Thank you to our Forum 80 Sponsors!

PROGRAM

www.vtol.org/forum
#forum80

MAY 7-9, 2024  MONTRÉAL, QUÉBEC, CANADA
We are building the safest, quietest, most efficient air taxi and air cargo rotorcraft.

4X the efficiency
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JAUNT AIR MOBILITY
An AIRO Group Company
www.JauntAirMobility.com
Welcome to Forum 80!

As the Chair of the Board of the Vertical Flight Society, I am delighted to extend a warm welcome to you to the 80th Annual Forum & Technology Display. This year, Forum 80 is hosted in the vibrant city of Montréal, known for its rich aerospace industry and innovative contributions to vertical flight.

Since its inception in 1944, the Annual Forum has served as the premier international gathering for the vertical flight technical community. Forum 80 continues this tradition, promising to be an exceptional event that brings together leading VTOL technical experts from industry, academia, and government, alongside students, young professionals, seasoned veterans, and newcomers to vertical flight.

Montreal, with its deep-rooted aerospace industry, provides an ideal setting for this gathering of minds. The city’s contribution to Quebec’s aerospace sector, one of the most dynamic in the world, underscores the significance of this year’s Forum.

This year’s Forum boasts a comprehensive program, featuring nearly 300 technical papers, presentations from over 40 invited vertical flight leaders representing industry, government, and academia, and an exhibition showcasing the latest technologies, innovations, and capabilities from over 60 exhibitors. Highlights include the annual Straight Talk from the Top, the esteemed Nikolsky Lecture, and the Grand Awards Breakfast, all of which offer invaluable insights into “The Future of Vertical Flight.”

I encourage each of you to seize the opportunities presented by Forum 80, fostering knowledge exchange and building lasting relationships within the vertical flight community. May the discussions and networking extend far beyond this event, shaping the future of VTOL technologies and practices.

As my tenure on the VFS Board of Directors concludes after four fulfilling years, Forum 80 marks a moment of transition for the industry. We continue to grapple with the aftermath of the COVID-19 pandemic, the vertical flight sector faces ongoing economic, supply chain and workforce challenges. Nevertheless, advancements in military and civil helicopters, as well as in electric VTOL aircraft, underscore the resilience and innovation within our community.

Volunteering on the VFS Board of Directors (in addition to my role as the Vice President of Research and Innovation for Airbus Helicopters) over the past four years has been both enlightening and rewarding. The Vertical Flight Society remains a cornerstone for professional growth, offering invaluable resources and connections to propel your careers and contribute to the advancement of vertical flight.

I urge you to leverage everything that the Society has to offer, enriching your professional journey and actively engaging with our global community.

Tomasz Krysinski
Chair of the Board, 2022–2024
Vertical Flight Society

The Vertical Flight Society gratefully thanks the following companies for their generous support of the 80th Annual Forum & Technology Display:

- **Airbus Helicopters**
  - Registration Tote Bags
- **BAE Systems**
  - Registration Website
- **Bell**
  - Forum 80 Student Volunteer Program
- **The Boeing Company**
  - Exhibitor/Industry Reception
- **CAE**
  - Registration Website
- **Continuum Dynamics, Inc.**
  - Technical Session Refreshment Break
- **GE Aerospace**
  - General Session Refreshment Break
- **Hutchinson Aerospace**
  - Badge Lanyards
- **Jaunt Air Mobility**
  - Forum 80 Technical Sessions
- **Karem Aircraft**
  - ID Badge
- **KBR, Inc**
  - Technical Session Refreshment Break
- **Leonardo Helicopters**
  - Wednesday Exhibit Hall Luncheon
- **Overair**
  - Technical Session Refreshment Break
- **Parker Lord**
  - VFS Store
- **RTX**
  - Technical Session Refreshment Break
- **Sikorsky, a Lockheed Martin Company**
  - Tuesday Exhibit Hall Luncheon
- **SYENSOQ**
  - Registration Website
- **Toray**
  - Forum 80 Proceedings
- **Unither Bioelectronics**
  - Grand Awards Program
# Forum 80 Program Schedule

**May 7–9, 2024 • Montréal, Québec, Canada**

**Download the Forum 80 app!**
Use it to view the technical paper schedule, events and special sessions, and manage your personal agenda. Go to the Apple App Store or Google Play and download the **Cvent Events** app. Install the app and search for “**VFSFORUM80**” (case sensitive) to download the event information. Also, please use the hashtag **#forum80** for all your social media posts!

<table>
<thead>
<tr>
<th>Sunday, May 5, 2024</th>
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<tbody>
<tr>
<td>6:00 am – 5:00 pm</td>
<td>VFS Show Office, Room 512 H</td>
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<tr>
<td>9:00 am – 5:00 pm</td>
<td>Exhibit Move-in (Exhibitors Only), Exhibit Hall 210/220A/230</td>
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<tr>
<td></td>
<td>Exhibitor Registration, Exhibit Hall 210 Prefunction</td>
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<tr>
<td>2:00 pm – 5:00 pm</td>
<td>Attendee Registration, Exhibit Hall 210 Prefunction</td>
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<tr>
<th>Monday, May 6, 2024</th>
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<td>6:00 am – 5:00 pm</td>
<td>VFS Show Office, Room 512 H</td>
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<td>6:00 am – 5:00 pm</td>
<td>VFS AV Office, Room 512 G</td>
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<tr>
<td>7:00 am – 5:00 pm</td>
<td>Registration Opens, Exhibit Hall 210 Prefunction</td>
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<tr>
<td>7:30 am – 12:00 pm</td>
<td>Technical Council Meeting, Room 516 D&amp;E</td>
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<tr>
<td>8:00 am – 5:00 pm</td>
<td>Speaker Ready Room, Room 512 F</td>
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<tr>
<td>8:00 am – 5:30 pm</td>
<td>Exhibit Move-in, Exhibit Hall 210/220A/230</td>
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<tr>
<td>8:00 am – 5:00 pm</td>
<td>Short Course: Electric VTOL Technology, Room 510 B&amp;D</td>
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<tr>
<td>12:00 pm – 1:00 pm</td>
<td>Journal Editors Meeting, Room 516 D&amp;E</td>
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<tr>
<td>2:00 pm – 4:00 pm</td>
<td>TTCP Shipboard Helicopter Operations Working Group (invited), Room 512 A</td>
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<tr>
<td>2:30 pm – 3:00 pm</td>
<td>Student Volunteer Meeting, Room 511 A&amp;D</td>
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<tr>
<td>3:00 pm – 4:00 pm</td>
<td>University Student Meeting with Bell Textron Canada, Room 511 A&amp;D</td>
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<tr>
<th>Tuesday, May 7, 2024</th>
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<tr>
<td>7:00 am – 5:00 pm</td>
<td>Speaker Ready Room, Room 512 F</td>
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<tr>
<td>7:00 am – 5:00 pm</td>
<td>Registration Opens, Exhibit Hall 210 Prefunction</td>
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<tr>
<td>7:00 am – 8:00 am</td>
<td>Acoustics Technical Committee Meeting, Room 512 A</td>
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<tr>
<td>8:00 am – 9:00 am</td>
<td>Autonomy and Uncrewed Aircraft Systems (UAS) Technical Committee Meeting, Room 512 B</td>
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Continuum Dynamics, Inc.
Specialists in eVTOL Aircraft Analysis and Design
Aerodynamics • Acoustics • Flight Dynamics • Flight Control • Flight Simulation
(www.continuum-dynamics.com)

If you can draw it, we can model it!

CDI’s staff has over 40 years of experience modeling VTOL aircraft for NASA, DoD, & industry

Our CHARM software is in use by eVTOL and VTOL aircraft developers worldwide

Ask about our new fast high-fidelity CHARM/VorTran-M Model!
Tuesday, May 7, 2024 (continued)

**Technical Session A — Sponsored by Jaunt Air Mobility**
- Advanced Vertical Flight I, Room 511 B&E
- Aerodynamics I, Room 511 A&D
- Autonomy & UAS I, Room 514 ABC
- Crew Stations I, Room 510 A
- Dynamics I, Room 515 ABC
- eVTOL I/Propulsion I Joint Session, Room 511 C&F
- Modeling & Simulation I, Room 513 DEF
- Operations I, Room 510 C
- Structures & Materials I, 510 B&D
- Test & Evaluation I, Room 513 ABC

**Special Session 1: NATO Next Generation Rotorcraft (NGRC), Room 516 B&C**
*Moderated by Dan Newman, Honeywell*
- Cyril Heckel (NATO NSPA), Program Manager, NGRC
- Dan Newman (Honeywell), Chair, NIAG SG.266 Rotorcraft Survivability
- Dr. Chana (Hannah) Goldberg (Dstl), Co-Chair, AVT 378 Rotorcraft Propulsion Alternatives
- Mike Lane (Dstl), Co-Chair, SCI 307 Framework for Avionics Mission Systems (FAMOS)

**Special Session 2: Government Civil VTOL R&D, Room 516 B&C**
*Moderated by Dr. Rajneesh Singh, US Army Research Lab*
- Cliff Johnson, Senior R&D Engineer, US Federal Aviation Administration (FAA) Hughes Technical Center
- Dr. Noah Schiller, Project Manager, Revolutionary Vertical Lift Technology (RVLT), NASA
- Arnaud LePape, Rotorcraft Program Director, ONERA—The French Aerospace Lab
- Florian Antrack, Program Manager, Defence Technology, DLR—German Aerospace Center
- Charles Vidal, AAM Research Program Lead, National Research Council (NRC) Canada

**Opening General Session, Room 710**
*Welcome*
- Angelo Collins, Executive Director, Vertical Flight Society
*Keynote*
- MGen Jamie Speiser-Blanchet, Deputy Commander, Royal Canadian Air Force

**Straight Talk from the Top**
*Moderated by Frank Colucci, Senior Editor, Vertiflite, Vertical Flight Society*
- Tomasz Krysinski, VP Research & Innovation, Airbus Helicopters
- Michael Nault, VP/GM, Bell Textron Canada
- Dr. Matt Hutchison, Chief Engineer for Platforms, Boeing Defense, Space & Security
- Roberto Garavaglia, SVP Strategy & Innovation, Leonardo Helicopters
- Paul Lemmo, President, Sikorsky, a Lockheed Martin Company
### Tuesday, May 7, 2024 (continued)

