Multispectral cameras for for Smart Agriculture and Agrifood industry

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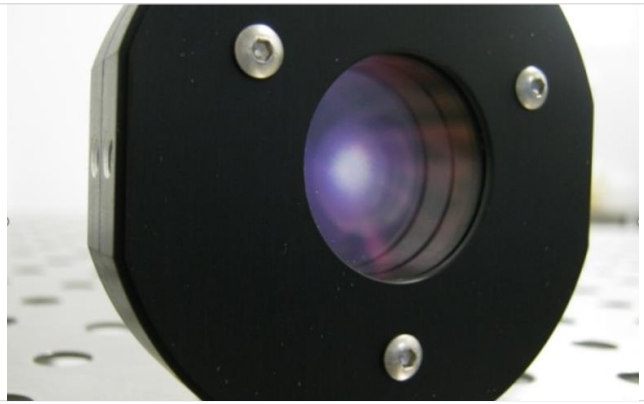
ABOUT US

SILIOS TECHNOLOGIES
Funded in 2001
Located near Aix-en-Provence

WE ARE EXPERTS IN *MICRO-OPTICS*

OUR ACTIVITY



DIFFRACTIVE OPTICAL COMPONENTS (2001)

SCIENTIFIC & INDUSTRIAL LASERS, ASTRONOMY & SPACE

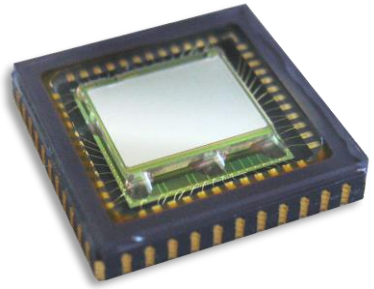
MULTISPECTRAL CAMERAS & SENSORS (2009)

