



EPIC Members New Product Release

The TOUCAN Camera
a VIS+NIR Snapshot Multispectral Camera

Thierry BERTHOU

ABOUT US



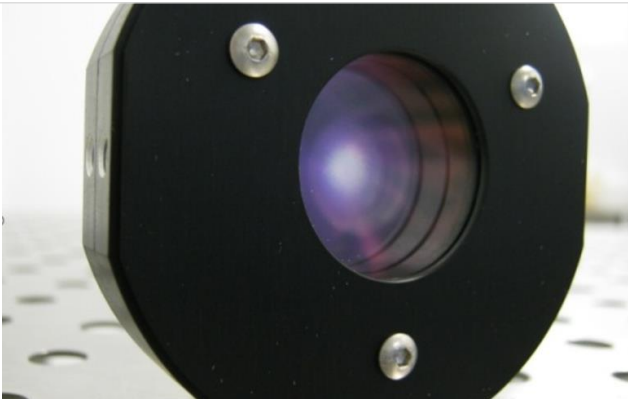
SILIOS TECHNOLOGIES

Funded in 2001

Located near Aix-en-Provence

WE ARE EXPERTS IN *MICRO-OPTICS*



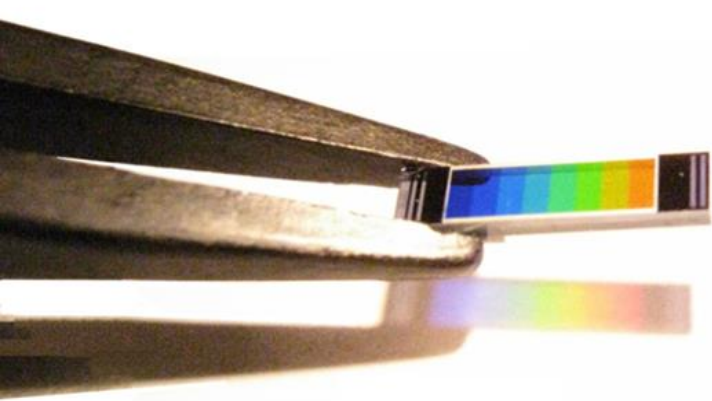


DIFFRACTIVE OPTICAL COMPONENTS (2001)
SCIENTIFIC & INDUSTRIAL LASERS, ASTRONOMY & SPACE



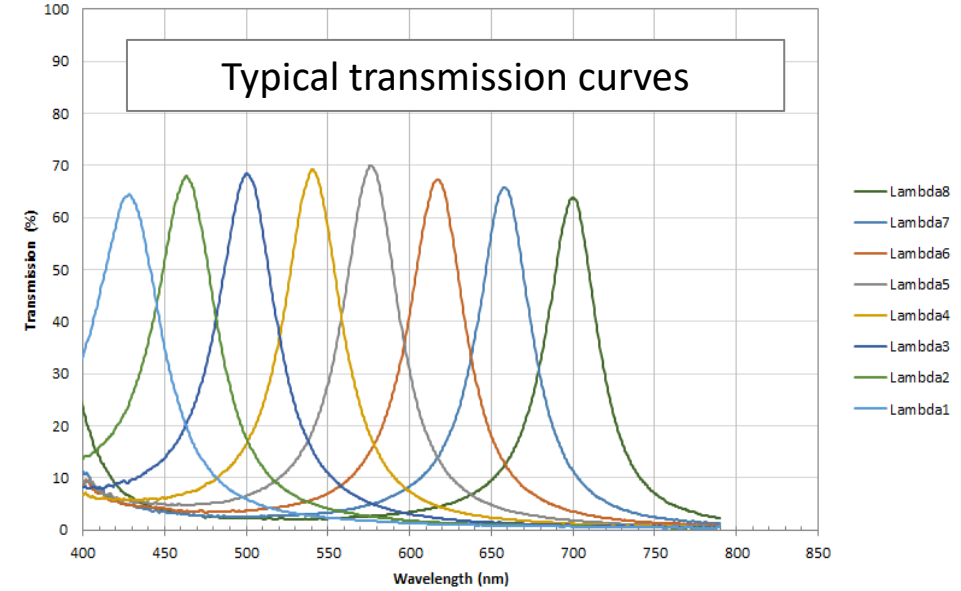
MULTISPECTRAL CAMERAS & SENSORS (2009)
MULTISPECTRAL IMAGING