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>3:30 pm – 4:00 pm</td>
<td>Opening General Session Refreshment Break, 710 Prefunction Area — Sponsored by GE Aerospace</td>
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</table>
| 4:00 pm – 5:00 pm | **44th Annual Nikolsky Lecture, Room 710**  
*Introduced by Harry Nahatis, VP/GM Turboshaft Engine Programs, GE Aerospace  
(VFS President of the Board)*  
**Dr. Brahmananda Panda**, The Boeing Company: “Rotorcraft Aeromechanics Methodology and its Application to Rotor Dynamics, Loads, Vibration and Aeroelastic Stability at Boeing” |
| 5:00 pm – 7:00 pm | Industry Reception, Exhibit Hall 210/220A/230 — Sponsored by The Boeing Company |
| 6:00 pm – 8:00 pm | Handling Qualities Technical Committee Meeting, Room 512 B |

### Wednesday, May 8, 2024

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>6:00 am – 5:00 pm</td>
<td>VFS Show Office, Room 512H</td>
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<td>6:00 am – 5:00 pm</td>
<td>VFS AV Office, Room 512G</td>
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<tr>
<td>7:00 am – 5:00 pm</td>
<td>Speaker Ready Room, Room 512F</td>
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<tr>
<td>7:00 am – 5:00 pm</td>
<td>Registration Opens, Exhibit Hall 210 Prefunction</td>
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</table>
| 8:00 am – 12:15 pm | **Technical Session B — Sponsored by Jaunt Air Mobility**  
• Acoustics I, Room 510 A  
• Aerodynamics II, Room 511 A&D  
• Aircraft Design I, Room 511 B&E  
• Autonomy & UAS II, Room 511 C&F  
• Crew Stations II, Room 510 B&D  
• Handling Qualities I, Room 515 ABC  
• Modeling & Simulation II, Room 513 DEF  
• Propulsion II, Room 514 ABC  
• Safety, Room 510 C  
• Test & Evaluation II, Room 513 ABC |
| 8:00 am – 9:30 am | **Special Session 3: US Navy/Marine VTOL Programs, Room 516 B&C**  
*Moderated by Mike Hirschberg, VFS Director of Strategy*  
• Tom Matthews, Deputy Program Manager, PMA-263 Small Tactical UAS, Naval Air Systems Command (NAVAIR)  
• David Gonzalez, Program Officer; Aerodynamics, Code 35 Naval Air Warfare and Weapons, Office of Naval Research (ONR)  
• TBD, US Marine Corps |
| 9:00 am – 5:00 pm | Exhibit Hall Opens, Exhibit Hall 210/220A/230 |
| 9:00 am – 10:00 am | Dynamics Technical Committee Meeting, Room 512 A |
| 9:30 am – 10:15 am | **Technical Session B Refreshment Break, Exhibit Hall 210/220A/230 — Sponsored by RTX** |
| 10:15 am – 12:15 pm | **Special Session 4: US Army Aviation VTOL Programs, Room 516 B&C**  
*Moderated by Joe Clegg, Chief of Operations (G3), PEO Aviation*  
• Mario Williams, Technical Management Chief, Apache Helicopters, PEO Aviation  
• Alan McClendon, Technical Division Chief, Utility Helicopters, PEO Aviation  
• Scott Rosengren, Technical Division Chief, Cargo Helicopters, PEO Aviation  
• Robert Sheibley, Deputy Project Manager, Aviation Turbine Engines, PEO Aviation  
• Travis Sinclair, Deputy Project Manager, Uncrewed Aircraft Systems (UAS), PEO Aviation  
• Kristopher Strope, S&T Engineering Lead, Uncrewed Aircraft Systems (UAS), DEVCOM AvMC  
• LTC Zachary Keefer, Product Lead, Future Long Range Assault Aircraft (FLRAA), PEO Aviation |
### Wednesday, May 8, 2024 (continued)

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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>10:30 am – 11:30 am</td>
<td>Electric VTOL Technical Committee Meeting</td>
<td>Room 512 C</td>
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<td>11:00 am – 12:00 pm</td>
<td>Health and Usage Management Systems (HUMS) Technical Committee Meeting</td>
<td>Room 512 B</td>
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<td>12:15 pm – 1:45 pm</td>
<td>Exhibit Hall Lunch Break — Sponsored by Leonardo Helicopters</td>
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<td>1:00 pm – 1:45 pm</td>
<td>Safety Technical Committee Meeting</td>
<td>Room 512 E</td>
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<td>1:00 pm – 1:45 pm</td>
<td>Women of Vertical Flight Engineering Network (WOVEN) Meeting</td>
<td>Room 512 D</td>
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<tr>
<td>1:30 pm – 2:30 pm</td>
<td>Operations Technical Committee Meeting</td>
<td>Room 512 A</td>
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<td>1:45 pm – 6:00 pm</td>
<td><strong>Technical Session C — Sponsored by Jaunt Air Mobility</strong></td>
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<td>• Acoustics II, Room 510 A</td>
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<td>• Advanced Vertical Flight II, 511 C &amp; F</td>
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<td>• Aerodynamics III, 511 A &amp; D</td>
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<td>• Aircraft Design II, 511 B &amp; E</td>
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<td>• Avionics &amp; Systems I, 510 B &amp; D</td>
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<td>• Crash Safety, 513 ABC</td>
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<td>• Dynamics II, 513 DEF</td>
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<td>• eVTOL II, 514 ABC</td>
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<td>• Handling Qualities II, 515 ABC</td>
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<td>• HUMS I, 510 C</td>
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<tr>
<td>1:45 pm – 3:15 pm</td>
<td><strong>Special Session 5: Canadian Military Rotorcraft Developments, Room 516 B &amp; C</strong></td>
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<td><em>Moderated by Derek Gowanlock, NRC</em></td>
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<td>• Derek Gowanlock, Research Flight Test Engineer, National Research Council (NRC) Canada</td>
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<td>• LCol Rich Morris, Air Requirements — Tactical Aviation, Royal Canadian Air Force</td>
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<td>• LCol Jean-Paul Landry, Air Requirements — Search and Rescue, Royal Canadian Air Force</td>
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<td>• LCdr Tyler Ravnsgaard, UAS Office of Primary Interest, Royal Canadian Navy</td>
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<td>1:45 pm – 3:15 pm</td>
<td>Propulsion Technical Committee Meeting</td>
<td>Room 512 B</td>
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<td>2:45 pm – 3:45 pm</td>
<td>Education Committee Meeting</td>
<td>Room 512 C</td>
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<td>3:15 pm – 4:00 pm</td>
<td><strong>Technical Session C Refreshment Break, Exhibit Hall 210/220A/230 — Sponsored by Continuum Dynamics, Inc.</strong></td>
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<td>4:00 pm – 6:00 pm</td>
<td><strong>Special Session 6: Canadian Civil VTOL Developments, Room 516 B &amp; C</strong></td>
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<td><em>Moderated by Ken Swartz, Aeromedia Consultants</em></td>
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<td></td>
<td>• Trevor Mitchell, President, Helicopter Association of Canada</td>
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<td>• JR Hammond, Executive Director, CAAM</td>
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<td>• JJ Gerber, Dir. of Flight Operations, Cougar Helicopters Inc.</td>
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<td>• Sylvain Seguin, VP &amp; COO, Canadian Helicopters</td>
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<td>• Dr. David Rancourt, University of Sherbrooke</td>
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<tr>
<td>6:00 pm – 7:00 pm</td>
<td>Advanced Vertical Flight Technical Committee Meeting</td>
<td>Room 512 B</td>
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<tr>
<td>6:00 pm – 7:00 pm</td>
<td>Aerodynamics Technical Committee Meeting</td>
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### Thursday, May 9, 2024

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<th>Time</th>
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<td>6:00 am – 5:00 pm</td>
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<td>7:00 am – 5:00 pm</td>
<td>Speaker Ready Room</td>
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<td>7:00 am – 1:30 pm</td>
<td>Registration Opens</td>
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Energizing the future of flight™

Clear skies ahead

Visit us at booth #513
baesystems.com/electrification
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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| 7:30 am – 9:30 am | **80th Annual Grand Awards Breakfast** — Sponsored by Unither Bioelectronics  
Room 710 — limited seating, first come/first served |
| 9:00 am – 12:00 pm | Exhibit Hall Open, Exhibit Hall 210/220A/230                        |
| 9:30 am – 10:30 am | Crew Stations and Human Factors Technical Committee Meeting, Room 512 B |
| 9:30 am – 10:30 am | Modeling and Simulation Technical Committee Meeting, Room 512 A      |
| 9:30 am – 11:00 am | System Engineering Technical Committee Meeting, Room 512 C            |
| 9:30 am – 10:15 am | Technical Session D Refreshment Break, Exhibit Hall 210/220A/230 — Sponsored by Overair |
| 10:00 am – 11:00 am | History Committee Meeting, Room 512 E                                |
| 10:00 am – 11:00 am | Student Design Competition Steering Committee Meeting, Room 512 D     |
| **10:15 am – 12:15 pm** | **Technical Session D** — Sponsored by Jaunt Air Mobility               |
|              | • Acoustics III, Room 510 B&D                                        |
|              | • Aircraft Design III, Room 511 A&D                                   |
|              | • eVTOL III, Room 511 C&F                                            |
|              | • Operations II, Room 513 DEF                                        |
|              | • Test & Evaluation III, Room 514 ABC                                |
| **10:15 am – 12:15 pm** | **Special Session 7: Challenges in Vertical Flight, Room 516 B&C  
Moderated by Pamir Sevincel, Blackbird Associates**               |
|              | • Hans-Georg Kinsky, CEO, CycloTech GmbH                             |
|              | • Dr. Hector Xu, CEO, Rotor Technologies, Inc.                      |
|              | • Sylvain Alarie, VP of Engineering, Daedalean AG                    |
|              | • John Piasecki, CEO, Piasecki Aircraft Corp.                        |
|              | • Gwen Lighter, CEO, GoAERO                                         |
| **11:00 am – 12:00 pm** | Avionics and Mission Systems Technical Committee Meeting, Room 512 A |
| **12:15 pm – 1:30 pm** | **Lunch On Your Own**                                               |
| **1:30 pm – 5:30 pm** | **Technical Session E** — Sponsored by Jaunt Air Mobility               |
|              | • Aerodynamics IV, Room 511 A&D                                      |
|              | • Avionics & Systems II, 510 B&D                                     |
|              | • Dynamics III, Room 514 ABC                                        |
|              | • eVTOL IV, Room 511 C&F                                            |
|              | • History, Room 510 C                                               |
|              | • HUMS II, Room 513 ABC                                             |
|              | • Manufacturing Tech/Product Support Joint Session, Room 510 A        |
|              | • Modeling & Simulation III, Room 513 DEF                            |
|              | • Structures & Materials II, Room 511 B&E                            |
|              | • Systems Engineering, Room 515 ABC                                  |
| **1:30 pm – 3:00 pm** | Test & Evaluation Technical Committee Meeting, Room 512 D            |
### Thursday, May 9, 2024 (continued)