MULTISPECTRAL IMAGING

COLOR SHADES® MULTISPECTRAL TECHNOLOGY

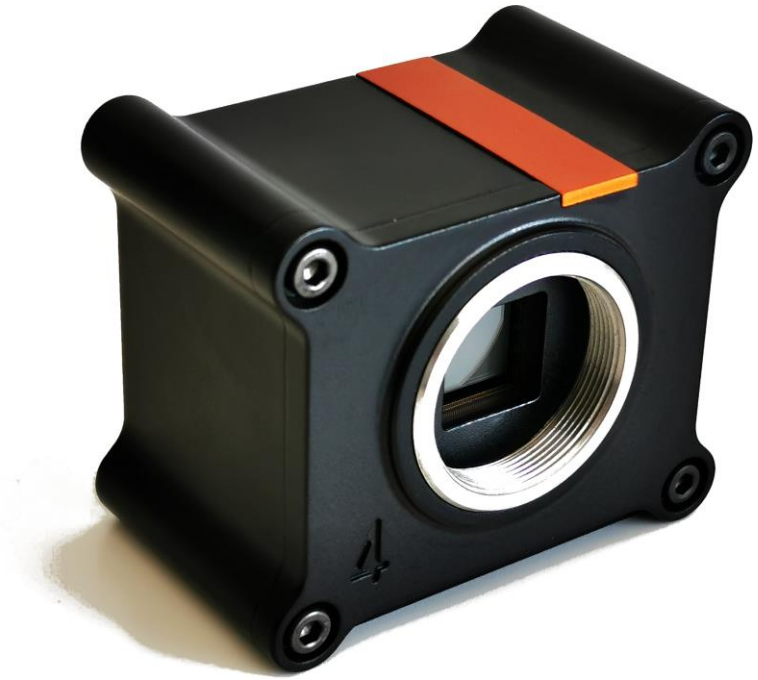
CUSTOM MULTI-SPECTRAL IMAGING

We supply custom & off-the-shelf…



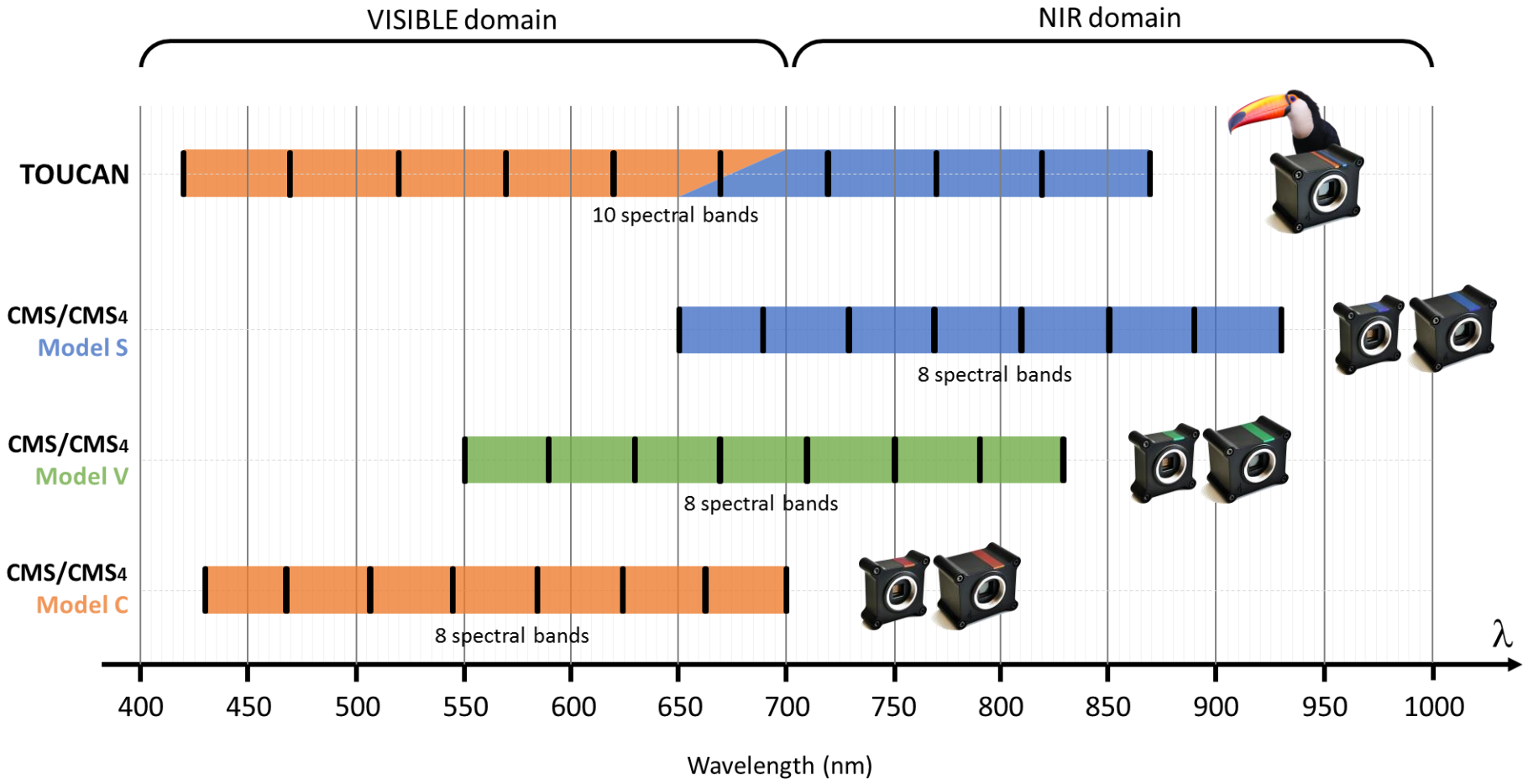
Multispectral Sensors

Multispectral e-Boards



Multispectral Cameras

SPECTRAL DOMAINS

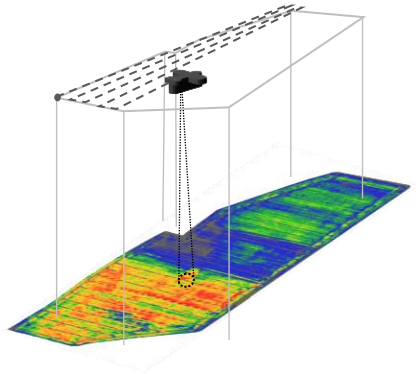


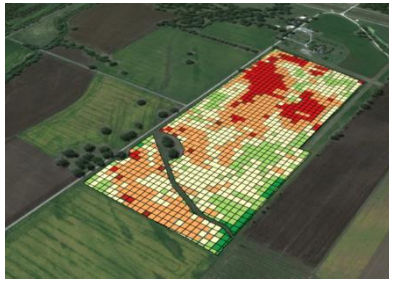
A Versatile Solution : Some Application Examples in Smart Agriculture

