



Virginia Unmanned Stakeholder Update



CIT Announces New President

The Herndon-based Center for Innovative Technology (CIT) announced Friday it has promoted former state Secretary of Commerce and Trade Robert J. "Bob" Stolle as its new president and CEO, replacing Ed Albrigo.

A not-for-profit corporation created in 1985 by the Virginia General Assembly, CIT functions as the state government's economic development organization for the technology sector.

"Ed has had a transformational impact on CIT and the Virginia innovation ecosystem, from launching new innovative programs in technology and industry areas critical to Virginia, to launching the Virginia Founders Fund to ensuring that Virginia companies continued to receive over \$4 million in vital funding during COVID through [the Commonwealth Research Commercialization Fund], GAP, Smart Communities and Unmanned Systems programs," CIT Board Chairman Michael Steed, founder and managing partner of Paladin Capital Group, said in a statement.

Stolle was most recently CIT's senior vice president of policy and regional initiatives and the head of its entrepreneurial ecosystems division.

"Virginia's entrepreneurship community has grown tremendously during Ed Albrigo's tenure at CIT, and we are grateful for his dedicated service to our commonwealth," Gov. Ralph Northam said in a statement. "I am pleased to welcome Bob Stolle to lead the agency and its efforts to advance our innovation economy.³

Stolle, who served as secretary of commerce and trade under former Gov. George Allen, today serves on the GO Virginia Guideline Workgroup and is on the executive committee of the University-Based Economic Developers, the GENEDGE Alliance and is on the board of eight regional technology councils in Virginia. MORE...

Virginia UAS #1 AGAIN!

The Virginia Department of Aviation (DOAV) and Center for Innovative Technology (CIT) today announced the launch of the Virginia Flight Information Exchange pilot program, a tool that will allow state and local governments to share information among unmanned aerial systems (UAS) stakeholders and address key safety and policy concerns while keeping the airspace open, secure, and integrated with Federal Aviation Administration (FAA) control of the national airspace. Virginia Flight Information Exchange will ensure the Commonwealth balances both the safest and most open UAS airspace in the country.

FLIGHT INFORMATION EXCHANGE

The Virginia Flight Information Exchange is a platform for state and local government agencies to publish and share advisory information with each other, UAS Service Suppliers (USS), unmanned system operators, and the public to promote transparency and public safety. The pilot program will evaluate the benefits of information sharing, inform thoughtful regulation, and demonstrate a state-supported approach to UAS communications and coordination.

The pilot program was developed through a public-private collaboration with the Virginia DOAV, CIT and its Virginia Unmanned Systems Center, the Virginia Department of Transportation (VDOT), and Advanced Technology Applications (ATA), a leading data science and engineering company in Northern Virginia. MORE ...

Unmanned Aerial S<u>ystems</u>

NORTH CAROLINA

NORTH DAKOTA

CALIFORNIA

9 NEW MEXICO

VIRGINIA

NEW YORK NEVADA

TEXAS

8 KANSAS

10 ALASKA

Virginia UAS #1 AGAIN!



XPONENTIAL 2020 Goes Virtual

AUVSI XPONENTIAL 2020 will now take place as a virtual event from October 5 – 8. While it was our hope that the fall would bring about a safe opportunity for our community to engage in-person in Dallas, COVID-19 has made clear the need for a safe alternative.

Although we are disappointed that we won't have the opportunity to greet you in person in the Virginia Pavilion, we are excited to fully engage with you through the AUVSI's immersive virtual event platform.

