

Forum 83 | Preliminary Program

May 10–14, 2027 | Phoenix, Arizona | The future of vertical flight

294 abstracts received. Forum 83 brings together the world's vertical flight research, engineering and operational communities for technical exchange across rotorcraft, advanced aircraft, eVTOL and uncrewed systems. Submitting organizations include **Sikorsky, Boeing, Turkish Aerospace, BETA Technologies, Leonardo, Airbus Helicopters, Bell, Joby Aviation** and leading universities and government laboratories. Paper acceptance and scheduling remain subject to technical review.

Planning outlook: 1,200 attendees; more than 80 exhibitors; more than 200 students; and more than 150 U.S. government participants. These are targets, not confirmed registrations.

The Week at a Glance

MON · MAY 10	One-day short courses; evening welcome reception
TUE · MAY 11	Opening General Session; technical sessions, workshops, special sessions and exhibits begin
WED–THU · MAY 12–13	Technical sessions, government exchanges, exhibits and social events
FRI · MAY 14	Proposed Boeing Mesa facility tour, featuring Apache production

Monday Short Courses | May 10

Manned and Unmanned eVTOL and UAS Design — Proposed instructor James Wang. An intensive engineering course covering aircraft architecture, configuration tradeoffs, propulsion, scale, payload, flight controls and mission requirements across crewed and uncrewed designs.

Commercializing Advanced Air Mobility — Proposed course examining infrastructure and vertiports, certification, economics, community acceptance, acoustics and the practical pathway to commercial eVTOL operations. Instructor lineup and final modules are in development.

Opening General Session | Tuesday, May 11

The Next Generation of Vertical Flight. The opening program will connect government mission needs, engineering research and emerging aircraft technologies. Planned highlights include a welcome from VFS Executive Director Angelo Collins; an **invited Army keynote by Patrick Mason, PAE Maneuver Air**; a proposed industry–Army–Navy–academia panel on AI, autonomy and future capabilities; and operational perspectives on the missions driving aircraft requirements. Distinguished technical lectures and recognition will be featured during Forum week.

Technical Sessions | May 11–13

294 submitted abstracts form the basis of the technical program, with a cap of up to 300 papers and final selections pending review. Topics span aerodynamics and acoustics; dynamics and aeroelasticity; design and performance; flight controls and handling qualities; structures and materials; propulsion and electrification; modeling and simulation; autonomy; flight testing; and safety.

The abstract submissions reflect contributions from industry, universities and government laboratories, including **NASA research centers, U.S. Army research organizations and Navy research organizations**. Technical papers will anchor the week, supported by interactive exchanges connecting research results to practical engineering challenges.

Workshops and Educational Exchanges | May 11–13

NASA Open eVTOL / RAVEN Design Exchange. NASA's team plans to share Preliminary Design Review-level work on the Research Aircraft for eVTOL Enabling techNologies (RAVEN), inviting technical feedback on integrated aircraft design, modeling, aeroacoustics, flight controls, electric powertrain, systems engineering and testing.

Specialist engineering exchanges. Proposed workshops include downwash and outwash; vortex ring state; whirl flutter prediction and correlation; rotorcraft propulsion; and aerial mule and launched-effects systems. These sessions are designed to compare methods, identify gaps in evidence and support collaboration across disciplines.

Government and Mission Special Sessions | May 11–13

U.S. Army. A planned research-priorities exchange will connect Army mission needs and technical thrust areas with Forum papers and industry–academic expertise. Topics include heavy lift, future vertical lift, rotors and structures, advanced air mechanics, sensing, survivability and vehicle management. Army participation is invited; VFS plans a workshop findings report.

U.S. Navy. An invited Navy research exchange will address operational requirements, technical priorities and collaborative research opportunities. Navy-affiliated authors are also represented in the technical program. VFS plans to document findings for the Navy and corporate members.

NASA. Beyond its technical-paper contributions, NASA is helping shape a substantial, interactive Open eVTOL/RAVEN exchange that connects its research team directly with industry and academic specialists.

DARPA. An invited **Lift Challenge 2.0** update and technical exchange will explore heavy-lift uncrewed aircraft, payload and vehicle-weight tradeoffs, powertrain integration, testing and controllability. Content will be coordinated with DARPA.

Mission-focused discussions. Additional proposed sessions address runway independence, dispersed operations and matching crewed and uncrewed aircraft to operational missions, with Boeing vertical-lift leadership identified in the working program.

Exhibits | May 11–13

More than 80 exhibitors expected. The exhibit hall will bring together aircraft manufacturers, suppliers, government organizations, universities and engineering teams to discuss technologies, partnerships, technical requirements and recruiting. Planned exhibit-floor features include a **Student and Young Professional Lounge**, networking hub, VFS vertical flight heritage display and student Design-Build-Vertical Flight aircraft showcase. Featured areas are subject to sponsorship and final arrangements.

Social Program

Welcome Reception (Monday evening). An opportunity to reconnect with colleagues and meet new participants ahead of the technical program.

Industry Reception. Informal networking on the exhibit floor with participating organizations, technical specialists and prospective collaborators.

Recognition and scholarship gatherings. Planned events include a Vertical Flight Foundation scholarship coffee reception, an inaugural Associate Technical Fellow reception and a VFS Fellows reception. The week will also recognize the Nikolsky Honorary Lecturer, Lichten Award recipient and emerging engineering talent.

Grand Awards Banquet. A celebration of technical achievement and leadership in vertical flight; detailed ticketing and event arrangements will follow.

Boeing Mesa Facility Tour (Friday, May 14). Proposed visit to the Apache production facility; capacity, transportation, registration and site-access requirements are pending.

Connect, Exhibit and Participate

Forum 83 is designed to bring the people advancing vertical flight into direct dialogue: authors presenting new results, government teams communicating mission needs, companies translating research into aircraft capability, and students entering the profession. Exhibiting and sponsorship opportunities are available across technical exchanges, exhibits and social gatherings.

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Preliminary planning notice. Program elements, speakers, participation, schedules and exhibit-floor features remain subject to confirmation, VFS approval and final arrangements. Invited participation is not yet confirmed.