COLOR SHADES® MULTISPECTRAL TECHNOLOGY



Typical specifications

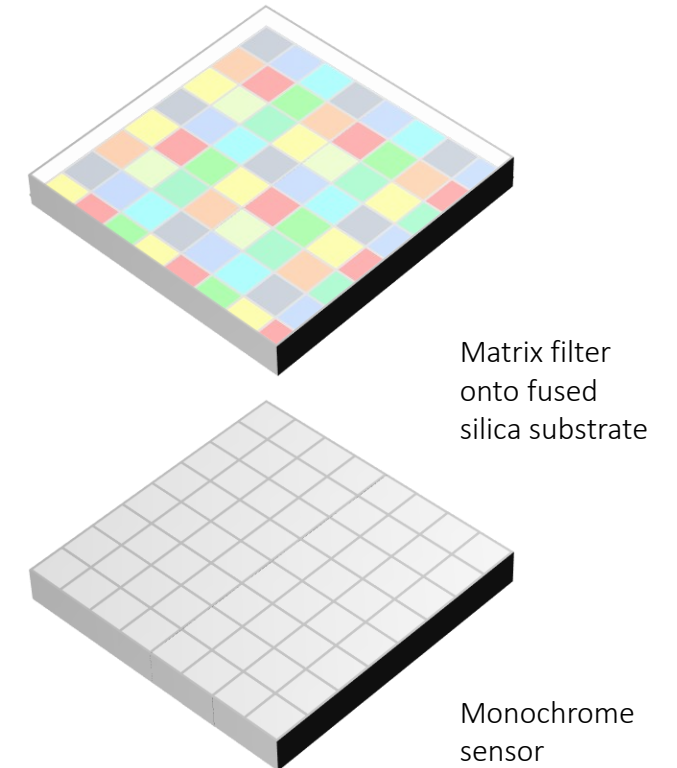
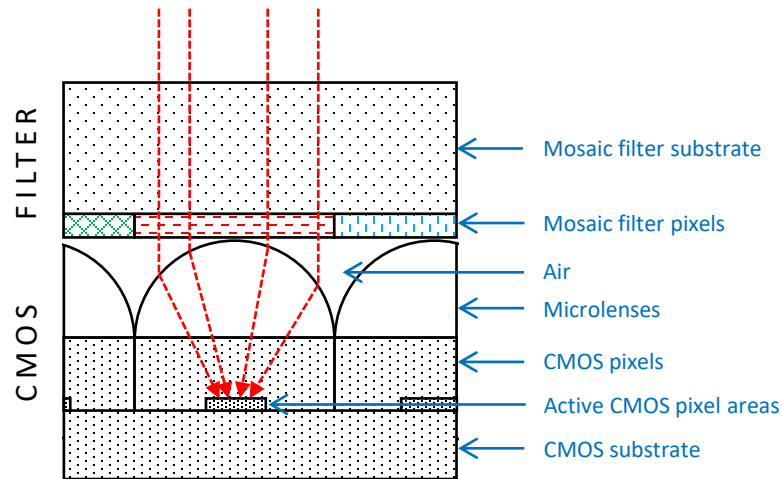
Tmax : 40% to 70%
FWHM : 20nm à 40nm
Max Spectral Range : 300nm (shiftable)



The *COLOR SHADES*® filters show low resonance level (low Q factor).



- ✓ **Low sensitivity to the incident angle.**
Only slight spectral band changes up to 15°. The filters can be used with optical apertures up to F/2.
- ✓ **High sensitivity**
Due to a high integrated transmission.