The AUVSI event will feature our own Mark Blanks, from the Mid-Atlantic Aviation partnership at Virginia Tech, as a Keynote speaker and a presentation from the Virginia Flight Information Exchange as a featured part of the program this year. The Virginia Virtual Pavilion will also be feature an opportunity to connect with our 19 Virginia Pavilion Sponsors



Cybersecurity Leaders

VIRGINIA

TEXAS MARYLAND

COLORADO

LOUISIANA NEW YORK

CALIFORNIA

MICHIGAN

GEORGIA

6

8

10 UTAH



Digital Infrastructure

VIRGINIA

TEXAS ARIZONA

ILLINOIS

WASHINGTON

CALIFORNIA

MARYLAND

COLORADO

10 NEW YORK

NEVADA 5

4

8



"Virginia is #1 State for Unmanned Aerial Systems Business" -Business Facilities Magazine

DRONERESPONDERS is also a finalist for the AUVSI Public Safety Award.

DRONERESPONDERS

What Have We Been Doing?

DRONERESPONDERS, a partner with the Virginia Unmanned Systems Center at CIT, has been busy with several UAS initiatives related to Virginia.

The Tactical BVLOS Waiver just released for public safety was a collaborative effort by multiple departments, specific to Virginia. Chief Chris Sadler with *York County Fire & Rescue* and DRONERESPONDERS played a pivotal role in this achievement which will allow public safety agencies to fly BVLOS during extremely dangerous missions to safeguard lives. DRONERESPONDERS also created a TBVLOS Request Template and can be accessed on the website.

DRONERESPONDERS has been and continues to work with Virginia FIX which will allow local, state, and public safety to publish UAS advisories based on specific activity.

York County Fire & Rescue, DRONERESPONDERS and CIT Unmanned Systems also participated on a work group to develop the first phase of a public safety UAS CONOPS Template which will serve as a guide for other agencies to create their own.



droneUp 💵 a

Operation Last Mile

DroneUp recently partnered with Virginia's Center for Innovative Technology (CIT) in tests designed to determine how unmanned aerial systems can assist with critical delivery during times of crisis under the Federal Aviation Administration's (FAA) Part 107 regulations.

The test participants conducted exercises from April 6 through April 9, 2020, on the vacant campus of St. Paul's College, in Lawrenceville, Virginia. The Brunswick County facility, which closed to the public in 2013, provided a safe, complex community environment to test package deliveries by drones under the FAA's Part 107 regulations.

The exercises focused on delivery to residential and commercial areas with the aim of determining safe operational capacities, airspace deconfliction, operator safety, processes, policies, and training necessary to conduct delivery operations during the day and during the night.

Tom Walker, DroneUp's CEO stated, "DroneUp's drone delivery exercise was aimed at learning what is possible to do safely and effectively today while gathering data to overcome seemingly impossible obstacles in the near future."

Data collected for the report determined how Part 107 Remote Pilot Operators can effectively supplement emergency response and critical care. The findings and recommendations are included in a report where government and industry leaders are considering what role drones will play in delivery and crisis response. *MORE...*

Land

Roadside Assistance Reinvented Urgent.ly

Urgently, the leading Global Mobility and Roadside Assistance Platform, is based in Vienna, Virginia. The Company sits at the center of expanding mobility and transportation options for consumers, automotive, logistics and technology companies, including drones, autonomous vehicles and electric vehicles.

Urgently delivers advanced, innovative assistance services for distressed mobility assets through a seamless, end-to-end digital platform, viewable in real time by every stakeholder associated with an assistance service event. The Urgently platform is the choice of leading global brands trusted by millions of consumers across automotive, insurance, telematics and new technology transportation companies in North America, Europe, Asia and Australia.

Urgently, ranks No. 6 on the 2019 Deloitte Technology Fast 500 fastest-growing tech-forward companies in North America, No. 10 on Financial Times' FT Ranking of The Americas' Fastest-Growing Companies, and No. 12 on the 2019 Inc. 5000 list of fastest-growing private companies in the US. CIT Gap Funds is an investor in Urgently which was founded in 2013.



Air

VR Drone Simulator Drone Aerospace Management

Drone Airspace Management (DAM) delivers a 360° immersive Virtual Reality (VR) simulator tool to customers for efficient, effective drone pilot training.