<table>
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<tr>
<th>Time</th>
<th>Event Description</th>
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| 1:30 pm – 3:00 pm | **Special Session 8: Developments in Electric VTOL, Room 516 B&C**  
*Moderated by Ken Swartz, Aeromedia Consultants*  
- Marilyn Pearson (CAE), Co-Chair, SAE G-35 Modeling, Simulation and Training  
- Brandon Robinson, CEO, Horizon  
- Hamid Hamidi, CEO, Limosa  
- Mikaël Cardinal, VP, Unither Bioelectronics |
| 2:00 pm – 3:30 pm | Structures and Materials Technical Committee Meeting, Room 512 A |
| 3:00 pm – 3:30 pm | **Technical Session E Refreshment Break, Meeting Corridors — Sponsored by Overair** |
| 3:30 pm – 5:30 pm | **Special Session 9: Progress in Electric VTOL, Room 516 B&C**  
*Moderated by Elan Head, The Air Current*  
- Kyle Clark, CEO, Beta Technologies  
- Martin Peryea, CEO, Jaunt Air Mobility  
- Kerry Manning, Deputy Chief Engineer, Archer  
- Eric Samson, SVP of Engineering, Vertical Aerospace  
- Guillaume Beachamp, Senior Director of Aircraft Development, Wisk Aero |

**Friday, May 10, 2024**

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| 7:45 am – 12:15 pm | **Tour of Bell Textron Canada in Mirabel**  
*Meet at the Hotel Monville entrance*  
(Must be pre-registered to board the bus; please bring passport or Canadian ID) |
Forum 80 Technical Briefings

Tuesday, May 7
9:30 a.m. – 10:00 a.m.  Booth 607
Empirical Systems Aerospace
Title of Briefing: ePowertrain the Right Test Apparatus for the Right Job Part 1
Briefing Description: High level testing approach, electric powertrain unique challenges, detailed testing approach, development testing, line replaceable unit testing, subsystems testing, system testing, some test examples.

Tuesday, May 7
1:00 p.m. – 1:30 p.m.  Booth 303
Continuum Dynamics, Inc.
Title of Briefing: Can Your Software Really Predict eVTOL/AAM Aircraft Noise?
Briefing Description: Learn what to look for and what questions to ask. CDI recently completed a two-year effort for NASA to enhance our CHARM software for prediction of eVTOL aircraft noise. Join us after lunch to learn what we learned.

Tuesday, May 7
1:00 p.m. – 1:30 p.m.  Booth 418
Daniels Manufacturing Corporation
Title of Briefing: High-Reliability Electrical System Assembly
Briefing Description: Join us for an insightful session on High-Reliability Electrical System Assembly, where we delve into the intricacies of ensuring top-tier performance and safety in electrical systems. Throughout this session, we will review key aspects such as wire preparation techniques, tool selection criteria, and thorough inspection and gauging methodologies. Whether you are a seasoned professional or new to the field, this presentation promises to equip you with invaluable knowledge and practical insights for optimizing your electrical assemblies to the highest standards of reliability.

Wednesday, May 8
9:30 a.m. – 10:00 a.m.  Booth 917
CycloTech GmbH
Title of Briefing: CycloRotor - 360° Thrust Vectoring - Unlocking New Markets
Briefing Description: An overview of the CycloRotor technology will be given, covering its principle and technical components. The evolution of CycloRotor products, including advances in design and performance, will be outlined. The vast market potential and its application in different vehicles and industries will be highlighted.

Wednesday, May 8
1:00 p.m. – 1:30 p.m.  Booth 607
Empirical Systems Aerospace
Title of Briefing: Accelerating Aerospace Projects through Design, DFM, and AS9100 Certified Manufacturing
Briefing Description: ESAero is dedicated to accelerating the readiness of electric aircraft technology for advanced air mobility and unmanned aircraft systems. ESAero assists with R&D, engineering design, DFM, rapid prototyping, testing, and AS9100 certified manufacturing. This briefing will cover how ESAero can accelerate programs in various stages of defense and commercial technology development.

Wednesday, May 8
1:15 p.m. – 1:45 p.m.  Booth 303
Continuum Dynamics, Inc.
Title of Briefing: Can Your Software Really Predict eVTOL/AAM Aircraft Interactional Aerodynamics?
Briefing Description: Most software used in daily design work is not sophisticated enough to model eVTOL/AAM interactional aerodynamics reliably. CFD tools, that can, are often unsuitable for daily design work due to high computational cost, expertise and setup requirements. CDI recently completed a two-year effort for NASA developing a fast, mid-fidelity alternative packaged in commercial software. Join us after lunch to hear what we learned.

Wednesday, May 8
3:30 p.m. – 4:00 p.m.  Booth 720
Inceptra, LLC
Title of Briefing: Accelerating VTOL Aircraft Development from Concept to Certification
Briefing Description: Discover Dassault Systèmes’ “Reinvent the Sky” industry solution tailored for startups, small to medium enterprises, and OEMs aiming to accelerate the design, prototyping, and certification of VTOL aircraft.
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论坛80注册信息

所有论坛80参与者必须注册以获取徽章。徽章必须明显展示以获得进入展览厅和会议的许可。

注册时间:
- 周日，2024年5月5日，下午2:00至5:00
- 星期一，2024年5月6日，上午7:00至下午5:00
- 星期二，2024年5月7日，上午7:00至下午5:00
- 星期三，2024年5月8日，上午7:00至下午5:30
- 星期四，2024年5月9日，上午7:00至下午1:30

论坛80活动

活动日程将提供给所有付费论坛参与者作为电子下载，并包含所有在技术会议上发表的论文。

展厅时间及活动

星期二，2024年5月7日
- 展厅正式时间：上午9:00至下午7:00
- 展厅休息时间：上午9:30至10:00
- 展厅午餐休息时间：下午12:00至1:30

星期三，2024年5月8日
- 展厅正式时间：上午9:00至下午5:00
- 展厅休息时间：上午9:30至10:15
- 展厅午餐休息时间：下午12:15至1:45

星期四，2024年5月9日
- 展厅正式时间：上午9:00至下午12:00
- 展厅休息时间：上午9:30至10:15
- 展厅移除时间：下午12:00
CIVIL AVIATION

Shaping a smarter and safer vertical flight world.

We’re CAE, technology leaders helping shape the future of vertical flight and use of its revolutionarily new aircraft with enabling innovations across the entire ecosystem. Today we work side by side with customers and partners to envisage, develop, and further evolve the tools, technologies, training systems, and operational software infrastructure that they need, not only to ensure flight’s new era takes off, but to see it truly and safely soar.

www.cae.com
VFS Staff Members & Volunteers

The following VFS staff members and industry volunteers are here to assist you:

<table>
<thead>
<tr>
<th>Forum 80 Program &amp; Special Sessions:</th>
<th>Exhibits &amp; Sponsorships:</th>
<th>VFS Store:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angelo Collins, Executive Director</td>
<td>David Renzi, Director of</td>
<td>Alka Rathod, Administrative and IT Assistant</td>
</tr>
<tr>
<td>Mike Hirschberg, Director of Strategy</td>
<td>Meetings &amp; Advertising</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technical Sessions &amp; Student Volunteers:</th>
<th>Audio Visual Oversight:</th>
<th>Valerie Sheehan, Director of Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie M. Gibbs, Director of Technical Programs</td>
<td>Dr. Cliff Smith and Dr. Anita Tracy</td>
<td>(Exhibitor Registration, Corporate Membership Contact, Award Winners)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Registration:</th>
<th>Banquet Program Emcee:</th>
<th>Betty Chen, Academic Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randy Johnson, IT Director</td>
<td>Rex Alexander</td>
<td>(Pre-Forum Registrar and Industry Tour Coordinator)</td>
</tr>
</tbody>
</table>

VFS offers its sincere thanks to the Forum 80 Technical Chairs and Committee Session Chairs

| Mr. Derek Geiger, Sikorsky, A Lockheed Martin Company: Handling Qualities Session Chair |
| Mr. F. Scott Smith, U.S. Army DEVCOM AvMC: Handling Qualities Session Deputy Chair |
| Dr. Fotis Kopsaftopoulos, Rensselaer Polytechnic Institute: HUMS Session Chair |
| Dr. Andrew Bellocchio, U.S. Military Academy: HUMS Session Deputy Chair |
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| Mr. Jacques Virasak, History Session Deputy Chair |
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| Mr. Louis Fabre, Airbus: Systems Engineering Session Chair |
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GE Aerospace
Palais des congrès de Montréal
Exhibit Hall 210, 220A & 230

