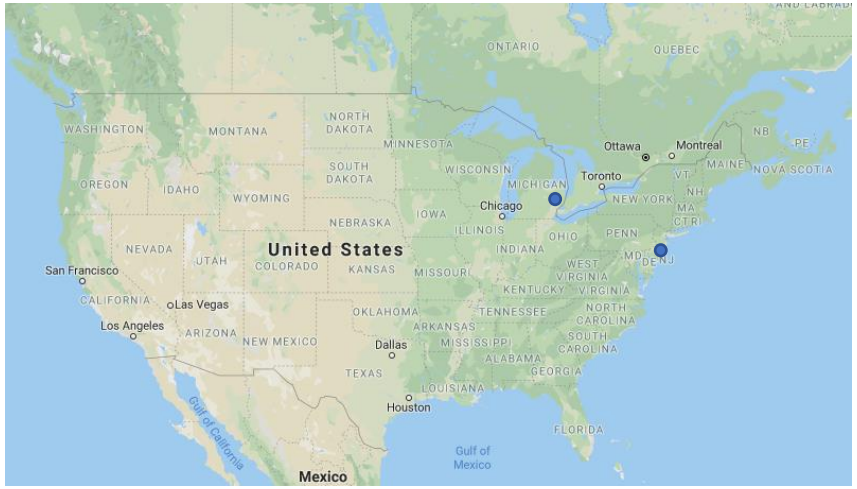
A Konica Minolta Company

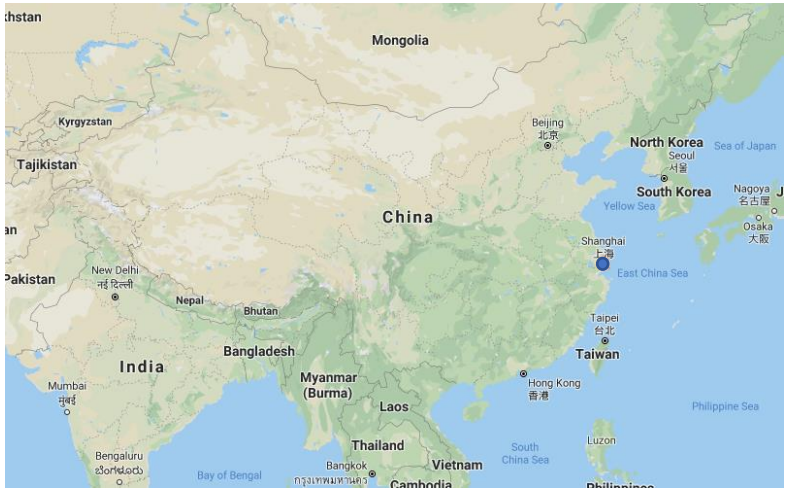
Spectral imaging for vegetation monitoring

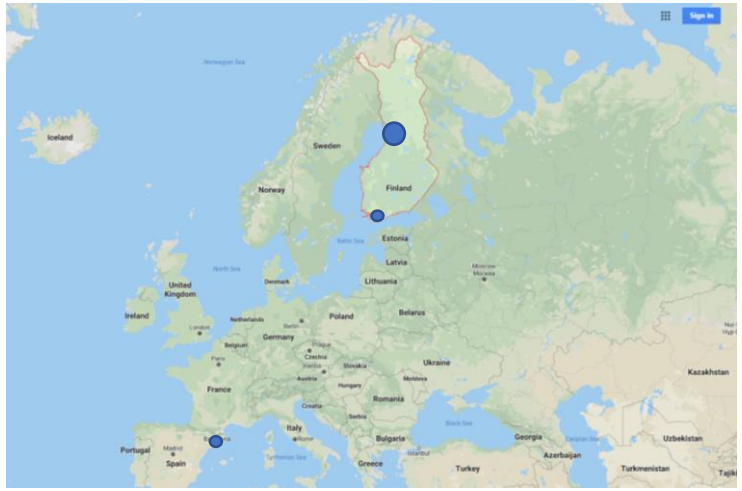
mathieu.marmion@specim.fi - The Role for Photonic Sensors and Lighting in Advanced Agriphotonics

WHO ARE WE?

