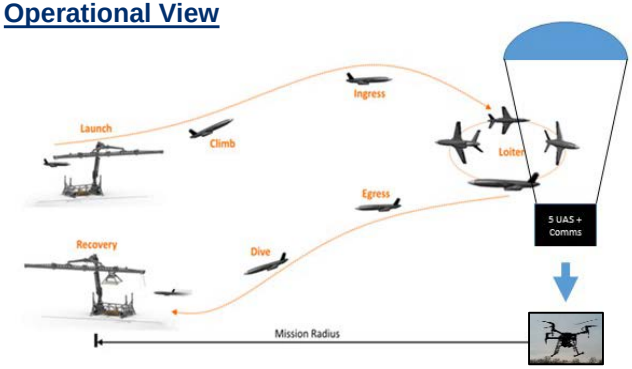
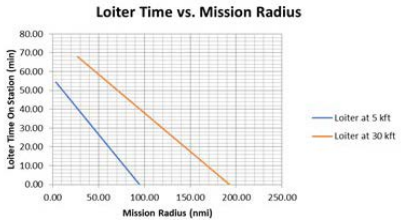
Low-Cost COTS-Based VTOL-UAS for Deep CBRN Sensing Missions

Distribution Statement: A

Operational View





Projected Operational and Performance Capabilities

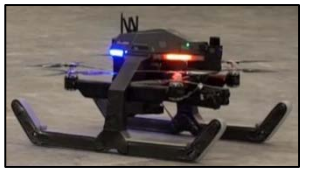
- Low-cost COTS-based VTOL-UAS militarized by adapting and optimizing for ISR and sensing capabilities, and then employed within an autonomous, stealthy swarm construct could be comparable to nature by the effects of one bee versus a bee swarm. Two examples:
- Drones flying nap-of-the earth and each carrying a suite of ISR and CBRN sensors arrive upon a sensitive site undetected, conduct ISR and on order, enter and conduct close-in CBRN sensing and detailed imaging of the site.
- Drones released from a Jet-powered UAS or submersible, and flying just over wave-tops, arrive and conduct low-altitude/low-speed ISR of a beachhead and on order, conduct CBRN sensing and detailed imaging of a sensitive site in support of a forcible entry or humanitarian operation.

There is potential for an effective Sensing Circular Error Probable (S-CEP) of perhaps 1 foot at 100+ miles range.

Operational and Technical Approach

- Under A2/AD conditions, a group of VTOL-UAS drones are delivered OTH and fly nap-of-the earth carrying ISR and CBRN sensors.
- They conduct ISR and on order, conduct entry into a sensitive site for CBRN sensing in support of a forcible entry or humanitarian operation.
- These are relatively low-cost, adapted COTS-based VTOL-UAS that can image an operating area and then precisely inject CBRN sensors into the space.
- This approach leverages and builds using adapted commercial parts to keep pricing within an “expendable” range.
- Target sub-$20K price point per (naked) aircraft at the prototype stage.
- The UAS carries selectable CBRN sensors as part of removable landing legs.
- The approach uses GFE sensors with Dedicated Radios and SATCOM.
- Leverage AFRL/DTRA/SOCOM “Lethal Doormat” Lessons Learned.

Key Elements



Small GFE CBRN Sensors

Our Team

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