

The AIAA Multidisciplinary Optimization Technical Committee is sponsoring a special session on

MDO Benchmarks for Aircraft Design

AIAA SciTech 2027, January 11-15, 2027, Orlando, FL

Simulation and design optimization frameworks for aircraft design have been developed by engineers in both industry and academia. These tools often utilize high-fidelity multidisciplinary analysis and optimization and offer the potential to enable the design of complex aircraft configurations. Recent progress in open-source multidisciplinary optimization frameworks has lowered the barrier to their broader adoption and continued development. However, gaps remain between the aircraft design problems studied in academia and those most relevant to industry practitioners.

To foster greater collaboration and communication between academic researchers and industry practitioners, the AIAA Multidisciplinary Design Optimization Technical Committee seeks papers that:

- Demonstrate optimization solutions for benchmark problems such as the DLR F-25 concept, the Simple Transonic Wing, or the undeformed Common Research Model
- Apply novel solution strategies, methods, or algorithms to high-fidelity aircraft design or related multidisciplinary optimization problems
- Propose new high-fidelity benchmark problems of interest to engineers in industry and academia

The committee welcomes submissions from government, industry, academia, and businesses. All abstracts will be evaluated by qualified individuals from industry, academia, or government.

Extended abstracts of no fewer than 1,000 words are due by **May 24, 2026**

Author notification of paper acceptance will be on or about **Aug. 26, 2026**

Final manuscripts are due **Dec. 2, 2026**.

Detailed deadline information, abstract preparation instructions, and policies can be found at:

<https://www.aiaa.org/SciTech/call-for-content/call-for-papers>

Please select the "**Special Session: MDO Benchmarks for Aircraft Design**" topic option under "**Multidisciplinary Design Optimization**" technical discipline when prompted during submission.

For more information contact one of the following organizers:

Dr. Graeme Kennedy	Georgia Institute of Technology	graeme.kennedy@aerospace.gatech.edu
--------------------	---------------------------------	-------------------------------------

The AIAA Multidisciplinary Optimization Technical Committee is sponsoring a session on

MDO Beyond Aerodynamics and Structures

AIAA SciTech 2027, January 11-15, 2027, Orlando, FL

This session aims to encourage contributions that expand the visibility and application of MDO beyond traditional aero-structural methods. Authors are encouraged to frame their submissions by identifying relevant combination(s) of two or more disciplines, design phases, and MDO methods represented in their work.

Disciplines	Lifecycle Phases	MDO Methods & Mechanics
Aerodynamics, Acoustics, Avionics, Flight Mechanics & Controls, Electromagnetics, Propulsion, Structures, Thermal, etc.	Conceptual, Preliminary, Detailed, Operations & Maintenance	Coupled analyses, Sensitivity analysis, Optimization, Coupling Architectures

In addition to the axes listed above, submissions may span different aerospace sectors, including fixed-wing aircraft, rotary-wing systems, and space systems, where MDO challenges and couplings manifest differently. Example topics of interest include, but are not limited to:

- Multidisciplinary optimization of maneuverable spacecraft antenna and payload structures under coupled electromagnetic, structural, thermal, and control-driven constraints.
- Aerodynamic, acoustic, and control optimization for rotary-wing aircraft to manage performance, noise, and stability trade-offs.
- Design optimization of load-bearing and heat-sensitive aerospace components with spatially varying material properties to satisfy coupled structural, thermal, and control-driven constraints.
- Coupled Analysis of unmanned aerial systems considering aerodynamics, propulsion, energy storage, thermal management, and control performance across mission profiles.
- Fixed-wing conceptual design involving coupled propulsion and aerodynamics to evaluate performance, weight, and efficiency trade-offs.

The committee welcomes submissions from government, industry, academia, and businesses. All abstracts will be evaluated by qualified individuals from industry, academia, or government.

Extended abstracts of no fewer than 1,000 words are due by **May 24, 2026**

Author notification of paper acceptance will be on or about **Aug. 26, 2026**

Final manuscripts are due **Dec. 2, 2026**.

