



imec

On-chip spectral imaging

The fast track to scalable industry solutions

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Program Manager

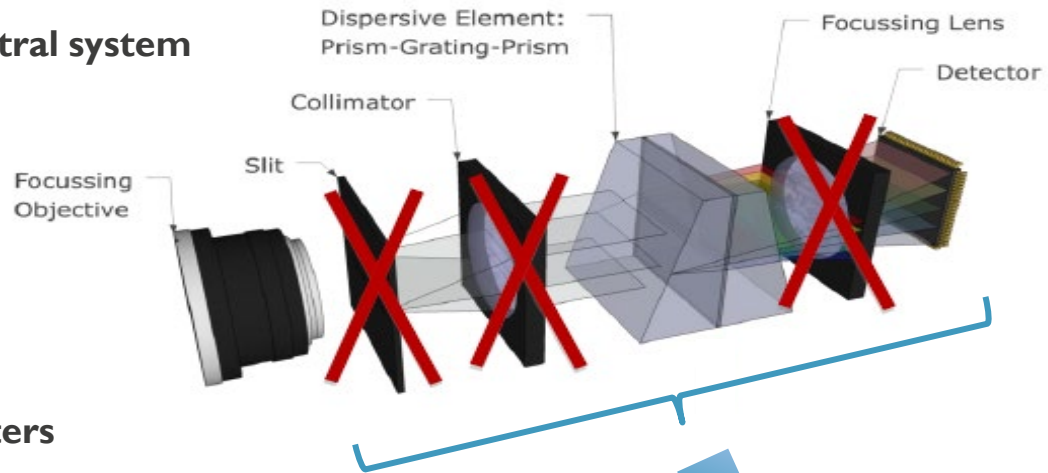
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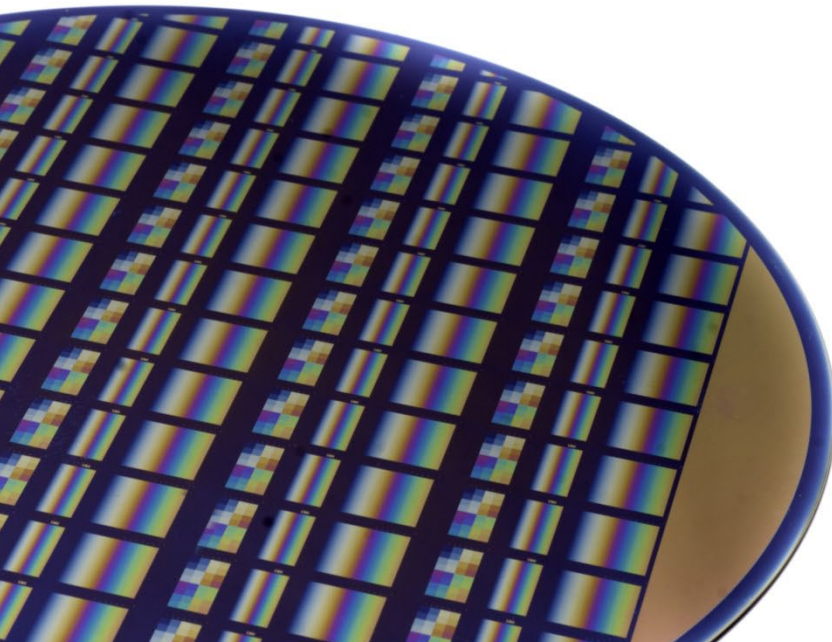
imec integrated approach

