

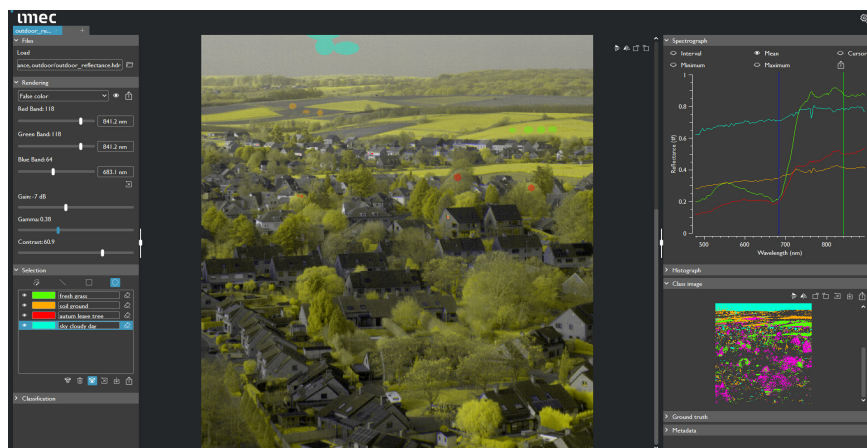


MOBILE SNAPSCAN VNIR RANGE HYPERSPPECTRAL IMAGING CAMERA

This new version of the SNAPSCAN VNIR range hyperspectral imaging camera concept is fully geared towards mobility: it enables users to take this hyperspectral imaging camera system ‘out-of-the-lab’ for field application work in key application domains like art and cultural heritage conservation, forensics, medical, biometrics and security and surveillance.

SNAPSHOT HYPERSPPECTRAL IMAGING FOR OUTDOOR, OUTSIDE OF THE LAB APPLICATION DEVELOPMENT

After years of research and development, imec now combines the best of its system-level hardware and software expertise in its snapscan camera: one unique system platform combining the high SNR, spatial and spectral resolution of linescan imaging camera with the fast and convenient way that snapshot HSI cameras acquire hypercube data-sets.

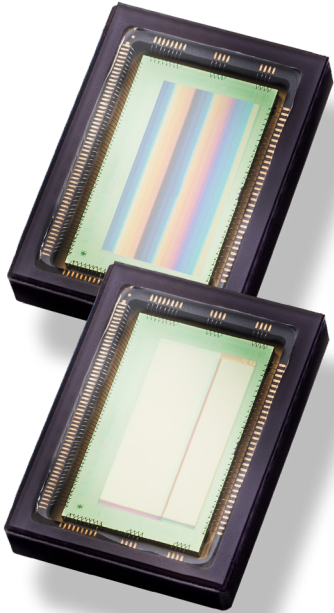


Outdoor imaging with mobile SNAPSCAN VNIR range hyperspectral camera. recoloring image shows NDVI (vegetation vigor and freshness index) in green color.

KEY BENEFITS

- **Mobile camera** is battery /or laptop powered and can be seamlessly mounted on a mobile tripod for outdoor and out-of-the-lab hyperspectral imaging acquisitions
- **Snapshot acquisition** made easy and user-friendly with integrated ultrasonic scanning mechanism directly inside the camera to reach sub-second acquisition times
- **Highest spatial** (up to 7Mpx) & **spectral** (150+bands) **resolutions** possible for snapshot-based hyperspectral imaging in a compact, lightweight and mass-manufacturable design
- **Highest SNR** ever reached with imec on-chip filter technology thanks to active cooling and advanced software features for cube reconstruction and spectral correction

