



VFS Hampton Roads Chapter Hosts Propulsion and Power Technical Meeting

On Oct. 29-30, the VFS Hampton Roads Chapter hosted the 2019 Propulsion and Power Technical Meeting at the Hampton Roads Convention Center in Hampton, Virginia. The theme of the two-day conference was “Powering the Future of Vertical Flight,” which highlighted research and development efforts — both current and planned — related to manned and unmanned rotorcraft and other vertical flight vehicles.

Some 110 vertical flight propulsion and power experts, representing five countries (US, Canada, Denmark, UK and Turkey) convened to hear 23 experts present technical topics critical to advancing the vertical flight industry, from classic helicopter improvements to emerging electric vertical takeoff and landing (VTOL) technology. Notably, many of the technologies presented have applicability for both eVTOL and rotary-wing aircraft.

The conference keynote speaker was Dr. Kenneth Suder, NASA Glenn Research Center, with his presentation, “Future Vertical Lift Propulsion Systems & Associated S&T Challenges.” Dr. Suder highlighted the changes that are occurring in air transportation, from consolidation of industry to research in supersonic transport and urban air mobility (UAM) missions. Suder highlighted the six focus areas where NASA is conducting research: high-tempo airspace integration, commercial supersonic, ultra-efficient commercial transport, safe and quiet vertical lift, system-wide safety assurance, and assured autonomy. These focus areas are concentrated into four programs: Airspace Operations and Safety (AOSP), Advanced Air Vehicles (AAV), Integrated Aviation Systems (IASP),

and Transformative Aeronautical Concepts (TACP). The presentation went into detail about these programs, and especially those that addressed rotary-wing and eVTOL/UAM vertical flight.

The conference featured some fascinating presentations ranging from the T901 improved turbine engine to hybrid-electric propulsion designs. The remainder of the program was quite varied and featured subjects such as gears, lithium-sulfur batteries, hybrid-electric propulsion systems, magnets and motors. The technologies discussed apply to Future Vertical Lift (FVL) aircraft, conventional helicopters, and eVTOL/UAM. Presentations provided were from companies ranging from Sikorsky, Pratt & Whitney and GE Aviation to organizations such as NASA, Penn State and the University of Maryland, along with newcomers Unmanned Propulsion Development, New Centerline Design and Polarix. All of the presentations are available for purchase and download from the VFS Vertical Flight Library — go to the event page at www.vtol.org/propulsion.

The conference also showcased four exhibitors: Unmanned Propulsion Development, Blainjett Aviation, Calspan and GE Aviation.

The VFS Hampton Roads Chapter arranged for the conference attendees to enjoy a delectable barbeque dinner and opportunity to network over the fantastic brews at the Oozlefinch Craft Brewery on historic Fort Monroe.

Plan now to attend the Chapter’s 2020 meeting next October. It’s time for the biennial Helicopter Military Operations Technology (HELMOT) conference. Details will be posted on the VFS website in early 2020.