On-chip spectral imaging

Traditional spectral system



imec on-chip filters



On-chip spectral filters

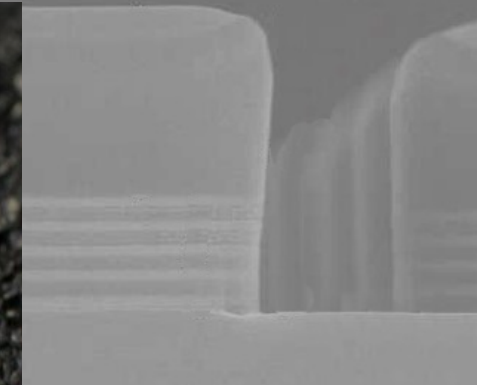
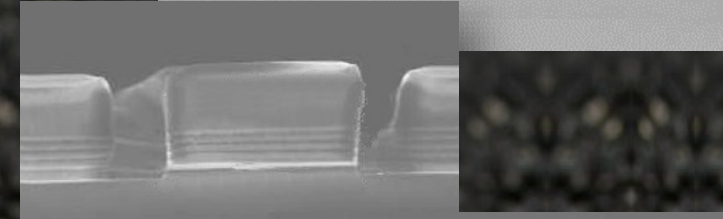
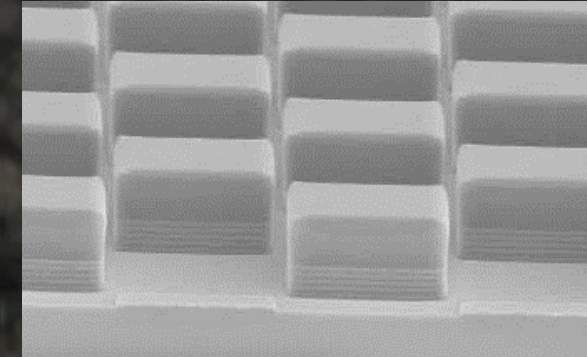
- Scalable CMOS process
- Miniaturized and robust
- Snapshot, video & scanning
- Easy to integrate @ application level
- VIS, NIR and SWIR



we design & manufacture spectral filters directly onto
image sensor pixels ...

4x4 mosaic = 16 spectral bands
~ x16 cameras on-chip!

465 nm	546 nm	586 nm	630 nm
474 nm	534 nm	578 nm	624 nm
485 nm	522 nm	562 nm	608 nm
496 nm	510 nm	548 nm	600 nm



