



# TAKING EMERGENCY RESPONSE TO THE NEXT LEVEL

A Gulf Coast State College Initiative Funded by Triumph Gulf Coast

# WHAT IS TEMPEST?

## Introduction to the Triumph Gulf Coast Grant

- Hurricane Michael made evident the pressing need to update equipment and personnel training to overcome disastrous events
- GCSC secured a \$5 million Triumph Gulf Coast Grant to support this \$10 million Project with the overall goal to:
  - Acquire satellite mobile unit with appropriate support equipment (serve as communication source)
  - Train and/or certify first responders, EOC personnel, GCSC public safety students, and volunteers
  - Ensure 763 participants take the CAPE and/or CERT courses and are employable
  - Maximize potential of local drone companies that could provide coastal surveillance and minor rescue operations
  - Continue to collaborate with FEMA and other regional partners
  - Continue supporting research and development ventures
  - Support and provide training to citizens in the community
  - Continue to provide/sustain FEMA Business Continuity Training to the community

# WHAT IS TEMPEST?

- The focus of TEMPEST is to service the eight counties disproportionately affected by the Deepwater Horizon Oil Spill (2010) : Bay, Escambia, Franklin, Gulf, Okaloosa, Santa Rose, Walton, and Wakulla
- Four main elements:
  1. Training of first responders, other government employees, military members, and community volunteers on unmanned vehicle system, remote sensing, geographic information system, and communications technologies
  2. Build resilience in the community through the provision of Community Emergency Response Team (CERT) and business continuity training and consultation efforts
  3. Make advanced unmanned vehicle system and C4ISR technologies available for local agency usage
  4. Provide direct supplemental support to state and local governments and non-profit organizations in the affected counties across the full spectrum of emergency and environmental management functions through Emergency Geospatial Response Team (EGRT)

# CORE OPERATIONAL CAPABILITIES

- Geographic Information Systems
- Critical Infrastructure Remote Sensing
- Marine Debris / Evidence Searches
- Incident Assessment & Situational Awareness
- Contingency Communications
- Urban & Wilderness SAR Robotics
- Temporary Flight Restriction (TFR) Monitoring
- Incident Management Team (IMT) Technical Support
- Exercise Support

# RESOURCES

An overview of the hardware and software resources

## Aviation

Skydio X2E  
Censys Sentaero 5  
QS Trinity F90+  
Sensefly eBee

## Marine

EMILY Sonar  
EMILY Rescue  
EdgeTech 4125i  
Outland ROV 1000  
L3Harris IVER 3  
Zodiac RHIB

## Land

SuperDroid Firebot  
SuperDroid Doberman  
SARCOS Guardian S  
Can-AM Side-by-Side

## Support

FLIR Ranger 3D Radar  
Tektronix Analyzer  
C25 Command Center  
C32 Command Center  
ESRI ArcGIS Pro  
ESRI Drone2Map

## Sensors

Orthophotography  
Yellow-Scan LiDAR  
Side-Scan Sonar  
Thermal Cameras  
Multispectral Cameras  
Radar

## Communications

Amateur Band Radio  
Citizens Band Radio  
Aviation Band Radio  
Marine Band Radio  
800 Mhz Radio  
Cellular and Satellite Data Links  
TUV Live Video Links

# SKYDIO X2E COLOR/THERMAL

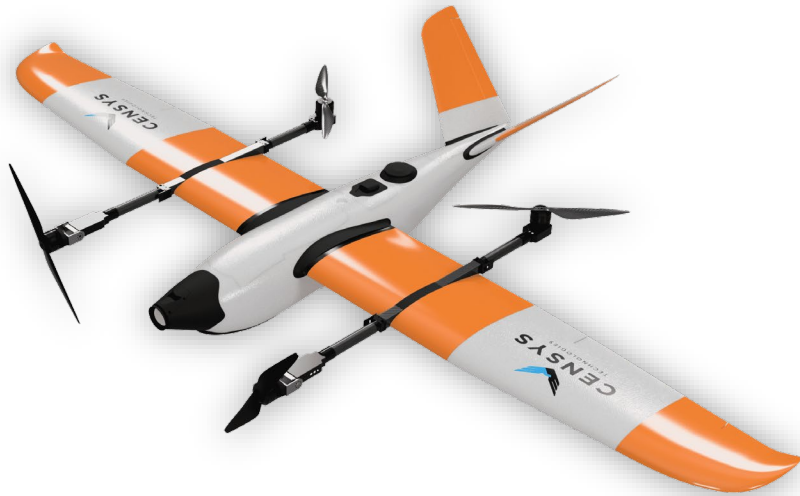
## Multirole sUAS



- AI-driven autonomous flight engine enables 360° obstacle avoidance, autonomous tracking, GPS-denied navigation, and complete workflow automation
- Rugged, portable, and deploys in under 75 seconds
- GPS-based night flight, strobing lights in visible and IR wavelength
- Color camera and thermal sensor