FORUM 80 EXHIBITORS

Exhibitor                                Booth Number
Advanced Rotorcraft Technology, Inc.     413
Advanced Torque Products                 420
Aéro Montréal                             915
Airbus                                   312
American Aerospace Controls              206
AMETEK Airtechnology                    321
ATA Engineering, Inc.                    621
BAE Systems                               513
Bell                                      112
Bloomy Controls, Inc.                    215
The Boeing Company                       703
BOLD Valuable Technology                 911
Calspan Systems Corporation              619
Carlisle Interconnect Technologies       820
CEROBEAR GmbH                            721
CMAI (IMACA)                              214
CMC Electronics                           702
Continuum Dynamics, Inc.                 303
CycloTech GmbH                           917
Daedean AG                                704
Daniels Manufacturing Corporation        418
Dayton T. Brown, Inc.                    318
Dayton-Granger, Inc.                     421
DDC-I, Inc.                               320
Donaldson Company                        519
Drive System Design                      414
East/West Industries, Inc.               710
Empirical Systems Aerospace              607
ENSCO, Inc.                               310
Fatigue Technology, Inc.                 909
G.W. Lisk Company                        521
Gastops                                  212
GE Aerospace                             202
Georgia Institute of Technology Vertical Lift Research Center of Excellence 611
Glenair, Inc.                             718
Green Hills Software, Inc.               618
Heltowcart (Vanair, Inc.)                520
Hutchinson Aerospace                     713
Inceptra                                 720
Kamatics Corporation                     615
M4 Engineering, Inc.                     412
Mannarino Systems & Software, Inc.       221
Napoleon Engineering Services / NES Bearing Co 818
National Research Council                311
New Hampshire Ball Bearings, Inc.        719
Office of Naval Research                 813
Penn State Vertical Lift Research Center of Excellence 912
Radban Electronics Co., Ltd.             905
RAMPF Composite Solutions Inc.            518
RDI Technologies, Inc.                   903
Rotor Technologies                       403
RTX                                      503
RWDT Consulting Engineers                219
Sikorsky, A Lockheed Martin Company      203
SYENSO                                   819
Systems Technology, Inc. (STI)           509
Teijin Carbon America, Inc.              608
Tenneco Systems Protection               419
Toray Group                              319
TTTech North America, Inc.                714
United Electronic Industries / AMETEK    315
University of Maryland — Alfred Gessow Rotorcraft Center 603
VerdeGo Aero                              211
Vertical Flight Society                   218
Winders                                   208
Advanced Rotorcraft Technology, Inc. ........ Booth 413  
www.flightlab.com

ART is an aerospace consulting firm specializing in rotorcraft engineering solutions and simulation. Products include the FLIGHTLAB Development System, a simulation modeling and analysis tool; VVPM, a high fidelity rotor/wing wake modeling tool; and the FLIGHTLAB Run-time System, a distributed run-time environment for interfacing FLIGHTLAB models to simulator systems. ART offers consulting services, including simulation model development and integration for engineering and research labs, full flight training devices, and simulators; accident investigation; and support for the design and development of rotorcraft and commercial multi-rotor electric vertical takeoff and landing (eVTOL) / advanced air mobility (AAM) aircraft systems. ART has worked with the U.S. Army to develop the Rotorcraft Comprehensive Analysis System (RCAS) and provides ongoing support and enhancement of RCAS under an Army Cooperative Research and Development Agreement (CRADA). ART also provides a graphical interface to RCAS (GRCAS) as a commercial product. ART is supporting development of the next generation of rotorcraft and eVTOL designs using RCAS and GRCAS.

Advanced Torque Products ................. Booth 420  
www.advancedtorque.com

Advanced Torque Products®, an ISO9001 certified company, proudly supports the aerospace industry with design, assembly and maintenance of the highest quality torque tools and solutions available. Our line of AeroTorque® Digital Torque Multipliers® have industry-leading accuracy up to ±0.4% of total capacity. They are also smaller, lighter and allow greater productivity than anything else on the market. From helicopters to jet engines, we can design, manufacture and calibrate an AeroTorque® Digital Torque Multiplier® to suit virtually every job, large or small. ATP® also offers an extensive range of click-out and clutch-out wrenches, socket wrenches, torque checkers and rotary load cells.

Aéro Montréal ......................... Booth 915  
www.aeromontreal.ca

Created in 2006, Aéro Montréal is a strategic think tank that groups all major decision-makers in Québec's aerospace sector, including companies, educational and research institutions, as well as associations and unions. Aéro Montréal’s mission is to mobilize stakeholders in Québec’s aerospace ecosystem to support its global reach, innovation capacity and growth.

Airbus .................................. Booth 312  
www.airbus.com

Airbus pioneers sustainable aerospace for a safe and united world. The company constantly innovates to provide the most efficient and technologically advanced solutions in aerospace, defense and connected services. In commercial aircraft, Airbus offers the most modern and fuel-efficient airliners. Airbus is also a European leader in defense and security, and is one of the world’s leading space businesses. In helicopters, Airbus provides the most efficient civil and military rotorcraft solutions worldwide.

American Aerospace Controls .......... Booth 206  
www.a-a-c.com

American Aerospace Controls designs and manufactures high-reliability voltage and current sensors and shunts optimized for harsh environments. Whether it’s a life support system for nuclear submarines, reactor control system for aircraft carriers or an oxygen generation system on the International Space Station, our customers can rely on our on-time delivery with 100% quality track record. We have been awarded Boeing’s supplier Performance Excellence Award 14 years running and designated a Lockheed Martin Elite Supplier the last five years.

AMETEK Airtechnology ............. Booth 321  
www.ametek-airtechnology.com

At AMETEK Airtechnology, being a solutions provider is core to our identity, and our products result from meeting our customer’s thermal management and motion control requirements. Our experts work tirelessly with our customers daily to produce tailored product solutions that solve their most challenging problems. Over several decades, our experts have produced countless innovative solutions catering to the ever-changing demands of the customers and industries we serve.

ATA Engineering, Inc. .............. Booth 621  
www.ata-e.com

ATA Engineering is a 100% employee-owned, award-winning engineering firm recognized for its outstanding performance and workplace excellence. ATA provides innovative test- and analysis-driven design solutions across several engineering disciplines, including structural mechanics and dynamics, kinematics, acoustics, thermodynamics, fluid dynamics, controls, mechatronics, aerodynamics, and multidisciplinary analysis and optimization. Over the years, ATA has developed a wide range of advanced rotorcraft analysis tools through a combination of customer projects, Small Business Innovation Research (SBIR) awards, and internal research and development (IRAD). ATA has an extensive background in performing detailed aeromechanic analyses with an emphasis
on developing new methods to solve uniquely challenging and bespoke problems. ATA has significant experience in computational fluid dynamics (CFD)-based performance estimates, rotary-wing stability, vibration estimation, wake impingement and fatigue. ATA also performs related services for vehicle and structural ground vibration tests (GVTs), vibration isolator design, and acoustics, as well as detailed infrared-to-ultraviolet signature assessments. ATA Engineering is proud to be at the forefront of rotorcraft technology and remains dedicated to providing solutions that advance the future of vertical flight.

BAE Systems .............................. Booth 513
www.baesystems.com/electrification

At BAE Systems, we are committed to being a trusted partner for our customers. Embracing an innovation mindset, and leveraging our development and integration expertise in high integrity controls, avionics and power management, we strive to be the most dependable provider of highly reliable, adaptable and scalable solutions for the leading manufacturers of air transport, regional, business jet, and aircraft engines. We pride ourselves on being recognized for our unsurpassed product support by the 600 airline customers we serve around the globe.

Bell ....................................... Booth 112
bellflight.com

Thinking above and beyond is what we do. For more than 80 years, we’ve been reimagining the experience of flight — and where it can take us. We are pioneers. We were the first to break the sound barrier and to certify a commercial helicopter. We were aboard NASA’s first lunar mission and brought advanced tiltrotor systems to market. Today, we’re defining the future of on-demand mobility. Headquartered in Fort Worth, Texas — as a wholly-owned subsidiary of Textron, Inc. — we have strategic locations around the globe. And with nearly one-quarter of our workforce having served, helping our military achieve their missions is a passion of ours.

Bloomy Controls, Inc. ......................... Booth 215
www.bloomy.com

BLOOMY® is proud to introduce our newest offering at Forum 80: the eVTOL HIL Test System! The eVTOL HIL Test System is a fully integrated, closed-loop simulation environment for dynamic testing of flight controls and battery management systems in eVTOL applications. It simulates vehicle system activities throughout all phases of flight. It also simulates over 200 individual battery cells using Bloomy’s Battery Simulator 1200 — trusted by electrification companies globally for over a decade! This system is Bloomy’s latest of a long line of HIL/SIL solutions for validation, integration and certification of controls, including autonomous systems, battery energy storage systems, engine controls, environmental controls, flight control computers, mission systems, propulsion systems, vehicle management systems, sensors and actuators. For more on this exciting new development, visit us in booth 215 or at www.bloomy.com!

The Boeing Company ........................ Booth 703
www.boeing.com

As a leading global aerospace company, Boeing develops, manufactures and services commercial airplanes, defense products and space systems for customers in more than 150 countries. Boeing’s diverse team is committed to innovating for the future, leading with sustainability, and cultivating a culture based on the company’s core values of safety, quality and integrity. Boeing has a long tradition of aerospace leadership and innovation. The company continues to expand its product line and services to meet emerging customer needs. Boeing is organized into three business units: Commercial Airplanes; Boeing Defense, Space & Security (BDS); and Global Services. BDS is a diversified, global organization providing leading solutions for the design, production, modification, service and support of commercial derivatives, military rotorcraft, satellites, human space exploration and autonomous systems.

BOLD Valuable Technology .................... Booth 911
www.boldvaluable.tech

We create technology to make all forms of mobility sustainable at scale with off-the-shelf and bespoke solutions. Leveraging vast experience in motorsports and aerospace combined with expertise in energy storage and composite materials, we stand uniquely positioned to accelerate the pace of electrified mobility with off-the-shelf and bespoke solutions. Strategically segmented, our electrification and vehicle engineering business units boast over 140 engineers with roots in every mobility sector. Unbeaten levels of power and energy, composites expertise, cell-to-pack design and in-house development of software for control sets our technology apart. Pioneers in the development and manufacturing of high-performance battery systems, with world-leading energy density, power density, lightweight enclosures and optimized cell-to-pack ratio.

