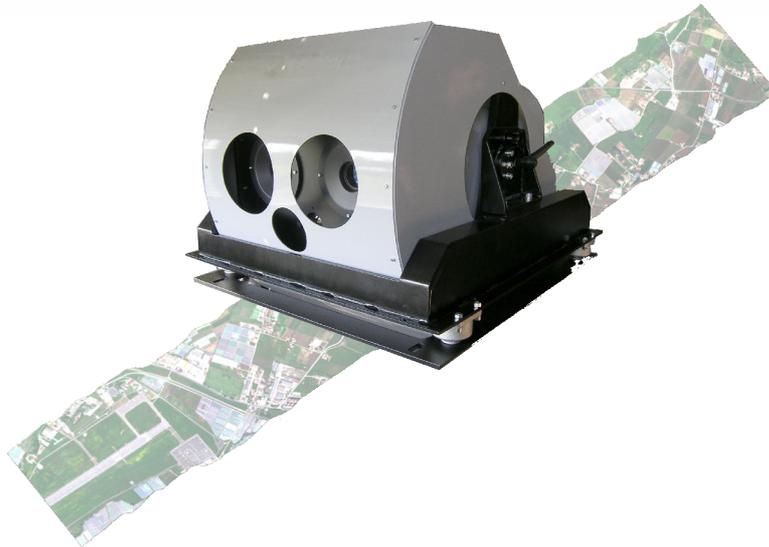
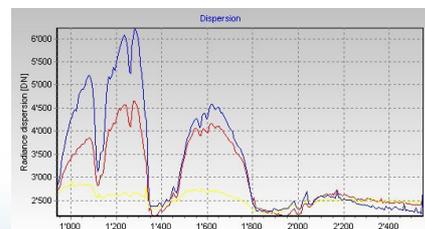
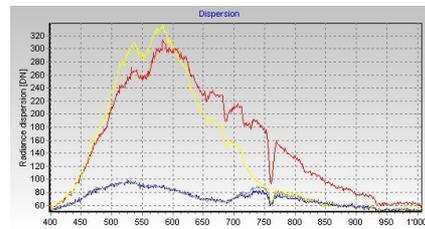
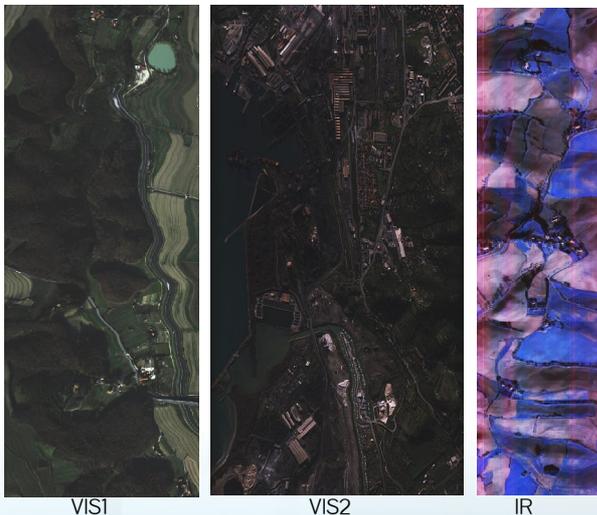


AIRBORNE SYSTEM



DV Airborne system is designed for being used in airborne environments and installed in planes or helicopters. Up to a couple of sensor can be lodged inside the same head (i.e. VNIR and SWIR) besides a standard camera used as pointing device. The power supply unit is a rack size external device (powered @28Vdc), and contains also the electronic controllers for the acquisition and control interface. The SyncGPS optional device is able to acquire navigation data from an IMU/GPS unit and then refers each frame to the GPS position as well as to the aircraft attitude.

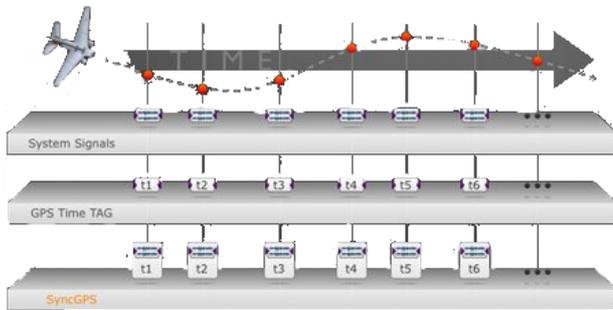
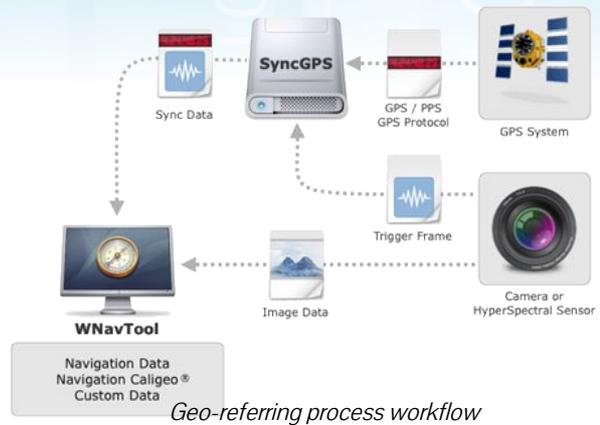


Spectral dispersion plot for the two systems synchronized

The optional geo-rectification software module, using the optical parameter of your system, will rectify and refer the acquired frames using the flight path data. DV Airborne system is available for various wavelength ranges UV (200-400nm), VIS-S (400-700nm), VIS-NIR (400-1000nm), IR (900-1700nm), SWIR (1000-2500nm) and with different resolutions, depending on the chosen entrance slit dimension of the spectrograph, the chosen FOV and the elevation. The optional irradiance probe IRRPRO, will allow you to record and thus to compensate the sunlight irradiance variation along each measure session. The system is provided with SDV software, that permits, together with a dedicated hardware, high throughput realtime frames storing and timestamping.