# SENTAERO 5 V2 BVLOS

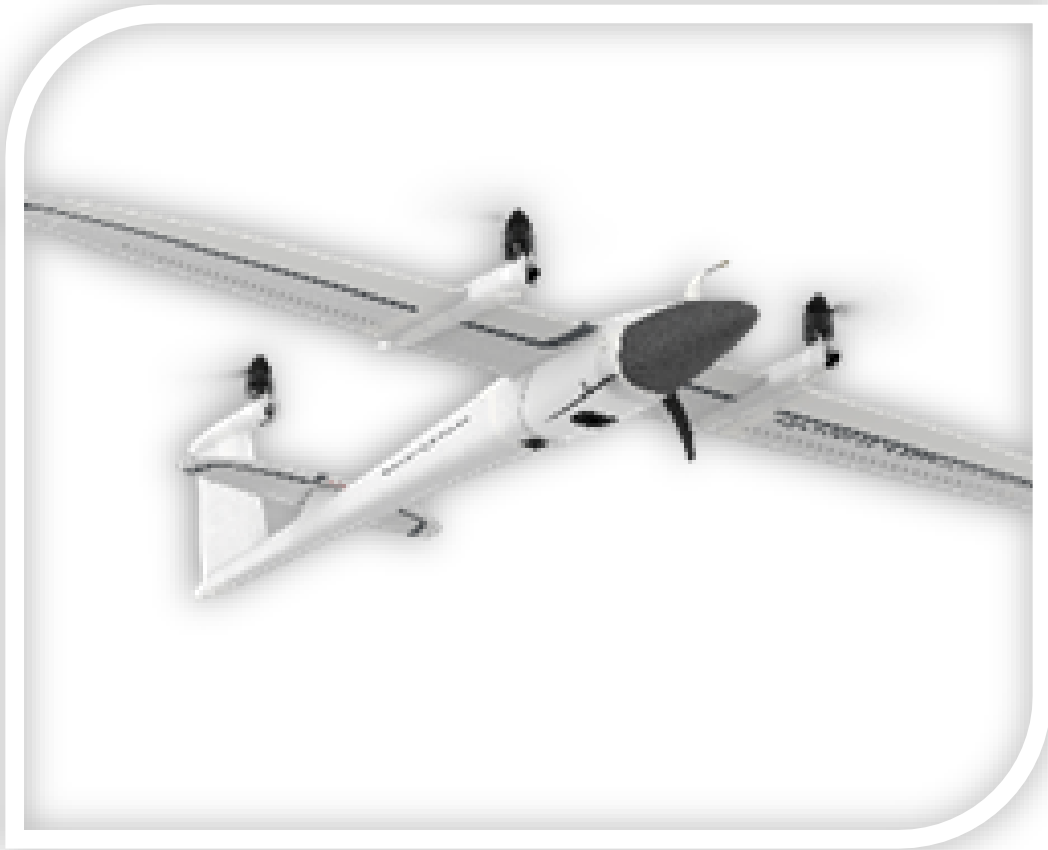
## Long-Range Patrol sUAS



- Capable of beyond visual line of site and vertical takeoff and landing performance
- Uses a single point of communication to cover exponentially more territory than a visual range limited drone
- Long battery endurance (90 minutes) allows for constant presence missions
- Optical and infrared gimballed payloads

# TRINITY F90+

## Long-Range Survey sUAS



- 90 Minute Maximum Flight Time
- Hosts orthophotography & LiDAR sensor payloads
- 3cm Survey Accuracy
- Great tool for updating local floodplains and elevation models