Calspan Systems Corporation .................. Booth 619
www.calspan.com

Calspan is an industry leader in designing, manufacturing, and testing complex aerospace hardware for ground and flight test applications. We leverage our vertically integrated capabilities to provide essential development support to the rotorcraft and aerospace communities. Calspan offers services across multiple scales, sizes and speed regimes.
As an organization, our teams adapt easily to industry and customer requirements while providing top-tier customer service through every stage of product and test development. Visit Calspan at Booth #619 to discover what we can do for your test needs today.

Carlisle Interconnect Technologies ........ Booth 820
www.CarlisleIT.com

Carlisle Interconnect Technologies offers solutions for air and ground systems, test and measurement, data and power ecosystems, and more. Our worldwide manufacturing facilities can ramp up production quickly to meet the needs of our clients. In addition, our in-house engineering team will collaborate with you to develop customized solutions based on your unique high-voltage design requirements. For more than 80 years, we have provided leading-edge designs that stand up to the demanding conditions of commercial and military flight, avionics and space travel. These critical components include wire and cable, specialty and filtered connectors, contacts, cable assemblies, RF cable assemblies, complex harnesses, racks and trays, lightweight shielding and installation kits.

CEROBEAR GmbH ................. Booth 721
www.cerobear.com

CEROBEAR supplies the vertical flight industry with advanced, custom-engineered and build-to-print ball bearings (pure thrust, DGBB and ACBB) and roller bearings (pure thrust, cylindrical, spherical, tapered, needle and geared outer ring) in all-metal and hybrid-ceramic versions. CEROBEAR serves numerous vertical flight programs, focusing on transmissions, gearboxes, drivetrains and accessory applications with system-integrated, lightweight, long-life bearing designs. Contact: cb-sales@cerobear.com.

CMAI (IMACA) ......................... Booth 214
www.cmai-imaca.ca

Established in 2018, the Canadian Mobility and Aerospace Institute (CMAI) / Institut pour la mobilité et l’aérospatiale au Canada (IMACA) is a non-profit organization dedicated to enhancing work-integrated learning in Canadian mobility industries. Our mission is to address industry challenges such as climate change, technological shifts, demographics and evolving business models. Through nationwide initiatives, we aim to position Canada as a global leader in workforce quality and relevance. Our approach involves connecting stakeholders, engaging in practical activities, developing innovative initiatives and recognizing achievements. By fostering a skilled and adaptable workforce, we contribute to the industry’s growth and sustainability.

CMC Electronics ................. Booth 702
www.cmcelectronics.ca

CMC Electronics has achieved an international reputation for innovation and excellence in the design and manufacture of innovative cockpit systems integration, avionics, display solutions and high-performance microelectronics for the military and commercial aviation markets. Based in Montréal, the company also has facilities in the US, serving its customers worldwide.

Continuum Dynamics, Inc. ........ Booth 303
www.continuum-dynamics.com

Continuum Dynamics, Inc. (CDI) has been providing high-quality research and development (R&D), software, and analysis services to government and industry since 1979, supporting a wide range of vertical flight applications, including rotor/propeller/ducted-propulsor aerodynamics, acoustics and dynamics design; full aircraft interactional aerodynamics; piloted flight simulations and trainers; brownout prediction and mitigation; wake hazard modeling; stores and countermeasures release; shipboard and vertiport operations; and on-blade sensing and control. CDI is a leader in the analysis and design of eVTOL/AAM aircraft and is actively collaborating in this area with numerous eVTOL/AAM vehicle developers as well as NASA, the FAA and the U.S. Air Force. CDI licenses three primary software suites for analyzing vertical flight aircraft: the CHARM comprehensive aircraft analysis, specifically enhanced for modeling eVTOL/AAM vehicles; the CGE adaptive deforming grid URANS CFD solver with automatic grid generation; and the VTM/VorTran-M/M2 family of fast grid-based CFD solvers.

CycloTech GmbH ................... Booth 917
www.cyclotech.at

CycloTech GmbH is the world’s leading company for aviation propulsion systems based on the Voith-Schneider-Principle. The Austrian company has developed the unique 360° thrust-vectoring CycloRotors, a new, electrically driven, sustainable and highly maneuverable propulsion system for the new air mobility demands of the 21st century. The compact design and unique 360° thrust vectoring of the CycloRotors enable an easy transition from hover to forward flight profiles with gust control and precision landing. This is ideal for safe operations in crowded airspace and confined areas. CycloTech aims to make individual air mobility as normal as driving a car, opening the sky for everyone.
Leonardo offers the largest range of rotorcraft capabilities to operators worldwide. The AW09 is a next-generation, high performance, single-engine helicopter offering the built-in versatility to tackle multiple missions. The AW09 is capable of carrying up to eight passengers, and features state-of-the-art technology and safety, allowing operators to go further and do more.
Daedalean AG ................................. Booth 704
www.daedalean.ai

Poised to bring certifiable artificial intelligence (AI) to the cockpit for the first time in the history of aviation, Daedalean is building tools for safer flight, which one day will allow aircraft to take flight autonomously. Designed for rotary- and fixed-wing aircraft, the company’s vision-based systems provide situational awareness beyond anything available for certified civil aircraft. Daedalean’s systems use machine-learned algorithms (neural networks) to process and analyze video from aircraft-mounted cameras fed to an onboard computer. The systems can detect and classify noncooperative traffic, including birds, paragliders, drones, balloons, etc. If GPS/GNSS goes down, location can be determined by use of a downward-facing camera that recognizes terrain features. Runways, helipads and emergency landing zones can be spotted, and guidance provided for helicopters and fixed-wing aircraft to make safe landings, even under emergency conditions. Daedalean has partnered in research with the FAA and EASA to publish joint reports showing how neural networks can be assured safe, fit for purpose and certified. EASA’s guidance on AI first-level applications (pilot assistance level) was in part based on this research. Check out Daedalean at booth #704 or visit Daedalean.ai to learn more about AI-enabled avionics systems.

Daniels Manufacturing Corporation ........ Booth 418
www.dmctools.com

For over 70 years, DMC® has been the trusted provider of tooling and technology to support safety-critical applications for land, sea, air and space vehicles. DMC products include Mil-qualified crimp tools, wiring system maintenance tool kits and insertion/removal tools. DMC’s latest offering is LaceLok®, an alternative to cable ties and hand-tied lace for wire bundle support. Other popular products include Alphatron® wire crimp pull testers, Safe-T-Cable®, the time-saving substitute for lockwire, and Twist Strip®, an outer jacket stripper for shielded twisted multi-conductor cable. DMC’s full-service facility also offers custom-engineered tooling and technical support.

Dayton T. Brown, Inc. ......................... Booth 318
www.DTB.com

Dayton T. Brown, Inc. has been synonymous with the pursuit of excellence and customer service for over 70 years. As a leading product lifecycle services provider for the aerospace and defense, government and commercial markets, we work 24/7 for your success. DTB is the largest independent test lab in the U.S. performing a full spectrum of testing and engineering services, including dynamic, environmental, electromagnetic and structural testing. DTB also offers logistics analysis, technical publications, test plan/procedure development and mission systems integration support services. With an unmatched commitment to communication and teamwork, we are an extension of your engineering team — finding solutions to challenges and producing outstanding results. Count on our dedicated staff to deliver timely solutions, ensuring you stay on schedule.

Donaldson Company .......................... Booth 519
www.donaldsonaerospace-defense.com

As a global leader in the filtration industry, we pride ourselves on our innovative technologies and solutions, backed by a talented and dedicated team of employees. Donaldson supplies top-of-the-line rotorcraft filtration that reduces component wear and tear, improves performance and extends engine life.
Drive System Design ........................... Booth 414
www.drivesystemdesign.us

Drive System Design (DSD) specializes in the rapid engineering and development of electrified propulsion systems and associated technologies for aerospace and eVTOL applications. Its decades of experience and simulation-led approach offers unparalleled proficiency in systems integration, efficiency enhancement and development testing of propulsion and actuation systems. By leveraging its unique combination of cross-sector knowledge and state-of-the-art tools and testing equipment, DSD can swiftly provide innovative and optimized solutions for the design, analysis and control of electrified powertrains. Likewise, through its turnkey capabilities, it can help accelerate the prototype acquisition process across any application, domain or vehicle system. The award-winning engineering team works directly and collaboratively with original equipment manufacturers (OEMs), Tier 1 suppliers and industry research bodies through its technical centers in North America and the U.K. For more information visit www.drivesystemdesign.com.

East/West Industries, Inc. ........................... Booth 710
www.eastwestindustries.com

East/West Industries, Inc. is a woman-owned small business distinguished by technical excellence and best value products. We design, manufacture and support products that save aircrew lives. Since 1968, East/West has designed and manufactured innovative, high-quality critical systems such as aircraft seating systems, life support, emergency oxygen systems and ground support equipment. East/West is well known for our crash-attenuating seats and our Mastercrane. Aerospace and defense customers everywhere count on us for engineering strength, manufacturing excellence and innovation in equipment and services. As a registered AS 9100 company, East/West is proud to be a trusted provider of products for military and commercial customers that include the Bell 505, Boeing CH-47 Chinook, Sikorsky CH-53K King Stallion and Sikorsky HH-60W Combat Rescue Helicopter, among others.

Empirical Systems Aerospace ........................ Booth 607
www.esaero.com

ESAero’s core skillset is in the design and AS9100 manufacturing of innovative, efficient and sustainable electric aircraft technologies for advanced air mobility and unmanned aerial systems. In addition to being the prime contractor for NASA’s X-57 all-electric airplane, ESAero has been a leader in electric aircraft design using the custom aircraft design software for Propulsion Airframe iNTegration for Hybrid Electric Research (PANTHER™). Our engineering services range from conceptual design of new aircraft, power systems architecture, design-for-manufacturing and design-for-reliability. ESAero’s products offer solutions ranging from test equipment to flight-ready systems (up to 800 VDC and 1 MW) with a proven supply chain. In-house resources include 3D printers, CNC machines, composites manufacturing, battery pack manufacturing and cell characterization, high-power wire harness manufacturing, prognostics and health management tools, instrumentation design and integration, electric motor dynamometers, hardware-in-the-loop testing, IE-Soar™ Hydrogen Fuel Cells and solutions to prevent electromagnetic interference.