DAM is on the forefront of creating a qualified, industry-relevant drone pilot labor pool through our proprietary, immersive digital platform. We create work-based learning and training with drone technology, including through our immersive, VR drone simulator. Our expertise allows us to work with industry and understand its needs in drone technology and workforce training. We also connect with industry to distill best practices and SOPs to create relevant training content to build and improve drone pilot skills.



We offer new pilots "Free Flight" mode to adapt to the real world, real-time flight We help experienced pilots train on obstacles, agility & inspection missions.



"The Future of Unmanned Systems in Virginia is Bright." - Gov. Ralph Northam

Sea

Aero-Marine Hybrid Technology The Flying Ship Company

The Flying Ship Company LLC in Leesburg, Virginia is developing unmanned wing-in-ground effect logistics vessels. They call these patent-pending green-tech drones "Flying Ships." These innovative vessels will be significantly faster than current modes of surface transport (e.g., ships, trucks and trains) and much less expensive to operate than aircraft. Moreover, Flying Ships will burn less fossil fuel than alternative vehicles, reducing CO2 emissions by as much as 25%. In due course, Flying Ships will be a better alternative in many ways for customers that require inexpensive, overnight shipping along coastal areas and navigable waterways.

Currently, The Flying Ship Company is assessing the business case with major logistics firms and they are collaborating with regulators to ensure that Flying Ships are classified as boats, not aircraft.

The Flying Ship Company has developed a seven-foot flying demonstrator. Their engineering team is moving to the next phase to build a prototype test vehicle to optimize the configuration for operations in turbulent waters.







You Should Hear What We've Been Up To!

The Virginia Unmanned Systems Center at CIT Speakers Bureau is ready to serve you and your organization. We represent a diverse group of industry and agency experts who are prepared to volunteer their time speaking on a wide range of topics relating to the innovation, development and use of Unmanned Systems: The Virginia Unmanned Systems Center's Speakers Bureau is dedicated to connecting communities, groups and organizations with industry experts in all domains: Land, Air, Sea and Space.

CIT Director Tracy Tynan and other distinguished members of the Speakers Bureau will be speaking at the following scheduled events:

• RichTech, August 26th

• Technology takes the Wheel series with VCU and AAA, Quarterly in 2021

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Technology Takes the Wheel

The Technology Takes the Wheel Speaker Series was launched February 2018 in a new partnership with the University of Toledo, College of Engineering -- inspired by the highly successful "Who's in the Driver's Seat? The Transformation of Transportation" TEDx Wilmington (Delaware) event hosted by AAA Club Alliance in 2017.

Sharing a common interest in the rapid development of autonomous vehicle technology and the future impact on society, business and government, AAA and academic partners in our club territory are developing partnerships to provide an educational forum with broad appeal. The goal is a speaker series that would be of interest to the average curious community members as well as those with a greater understanding of AV technology.

AAA's development of the Speaker Series was driven by a "void of voice" among local government and transportation stakeholders in planning for emerging connected and autonomous vehicle technology and its implications for personal transportation and community mobility.

We want to inform and engage a myriad of audiences in learning more about autonomous vehicle technology and its impact on mobility and widespread implications for the public and private sectors in the local community where they live, work and play.



UAS Workforce

With funding support from GO Virginia and in partnership with the Richard Bland College of William & Mary, the Virginia Space Grant Consortium, Virginia Tech, and the Virginia Unmanned Systems Center at the Center for Innovative Technology recently conducted an Unmanned Aircraft Systems Workforce Survey to inform future workforce development and education programs to train the UAS workforce.

Richard Bland College's Chief Development Officer Tyler Hart stated, "At Richard Bland College we strive to be industry focused and data driven, the data collected from this survey is invaluable and will shape the development of credentials to help meet the training needs of the region and the state."