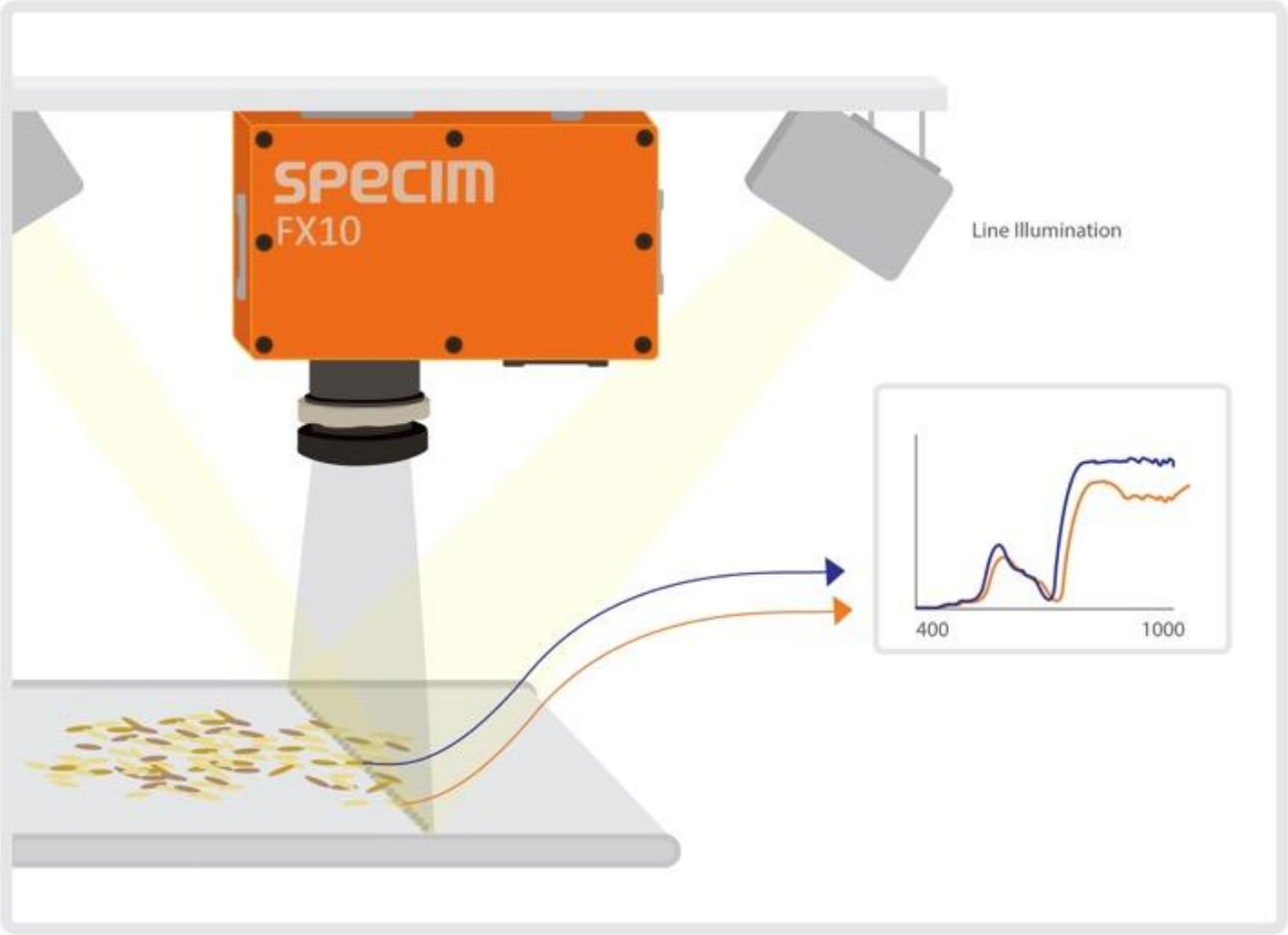
- World leader in hyperspectral imaging devices and system
- Established in 1995
- Ca. 70 employees
- Several offices in different countries







What is hyperspectral imaging?