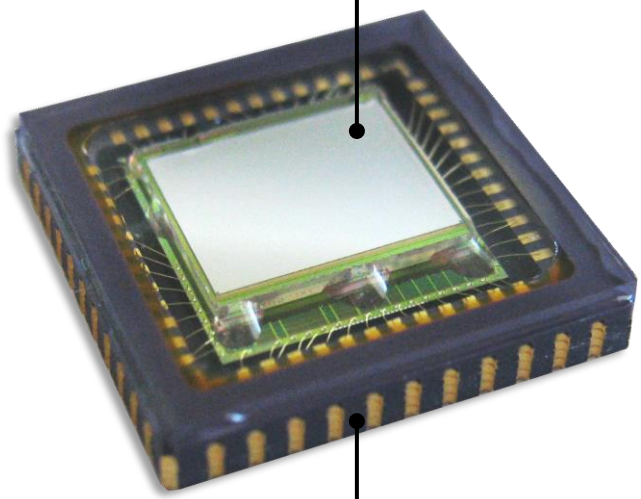
Advantages :

- ✓ Almost all CMOS sensors usable.
- ✓ The filter is placed above the microlens avoiding high incidence angle onto the filter.
- ✓ The microlens function is preserved (+50% photons).

Drawback :

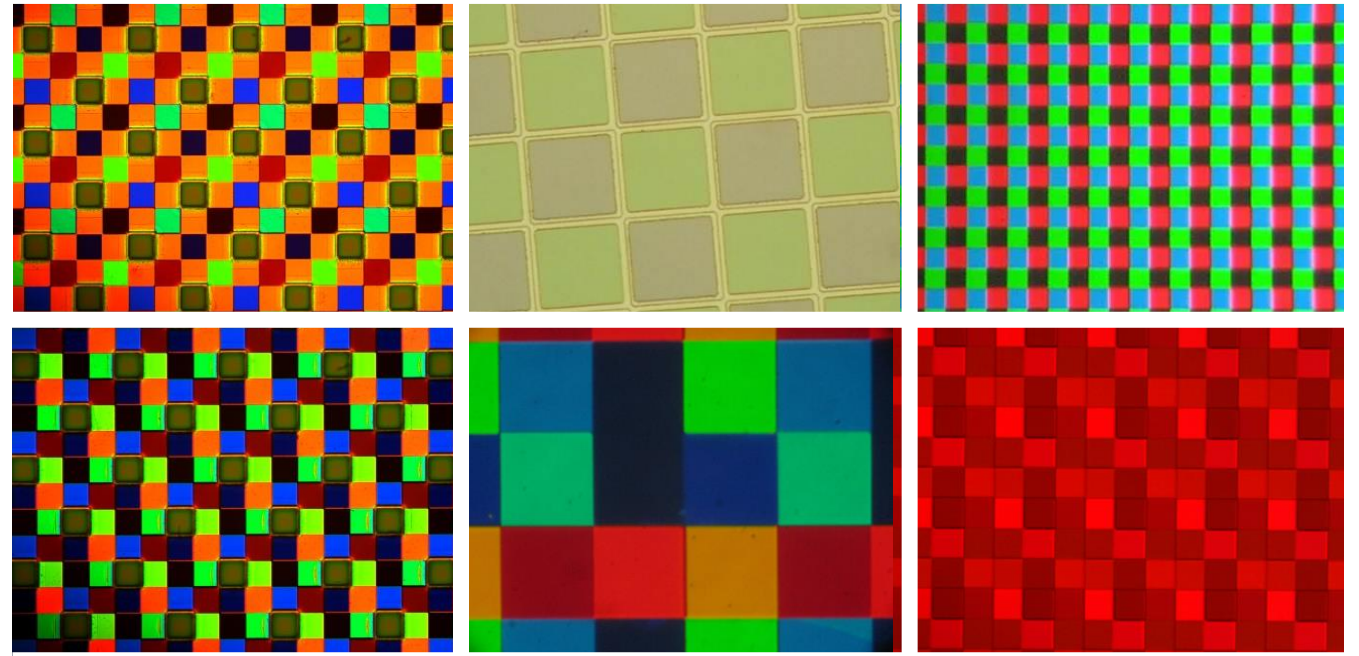
- ✓ Geometrical crosstalk (light from a filter N collected by a pixel M)
BUT ! Post-processing method that suppress the crosstalk can be applied.

