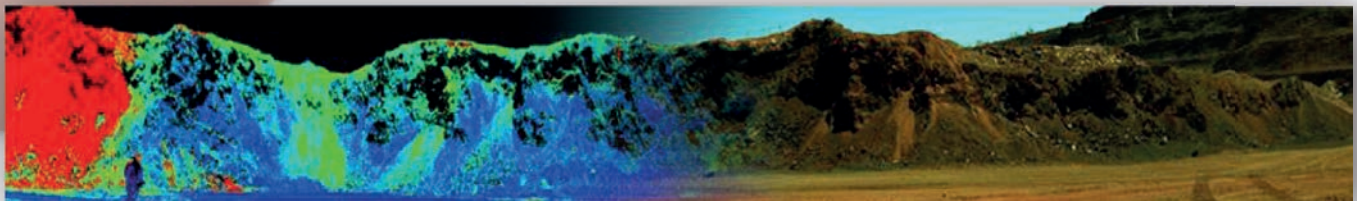
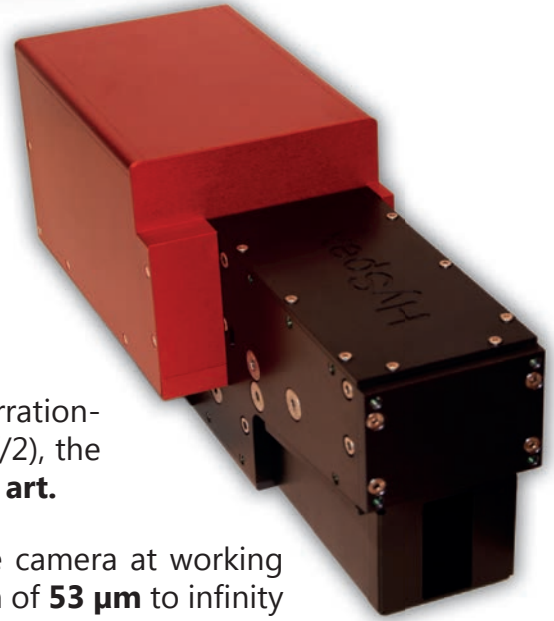


HySpex SWIR-384

The new HySpex SWIR-384 hyperspectral camera from NEO, is developed for **field, laboratory, airborne and industrial applications**. The new state of the art MCT sensor with cooling down to 150K yields low background noise, high dynamic range and **exceptional SNR levels**.

With a max frame rate of **400 fps**, combined with an aberration-corrected optical system with high optical throughput (f/2), the **data quality, speed and sensitivity** is truly **state of the art**.

A wide range of **close-up lenses** allows the use of the camera at working distances ranging from a few cm with a spatial resolution of **53 μm** to infinity for e.g. airborne remote sensing.



Kaolinite abundance map (courtesy: CSIRO, Minerals Down Under Flagship Minerals Down Under Flagship)

Main specifications

Spectral range	930-2500 nm
Spatial pixels	384
Spectral channels	288
Spectral sampling	5.45 nm
FOV*	16°
Pixel FOV across/along*	0.73/0.73 mrad
Bit resolution	16 bit
Noise floor	150 e ⁻
Dynamic range	7500
Peak SNR (at full resolution)	> 1100
Max speed	400 fps
Power consumption	30 W
Dimensions (l-w-h)	38 – 12– 17.5 cm
Weight	5.7 kg

**Can be doubled with FOV expander*

HySpex

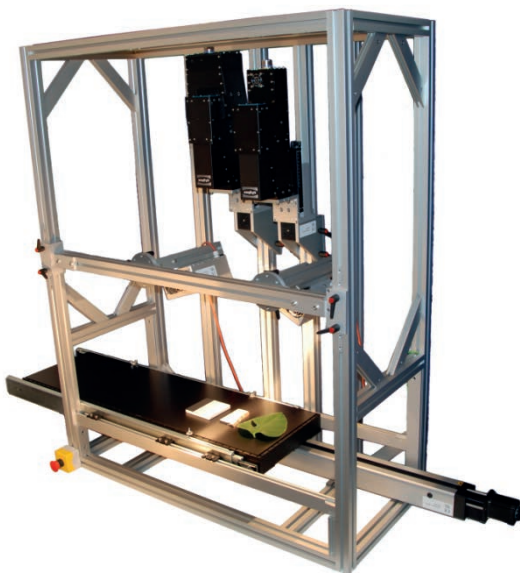
Airborne Applications

High resolution and **high speed**, combined with **low weight and power** consumption, make NEO's HySpex cameras very well suited for airborne data acquisition.

A typical airborne installation consists of the **HySpex cameras** coupled with an **airborne data acquisition unit**, a navigation system (**IMU/GPS**) and a **mounting platform**.

Both **actively stabilized** and **passively damped** mounting platforms can be supplied, as well as standard mounting plates with **no damping**.

IMU/GPS solutions from **leading manufacturers** can be supplied and integrated with the cameras. Alternatively, HySpex systems can be interfaced with the customer's existing navigational hardware.



Laboratory Setup

For lab and field use, a scanning stage is needed to scan the cameras and build the hyperspectral data cube of the scene. A **user friendly table-top lab setup** with translation stage, VNIR-SWIR light sources and close-up lenses can also be supplied for scanning of samples of varying sizes.

The scanning speed is **automatically controlled** by the data acquisition unit, based on the selected lens option. The lab rack includes a camera adjustment platform, to facilitate camera **focus adjustment** when using different close-up lenses.

Field Setup

For **field operations**, NEO supplies a range of high precision rotation stages tailored to fit the number of cameras and the operational scheme. Long-life Li-ion **battery powered** solutions are available for increased **portability**

For **fast and precise scanning** of larger areas, such as a **mine face, outcrop** or **building**, NEO can supply an **automatic pan-tilt scanner**. By inputting the number of degrees and scan lines to scan in both the horizontal and vertical direction, the stage will automatically scan the **pre-programmed area**, ensuring the desired overlap between scan lines.

To ensure **stable and reliable acquisitions** in challenging field conditions, a **rugged, yet portable, tripod** is supplied. NEO supplies a variety of tripods with pan/tilt-heads that will accommodate the payload of the cameras and rotation stage used.

