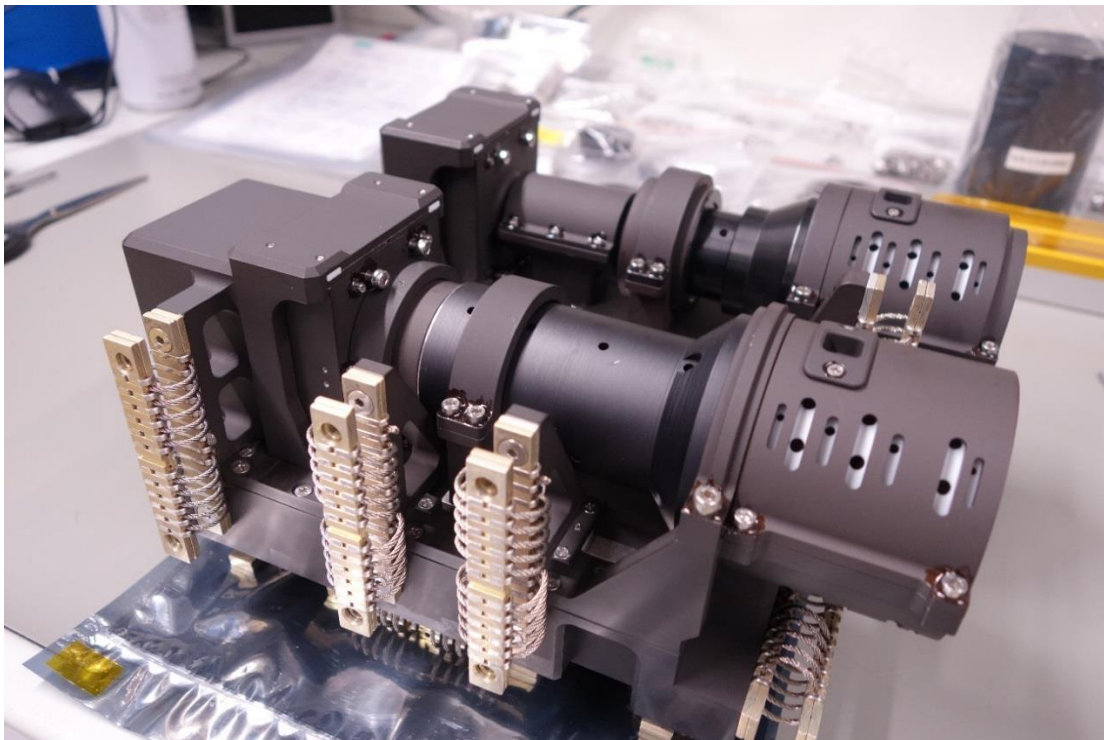


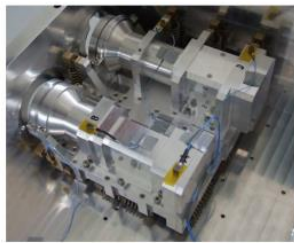
HYPER SPECTRAL CAMERA (OBSOLETE)

In the frame of the Kent Ridge 1 mission Berlin Space Technologies has developed a dual band VNIR & SWIR hyper spectral payload. The instrument is built upon a proprietary technology from Singapore. A special filter element allows the camera to act as a polarizing Fourier transform hyper spectral camera (PolarFour™). The payload incorporates a high performance data processing unit and data storage (DPU) for each of the two bands. For utilisation on a high altitude platform a light weighting modification is proposed.

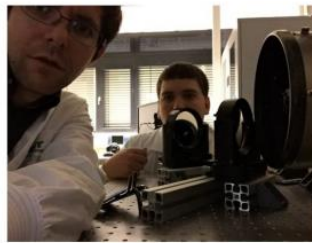


VNIR & SWIR Hyper Spectral Camera (HSI-100)

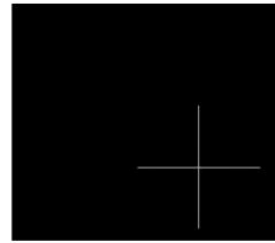
CHARACTERISTICS	
Size	262x221x131mm ³
Weight	5.6kg
Storage Temperature	-10°C to +35°C
Operating Temperature	0°C to +10°C
Design Life	5 years LEO
Space Heritage	Yes



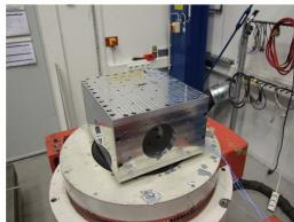
Mechanical Qualification STM



Optical Calibration Set-up



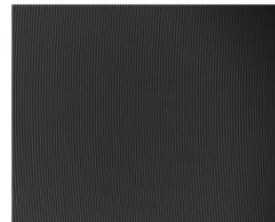
Focused Camera



PPL1/2 on Shaker



TVAC test



Camera Calibration

BST HSI-100 during qualification and calibration

INTERFACES & CAPABILITIES	VNIR Band (PPL1)	SWIR Band (PPL2)
Resolution	44m	110m
Swath Width	47km	52km
Spectral Band	500-900nm	1000-1500nm
Channels	30	30
Scene Size	47 x 47km	52 x 52 km
Bit Depth	8/10/12	16
MTF	>0.2	>0.15
SNR	>200	>250
Camera Raw Data Rate	1.4 Gbit/s	532 Mbit/s
DPU		
Storage	240GB	240GB
Processing Speed	5.6 GFlops	5.6 GFlops
Compression	JPEG2000 selectable ratio	JPEG2000 selectable ratio
CCSDS Engine	Yes	Yes
Science Data Encryption	optional	optional
X-Band Data Output	LVDS	LVDS
TMTC Interface	RS422	RS422

Light Weighting: Removal of shock mounts (-500g). Reduction of wall thickness from 5mm AL to 2mm AL (2.5kg structure mass to 1.25kg = -1.25kg). Total 1.75kg.