Multispectral filter
COLOR SHADES® Technology

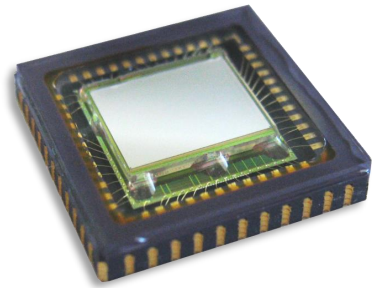


Commercial
packaged sensor

Custom macropixels and spectral ranges



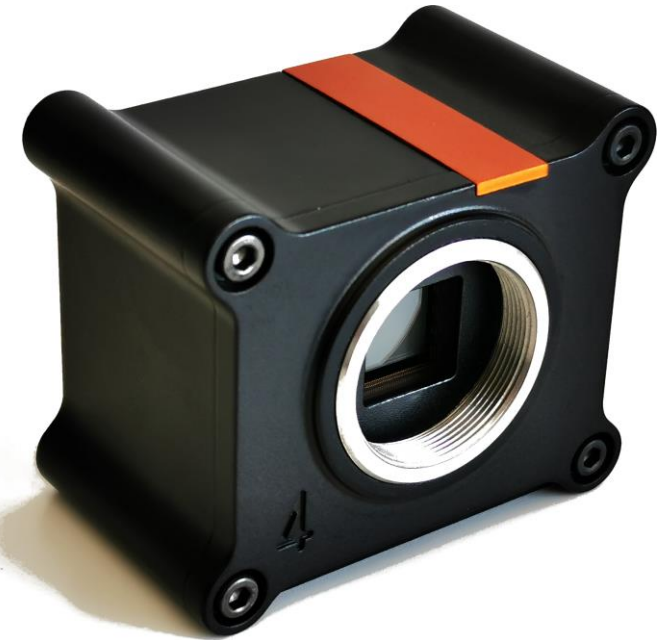
We supply...