Hyperspectral cameras and systems

IQ : 400 – 1000 nm

FX10: 400 – 1000 nm

FX17: 900 – 1700 nm

SWIR: 1000 – 2500 nm

AisaKESTREL10: 400 – 1000 nm

AisaKESTREL16: 600 – 1640 nm

AFX10: 400 – 1000 nm

AFX17: 900 – 1700 nm

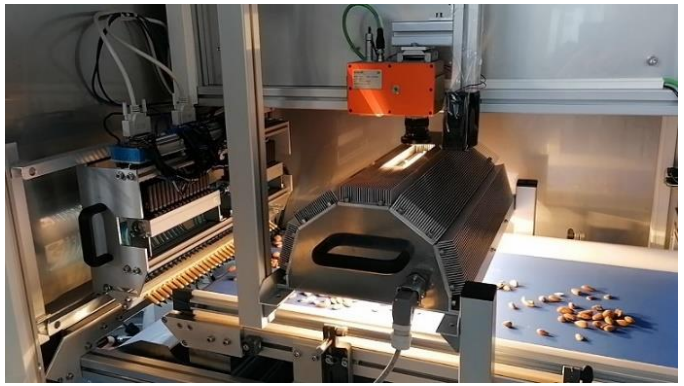
FENIX: 1000 – 2500 nm
(384 or 1024 pixels)