ENSCO, Inc. ................................. Booth 310
www.ensco.com

ENSCO serves the eVTOL/AAM community through a full complement of both airborne and ground-based offerings that ensure safer, more secure and more efficient airborne systems and ground-based operations. Our comprehensive solutions suite includes airworthiness certification safety (DO-178C and DO-254) and security (DO-326A and DO-356); cutting-edge human machine interface products (IData®, IDataMap and IGL®); precision navigation and timing solutions (FAILSAFES); state-of-the-art weather monitoring solutions (MetWise®); and robust cybersecurity services. Please stop by booth #310 to see how we can help accelerate your eVTOL development programs.

Fatigue Technology, Inc. ........................... Booth 909
www.fatiguetech.com

Fatigue Technology, Inc. (FTI) pioneered cold expansion technology more than 50 years ago to enhance the fatigue life in critical aircraft structure. The technology has advanced to encompass solutions for bushing installations, fastener applications, and aerospace fittings and hardware installations. FTI products can improve aircraft structural durability and reduce costs in manufacturing and maintenance flow time. Our products can be installed in both metal and composite applications. Each application is engineered to optimize our product performance to achieve or exceed customer design goals.

G.W. Lisk Company ................................. Booth 521
www.gwlisk.com

We are a global leader in the design and manufacture of engineered solutions, including solenoids, solenoid valves, linear and rotary position sensors, motors, electric actuators and flame arrestors. We serve hundreds of customers in diverse markets throughout the world with market-leading solutions enabled by our extensive design, test and manufacturing capabilities.
Gastops ................................. Booth 212
www.Gastops.com

Gastops designs and manufactures advanced equipment health monitoring products to ensure that you have real-time awareness of the condition of your equipment. With 40 years of experience, we have developed fleet monitoring and maintenance programs that transform maintenance from the traditional scheduled or reactive maintenance to a proactive condition-based approach.

GE Aerospace ......................... Booth 202
www.geaerospace.com

GE Aerospace is a world-leading provider of jet engines, components and systems for commercial and military aircraft with a global service network to support these offerings. GE Aerospace and its joint ventures have an installed base of more than 39,000 commercial and 26,000 military aircraft engines, and the business is playing a vital role in shaping the future of flight. For more information, visit us at www.geaerospace.com. Follow GE Aviation on Twitter at www.twitter.com/GE_Aerospace and YouTube at www.youtube.com/@GEAerospace.

Georgia Institute of Technology Vertical Lift Research Center of Excellence .............. Booth 611
www.ae.gatech.edu

The Georgia Institute of Technology (Georgia Tech) is consistently ranked in the top 10 engineering universities across all engineering and science disciplines. The School of Aerospace Engineering has trained engineers and performed groundbreaking research in vertical lift since its inception in 1930, earning it the distinction as a VFS Vertical Flight Heritage Site. The Vertical Lift Research Center of Excellence (VLRCOE) includes a broad range and depth of courses at both the graduate and undergraduate levels in both classic and emerging technologies. Georgia Tech's return on investment is touted as one of the best in the country in creating a highly diverse future workforce. Our VLRCOE is supported by other world-class Georgia Tech initiatives, including the Center for Urban and Regional Air Mobility (CURAM), Institute of Robotics and Intelligent Machines (IRIM), Strategic Energy Institute (SEI), and Manufacturing Institute. Our VLRCOE partner faculty bring expertise and add strength from top aerospace universities, including the University of Michigan, Ohio State, Embry-Riddle, University of Texas at Arlington and Washington University.

Glenair, Inc. ............................ Booth 718
www.glenair.com

Glenair manufactures a broad range of lightweight, rugged, aviation-grade power connectors and power feeder systems with proven commercial aerospace flight heritage. Our family of eVTOL air taxi interconnect solutions also includes high-density, small form-factor connectors for avionics systems, flight deck controls, actuators and sensors. EWIS interconnect hardware for AAM includes lightweight composite thermoplastic backshells, EMC braided shielding, and lightning strike grounding systems. Glenair has a full range of interconnect/wiring-system components accommodating size, weight and power (SWAP), with full engineering resources available, as well as industry-leading lead times.

Green Hills Software, Inc. ................ Booth 618
www.ghs.com

For safety-critical avionics, Green Hills Software provides the world’s only operating system to be part of a multicore technical standing order (TSO) authorization to DO-178C DAL A and CAST-32A multicore objectives. To aid in multicore certification, the INTEGRITY-178 tuMP safety-critical RTOS includes unique bandwidth allocation and monitoring (BAM) functionality to mitigate multicore interference—not just measure it. That mitigation enables maximum utilization of multicore resources and further consolidation of mixed-criticality avionics onto a single multicore processor. INTEGRITY-178 tuMP is certified conformant to the FACE™ Technical Standard 3.0 for safety and security profiles running on Arm, Intel and Power Architectures.

Helitowcart (Vanair, Inc.)
www.helitowcart.com

Helitowcart is a premier provider of specialized ground support equipment catering to the unique needs of the vertical flight industry. Our comprehensive range of innovative products includes helicopter towing systems, ground handling equipment and maintenance tools meticulously crafted to enhance efficiency and safety in vertical aviation operations. Renowned for our unwavering commitment to quality craftsmanship and cutting-edge technology, Helitowcart is the trusted partner of helicopter and vertical lift operators worldwide, delivering reliable and durable solutions tailored to their specific requirements.
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overair.com/careers
**Hutchinson Aerospace** .......................... Booth 713
www.hutchinson.com

Hutchinson Aerospace offers engineering and manufacturing facilities for the design, testing and fabrication of products to control dynamic motion, vibration, shock and structure-borne noise for helicopters and eVTOL aircraft. Hutchinson products include elastomeric bearings, lead-lag dampers, and static and dynamic products designed for rotors and gearbox suspension systems. Hutchinson also offers airframe/door/ window seals, thermal/fire-retardant/acoustic panels and films, composite panels and structural components, and drive belts. Hutchinson has developed active vibration controls systems (AVCS), and health and usage monitoring systems (HUMS), which can greatly improve interior noise and vibration, and enable helicopter operators to monitor and lower Direct Maintenance Costs (DMC).

**Inceptr****** .................................. Booth 720
www.inceptr.com

Join in on one of Inceptr’s technical briefings to delve into the benefits of Dassault Systèmes’ “Reinvent the Sky,” an industry-specific software solution designed to accelerate the product development of vertical takeoff and landing (VTOL) aircraft. With numerous VTOL aircraft customers and the highest number of 3DEXPERIENCE® implementations in North America among Dassault Systèmes Platinum Partners, Inceptr is well-equipped to address your product development needs. Inceptr’s industry-leading professionals offer strategic solutions that stem from extensive experience and real-world implementation of PLM systems across various industries, providing essential professional services to support requirements definition, design, implementation and deployment of Dassault Systèmes PLM solutions. By integrating best-in-class product offerings with expert services, we empower customers to enhance productivity and drive product innovation. Inceptr, a leading solutions provider for engineering and manufacturing organizations, possesses extensive capabilities in the aerospace and defense sector. Our industry-leading professionals offer strategic solutions rooted in vast experience and practical application of PLM systems across diverse industries.

**Kamatics Corporation.** .......................... Booth 615
www.kamatics.com

Kamatics Corporation, a wholly owned subsidiary of Kaman Corporation, designs and manufactures high-performance mechanical products used for aviation, marine and industrial applications. These products primarily consist of the KAron™ self-lubricating bearings for aircraft flight controls, landing gear, doors and turbine engines, as well as the KAfflex® and Tufflex® helicopter driveshafts and couplings for torque transmission.

**M4 Engineering, Inc.** .......................... Booth 412
www.m4-engineering.com

M4 Engineering, Inc. works with inventors, startups, established companies and government agencies to solve “unsolvable” problems typically found in electric-, hybrid- and hydrogen-powered eVTOL and AAM aircraft, as well as more conventional aircraft and spacecraft. We help move ideas from concepts to prototypes through design, analysis, optimization and fabrication services. We also develop specialized software using our expertise in multidisciplinary design analysis and optimization (MDAO) and are a Siemens Digital Industries Software reseller. Our software solutions help our customers and can help you save time and reduce the costs associated with the design, analysis and optimization of high-performance systems and structures.

**Mannarino Systems & Software, Inc.**  .......... Booth 221
www.mss.ca

MANNARINO is a leading engineering service provider for safety-critical systems, with expertise in product certification, systems safety, airborne electronic hardware and real-time embedded software development. We’ve taken knowhow gathered over the last 20 years to develop an affordable, safe and flexible real-time operating system (RTOS). The result is MANNARINO’s ARINC 653-compliant M-RTOS. The latest M-RTOS release mitigates microprocessor hardware interference channels and is certifiable to the highest industry standards, making it the best option for your multicore processor. Coupling our industry-leading engineering services with the M-RTOS makes MANNARINO the one-stop shop for all your high-integrity software needs.

**Napoleon Engineering Services / NES Bearing Co.** .......................... Booth 818
www.nesbearings.com

NES manufactures precision aerospace bearings for high-reliability applications, including aircraft engines, gearboxes, transmissions, swashplates, tail rotors, actuation systems and support equipment. NES is also the largest independent bearing inspection and testing facility in North America. Whether you need a new source for a bearing made-to-print, reverse engineer and part manufacturing approval (PMA) manufacturing, application support for your new design, objective third party inspection or testing, NES is a one-stop shop for most bearing needs. AS9100/ISO9001 certified, AS13100 compliant.
The Office of Naval Research (ONR) is the catalyst of future naval power, ensuring technological dominance for our fleet and force. With a workforce that includes some of the top PhDs and engineers in the world in their fields, ONR finds the best minds from across the nation and around the globe, sponsoring new research and creating new capabilities for America's sailors and marines. ONR provides the science and technology necessary to maintain the Navy and Marine Corps' technological advantage. Through its Naval Research Enterprise (NRE) affiliates, ONR is a leader in science and technology with engagement in 50 states, 55 countries, 634 institutions of higher learning and nonprofit institutions, and more than 960 industry partners. ONR, through its NRE commands, includes ONR Global and the Naval Research Laboratory in Washington, D.C., and employs more than 3,800 people, comprising uniformed, civilian and contract personnel.

