

# ANSI UNMANNED AIRCRAFT SYSTEM STANDARDS COLLABORATIVE (UASSC)

## ORGANIZATIONAL SPECIFICS

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Standards Organizations:	Various
Technical Committees:	Various
Other Partnering Organizations:	ANSI
Government Organizations:	U. S. DOT, U.S. FAA, U.S. DHS Science and Technology Directorate
Industry Sector(s) / Technology:	Aviation
Program / Activity Website URL(s):	<a href="http://www.ansi.org/uassc">www.ansi.org/uassc</a>

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## STANDARDS DRIVEN PUBLIC-PRIVATE PARTNERSHIP (PPP) OBJECTIVES

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### PPP Drivers:

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In 2017, the unmanned aircraft systems (UAS) users and the aviation sector engaged with several standards development organizations (SDOs) for the development of both application and UAS specific standards. At the time, it was difficult for the public and private sector to identify what efforts were being supported by the various organizations and left the impression that duplication of efforts was creating confusion in the marketplace. UAS certification and operations are regulated by the [U.S. Federal Aviation Administration \(FAA\)](#). The [Association for Uncrewed Vehicle Systems International \(AUVSI\)](#), a trade association who represented UAS stakeholders, and FAA requested ANSI explore the need for a UAS standards collaborative to help increase awareness about existing standards efforts and identify future standard's needs. ANSI engaged stakeholders to explore the need and support for increased coordination through two stakeholder meetings in 2017 which resulted in the formation of the [UAS standards collaborative](#).

### PPP Goals:

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The UASSC's mission is to coordinate and accelerate the development of the standards and conformity assessment programs needed to facilitate the safe integration of unmanned aircraft systems (UAS), or drones, into the national airspace system. The collaborative also focuses on international coordination and adaptability, with the goal of fostering the growth of the UAS market, particularly related to civil, commercial, and public safety applications. Work of the UASSC resulted in standards landscapes, standards roadmaps, several gaps progress reports, and technical events. Gaps progress reports are typically issued twice per year after the publication of a full roadmap. The UASSC does not develop standards.

### Public Sector Role & Participation:

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More than 400 individuals from 250 public-and private-sector organizations supported the development of the UASSC roadmap, including representatives of the Federal Aviation Administration (FAA), other U.S. federal government agencies, standards developing organizations (SDOs), industry, academia, and others. Over the term of UASSC's existence it has been co-chaired by FAA and industry associations (HAI/VAI and AUVSI).

From its formation onward, all UASSC members offered their technical knowledge about issues, existing standardization activities, regulatory and policy activities, and R&D needs. There was no distinction between the roles of the public versus private sector. Some representatives engaged in UASSC as a member and others served in leadership roles. However, outreach efforts always targeted and advocated for both private and public sector engagement. Participation is open to UAS stakeholders that have operations in the U.S. Membership in ANSI is not a prerequisite and there is no fee to participate.

The UASSC efforts are primarily funded by the FAA but have also been supported through sponsorships from ASTM International, National Fire Protection Association (NFPA), and the U.S. Department of Homeland Security (DHS).

## Implementation Methods:

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Before forming the UASSC, ANSI hosted two stakeholder workshops to explore the needs for collaboration, identify stakeholders, and once there was a consensus regarding the need, ANSI established a structure for the UASSC.

To maximize the effectiveness and relevance of the UASSC work, a Steering Committee (SC) was established. The SC membership included the working groups chairs as well as standards organizations, government, consortia, and others to give balance to the SC. The SC offered guidance and strategic direction as well as leveraged their networks to ensure the technical expertise in the WG was sufficient to ensure technical and market relevance. The SC continues to meet twice a year to discuss results reported in the gaps progress reports, to increase awareness about key UAS issues and initiatives, and evaluate the need for future roadmaps.

To develop the roadmap, the UASSC established four working groups that typically held online meetings twice a month:

- WG1 covering airworthiness
- WG2 covering general flight operations, personnel training, qualifications, and certification
- WG3 covering flight operations for critical infrastructure inspections, environmental applications, commercial services, and workplace safety
- WG4 covering flight operations for public safety

The roadmap evolved from version 1 to version 2 based on the needs and applicability that UAS had at any given point. During the initial years of UASSC, more face-to-face events (with hybrid capabilities) were facilitated. Face to face events served more as plenary meetings. WG meetings took place more often and as web-based meetings.

## Measurement of Success:

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The roadmap and gaps progress reports continue increase awareness about research and standards to support UAS. They also highlight existing and needed standardization efforts, aimed at accelerating standards development and adoption. Feedback from the DOT, FAA and industry has emphasized how the roadmapping efforts, during development and after publication, have helped inform resource allocation (experts time in various standards activities), avoid duplication, and identify priorities.

The UASSC efforts alone have demonstrated success in completing the work they were chartered to carry out. The UASSC released version 1.0 of its standardization roadmap in December 2018, and [version 2.0](#) in June 2020. Like its predecessor, version 2.0 of the roadmap identifies existing standards and standards in development, defines where gaps exist, and makes recommendations for priority areas where there is a perceived need for additional standardization including pre-standardization research and development (R&D). The roadmap includes proposed timelines for completion of the work and lists organizations that potentially can perform the work. The document also includes brief overviews of the UAS activities of the FAA, other U.S. federal government agencies, standards developing organizations (SDOs), and various industry groups. The roadmap covers issues such as:

- Airworthiness
- Flight Operations
- Personnel Training, Qualifications, and Certification
- Infrastructure Inspections
- Environmental Applications
- Commercial Services
- Workplace Safety
- Public Safety Operations

[UASSC Roadmap 2.0](#) describes 71 gaps where no published standard currently exists to respond to a particular industry need. When a standards developer or other organization initiates or completes work in a specific area identified in one

of those gaps, an update is made to the Gaps Progress Report. The most recent Gaps Progress Report was published in March 2024 and the next is expected in fall 2024.

### **Key Takeaways:**

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1. A clear scope of what technical areas should be addressed as a whole, as well as the WG level, is important in order to not overwhelm or slow efforts.
2. A balanced representation of expertise in each of the technical working groups is necessary to ensure market relevance and unbiased recommendations.
3. Allowing for public review of drafts prior to publications helps ensure broader input from directly and indirectly impacted stakeholders.

### **Advice for Others:**

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Standards roadmap development requires significant investment of resources – both expertise and time – of stakeholders. It is important to have alignment on the scope and timeline. As standards are always evolving, theoretically a roadmap is out of date by the time of publication and is best described as a living document. Participants should focus on the priorities and high-level descriptions and not solving the issues. Development of the standards will take a place as a result, as a separate initiative, from the roadmap development. Updates on standards work can be provided post-roadmap (gaps progress reports or workshops) and future versions can be developed to maintain visibility of current work and needs over time.