... based on CMOS compatible
semiconductor process

imec HSI offering consistently evolving

A solution for real-world application problems



Renewed **off-the-shelf** offering

Tighter collaboration for faster customer success

imec

ximea

Live demo booth 8E46

photon focus

booth 10E40

smaller, faster & easier industrial cameras

+ camera integrated **bandpass filter**

+ **USB3, GigE** & first spectral video **10GigE camera**

imec snapshot **spectral sensor**

+ imec certified spectral **performance validation**

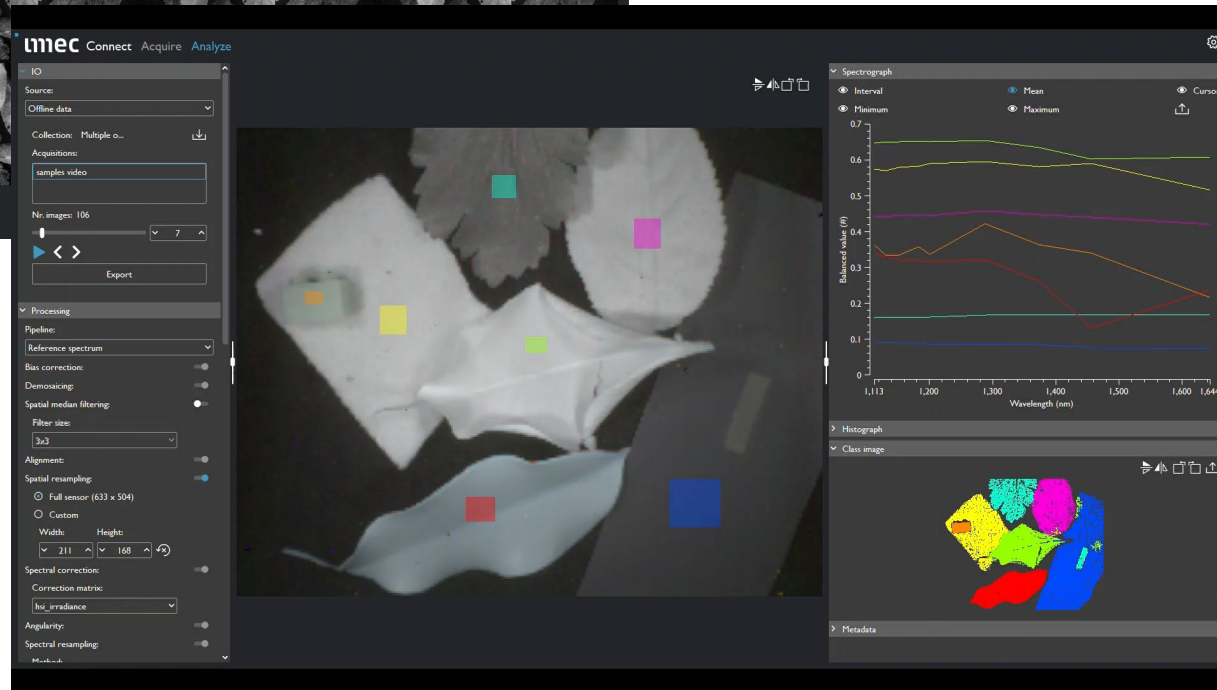
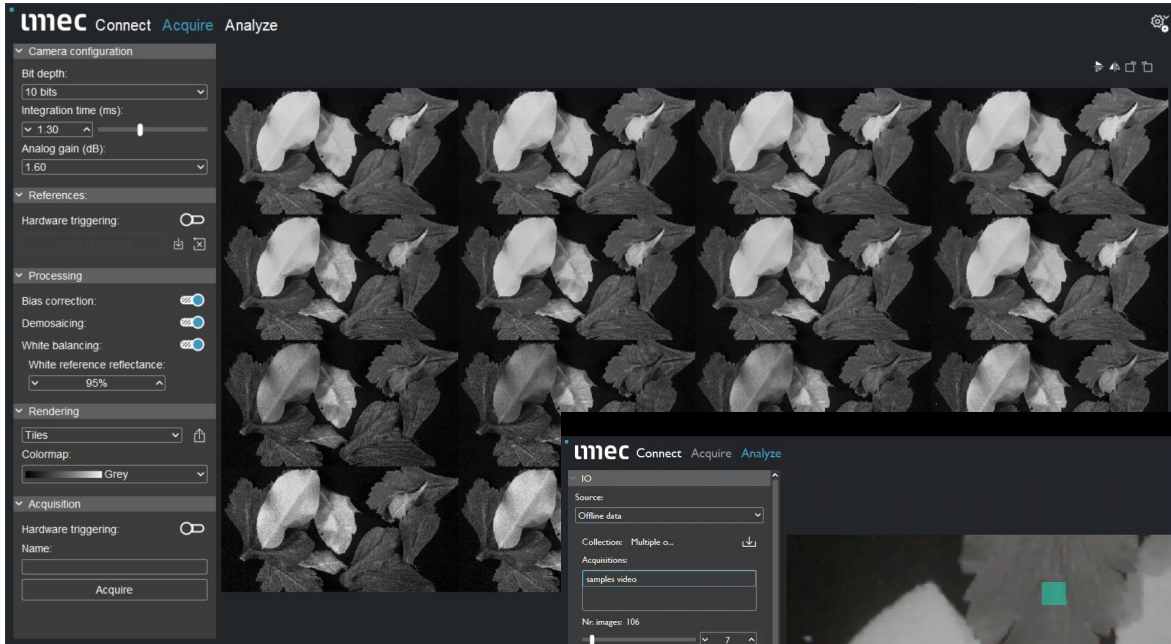
+ direct access to spectral imaging know-how