PRECISION FARMING

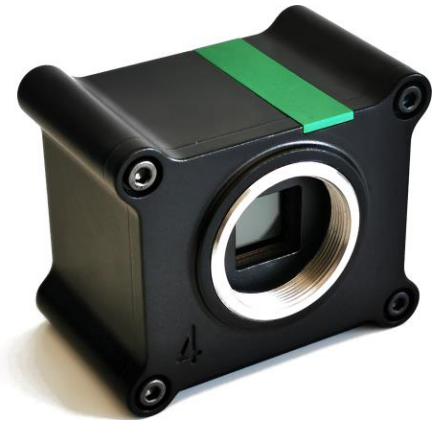
PLANT HEALTH MONITORING, BIOMASS

Drone Embedded
Multispectral e-boards
(air or land)





EARLY DISEASES DETECTION in ORCHARDS (camera model : CMS4-V)



CMS4-V

EARLY DISEASES DETECTION in ORCHARDS (camera model : CMS4-V)

IA process applied

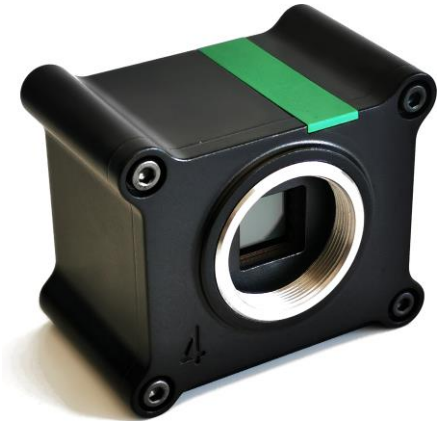
CMS4-V image

RGB image

IA process applied

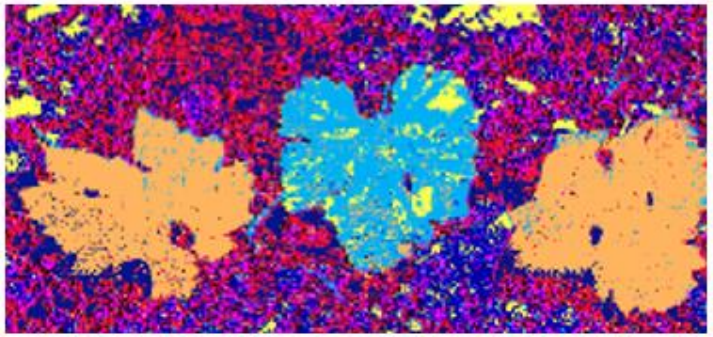
CMS4-V image

RGB image



CMS4-V

EARLY DISEASES DETECTION in VINEYARDS (camera model : CMS-V then TOUCAN)



Example of ESCA disease
(Black Measles)

Positioning the TOUCAN camera (in a dedicated body) onto a vineyard straddle tractor.

CMS-V

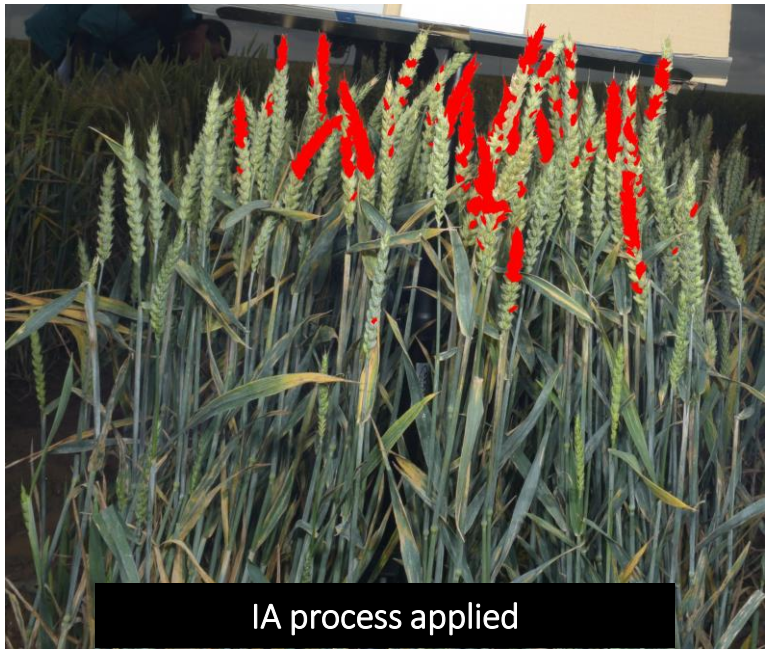
Replaced by

TOUCAN

In order to improve his early desease detection process the customer replace the CMS-V camera in his solutions by the TOUCAN camera. The addition of the blue channel plus further NIR channels combined to a larger spatial resolution drastically improved the discrimination made by his IA algorithms.

