

The AS-4 committee 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.

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Standards development/revision activities

- AIR5665A - Architecture Framework for Unmanned Systems
- ARP6012 - JAUS Compliance and Interoperability Policy
- AS5669A - JAUS Transport Specification
- AS6009 - JAUS Service Set – Mobility
- AS6040 - JAUS HMI Service Set

Recently published documents

- AIR5665 - Architecture Framework for Unmanned Systems
- AIR5645 - JAUS Transport Considerations
- AS5669 - JAUS Transport Specification
- AS5684 - JAUS Service Interface Definition Language
- AS5710 - JAUS Service Set

One world. One standard.
One source.

Join an SAE Aerospace Technical Standards committee.

See for yourself the SAE standardization process in action at the upcoming meeting of the *AS-4 Unmanned Systems Committee:*

April 27-31, 2009
Indianapolis, Indiana USA

For more information
or to participate on an AS-4 Committee, contact:

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