IBIS: 670 – 780 nm

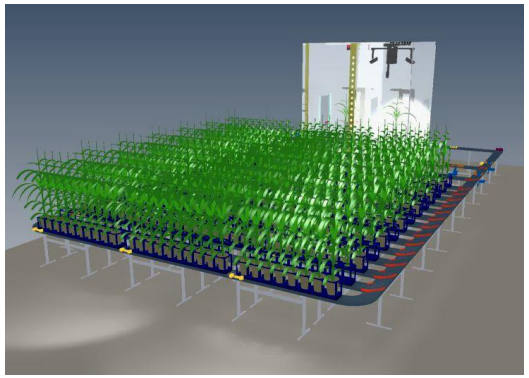
Various environments

Lab

UAV



Industry

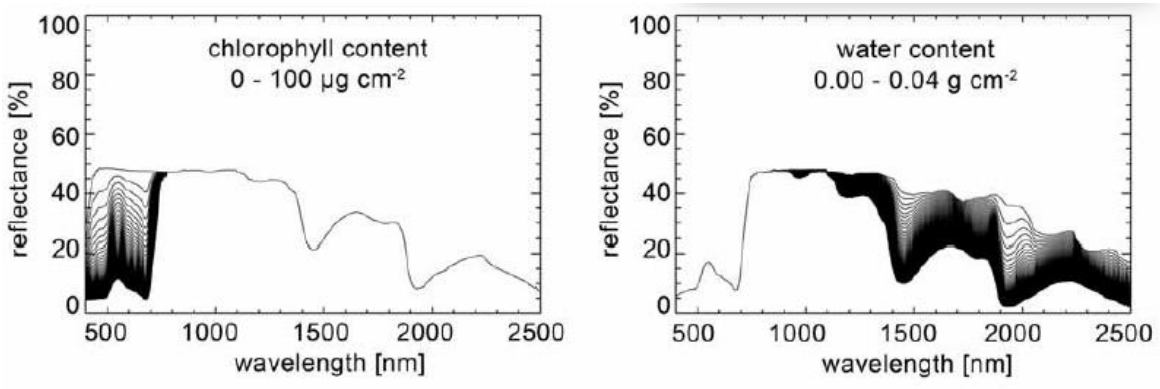


Green houses

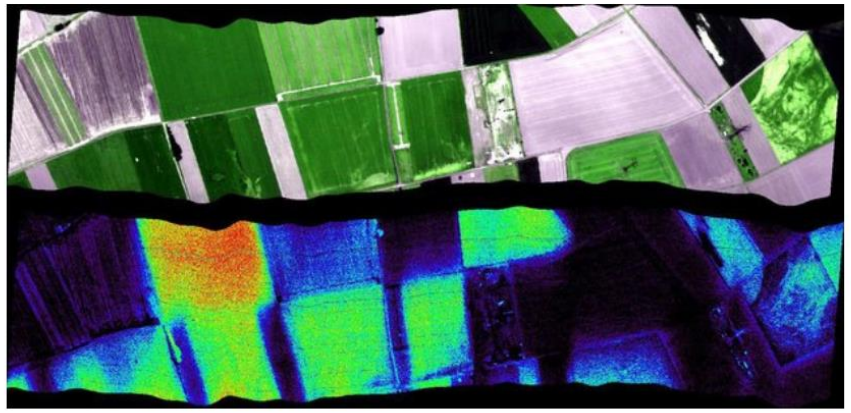
Field

Airborne

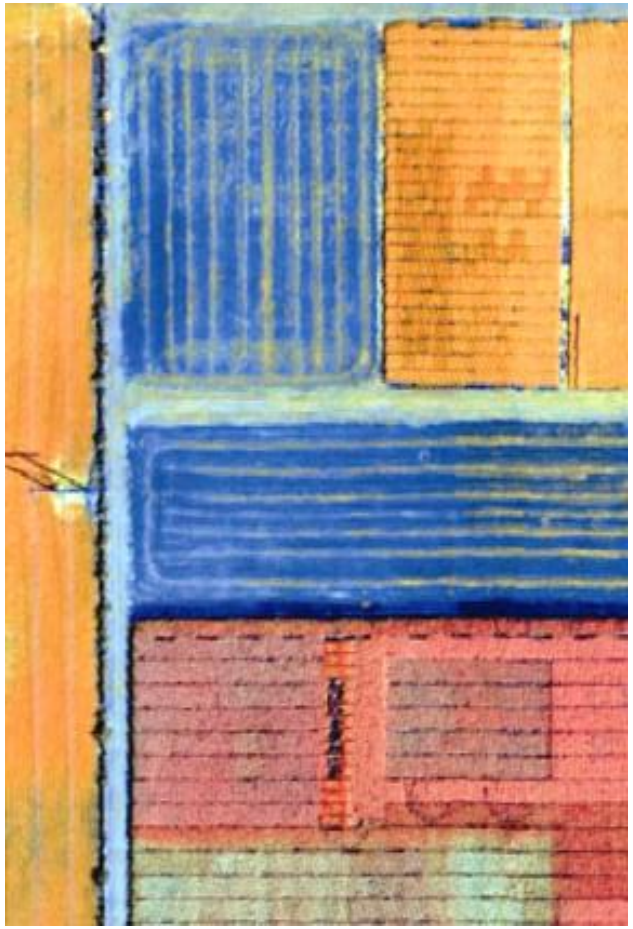
Precision agriculture



Rascher et al. (2010) Precision Crop Protection, Springer, ISBN: 978-90-481-9276-2, pp 87-100



