

CALL FOR PAPERS

IMPORTANT DATES

Submission Deadlines

December 1, 2025

Abstract Submission Portal Opens

January 31, 2026

Abstract Deadline

March 7, 2026

Abstract Acceptance

April 25, 2026

Full Paper Deadline

May 30, 2026

Paper Acceptance

June 20, 2026

Camera-ready Deadline

Conference Dates

September 13–14, 2026

Tutorials

September 15–17, 2026

Conference

ORGANIZERS

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The 45th AIAA/IEEE Digital Avionics Systems Conference (DASC) continues a rich tradition as the preeminent R&D conference in the field of digital avionics, offered by Digital Avionics Technical Committee (DATC) and co-sponsored by the American Institute of Aeronautics and Astronautics (AIAA) and the Institute of Electrical and Electronics Engineers (IEEE).

As the world's leading conference on digital avionics technologies, we offer comprehensive topics in a diverse and collaborative environment for educational and professional opportunities. We are confident that you will have a memorable, inspiring, and educational experience.

CONFERENCE THEME:

SAFE AND SECURE DIGITAL AVIONICS IN THE AGE OF AI

The aerospace industry is entering a transformative era, driven by advancements in artificial intelligence (AI) that promise to revolutionize safety, security, and operational efficiency. As AI technologies become increasingly integrated into aerospace systems, from predictive maintenance to autonomous flight operations, the importance of ensuring robust safety protocols and cybersecurity measures is mandatory. Safety remains the cornerstone of aerospace innovation, while secure systems are essential to protect sensitive data and prevent malicious interference. By embracing AI responsibly and prioritizing safety and security, the industry can unlock unprecedented opportunities while safeguarding passengers, assets, and critical infrastructure. This balance between innovation and risk mitigation is key to building trust and ensuring the continued growth of aerospace in the age of AI.

The 45th DASC will investigate the role of digital avionics in the Age of AI for the next generation of air and space vehicles. We provide the forum to present solutions making aerospace transformation possible, analyze open issues, and discuss disruptive ideas.

You are invited to present your research addressing current and future challenges of avionics systems and exchange diverse perspectives with the world's leading experts in the field.

Describe methods, tools, systems and functions for:

- » Motivation for AI and Autonomy technology and applications
- » AI impact on performance and resource utilization
- » Qualification of Trusted AI
- » Safe & Secure operation in hostile environment
- » Model-based Systems Engineering
- » Complexity metrics and analysis

Other Topics: Original research on technical challenges, gaps and approaches to enhance any of the challenges of digital avionics (topics see next page) are welcome.

Papers, Panels, Education, and Workshops: The Technical and Professional Education Programs will incorporate research & application papers and relevant tutorials from researchers, innovators, engineers, users, and designers. Plenary panel discussions and keynote presentations by leaders in industry, government and academia will discuss topics that are shaping forefront developments. Check our website for periodic updates: <http://www.dasconline.org>.



FIELDS OF INTEREST

The DASC encourages leading research & applications of the following fields but is open to other related topics as well.

AIR TRAFFIC MANAGEMENT (ATM)

Predictive automation; Cognitive radios for spectrum demand; Traffic flow management; Command and control; Separation management; Unmanned aircraft management; Simulation and modeling.

AVIONICS PLATFORMS

Integrated Modular Avionics (IMA); Configuration, verification, and certification; Design and optimization; Data network; Modularity, scalability balance; High-performance computing; Spacecraft and satellite platforms; New IMA applications; Reconfiguration and adaptivity.

AVIONICS TECHNOLOGIES

Artificial Intelligence; Big data; COTS utilization; Safety-critical software techniques; Open-Source, HPC; Quantum computing; Cloud services; Always connected; Low power; Novel hardware and software; Cryogenic electronics; High power electronics.