Bootstrapping application development
at **industrial scale**

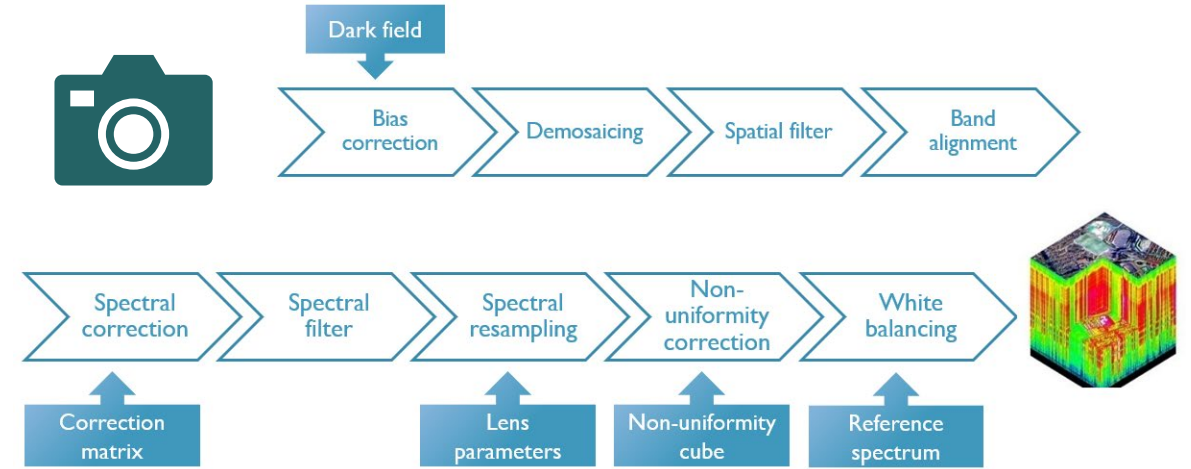


Data pre-processing

Don't be a spectral imaging expert



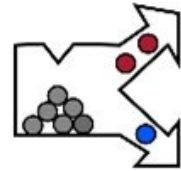
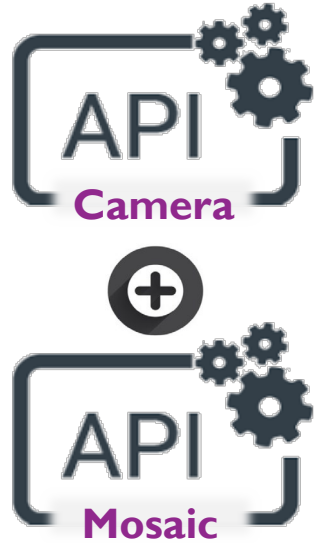
Qualified pre-processing pipeline: irradiance and reflectance



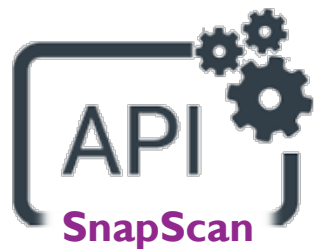
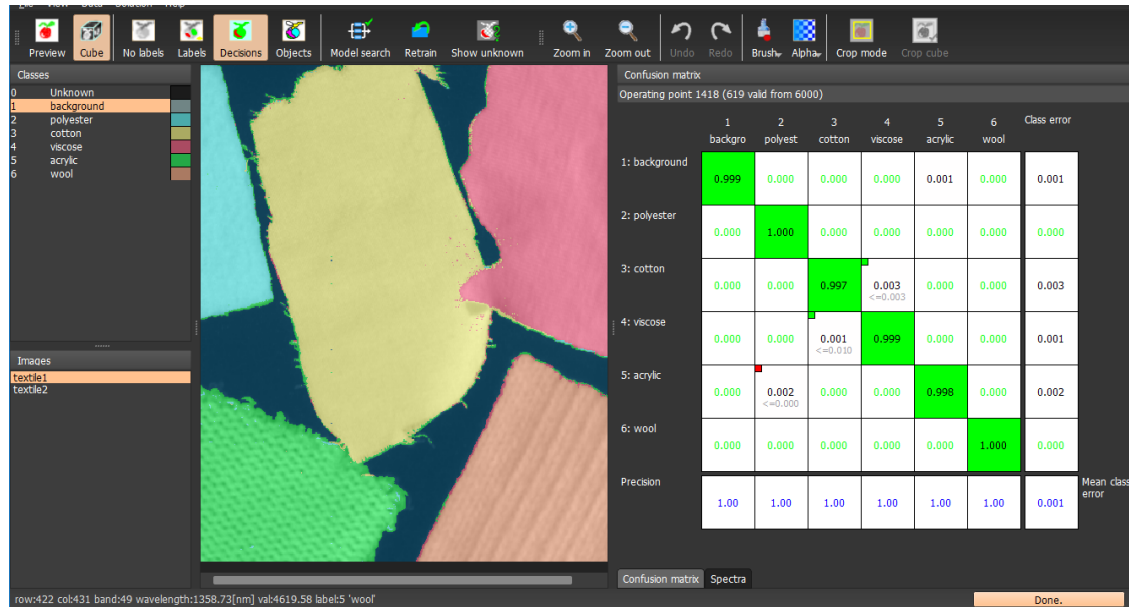
Live demo
booth 8B11
imc



