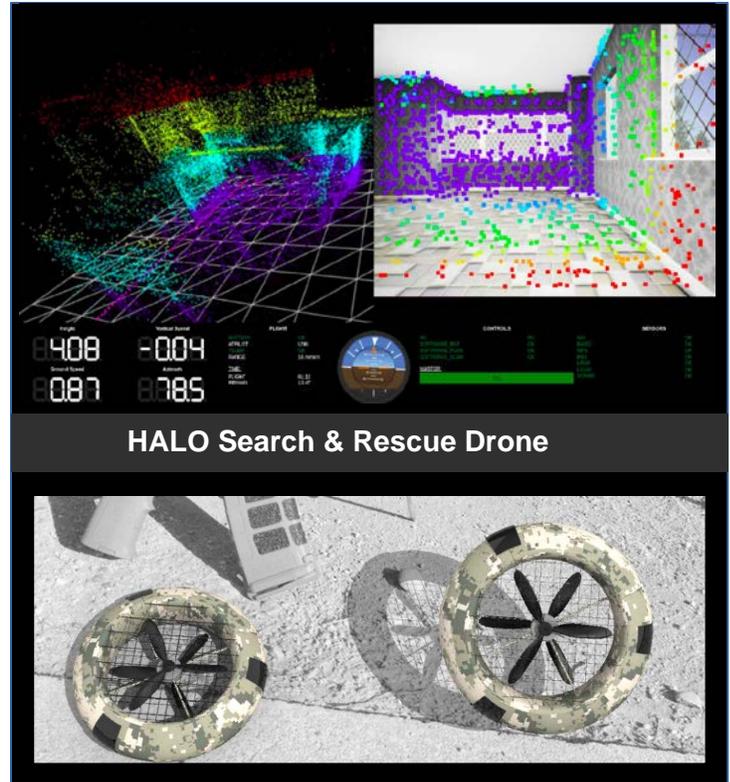# Third Insight | ECHO

Software that Enables Autonomous Search & Rescue UAVs

ECHO: CAPABILITY DESCRIPTION

ECHO is a plug-and-play software platform that gives commercial, off-the-shelf (COTS) unmanned aerial vehicles (UAV) the ability to navigate autonomously in GPS-denied environments, while providing real-time 3D imaging and intelligent support to field agents and remote operating centers.

- Streams real-time, 3D photo-realistic models to remote operators

- Person and/or facial recognition to identify and track targets of interest

- Thermal and optical imaging to identify signs of life

- Optimized for One Engineering & Third Insight's HALO UAV

- Works with multiple commercial, off-the-shelf UAVs

HALO Search & Rescue Drone

MISSION-RELATED USE CASES

Current Search & Rescue UAVs require an experienced pilot for maneuvering and inspection, which limits their use at scale. Third Insight's ECHO platform enables a single operator to manage multiple autonomous drones for a variety of missions and use cases.

ECHO drones can be tasked with 3D mapping, identifying signs of life, or tracking targets of interest through buildings and cluttered, outdoor spaces. Drones may work individually, as a SWARM, or teamed with field agents.

PRODUCT SPECIFICATIONS

- Semi- and fully-autonomous flight indoors and in GPS-denied environments

- Utilizes passive optical and infrared imaging for day / night activities

- Encrypted communications, potential for DoD Cyber Security compliance

- Autonomous missions driven by high-level tasking rather than direct piloting

- Planned integration with Android Tactical Assault Kit (ATAK)

SCITI LABS

Third Insight | ECHO
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ROAD MAP AND MARKET TRACTION

- 2016   Invited to join DHS EMERGE: Wearable Computing
- 2017   Awarded Phase 1 DHS S&T: SCITI Labs Autonomous UAV Program
- 2018   Awarded AFRL SBIR Phase 1 for Autonomous Navigation
- 2018/19   DHS / AFRL / DARPA / MD5 Contracts for 3D Mapping & Drones

SCITI LABS

The SCITI Labs program is a collaboration between the U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T) and its industry partners to develop smart technologies for public safety and related missions. The program focuses on adapting commercially viable products to meet mission needs in three areas:

- **Smart Buildings**, including sensors and communications;
- **Unmanned Aerial Systems** for indoor and outdoor search and rescue; and
- **Mobile SmartHubs**, combining communications & sensors to increase situational awareness

Third Insight is one of the Unmanned Aerial Systems technology performers for SCITI labs.

DHS S&T Contact: SPTechnologyCenter@hq.dhs.gov

For more information on Third Insight, visit: www.thirdinsight.ai

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