Specifications: Tricopter drone, Sensors, and Support must meet the following specifications:

A. Tricopter drone:
1. Must meet US government regulations for procurement of Unmanned Aircraft Systems (UAS/UAV)
2. Small sized, collapsible, and portable for transport in rugged landscapes
3. Powered, medium length retractable landing gear that allows gimbal mounted payloads
4. Pivoting rear yaw-mechanism for better handling and direction change in windy conditions
5. Hovering time: at least 20 minutes with maximum payload
1. 3. Remote ID (for FAA compliance)
6. Ground control station with internal battery that can be changed in-use
7. Payload capacity: 4 lbs or more
8. Operational wind speed at least 25 mph
9. Flight range at least 12 mi
10. Flight time up to 45 minutes
11. Adjustable center of gravity
12. High-capacity AC dual battery charger for rapid in-field charging
13. Minimum of (1) solid state lithium-ion flight battery plus (2) additional batteries for extended flight time
14. Flight controller
15. Tool & hardware kit for maintenance
16. Waterproof transport case w/foam compartments

B. Sensors:
Multispectral
1. 6 band capture: blue, green red, red edge, near-IR
2. Sensor resolution: 1.6MP/MS band, 5.1MP/panchromatic band, 2-cm resolution at 60 m above ground level
3. Multiple high-resolution outputs such as RGB, crop vigor indices, and high resolution panchromatic
4. Light sensor with integrated GPS
5. Removable storage
6. Capture rate: at least 2/second
7. Horizontal field of view: at least 50° (MS) or 44° (PAN)
8. Fixed nadir mounting and integration for drone use
9. Interfaces: at least 3 configurable GPIO
10. Rugged design for remote field use
11. Weatherproof case for secure transport
Visual
1. Rugged design for remote field use
2. Swappable lens capability, minimum of 16mm f/2.8 lens
3. Sensor: at least 24.2 megapixels
4. ISO: 100 – 102,400
5. 0.02 second real-time autofocus
6. Removable storage
7. Geotag logger
8. Weatherproof case for secure transport
9. Fixed nadir mounting and integration for drone use

C. Support:
1. Up to 8-hours of in-person training with the purchased equipment for up to 4 persons.
2. Flight planning and autonomous flight software, with brake mode, return-to-launch and lost-link protection