The survey was completed by employers and organizations from throughout the entire Commonwealth of Virginia. It was administered and developed by Magnolia Consulting, an independent research firm. Data was collected between April and May 2020. *MORE...*

CIT Announces CRCF FY20 Awards

Commonwealth Research Commercialization Fund, or CRCF, announced its FY2020 award recipients in June, and the unmanned industry was very well represented! After a competitive process, seven organizations from across Virginia received grants to accelerate development and market-readiness of their high-potential unmanned technologies. CRCF and its successor program, the Commonwealth Commercialization Fund (CCF), advance science- and technology-based efforts to drive economic growth in Virginia in strategically important areas. CIT is now planning the first CCF round, and those interested in learning more can sign up for announcements *HERE* and explore the latest information *HERE*.



Stay tuned to the next newsletter for more on the solicitation and to learn more about the cool work Virginia companies and universities are doing to grow the unmanned systems industry!

CIT | CRCF FY20 Unmanned Awardees

Cowden Technologies, LLC | *Mr. Mickey Cowden* A Smart Docking Station for Drones, \$75,000, Unmanned Systems, Blacksburg

Eksdyne Inc. | *Mr. Joshua Eckstein* A Magnetohydrodynamic Actuator System for Robotics, \$74,915, Unmanned Systems, Blacksburg

Micro Harmonics Corporation Ms. Diane Kees

Cryogenic Isolators for High-Frequency Ship Radar and Drone Inspection Systems, \$75,000, Unmanned Systems, Fincastle

SCOUT Inc. | Mr. Sergio Gallucci

Demonstrating Small Satellite Technology to Enable Satellite Health Inspections in Geostationary Orbit, \$74,816, Unmanned Systems, Alexandria Sentinel Robotic Solutions, LLC | *Mr. John Robinson* Sentinel Aerium: American-Made Class I UAS with Disruptive Flight Endurance Technology, \$75,000, Unmanned Systems, Wallops Island

Service Robotics & Technologies | Dr. Gregory Scott A Software Command Center for Scheduling and Optimizing Robots and Humans in Smart Buildings, \$75,000, Unmanned Systems, Springfield

University of Virginia | *Dr. Xi Yang* Novel Automated System to Measure Plant Health,

\$150,000, Unmanned Systems, Charlottesville



"The Future of Unmanned Systems in Virginia is Bright." - Gov. Ralph Northam

C2IAS

C2IAS Call for Year Two Projects

The *Commonwealth Center for Innovation in Autonomous Systems (C2IAS),* acollaborative effort of Virginia Tech (VT) and Old Dominion University (ODU), was established through the Virginia Research Investment Fund to provide pre-seed funding to accelerate the transition and commercialization of autonomous systems technology into the marketplace. Five \$50,000 projects were awarded in calendar year 2020 to ventures within the universities or teams of small businesses partnered with university researchers. In calendar year 2021, we expect to fund between eight and ten projects at \$50,000 each.

Proposers should feel free to contact the program points of contact to discuss project selection or development and to connect with faculty members for potential collaboration.

For any questions or assistance, please contact Jon Greene greenej@vt.edu or Yiannis Papelis@odu.edu. *Click here for more information*.



VA UxS Visits Continue...



MI Technical Solutions Virginia Beach, Virginia

Unmanned Systems Center Director, Tracy Tynan continues her tour of Virginia's uxs companies.

Pictured left is Tracy Tynan with *MI Technical Solutions*, CEO, Michael Ihrig and their unmanned maritime submarine project MITS-FISH-007.

If you have an unmanned systems project or facility you would like featured, please contact Tracy.Tynan@cit.org

Guest Editorial

VA-FIX EDITORIAL Jay Willmott, Nexutech, LLC, President



Friends, I am honored to launch this new column in our Stakeholder's Newsletter. Readers are encouraged to contribute their musings for future editions! Conciseness and brevity are valued, so please try to limit submissions to ~500 words.