# E.M.I.L.Y (RESCUE & SONAR)

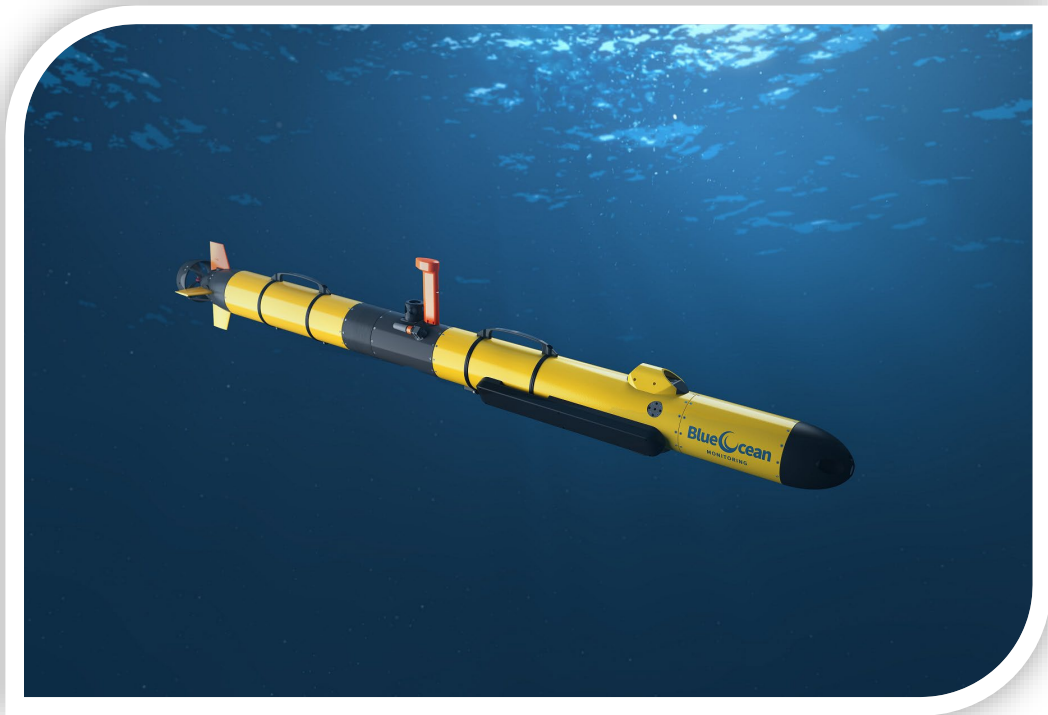
## EMERGENCY INTEGRATED LIFESAVING LANYARD



- Robotic device used for water rescue
- Operates on battery power and by remote control after being dispatched into the water
- Designed from Kevlar and aircraft-grade components
- Propulsion similar to jet ski; travels at 22mph
- Sonar variant performs manually controlled and autonomous survey missions
- Used to locate 100s of objects following Hurricane Ian

# IVER3

## AUTONOMOUS UNDERWATER VEHICLE (AUV)



- Ideal for coastal applications (sensor development, survey work, and sub-surface security)
- Single man portable AUV, featuring point-and-click mission planning
- Offers widest range of world-class sensors and sonar packages

# GUARDIAN S

## REMOTE VISUAL INSPECTION ROBOT



- Carries multiple sensor payloads, providing real-time information while keeping human operator out of harm's way
- Optimized for unstructured, unpredictable environments
- Designed to navigate uneven, challenging terrain and to access small, confined spaces

# C25 & C32 MOBILE COMMAND CENTERS

Connecting the Mission



- Self-Contained Generator Systems
- 40' Tall Camera and Antenna Masts
- Multiband Radio Communications
- TUV Video Transmitters
- Satellite and Cellular Data Links
- Microwave-Based Center to Center Communications
- Control Station Integrations for UVS

# TRAINING AVAILABLE

- [TEMPEST Communications Sign-up](#)
- Course Descriptions
- [Course Registration](#)

# RECEIVING DIRECT SUPPORT

## Memoranda of Agreement – The best way to do it.

- This is the fastest and most efficient way to receive support through equipment loans or the EGRT
- Specifies contact persons, insurance requirements, deployment processes, and cost information
- If your agency or organization is interested in establishing a memoranda of agreement, please contact David Thomasee, GCSC Executive Director of Operations, at [dthomasee@gulfcoast.edu](mailto:dthomasee@gulfcoast.edu)
- In the meantime, please feel free to reach out to A. Michael Shekari, GCSC Director of the Technology Center for Emergency Response, at [ashekari@gulfcoast.edu](mailto:ashekari@gulfcoast.edu) with any questions regarding the TEMPEST project and the EGRT's operational capabilities



# QUESTIONS?

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