Multispectral Sensors

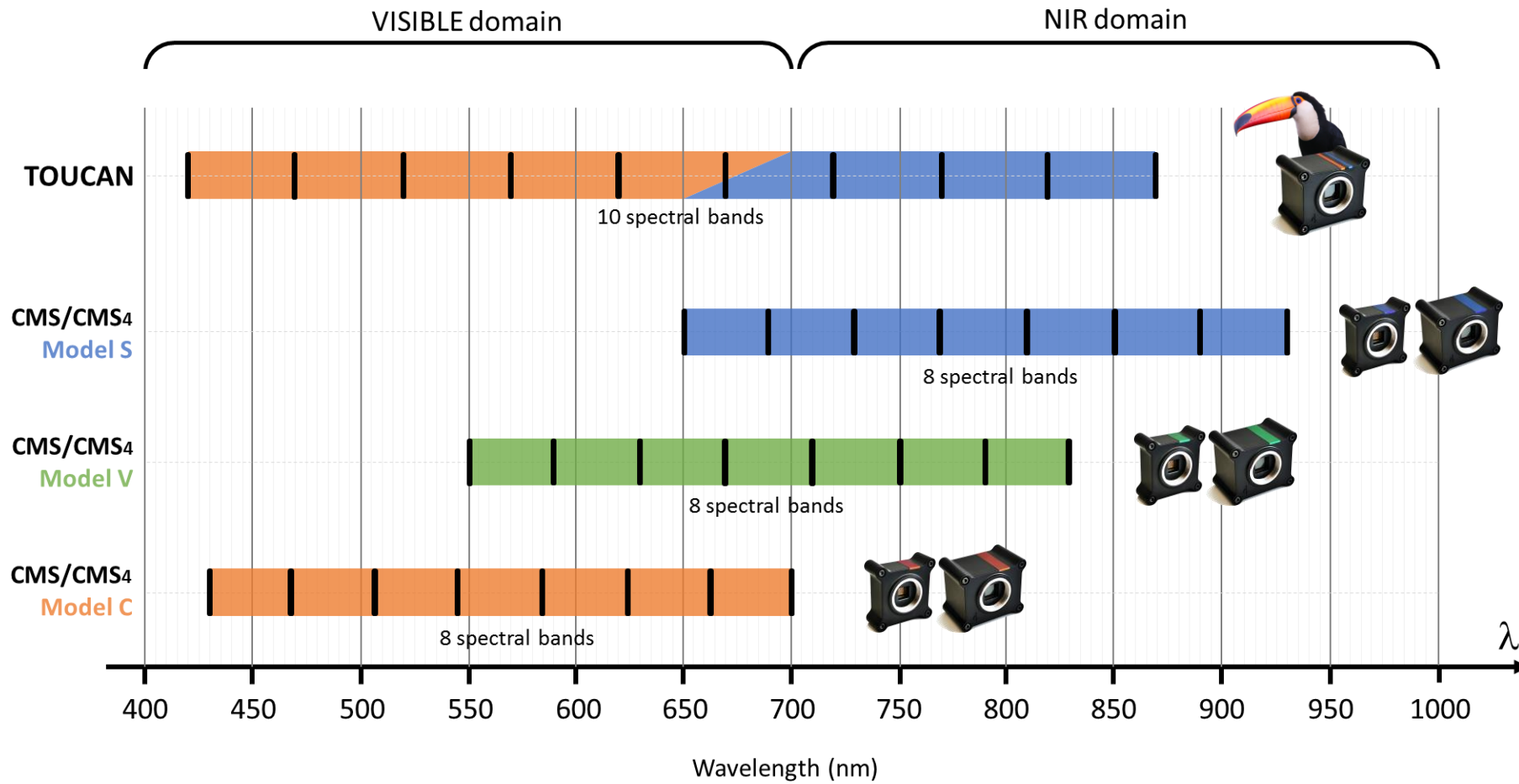


Multispectral e-Boards



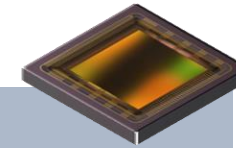
Multispectral Cameras

SPECTRAL DOMAINS



TOUCAN

The Only VIS + NIR mosaic filter Snapshot multispectral camera available on the market

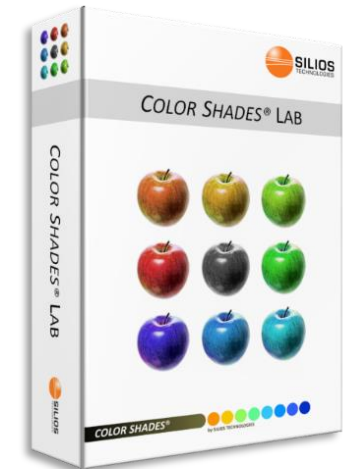


| | |
|----------------------|---------------------------------------|
| Sensor | CMV4000 (AMS) |
| Technology | CMOS |
| Raw Resolution | 2048 x 2048 px ² (4.2 Mpx) |
| Spectral Range | 430 nm – 890 nm |
| Channel bandwidth | 30 – 50 nm |
| Spectral channels | 10 |
| Panchromatic channel | None |
| Integration mode | Snapshot/Global Shutter |

4.2 Mpx TOUCAN

Unique: Spectral range extended to almost 500nm

Free software

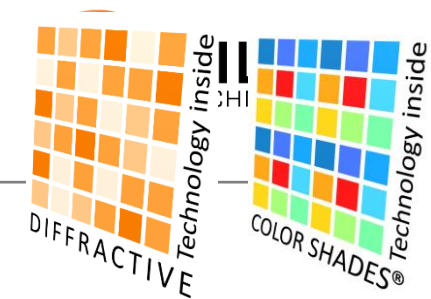


COLOR SHADES Lab (SDK)

+

DLL for :

- ✓ Hypercube extraction
- ✓ Crosstalk correction



Thank you for you attention

✉ thierry.berthou@silios.fr

☎ +33 6 77 71 83 71

www.silios.com



We are on the same wavelength