

# ICAAMS Is a Great Success!



Bengaluru Palace  
(All photos by VFS staff)

By Mike Hirschberg, VFS Director of Strategy

The First International Conference on Advanced Air Mobility Systems — organized by the Rotary Wing Society of India (RWSI) and the VFS Asia-Australia Region, with the support of the VFS Australia Chapter — was held in Bengaluru, India, on Dec. 4–6. The sold-out event had more than 180 total registrants and featured two days of technical paper and keynote presentations, followed by a half-day workshop on “Enhancing Future VTOL Usage in Indian Airspace.” The meeting was supported by the Indian Institute of Science (IISc), the University of Melbourne (UniMelb) in Australia, and the Indian Air Force (IAF); the event was held at the Yelahanka Air Force Station, home of the IAF Training Command, which supported the event through the use of its facilities. The President of RWSI, IAF Air Marshal (Ret.) Arvind Singh Butola, is a former Air Officer Commanding-in-Chief of Training Command; the current commander, Air Marshal Radhakrishnan Radhish, and his staff, also participated in the event.

The chair of ICAAMS-1 was Dr. Arvind Sinha, the VFS Board of Directors Vice President for the Asia-Australia Region; the deputy chair was Dr. Vijaya Kumar Mudubagilu, a professor at IISc and formerly head of the Rotary Wing Research & Design Centre (RWR&DC) for Hindustan Aeronautics Limited (HAL) in Bengaluru. Technical Chairs for ICAAMS-1 were Mr. Robert Hood, Vice President of the VFS Australia Chapter, and Wing Commander (Ret.) B.S. Singh Deo, Vice President of RWSI.

## Technical Conference

The event kicked off with welcomes by Dr. Vijaya Kumar and Air Chief Marshal (Ret.) Fali Homi Major, the 21st IAF Chief of the Air Staff, and India Army Col. (Ret.) Sinha, now with UniMelb. VFS Director of Strategy Mike Hirschberg and RWSI President Butola, as well as of Dr. Jason Monty of UniMelb and Dr. S.N. Omkar of IISc, each presented welcome addresses. The opening session was completed with a keynote by XTI Aircraft Chief Commercial Officer Saleem Zaheer, who talked about the challenges of electric vertical takeoff and landing (eVTOL) aircraft for advanced air mobility (AAM) missions; XTI is currently developing its turboshaft-driven TriFan 600 for regional air mobility (RAM) applications.

Additional keynotes kicked off each half-day session. Helicopter Association International (HAI) President and CEO Jim Viola gave an insightful talk on Safety Regulations. Dr. Farhan Gandhi, previously at Rens-



Keynote talk by the FAA's Daniel Jacob.



selaer Polytechnic Institute (RPI) but beginning in January at North Carolina State University, gave a keynote summarizing results of RPI's aeromechanics modeling of AAM configurations. Daniel Jacob, the US Federal Aviation Administration (FAA) Senior Representative for South Asia, gave an extremely valuable talk on integrating AAM into the airspace.

Technical paper presentations were given over the two days on topics such as airspace management, airworthiness, regulations, design, propulsion, structures and materials, systems and design, and aerodynamics. Authors represented academic institutions around the world, as well as government agencies and companies in India and the US.

Two best paper awards were given. HAL engineers K. Sravan Kumar and Vineeth Kumar C., along with Dr. K.R. Prashanth (Head of the Rotor Design Department), and Nagarajan R. (Chief Designer for RWR&DC) were recognized for "Evolution of Interchangeable Main Rotor Blades: An HAL Perspective." A paper by Brock T. Steinfeldt and Dr. Richard (Pat) Anderson of VerdeGo Aero, and Jeffrey R. Lewis of Jaunt Air Mobility, "Hybrid Propulsion of a Cargo VTOL Aircraft" (presented by Dr. Sanjay Gattani, Jaunt's Chief Engineer for Aircraft Certification and Head of India Operations), was selected as the other best paper.

The VFS Asia/Australia Region presented certificates of appreciation to those in the region who have gone above and beyond in service to the international vertical flight community, including the founding presidents of the new VFS Thailand Chapter, Dr. Auraluck Pichitkul (Suranaree University of Technology), and the new VFS United Arab Emirates Chapter, Salim Mousallam (GE Aerospace). Also recognized were Dr. Monty (UniMelb) and Dr. K.C. Wong (University of Sydney), as well as Air Vice Marshall (Ret.) K. Sridharan, the founding President of RWSI, and Singh Deo, for their prodigious efforts in forming RWSI, promoting helicopter safety, including major support to the International Helicopter Safety Team (IHST)/Vertical Aviation Safety Team (VAST), and supporting VFS in India, including instigating the ICAAMS series of conferences; June 2023 was the 25th anniversary of the founding of RWSI.

UniMelb and IISc also announced a formal partnership to collaborate in developing a joint roadmap on how to implement AAM in India and Australia, which will then be a template for other countries in the region to expand upon.

### Successful Workshop

Today, the entirety of India has only 254 operational civil helicopters, less than the number flying in some individual cities around the world, like São Paulo, Brazil. The number of active civil helicopters has actually decreased by 18% over the past decade (2012–2022). Hence, the benefits of vertical flight aircraft largely remain inaccessible to the world's largest democracy and the fifth-largest economy, one that is choked by massive amounts of traffic and inadequate road infrastructure.



RWSI President Butola (left) awards best paper, accepted by Jaunt's Dr. Sanjay Gattani.

VFS and RWIS held a kick-off workshop to explore how India can unlock the skies for both AAM and existing rotary-wing aircraft. Led by Mike Hirschberg, the workshop provided a platform for stakeholders — from developers to manufacturers, regulators, operators and other leaders in the industry — to discuss the present status of limited use of the helicopters in India and its associated issues and challenges. Workshop speakers included XTI's Zaheer; Ramanujam Kalale, Director of Systems Engineering at Daedalean; Dr. Omkar Halbe, Senior Scientist at the Indian National Aerospace Laboratories (NAL); and Group Captain (Ret.) E.R. Rajappan, Managing Director of Shivayu Aerospace & Defence.

The interactive discussion with the audience was very thought-provoking and inspired the attendees to continue to work together. RWSI agreed to lead the initiative to draft a white paper on how to open the skies to allow the safe and efficient use of all types of vertical flight aircraft in India, leveraging existing documents like the FAA's Concepts of Operations (ConOps) and HAI's "Roadmap of AAM Operations" as references. Stakeholders from industry, government laboratories and academic institutions in India pledged to aid in the effort, with support from VFS and HAI.

### ICAAMS and the Future

ICAAMS-1 was an overwhelming success. The excellent technical papers, coupled with the insightful keynotes and the action-oriented workshop, ensure not only a sea change in vertical flight developments in India, but establish ICAAMS as a solid conference that will add to the technical and programmatic progress of vertical flight in Asia and Australia.

Next year's ICAAMS-2 will be held Dec. 3–5, 2024, in Singapore. Information on the technical paper proceedings and plans for ICAAMS-2, as well as links to additional photos from ICAAMS-1, available at [www.vtol.org/icaams](http://www.vtol.org/icaams).