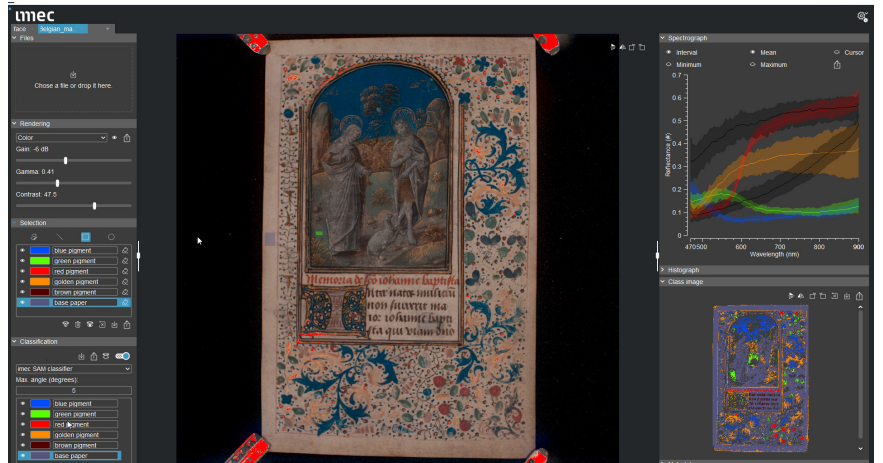
MOBILE SNAPSCAN SYSTEM PRODUCT SPECIFICATION



Spatial resolution	up to 3650 x 2048 px (7Mpx RAW per band)
Spectral resolution	100+ bands (NIR version) or 150+ bands (VNIR version)
Spectral range	600 – 970 nm (NIR version) or 470 – 900 nm (VNIR version)
FWHM	- 10 – 15 nm (collimated)
Acquisition speed	- 200ms - 20 seconds, depending on acquisition parameters, lighting and object)
SNR	> 100 - 200, flat SNR over spectral range
SW scanning modes	Digital TDI (x5-8 stages max) Multi-exposures HDR (high-dynamic-range) Digital binning (2x2, 3x3, 4x4) Spectral ROI - Region of Interest (1 to 8 bands max) Spatial ROI - Region of Interest (2048 x custom scanning length)
Dynamic range	8/10 bit
Optics	20/24/35/50 mm lenses – F2.0 – C-mount
Smile & keystone	Software corrected
Interface	USB3.0 + GPIO + I/O for triggering
Powering	USB-C powering via compatible laptop and / or battery pack
Cooling	Passive & active cooling (fan based + TEC)
Temperature	35°C to 45°C (operation), 5°C to 50°C (transport)
Mechanical	Integrated mechanical shutter for automatic dark-counts, Tripod mount (1/4"-20) + side mounting M5 holes
Dimensions (LxWxH)	13 x 9 x 7 cm
Weight	780 g (without optic)



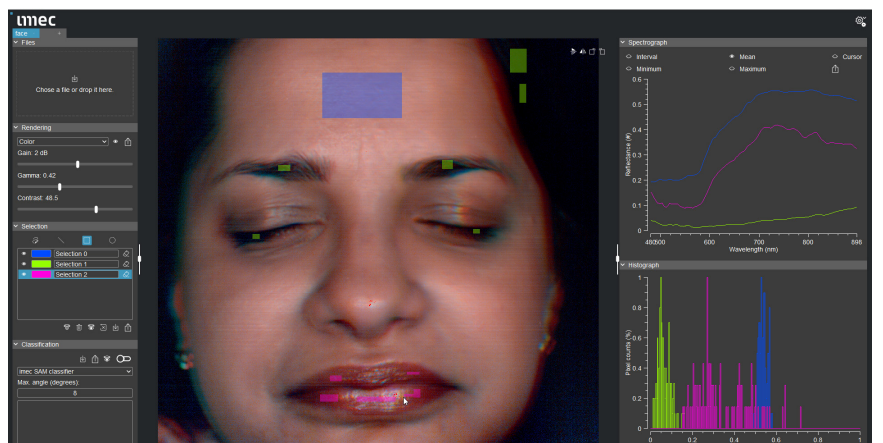
NIR & VNIR Linescan hyperspectral image sensors integrated into the mobile snapscan camera system



Pigment analysis using spectral imaging with the mobile SNAPSCAN VNIR range hyperspectral imaging camera. Classified image shows abundance maps of each portion of one medieval age ancient manuscript that has been painted by each pigment. This information can be very useful for art and cultural heritage preservation.

APPLICATIONS

- Art & cultural heritage conservation
- Forensics
- Anti counterfeiting
- Medical imaging
- Biometrics
- Security & surveillance
- General hyperspectral imaging R&D 'out of the lab' in outdoor environments



4MP hyperspectral image cube acquisition of a face: true color RGB rendering picture and spectral plots of different body components are displayed. Spectral imaging is a key technology to study next generation biometrics features.

CONTACT US

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