Data insights
Don't be an ML/AI expert



perClass



luxflux

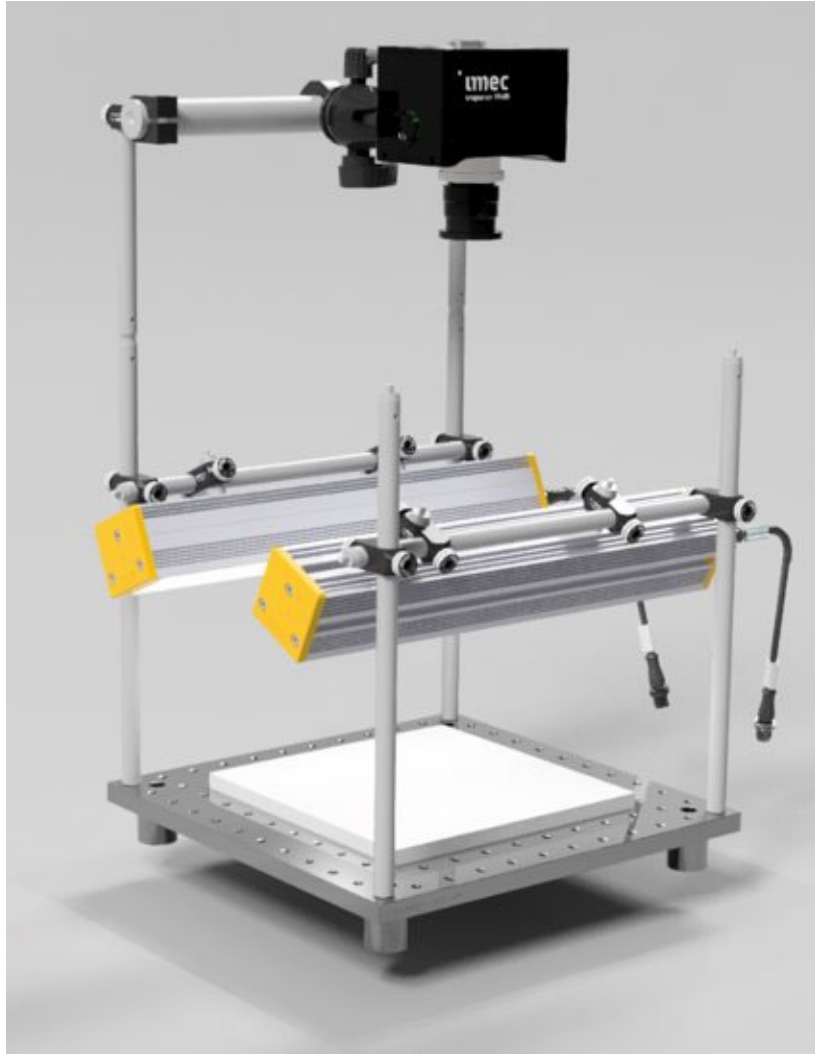
booth I0E70.8

Live demo
booth I0F37

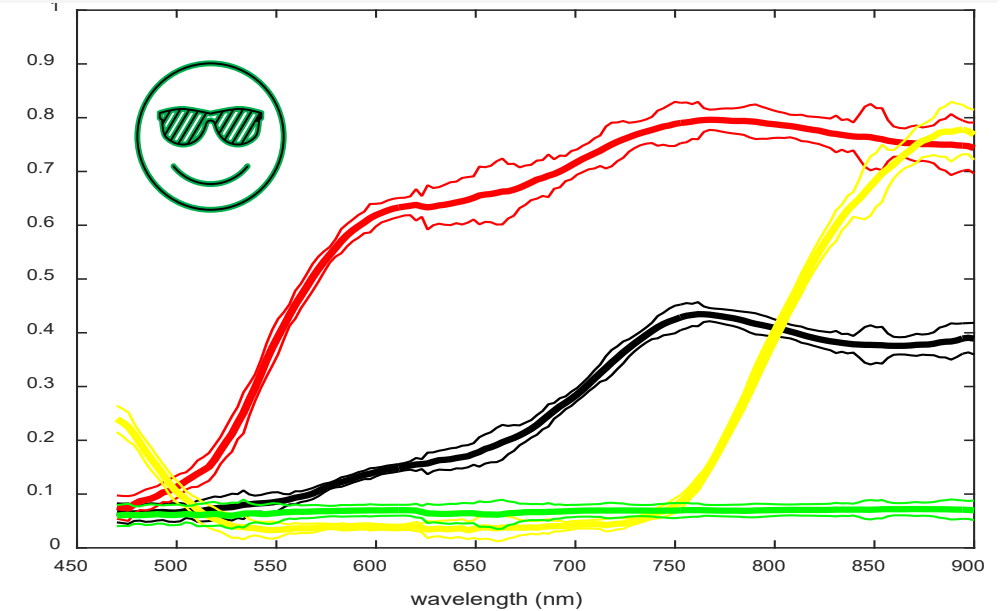
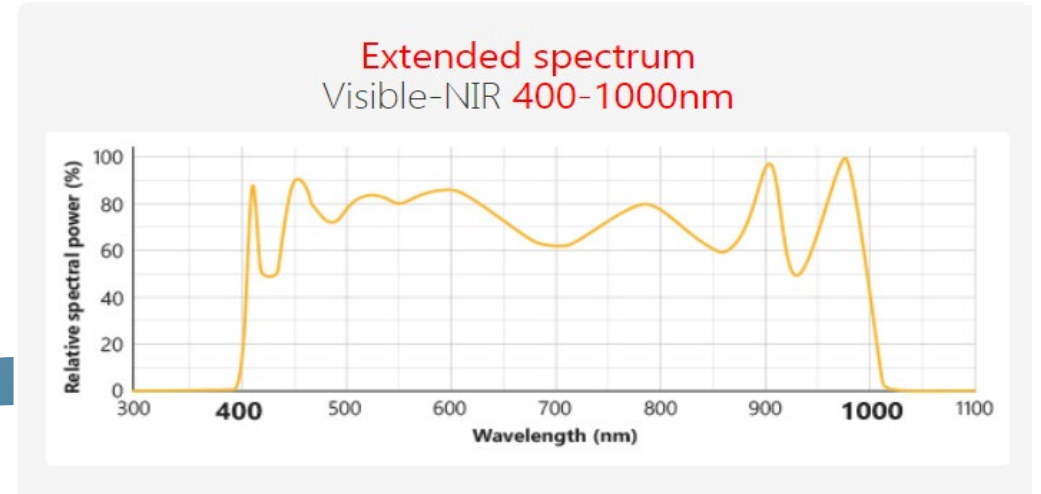