I am now well into my fourth decade in the unmanned aviation industry. I have witnessed the nomenclatures change from RPV to UAV, UAS and now drones. Our industry has adapted from explaining what UAS technology is, to now having to defend it from those who view it as something it is not. Education has always been a critical aspect of our industry's growth, but a lot of work yet remains to inform and educate policymakers and the public about the benefits that UxS offer our Commonwealth. For example: many lawmakers do not realize that these new technologies are covered by existing laws. It seems reasonable that if new laws must be created, as many industry stakeholders as possible should be engaged in the effort to ensure multiple interests are represented as well as balanced, in a fair and transparent process. Accomplishing that requires engagement and communication, and compromise is often necessary to find an acceptable middle ground, for all concerned.

Currently, I chair the Virginia Aviation Business Association's (VABA) Legislative Committee. At the close of the 2018/19 General Assembly, VABA realized there was much frustration among Virginia community leaders about HB638, a Virginia law that had effectively prevented regulation of drone use on public lands. This issue had been a topic of much discussion within the Department of Aviation's (DOAV) UAS Working Group, of which both CIT and ATA, LLC are members. That spring, ATA's leadership (Craig Parisot and John Eberhardt) approached DOAV and CIT about their concept for a software tool to help improve communications between public agencies and drone users. In short, ATA was proposing to create a mechanism for communities to proactively engage drone operators, and thereby de-conflict time and place concerns. In ATA's vision, the ideal solution could be owned and hosted by the Commonwealth, and work interactively with existing FAA portals using an app to let communities and public safety agencies share informational advisories at -zero- cost to the public. It would be developed as an experiment, and participation would be completely voluntary. Coined "Virginia Flight Information eXchange" (nicknamed VA-FIX), it could be launched prior to the 2019/20 session of the General Assembly, so that our legislators might view favorably the progress Virginia's drone industry was making toward assuaging community concerns. In concept, ATA's objective was to avoid "drone bans" by establishing acceptable middle ground via information sharing and cooperative scheduling; with a bit of luck, development of the new tool might just stave off new (and potentially more restrictive) drone laws, CIT Unmanned Systems Director Tracy Tynan was interested in the idea, and CIT decided to help fund the initiative as one of its "Pilot Projects", conceived to help state agencies adopt unmanned systems in their work.

That summer, the project began to take shape as a Virginia multi-agency initiative, allowing funding to be pooled and enabling input from prospective users to be gathered and incorporated into the eventual solution. CIT led discussions with Shawn Talmadge, Assistant Secretary for the Virginia Department of Public Safety and Homeland Security, as well as Cathy McGhee, Director of Research and

Innovation at the Virginia Department of Transportation. Both agencies were supportive of the idea, and saw the potential for information sharing between agencies. Former Charlottesville Fire Chief (Emeritus) Charles Werner, a longtime drone proponent for the Virginia Department of Emergency Management (and also Director of Virginia-based DroneResponders.org), was instrumental in recruiting numerous public safety operators to a VA-FIX user group which quickly grew. By late 2019, VA-FIX was fully funded, and ATA was awarded a contract by CIT. DOAV's Manager of Aviation Technology, Dr. Amber Wilson now leads the project. She has authored a white paper detailing the program, and has made numerous guest appearances to discuss VA-FIX at the request of drone advocacy organizations around the country.

The Virginia Flight Information eXchange pilot was launched a few weeks ago and is being tested to facilitate communication between public agencies, municipalities and drone users, as they work to collaborate around shared facility utilization. It is a first-of-its-kind public information system that has been widely acclaimed by the VA-FIX user group and interested parties from other states with similar needs. The VA-FIX is a triumph of interagency cooperation, and a credit to the bold and visionary leaders who saw an opportunity to do something about a problem that affects the acceptance and growth of unmanned systems. We as an industry must acknowledge community concerns and work to find acceptable middle ground. Every industry operates with commonly-accepted guidelines; determining what is reasonable requires collaboration and communication among all of the affected stakeholders, with a touch of courage, and a dose of level-headedness.

Jay Willmott is a veteran of the small UAS industry and a past President of AUVSI's Washington D.C. and Hampton Roads Chapters. He currently supports CIT's Virginia Unmanned Systems Center as UxS SME.

