

**H**eadwall Photonics 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 worldwide for use in their critical application environments. ISO 9001:2008 certification assures highest quality across product assembly, performance, and processes.

Headwall's core competency is the production of specialized, application-specific holographic diffraction gratings. These light-managing elements are fundamental to the production of multispectral and hyperspectral imaging sensors. These sensors exhibit several characteristics that outpace competitive offerings. First, the aberration-corrected optical performance of these gratings means that the sensors have outstanding spectral and spatial resolution across a wide field of view. Second, the use of gratings means the instruments that contain them are small, light, rugged, and contain no moving parts. Finally, Headwall is able to compress the time between prototype to production thanks to its vertical integration across facilities in the United States and Europe.

Headwall's core technology is the aberration-corrected holographic diffraction grating, which forms the basis for the Company's specialized sensing instruments. Diffractive optics helps bring high-performance spectral analysis--using hyperspectral or Raman--into the field for science and remote sensing, onto the production line for advanced machine vision, and into the laboratory. Headwall's hyperspectral sensors are orbiting the earth in satellites and deployed aboard UAVs and fixed-wing aircraft, providing scientists and research specialists with actionable, precise data within the field of view of the sensor. High spatial and spectral resolution, high signal-to-noise, and tall image slits allow these sensors to collect an incredible amount of remote sensing and reconnaissance information.

Headwall makes spectral sensing easy and affordable to implement. The Hyperspec® *Starter Kit* comprises a spectral sensor, lighting, a moving stage, gantry, and full computer automation so that users can quickly deploy this remarkable technology!

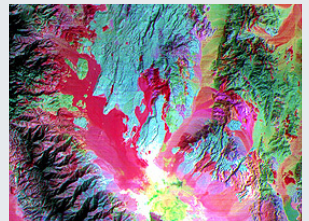
Advanced  
Machine Vision



Food  
Quality



Remote  
Sensing



Precision  
Agriculture



Defense and  
Surveillance



Biotechnology



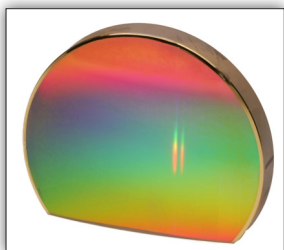
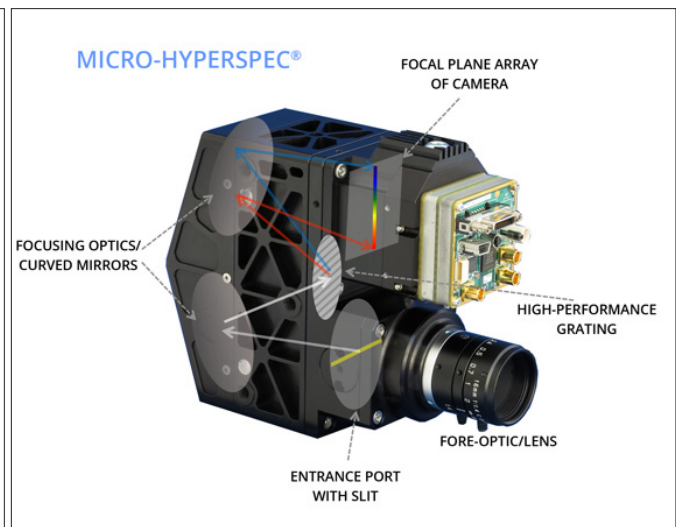
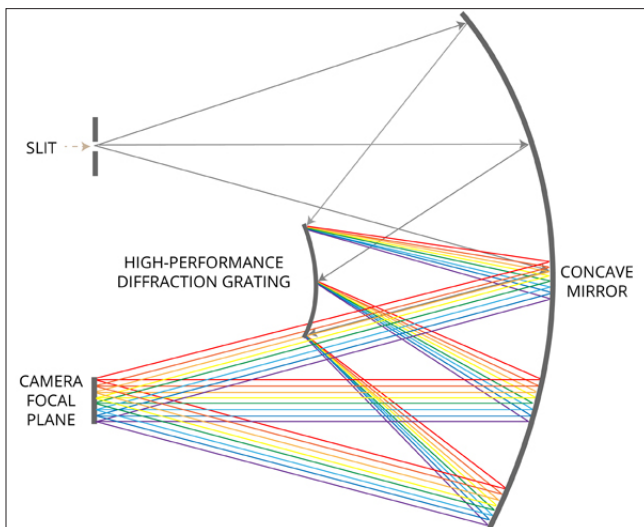
Arts & Antiquities



## Headwall Photonics: Advanced Spectral Instrumentation

Collaborative engineering approach	Rapid prototyping
Highest optical performance	All-original holographic & high-efficiency gratings (no replicates)
High grating efficiency & low stray light	Small form-factor
Environmental stability	Telcordia compliance; ISO9001:2008

### Concentric, Hyperspectral Imaging



Headwall's approach to hyperspectral imaging is elegantly simple and reliable. The design is based on the use of concentric mirrors and high-performance diffraction gratings. The result is high signal-to-noise performance, high spectral and spatial resolution, and a very wide field of view. Because the gratings are application-specific and can be produced in very small sizes, the hyperspectral sensors themselves are very robust, small, and light.

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