COMMUNICATIONS, NAVIGATION, AND SURVEILLANCE AND INFORMATION NETWORKS

RF and optical tech; Network technology; Air/ground and air/air datalink; space CNS; Satellite communication; GNSS; Alternative PNT; Performance-based navigation; Collision avoidance; Cloud services; Contingency management.

CYBER, SYSTEMS, AND SOFTWARE ENGINEERING

Modeling, design, testing, assessment, certification of air and space systems; Architectures; Processes; Safety; Cyber-security; Qualification automation; Digital certification; Formal methods; Validation; Verification; Software and Systems-Engineering; Ontology based data integration; Complexity modeling, metrics and analysis; Tools; DevOps; Continuous Integration/Continuous Deployment; AI tools and applications.

HUMAN FACTORS

HMI; Mode awareness; Trust in automation; Flight deck; Controls; Decision support; Human performance; Information abstraction; Crew coordination; Crew reduction; Remote and multi-vehicle piloting; Pilot training, Situational awareness.

UNMANNED AIRCRAFT SYSTEMS & UNCREWED SPACECRAFT (UAS/USS)

Emerging Applications; Safe automation; Mission design and optimization; Safety risk mitigation; Health and trajectory prediction; Navigation performance; Certification and standards; Situation awareness; Mission technologies; Payload systems.

URBAN, ADVANCED AIR MOBILITY & NEW SPACE

Safe, efficient aviation in urban/suburban areas; Highly automated aircraft/spacecraft for passengers, cargo and surveillance; Airspace operation and access; Beyond urban areas; Controls; Privacy.

PANEL SESSIONS

DASC 2026 will offer the opportunity to propose topics for panel discussions. A successful proposal will address a specific field of interest, and approximately half of the panelists will be proponents. The panel process will be announced online.

SELECTION PROCESS

DASC is a competitive conference for leading edge contributions and high-quality papers. Submissions will go through selection process by our technical committee, judging based on relevance, novelty, soundness, level of contribution, quality. Furthermore, excellent papers are eligible for awards presented during the conference.

PROFESSIONAL EDUCATION

DASC will offer two days of Professional Education sessions spanning relevant engineering disciplines. These tutorials will be presented by educators and practicing professionals who are recognized experts in their field. Possible topics include:

- Basic & Advanced Avionics Systems
- Partitioning for Safety and Security, IMA, Multicore
- Surveillance & Collision Avoidance; Synthetic Vision; Sensing
- Navigation Systems, Performance Based Navigation
- Communications Systems and Networks
- Model-based Development, Digital Twin
- Systems Engineering; Program Management
- Software Development & Test Certification (DO-178)
- Environmental Qualification (DO-160)
- System Safety and/or Cybersecurity
- Autonomous Systems & Artificial Intelligence

Professional education sessions will offer Continuing Education Units (CEUs) through the IEEE. To suggest a topic or for more information, contact our Professional Education Chair (pec@dasconline.org).

Become a Sponsor or Exhibitor

DASC is an annual gathering of industry leaders, professionals, and experts in Avionics Systems. Engage with new and existing attendees by sponsoring our highly anticipated on- or off-site opportunities ranging from the welcome reception to the special event.

As a sponsor, your company's logo and branding will be prominently displayed in various promotional materials, including the conference website, marketing collateral, signage, email and social media channels. This exposure will increase brand visibility and create positive associations with your organization. Limited exhibitor booths as well as Bronze, Silver, and Gold level sponsorships are available. Contact our sponsorship chair (sec@dasconline.org).

Ethics Policies for AI and Plagiarism

Any AI-usage must in essence be compliant with AI policies of

- AIAA (Obligations of Authors) and
- IEEE (Guidelines for Artificial Intelligence (AI)-Generated Text).

The essence is: Any majorly generated content must be revealed in detail. AI is not a normal reference. The author is fully responsible for all content in terms of (copy)rights and correctness.

Plagiarism: work copied or previously published must be referenced according to established scientific standards. This is also true for author's own previous work. In general, papers should provide new original content, with no more than 25% of the paper covering previously published work.