

PROJECT BACKGROUND

Over the past several years, Small Unmanned Aircraft Systems (sUAS), commonly known as drones, have become very popular. These small aircraft are remote controlled and are equipped with cameras that provide the controller a birdseye view of wherever the drone flies. Drones can fly anywhere from just above ground level up to thousands of feet off the ground¹, and their small size makes them extremely difficult to see, either with the naked eye or with conventional radars.

As the number of drones increased dramatically and their capabilities significantly improved, Department of Homeland Security (DHS) components began to see nefarious actors using drones to carry dangerous payloads, smuggle contraband, or conduct illicit surveillance.

Recognizing the potential harm drones could cause, Congress provided select federal agencies with legal authorities to address this emerging challenge. The Emerging Threats Act was enacted in 2018 and provided DHS with new authorities to detect, identify, monitor, track, disrupt control, seize, or disable drones that present a threat.²

PROGRAM GOALS

The S&T C-UAS program aims to advise DHS components on the performance and capabilities of state-of-the-art technology solutions in the C-UAS space. This includes identifying, integrating, and testing technologies that offer quick reaction capability against urgent needs. S&T seeks to transition capabilities to DHS components that support authorized C-UAS missions by researching, developing, testing, and evaluating various C-UAS technologies against their requirements, as well as to work with state, local, tribal and territorial agencies and organizations to understand the threat and possible response options.

RICHMOND AS A C-UAS TESTBED

To establish organizational processes and identify which C-UAS systems DHS components should purchase, DHS has established multiple testbeds that represent a wide range of operational environments. Richmond, Virginia was chosen as a

testbed due to its dense urban terrain and environment, which can present technological challenges to C-UAS systems. Additionally, existing State and City programs, such as Virginia's Department of Aviation's (DOAV's) work in drone traffic management, make Richmond an ideal DHS Science and Technology Directorate (S&T) testbed location. DHS S&T will execute its first test in July 2022 and periodically conduct tests over the next two years.

Tests conducted at the Richmond test site are solely focused on evaluating C-UAS systems against test drones and will not intentionally collect or retain data on non-test drones. Additional information about DHS S&T's commitment to respecting privacy may be found in DHS's C-UAS [Privacy Impact Assessment](#) (DHS Reference No. DHS/ALL/PIA-085). Also, all drone test flights are conducted by professional pilots who are insured and Federal Aviation Administration Part 107 certified.

MISSION IMPACT

This testbed will assist DHS components, State, and City agencies in defending the nation by providing research, development, test, and evaluation of C-UAS technologies.

PERFORMERS AND PARTNERS

The Richmond C-UAS testbed is a collaboration of DHS S&T, the Commonwealth of Virginia, the Virginia Innovation Partnership Corporation, and the City of Richmond.



¹ Although capable of flying thousands of feet above the ground, drones are prohibited by the Federal Aviation Administration from flying over 400 feet above the ground/structures without special approval (<https://www.faa.gov/newsroom/small-unmanned-aircraft-systems-uas-regulations-part-107>).

² DHS' C-UAS authorities can be found here: https://www.dhs.gov/sites/default/files/publications/dhs_cuas-legal-authorities_fact-sheet_190506-508.pdf