New Hampshire Ball Bearings, Inc............. Booth 719
www.nhbb.com

New Hampshire Ball Bearings (NHBB) is a leading manufacturer of precision bearings and complex bearing assemblies for the global aerospace and defense markets. NHBB produces a comprehensive line of rod-end and spherical bearings, large ball and roller bearings, miniature and instrument bearings, and machined parts for your most complex applications. NHBB has broad capabilities and expertise in rotary wing systems, landing gears and transmission systems. You can count on NHBB for both standard and custom-designed products available in prototype and serial production quantities. Visit our booth #719 and start the conversation to learn more.

National Research Council ..................... Booth 311
www.nrc.canada.ca/en

The National Research Council of Canada (NRC) is a Government of Canada R&D organization. Composed of 14 research centres, including the Aerospace Research Centre, the NRC partners with industry to take research impacts from the lab to the marketplace, where people can experience the benefits. The NRC's unique expertise and facilities dedicated to aerospace R&D help businesses, academia and other government organizations, in Canada and internationally, overcome product development and certification challenges. Our 350+ aerospace researchers are focused on eight key areas: advanced air mobility, aerospace manufacturing and automation, air travel research, climate resilience and space, defence and sustainment, digital twins and virtual testing, icing and safety, sustainable aviation.

Penn State Vertical Lift Research Center of Excellence .............................................. Booth 912
www.vlrcoe.psu.edu

As one of the three U.S. government-funded Vertical Lift Research Centers of Excellence (VLRCOEs), we work on 6.1 and 6.2 research programs with many government and industry partners. Fifty graduate students work dynamics, aerodynamics, acoustics, flight control and simulation, icing, health and usage monitoring systems (HUMS), condition-based monitoring (CBM), autonomy and uncrewed aircraft systems (UAS), and advanced design of rotary-wing vehicles. Drivetrain technologies, advanced materials, CFD, safety and sustainment are also among our thrust areas. We have a large VFS student chapter, conduct STEM and educational outreach, and offer a week-long comprehensive rotorcraft short course every summer (this year, July 22–26, 2024).

Radbon Electronics Co., Ltd................. Booth 905
www.radbonlink.com

Radbon is a leading supplier of avionics and MIL-SPEC electronic products. We design and manufacture customized cable harnesses and electromechanical assemblies for aviation, marine, land vehicle and other high-demand-condition industries. We are a comprehensive solution provider. We are dedicated to delivering quality and innovation to our global customers and supporting their missions with our powerful solutions.

RAMPF Composite Solutions, Inc........ Booth 518

RAMPF Composite Solutions is part of the RAMPF group of companies and provides design engineering, prototyping and manufacturing services for custom structural or non-structural, thermoset carbon composite parts. We are located in a new 74,000 ft² facility in Burlington, Ontario, Canada, and our sister companies are located in the USA, including RAMPF Polymer Solutions, RAMPF Tooling Solutions, RAMPF Production Systems and RAMPF Machine Systems. Vacuum-assisted resin transfer molding (VARTM) production methods allow us to offer low capital cost solutions, reducing overall time and costs of development. Our design expertise and use of tailored fiber placement technology allow us to produce composite parts with the highest possible strength-to-weight ratios, enabling greater payloads and longer flights. Aerospace is our main industry served, and we are ISO9001, AS9100D and Canadian Controlled Goods (CCG) certified. We also support other industries such as AAM, UAS, automotive, security and defense, medical and more.
RDI Technologies, Inc.  ..................... Booth 903
www.rditechnologies.com

RDI Technologies is pioneering the camera as the sensor of the future because visualization is faster, safer, and makes the complex more simple. Our proprietary technology platform powered by Motion Amplification® enables our users to see and measure motion that is impossible to see with the human eye and could previously only be measured by contacting sensors. Our products combine the power of modern cameras with our software to turn what used to be complex charts and graphs into easy-to-understand video data that enables our users to quickly and safely solve their toughest problems and communicate the results.

Rotor Technologies ........................ Booth 403
www.rotor.ai

Rotor builds autonomy to make helicopters and other vertical flight aircraft radically safer and more accessible. Our first product, the RS50X, is a multi-mission uncrewed helicopter built on the Robinson R44 platform. It’s equipped to lift heavy payloads up to 1,212 lb (550 kg) in all weather conditions — including at night and in limited visibility.

RTX ............................... Booth 503
www.rtx.com

RTX is the world’s largest aerospace and defense company. With more than 185,000 global employees, we push the limits of technology and science to redefine how we connect and protect our world. Through industry-leading businesses — Collins Aerospace, Pratt & Whitney and Raytheon — we are advancing aviation, engineering integrated defense systems for operational success and developing next-generation technology solutions and manufacturing to help global customers address their most critical challenges.

RWDI Consulting Engineers .................... Booth 219
www.rwdievent.powerappsportals.com/Advanced-Air-Mobility

RWDI is a global consulting engineering firm headquartered in Guelph, Ontario, Canada. RWDI provides climate and performance engineering solutions in the buildings, infrastructure and industrial sectors. With more than five decades of expertise in wind engineering, RWDI enables the safe design and operation of vertical flight aircraft in cities, including the effects of turbulence, rotor downwash, noise and climate. For more information, visit booth 219 or contact Sharon.Schajnoha@rwdi.com.

Sikorsky, A Lockheed Martin Company  ...... Booth 203
www.lockheedmartin.com

Sikorsky, a Lockheed Martin Company, provides rotary-wing aircraft to all five branches of the U.S. armed forces, and to commercial and military operators in 40 nations. Sikorsky’s unrivaled engineering and manufacture of vertical flight aircraft continues today with advances in electrification, autonomy and UAS. Lockheed Martin is a global defense technology company driving innovation and advancing scientific discovery. Our all-domain mission solutions and 21st Century Security vision accelerate the delivery of transformative technologies to ensure those we serve always stay ahead of ready. More information at LockheedMartin.com.

SYENSQO ................................. Booth 819

SYENSQO (previously part of Solvay Group) is a global supplier of advanced lightweight composite and polymer materials for the aerospace industry. SYENSQO’s product offering includes thermoset and thermoplastic prepregs, adhesives and surfacing films, resin and compound systems, and carbon fibers and tooling. Combining 160 years of technological heritage, a comprehensive portfolio and expertise in materials design and process engineering, SYENSQO provides innovative solutions for customers that maximize technological capabilities and simplify manufacturing processes.

Systems Technology, Inc. (STI) .......... Booth 509
www.systemstech.com

In 1957, Irving L. Ashkenas and Duane T. McRuer founded Systems Technology, Inc. (STI) to conduct state-of-the-art research and development concerning human-machine interactions through scientific-based assessment. Today, the 100% employee-owned company continues this mission, to provide assessment solutions to improve safety and efficiency in the aerospace, defense and clinical markets. STI provides engineering consulting services and solutions for all types of dynamic systems. These services include vehicle and operator model development, control law development and assessment, pilot training and a host of related disciplines. Our wealth of research experience and engineering consulting successes have laid the foundation for our own simulation products, training technologies and assessment tools.
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Teijin Carbon America, Inc. .................. Booth 608
www.teijin.com

Teijin is a global leader in advanced materials and solutions; with a rich history spanning over a century, Teijin has consistently pushed the boundaries of innovation. Our expertise lies in providing advanced composite material technologies across various domains, including aerospace, automotive, healthcare, and environmental solutions. At the heart of our mission is a commitment to carbon neutrality by 2050, driving progress through sustainable materials and processes that create value-added benefits for our customers while meeting performance requirements. As we gather at Forum 80, we invite you to come ask us about Teijin’s innovative thermoplastic materials, groundbreaking infusion initiatives and NCAMP materials. Join us in shaping the future of materials for vertical flight technology and beyond.

Tenneco Systems Protection ............ Booth 419
www.systemsprotection.com

Tenneco Systems Protection is the world’s foremost supplier of protection products that have been approved worldwide for aerospace, defense and space applications. Our products are designed to protect wire harnesses and cable assemblies from the damaging effects of abrasion, fire, high-temperature environments, arcs and electromagnetic interference. TSP products are designed to optimize weight, space allocation and installation time. With an unrivaled global footprint, Tenneco Systems Protection offers the widest and most innovative product portfolio serving both original equipment and tier suppliers. Our numerous certifications include AS9100, ISO 9001 and ISO/TS 16949.

Toray Group. ......................... Booth 319
www.uam.toray

Since 1926, Toray has been on the cutting edge of advanced materials development and production to support established and emerging industries with superior advanced materials. Toray’s extensive aerospace and high-performance automotive experience, broad portfolio of proven high-caliber materials and comprehensive databases allow us to partner early in the design phase with AAM manufacturers, providing support and materials guidance from prototype to high-volume production and beyond. Toray’s expansive carbon fiber, thermoset and thermoplastic composite portfolio supports structural applications at any production rate. Toray also produces a vast selection of non-structural materials, such as textiles for seat fabrics and interior trims, optical fibers for lighting, films for windows and batteries, inks for sensors, resins for motors and cases, and fibers for bearings and bushings. Toray is fully committed to enabling the path from prototype to high-rate production for AAM manufacturers and emerging industries, supported by decades of success in automotive and commercial aviation applications, with several partnerships with leading companies worldwide. Visit Toray’s expansive portfolio of products and solutions at uam.toray.

TTTech North America, Inc. ............ Booth 714
www.www.tttech.com

TTTech Aerospace provides deterministic embedded network and platform solutions for aviation and space applications. Its modular open systems digital backbone products have already completed over 1 billion flight hours in Level A safety-critical applications like fly by wire, power systems, avionics, engine controls and environmental control systems, and covered distances of more than two million kilometers in deep space. TTTech Aerospace has been engaged in the aviation market since 1998. Worldwide industry market leaders like Airbus, Boeing, Bombardier, Embraer, Lockheed Martin and their systems suppliers use TTTech Aerospace’s solutions in their programs. We provide development, testing, flight and network configuration equipment for safety-critical applications. Products such as chip IP, ASICs, and on-board hardware enable system integration, set-up of deterministic networks (TSN, ARINC 664 part 7, TTEthernet® and TTP®), and the design and integration of advanced integrated aircraft systems.