DISEASES DETECTION (camera model : CUSTOM CMS4)

Detection and quantification of diseases on wheat in the field



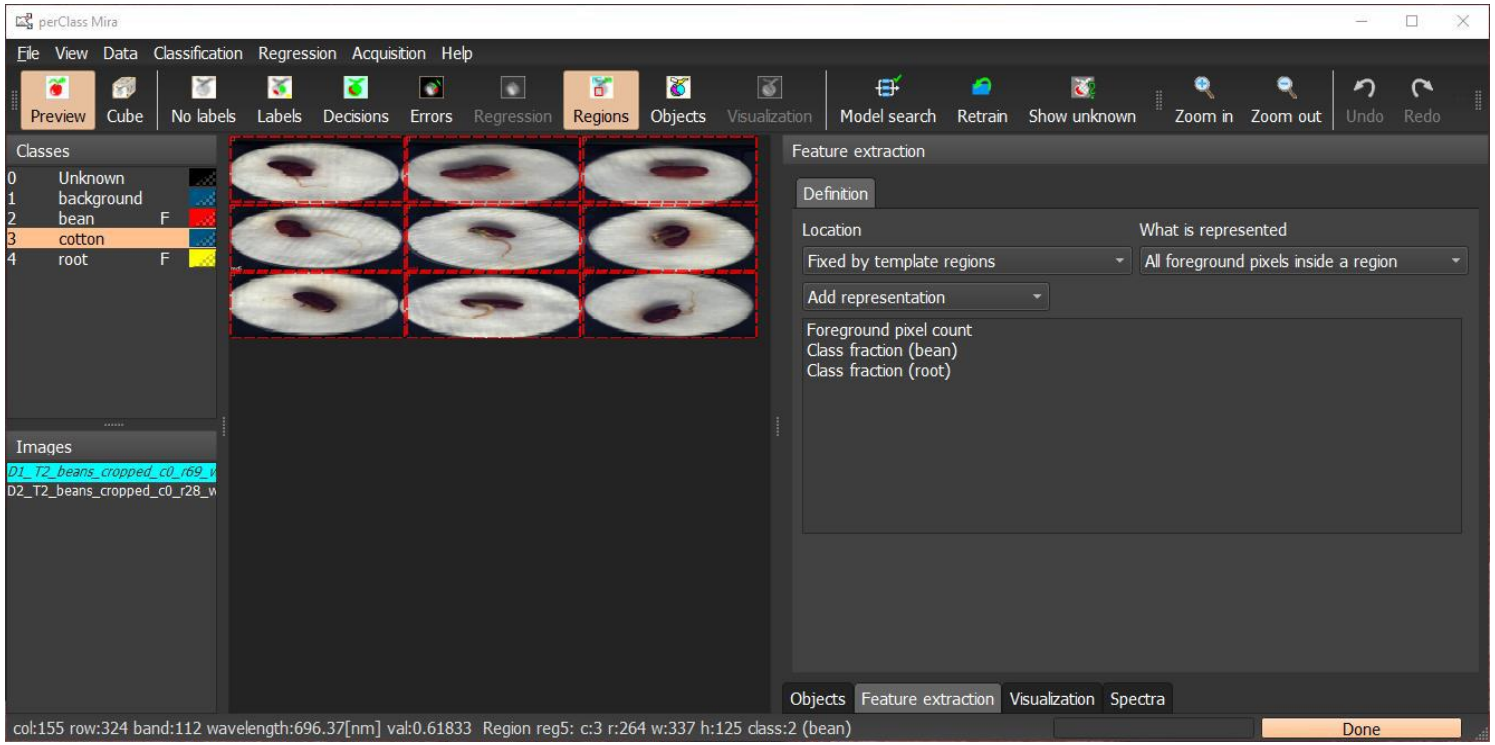
CUSTOM CMS4

HEALTH & GROWTH MONITORING IN VERTICAL FARMS

TOUCAN

The wide spectral range of TOUCAN from blue to NIR allows to both monitor the lighting and health of plants and adapt the first one according to the result of the second one.

PHENOTYPING CHARACTERIZATION FOR SEEDS IN THE VISNIR RANGE



TOUCAN

The wide spectral range of TOUCAN from blue to NIR allows to extract different phenotyping parameters to compare quality of seeds. It can simultaneously be used for estimate qualitative parameters such as nitrogen and chlorophyll contents in plants. This permits a better selection of seeds as well as a health and growth monitoring.

Thank you for you attention

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