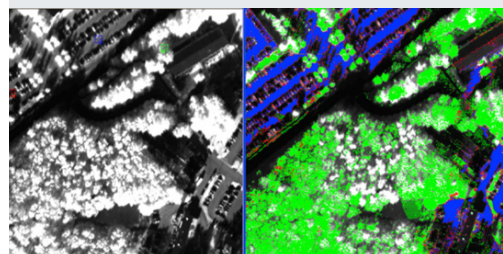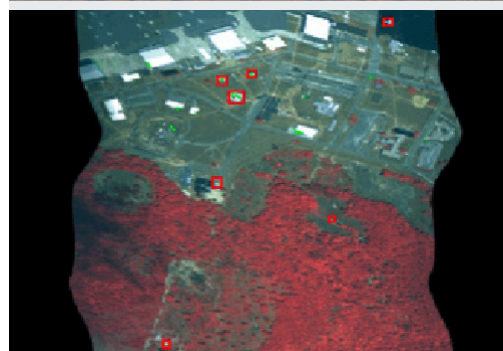Designed for reliability in harsh environments Hyperspec® imaging sensors are built for the unique performance and durability requirements necessary for a wide range of military and defense applications.

Imaging performance is optimized with Headwall's patented, aberration-corrected sensor design which yields exceptional spectral response and spatial resolution. The Hyperspec® and Micro-Hyperspec® imaging instruments are available for a range of deployment platforms including piloted aircraft, unmanned aerial vehicles (UAVs), small satellite systems, as well as unmanned and manned ground vehicles where ISR activities are critical.

The advantages of the Hyperspec® design eliminate aberrations associated with keystone and smile while maintaining imaging performance across a very wide field of view. Within the field of view of the sensor, hyperspectral imaging simultaneously yields precise information for all wavelengths across the complete spectral range available or, for real-time analysis, specific regions or wavelengths of interest. Headwall offers rugged hyperspectral sensors specifically designed for demanding military and defense applications:

• Derive the spectral signature (tag) for every point within the field of view for material classification

• Color render the image scene based on an established library of known spectral signatures or targets

• For real-time analysis or post-processing, generate wavelength-specific criteria for spectral features or targets of interest.

Headwall's products for military and defense applications include high-efficiency versions of its popular Hyperspec® airborne sensors. These sensors use diamond-turned diffractive gratings for highest possible signal throughput (most efficient use of available light). Also available is Hyperspec® RECON...a handheld, field-deployable sensor for the VNIR spectral range that has two-button operational simplicity and real-time target detection. Finally, Headwall's Hyperspec® sensors can be mounted in both *pan-and-tilt* and *point-and-stare* configurations for ground- or vehicle-mounted applications.
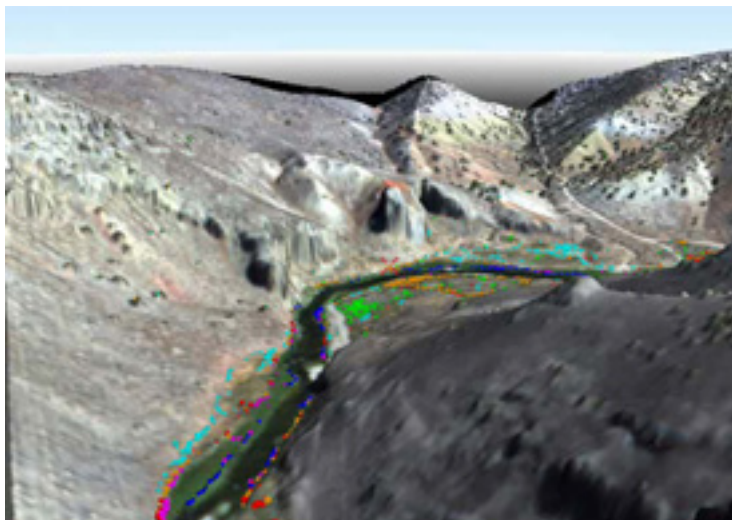
Predator Photo Courtesy of General Atomics

• **Border Security**

• **Reconnaissance & Surveillance**

• **Search & Rescue**

• **Spectral Tagging**

• **Targeting**

• **Toxic/Chemical Analysis**

Headwall is the world's leading manufacturer of hyperspectral imagers (Hyperspec®) for a wide range of industries including remote sensing, advanced machine vision, precision agriculture, and others. The Company also manufactures OEM spectrographs and spectral engines that are exceptionally precise with respect to high spectral and spatial resolution and signal throughput.

The core technology fundamental to these products is the holographic diffraction grating, which Headwall manufactures to exacting dimensions and tolerances and to customer specification. This allows for small and rugged optical imaging instruments that deliver aberration-corrected performance and a very wide field-of-view. Used in Headwall's *concentric-style* imagers along with mirrors, the designs are simple yet elegant and feature no moving parts.

In addition to hyperspectral, Headwall also manufactures Raman imaging instruments that are available in a wide range of laser excitation wavelengths. Raman Explorer and Raman Discovery are very well suited for chemical imaging applications as well as biotechnology and medical applications.

About Headwall Photonics: Headwall is the leading designer and manufacturer of imaging spectrometers and spectral instrumentation for industrial, commercial, and government markets. Headwall's high performance spectrometers, spectral engines, and holographic diffraction gratings have been selected by OEM and end-user customers around the world for use in critical application environments. As a pioneer in advanced, patented optics technology, Headwall enjoys a market-leading position through the design and manufacture of spectral instrumentation that is customized for application-specific performance.

Headwall