United Electronic Industries / AMETEK ...... Booth 315
www.ueidaq.com

United Electronic Industries (UEI) supplies data-acquisition, control and test system hardware to meet the stringent requirements needed for VTOL industry applications. Whether commercial or military, UEI has rugged and reliable solutions that are deployable in a variety of environments. We have flexible 1–12 slot chassis, with more than 90 I/O and avionic boards commercial-off-the-shelf (COTS) solutions ready to ship. UEI has the right hardware and I/O to design, simulate, test, verify and deploy your VTOL craft. All our solutions are backed by a 10-year availability guarantee and 3–5-year hardware warranty, upgradeable to 10 years. Learn more about how we can support your application at www.ueidaq.com.

University of Maryland — Alfred Gessow Rotorcraft Center .................. Booth 603
www.agrc.umd.edu

The Alfred Gessow Rotorcraft Center is a Vertical Lift Research Center of Excellence (VLRCOE) designated by the U.S. Army, Navy and NASA since 1981. Its unique test facilities include the Glenn Martin 8x11-ft wind tunnel, hover tower, water tank, vacuum and anechoic chambers, and eVTOL, MAV and tiltrotor laboratories. Many high-fidelity comprehensive simulations are developed at the
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Center, covering CFD, CSD, handling qualities and design codes, including UMARC, X3D, DYMORE, GARFIELD, HAMSTR and heliUM. Our students collaborate closely with both industry and government, developing solutions for the next generation of vertical flight.

VerdeGo Aero ................................ Booth 211
www.verdegoaero.com

VerdeGo Aero is a leader in hybrid-electric propulsion technologies for the next generation of aircraft. Founded in 2017 by a team of electric aircraft pioneers with a long track record of innovation, VerdeGo enables its customers to develop electric aircraft that deliver on demanding mission requirements, while also complying with high regulatory and safety standards required for commercial or military flight operations. VerdeGo’s team has industry-leading experience from developing multiple generations of full-scale hybrid-electric powerplant hardware, along with unique insights into the integration of hybrid powerplants inside new electric aircraft designs. With the capabilities to design and prototype powerplants, develop quiet acoustic mitigation systems, and integrate powerplants in a wide array of electric airframes, VerdeGo is uniquely suited to provide its customers with end-to-end support as a powerplant partner. VerdeGo Aero is based in Daytona Beach, Florida. Learn more at www.verdegoaero.com

Vertical Flight Society ...................... Booth 218
www.vtol.org

Founded in 1943 as the American Helicopter Society, the Vertical Flight Society is the world’s only international technical society for engineers, scientists and innovators working to advance vertical flight technology, from traditional helicopters and advanced rotorcraft to next-generation electric and hybrid-electric vertical flight aircraft. For over 80 years, the Society has continued to provide opportunities for technical data exchange and dissemination; promote awareness of vertical flight capabilities, challenges and development, and foster interest in vertical flight careers and professional advancement.

Windings ................................. Booth 208
www.windings.com

Windings, Inc. is an employee-owned company headquartered in New Ulm, Minnesota. Founded in 1965, Windings provides engineered electromagnetic solutions, including custom rotor and stator components, motors and generators for critical applications in a variety of industries. We pride ourselves as leaders and full-service providers in the designing, testing and manufacturing of electric motors and related components, including rotors, stators, lamination stacks and insulation systems. Windings is a pioneer in advanced air mobility (AAM) and has emerged as a leader in electromagnetic components for electric flight. Over the last six years, we have worked closely with top AAM organizations assisting in the development of the most successful advancements in the industry to date. Windings partners closely with clients throughout the product development process to provide tailored solutions that are optimized for performance and production.

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At Syensqo we advance humanity through innovation breakthroughs and partnerships in the eVTOL ecosystem

Built on a legacy of innovation, Syensqo is an established leader in high performance composites, adhesives and specialty polymers that enable lightweight flight and sustainable mobility.

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Find out more about our AAM offering:
## TECHNICAL SESSION AT A GLANCE

<table>
<thead>
<tr>
<th>Tues. May 7, 2024</th>
<th>Wed. May 8, 2024</th>
<th>Wed. May 8, 2024</th>
<th>Thurs. May 9, 2024</th>
<th>Thurs. May 9, 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8:00 am – 12:00 pm</strong>&lt;br&gt;Session Break</td>
<td><strong>8:00 am – 12:15 pm</strong>&lt;br&gt;Session Break</td>
<td><strong>1:45 – 6:00 pm</strong>&lt;br&gt;Session Break</td>
<td><strong>10:15 am – 12:15 pm</strong>&lt;br&gt;Lunch: 12:15 – 1:30 pm</td>
<td><strong>1:30 pm – 5:30 pm</strong>&lt;br&gt;Session Break</td>
</tr>
<tr>
<td>9:30 – 10:00 am</td>
<td><strong>9:30 – 10:15 am</strong></td>
<td><strong>3:15 – 4:00 pm</strong></td>
<td><strong>3:00 – 3:30 pm</strong>&lt;br&gt;Session Break</td>
<td><strong>3:00 – 3:30 pm</strong>&lt;br&gt;Session Break</td>
</tr>
<tr>
<td><strong>Technical Session A</strong></td>
<td><strong>Technical Session B</strong></td>
<td><strong>Technical Session C</strong></td>
<td><strong>Technical Session D</strong></td>
<td><strong>Technical Session E</strong></td>
</tr>
<tr>
<td>Advanced Vertical Flight I&lt;br&gt;Room 510 B &amp; E</td>
<td>Acoustics I&lt;br&gt;Room 510 A</td>
<td>Acoustics II&lt;br&gt;Room 510 A</td>
<td>Acoustics III&lt;br&gt;Room 510 B &amp; D</td>
<td>Aerodynamics IV&lt;br&gt;Room 511 A &amp; D</td>
</tr>
<tr>
<td>Aerodynamics I&lt;br&gt;Room 511 A &amp; D</td>
<td>Aerodynamics II&lt;br&gt;Room 511 A &amp; D</td>
<td>Advanced Vertical Flight II&lt;br&gt;Room 511 C &amp; F</td>
<td>Aircraft Design III&lt;br&gt;Room 511 A &amp; D</td>
<td>Avionics &amp; Systems II&lt;br&gt;Room 510 B &amp; D</td>
</tr>
<tr>
<td>Autonomy &amp; UAS I&lt;br&gt;Room 514 ABC</td>
<td>Aircraft Design I&lt;br&gt;Room 510 B &amp; E</td>
<td>Aerodynamics III&lt;br&gt;Room 510 B &amp; E</td>
<td>eVTOL III&lt;br&gt;Room 510 C &amp; F</td>
<td>Dynamics III&lt;br&gt;Room 514 ABC</td>
</tr>
<tr>
<td>Crew Stations I&lt;br&gt;Room 510 A</td>
<td>Autonomy &amp; UAS II&lt;br&gt;Room 510 B &amp; E</td>
<td>Aircraft Design II&lt;br&gt;Room 510 B &amp; E</td>
<td>Operations II&lt;br&gt;Room 513 DEF</td>
<td>eVTOL IV&lt;br&gt;Room 510 B &amp; C</td>
</tr>
<tr>
<td>Dynamics I&lt;br&gt;Room 515 ABC</td>
<td>Crew Stations II&lt;br&gt;Room 510 B &amp; D</td>
<td>Avionics &amp; Systems I&lt;br&gt;Room 510 B &amp; D</td>
<td>Test &amp; Evaluation III&lt;br&gt;Room 514 ABC</td>
<td>History&lt;br&gt;Room 510 C</td>
</tr>
<tr>
<td>*eVTOL I / Propulsion I Joint Session&lt;br&gt;Room 510 C &amp; F</td>
<td>Handling Qualities I&lt;br&gt;Room 515 ABC</td>
<td>Crash Safety&lt;br&gt;Room 513 ABC</td>
<td>HUMS II&lt;br&gt;Room 513 ABC</td>
<td>* Manufacturing Tech./Product Support Joint Session&lt;br&gt;Room 510 A</td>
</tr>
<tr>
<td>Modeling &amp; Simulation I&lt;br&gt;Room 513 DEF</td>
<td>Modeling &amp; Simulation II&lt;br&gt;Room 513 DEF</td>
<td>Dynamics II&lt;br&gt;Room 513 DEF</td>
<td>Modeling &amp; Simulation III&lt;br&gt;Room 513 DEF</td>
<td>Structures &amp; Materials II&lt;br&gt;Room 513 B &amp; E</td>
</tr>
<tr>
<td>Operations I&lt;br&gt;Room 510 C</td>
<td>Propulsion II&lt;br&gt;Room 514 ABC</td>
<td>eVTOL II&lt;br&gt;Room 514 ABC</td>
<td>Structures &amp; Materials I&lt;br&gt;Room 510 C &amp; F</td>
<td>Systems Engineering&lt;br&gt;Room 515 ABC</td>
</tr>
<tr>
<td>Test &amp; Evaluation I&lt;br&gt;Room 513 ABC</td>
<td>Safety&lt;br&gt;Room 510 C</td>
<td>Handling Qualities II&lt;br&gt;Room 515 ABC</td>
<td>Test &amp; Evaluation II&lt;br&gt;Room 513 ABC</td>
<td>HUMS I&lt;br&gt;Room 510 C</td>
</tr>
<tr>
<td>Special Sessions: 1. NATO NGRC&lt;br&gt;2. Civil VTOL R&amp;D&lt;br&gt;Room 516 B &amp; C</td>
<td>Test &amp; Evaluation II&lt;br&gt;Room 513 ABC</td>
<td>Test &amp; Evaluation II&lt;br&gt;Room 513 ABC</td>
<td>Special Sessions: 7. Challenges in Vertical Flight&lt;br&gt;Room 516 B &amp; C</td>
<td>Special Sessions: 8. eVTOL Developments&lt;br&gt;Room 516 B &amp; C</td>
</tr>
</tbody>
</table>

* Joint Session

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