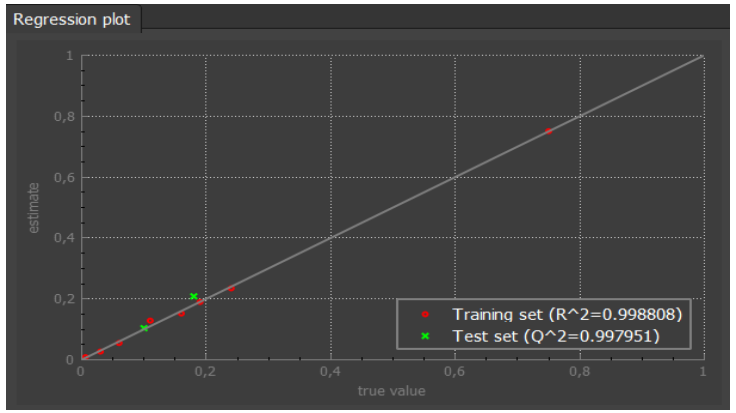
Sun induced fluorescence

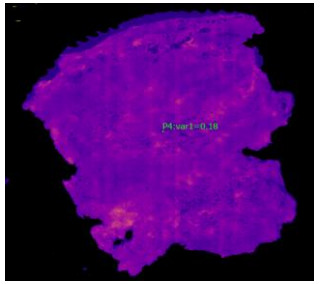


Crop yield and quality monitoring (VNIR)

Food processing

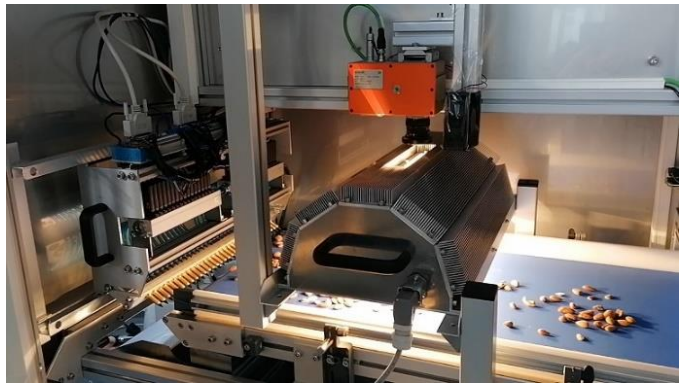
Fat and moisture monitoring

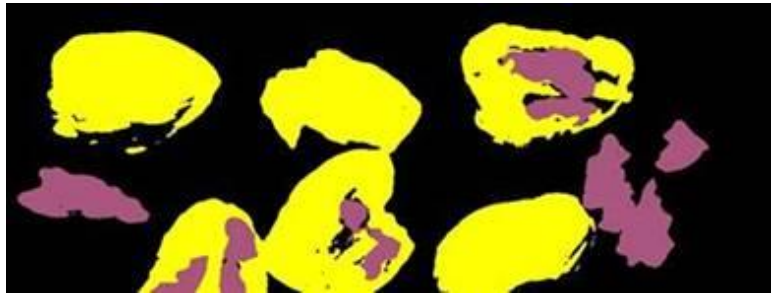




Packaging inspection

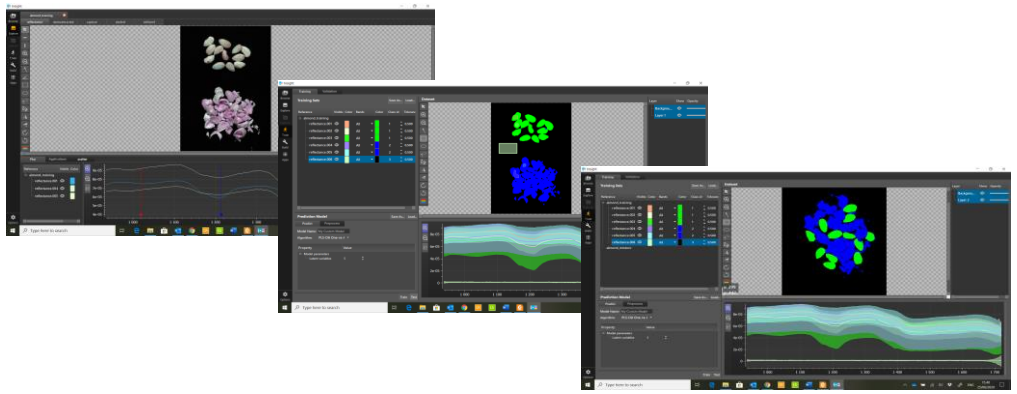
Contaminants





SpecimCUBE

- For fast industrial integration
- Real time data processing



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