For space-based applications, Headwall's family of Hyperspec® imaging sensors offer significant and unique advantages for researchers.

Given the expense and criticality of satellite deployment and space research, application requirements demand a completely reflective sensor design, the highest optical efficiency, aberration-corrected imaging performance, a very wide field of view, and athermalization of the instrument.

Designed for imaging in harsh environments, Headwall's Hyperspec® imaging sensors are customized for high performance imaging in critical space applications while offering proven, light-weight designs.

Imaging performance is optimized with Headwall's patented, aberration-corrected sensor design that eliminates all aberrations associated with keystone and smile while maintaining high resolution and imaging performance across a very wide field of view. Hyperspec sensors are available for a wide range of spectral regions and optimized configurations.

Within the field of view of the sensor, hyperspectral imaging simultaneously yields precise information for all wavelengths across the complete spectral range. For real-time analysis, multiple regions or wavelengths of interest can be selected.
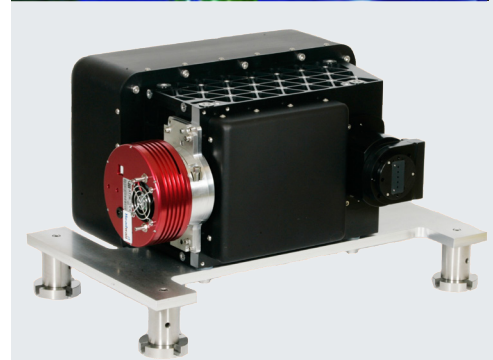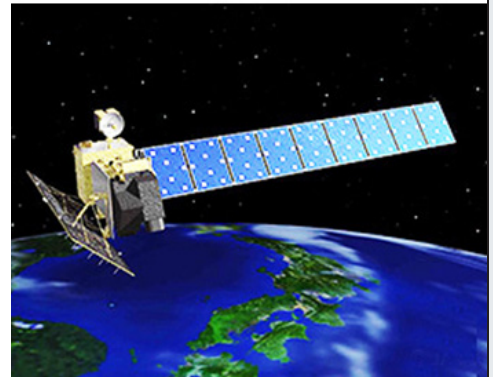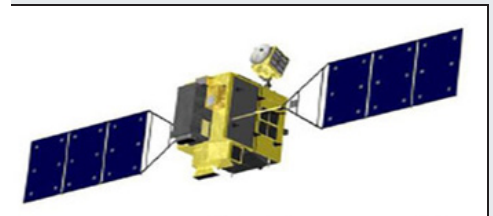
• **Atmospheric Sciences**   • **Environmental Monitoring**   • **Remote Sensing**

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.

Hyperspectral Ranges	
UV-VIS	250-825nm
VNIR	380-1000nm
Extended VNIR	550-1700nm
NIR	900-1700nm
SWIR	950-2500nm
MWIR*	3-5 microns
LWIR*	8-12 microns
*MWIR and LWIR available upon request	

Raman Explorer	
248nm	single input
355nm	single input
532nm	single input
532nm/658nm	dual input
642nm	single input
785nm	single input
785nm	dual input
830nm	single input
Raman Discovery	
532nm	dual input
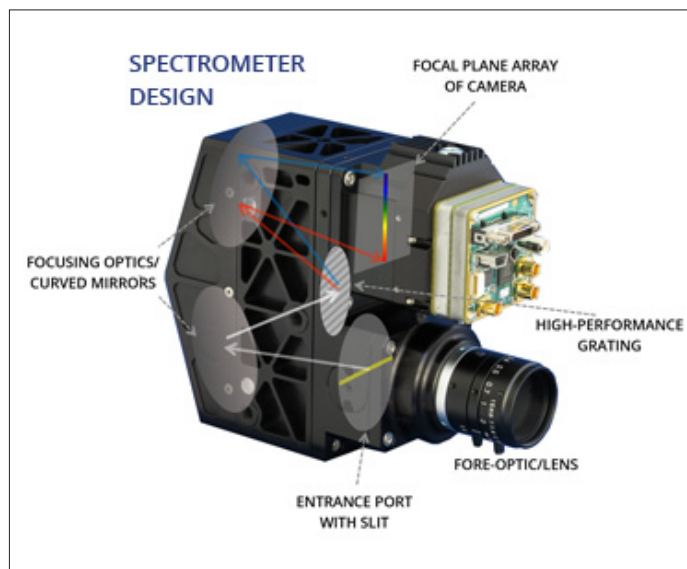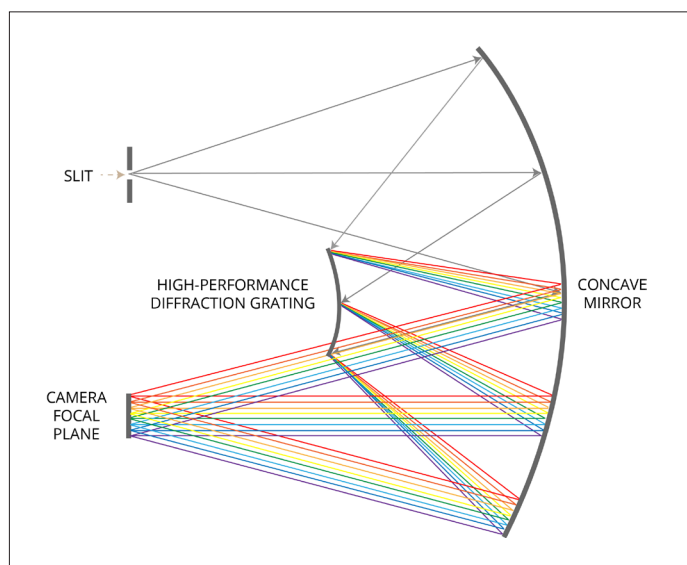
About Headwall Photonics: Headwall is the leading designer and manufacturer of imaging spectrometers and spectral instrumentation for industrial, commercial, and government markets. Headwall's high performance spectrometers, spectral engines, and holographic diffraction gratings have been selected by 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.