System level integration

Direct access to the right components : illumination

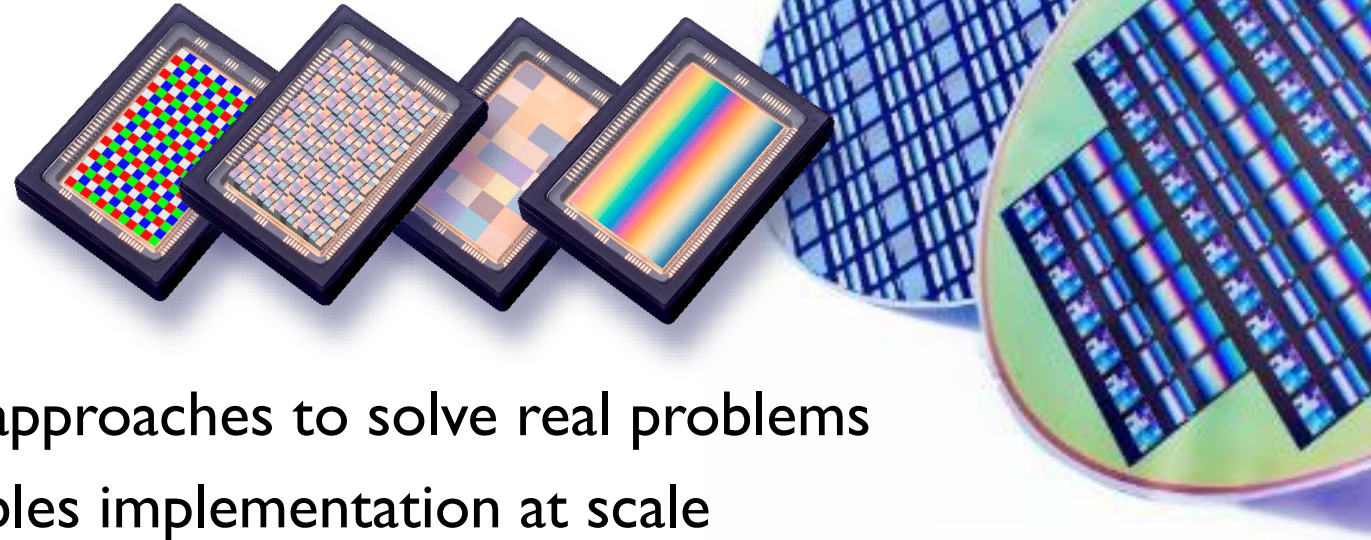


Live demo
booth I0G52

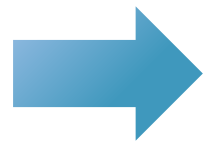


imec on-chip spectral imaging

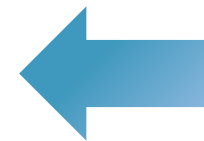
Evaluate » solve » integrate » scale



- Compact spectral imaging enables new approaches to solve real problems
- Unique wafer level filter processing enables implementation at scale
- Imec as your technology partner:
 - Translating **application needs** into technology requirements
 - Building the **eco-system as fast track** to solutions
 - From **off-the-shelf to customized** design
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embracing a better life

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