Please select the "**MDO Beyond Aerodynamics and Structures**" topic option under "**Multidisciplinary Design Optimization**" technical discipline when prompted during submission.

For more information contact one of the following organizers:

Komahan Boopathy	Synopsys	komahan.boopathy@synopsys.com
------------------	----------	--

The AIAA Multidisciplinary Optimization Technical Committee is sponsoring a special session on

A Vision for Next Generation MDO

AIAA SciTech 2027, January 11-15, 2027, Orlando, FL

The AIAA (American Institute of Aeronautics and Astronautics) invites submissions for a special session on next generation Multidisciplinary Design Optimization (MDO) as part of the 2027 SciTech conference. With the rapid advancement of large-scale computing, machine learning/artificial intelligence, and digital engineering, the potential for MDO to transform design has never been larger. Submissions to the session should speak to their organization's/institution's MDO vision for the future while considering the state of the art, and their current challenges. The session will examine all aspects of MDO including but not limited to challenges to digital integration of models and analysis, state of large-scale optimization, methods for data storage and access applicable to industry scale problems. Examples where application of MDO would be useful but is currently limited by deficiencies in the state of the art will provide valuable context for the community. Visions related to all areas of aerospace are welcome, including but not limited to air/space framing, mission engineering and operations, systems engineering and testing, verification, and validation.

The committee welcomes submissions from government, business of all sizes, and academia. All abstracts will be evaluated by qualified individuals from industry, academia, or government.

Extended abstracts of no fewer than 1,000 words are due by **May 24, 2026**

Author notification of paper acceptance will be on or about **Aug. 26, 2026**

Final manuscripts are due **Dec. 2, 2026**.

Detailed deadline information, abstract preparation instructions, and policies can be found at:

<https://www.aiaa.org/SciTech/call-for-content/call-for-papers>

Please select the “**Special Session: A Vision for Next Generation MDO**” topic under the “**Multidisciplinary Design Optimization**” technical discipline when prompted during submission.

For more information contact one of the following organizers:

Alex Feldstein	MORSECORP	afeldstein@morsecorp.com
----------------	-----------	--

The AIAA Multidisciplinary Optimization Technical Committee is sponsoring a special session on

Technology Transfer of Emerging MDO Methods and Software

AIAA SciTech 2027, January 11-15, 2027, Orlando, FL

The AIAA (American Institute of Aeronautics and Astronautics) invites submissions for a special session on technology transfer of emerging Multidisciplinary Design Optimization (MDO) methods and software. The session will highlight technologies, including algorithms, software, and methodologies, that are ready to transfer from the lab to the field. Submissions should provide evidence the technology is ready for deployment on operational scale problems. This may take the form of benchmark results, detailed computational performance data, or comparison to the relevant state of the art. The session will also highlight successes and challenges in transferring new algorithms, methods, and software from the research community to practitioners fielding them on real world problems. Participation of MDO practitioners in the question and answer portion of the session will foster collaboration and build connections to facilitate the transfer of the technology from the laboratory into practice. Applications and examples related to all areas of aerospace are welcome, including but not limited to air/space framing, mission engineering and operations, systems engineering and testing, verification, and validation.

The committee welcomes submissions from government, business of all sizes, and academia. All abstracts will be evaluated by qualified individuals from industry, academia, or government.

Extended abstracts of no fewer than 1,000 words are due by **May 24, 2026**

Author notification of paper acceptance will be on or about **Aug. 26, 2026**

Final manuscripts are due **Dec. 2, 2026**.

Detailed deadline information, abstract preparation instructions, and policies can be found at:

<https://www.aiaa.org/SciTech/call-for-content/call-for-papers>

Please select the “**Special Session: Technology Transfer of Emerging MDO Methods and Software**” topic under the “**Multidisciplinary Design Optimization**” technical discipline when prompted during submission.

For more information contact one of the following organizers:

Alex Feldstein	MORSECORP	afeldstein@morsecorp.com
----------------	-----------	--