SyncGPS and WNavTool

The SyncGPS device is needed for frames geo-referencing when the head is transported by a vector (aircraft, car...). The device receive the GPS/IMU data and the PPS synchronization hardware pulse from a positioning system device; in the meanwhile it receive the trigger for each acquired frame from cameras. All these data are stored on a CF card and will be crossed with the spectral data logs with WNavTool post-processing software.

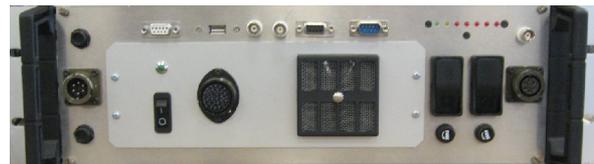


Timestamping for Synchronization

Optional software plug-ins

-Geo-rectification module

System parts appearance



Power Supply and SyncGPS unit front panel

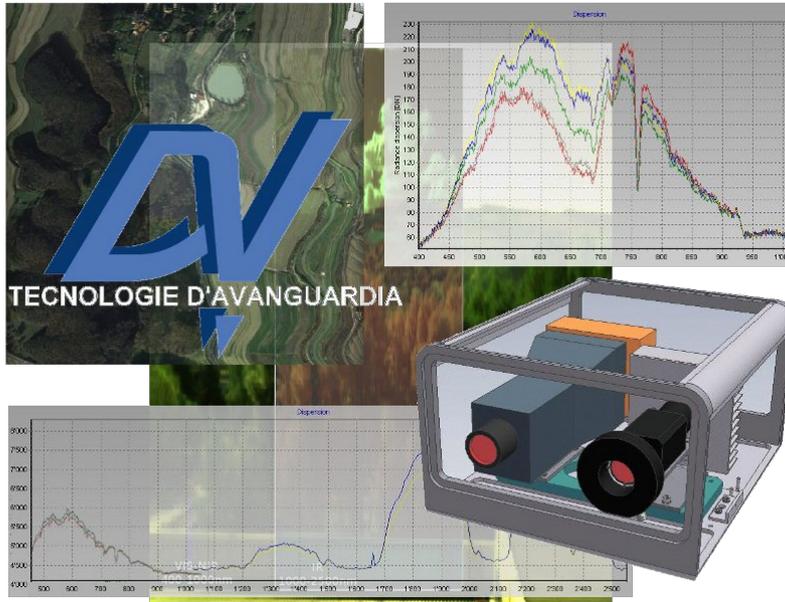
SyncGPS module is able to handle up to 100Hz trigger rate incoming from 2 independent channels and 10-50Hz data streaming from the GPS/IMU unit. The PPS synchronization signal must be provided by the GPS/IMU device, tagged by its own PPS sync message.



IRRPRO irradiance probe

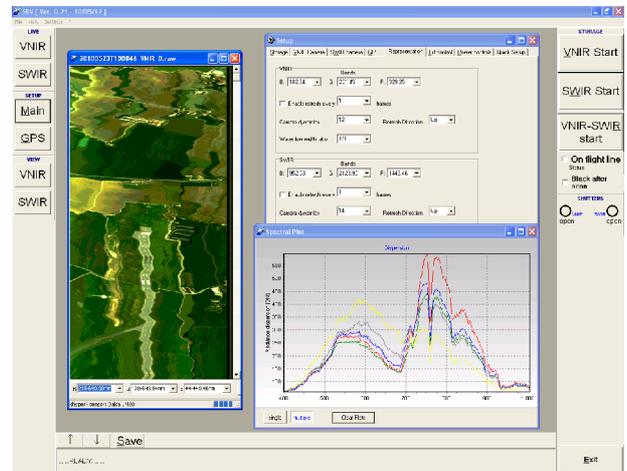
<i>Model</i>	<i>Sensor</i>	<i>Resolution</i>	<i>FOV</i>	<i>Frame rate</i>
UV VIS-S VIS-NIR	CCD 1024x1024	1.33 gsd @ 1000m f=33mm	±34 deg	Up to 60 f.p.s.
NIR	InGaAs 320x256	1.33 gsd @ 1000m f=22mm	±12 deg	Up to 100 f.p.s.
SWIR	MCT 320x256	1.33 gsd @ 1000m f=22mm	±12 deg	Up to 100 f.p.s.

Resolutions are calculated with standard slit size and sensors.
Lower slit thickness or/and higher sensor dimensions will determine an higher resolution.



FEATURES

- Streaming acquisition from one or two video sources
- Pre-elaboration and and real time data storing
- Data synchronization
- 2D Image reconstruction and representation
- Video capture parameters control
- GPS/INS communication controller
- Optional hardware interface



Coastline acquisitions using imaging spectrographs at 400-1000nm and 1000-2500nm